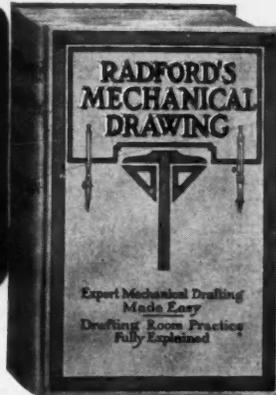


AMERICAN CARPENTER AND BUILDER

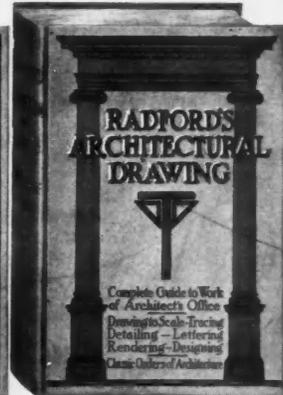


THE WORLD'S GREATEST BUILDING PAPER

Wanted:
Builders Who Can
DRAW PLANS



304 Pages; 6x9; Cloth.



272 Pages; 6x9; Cloth.

THOUSANDS of our readers have already seized this chance to become Architects and Draftsmen.

We want YOU to have these two books and the "Model Set of Architects' Plans."

Orders are now being filled as rapidly as possible. Send us your request now for your set, so you can study this winter.

You can "better yourself" 100 per cent and more by studying these books.

This Set is Yours When you join the Big Family or send us your renewal **At 1/3rd the Price** to be charged after OUR FOLKS are supplied

Model Set of Architects Plans Free — Don't Miss This Chance — Learn Drafting This Winter — See pages 110 and 111 for particulars

Start the New Year With a Fine Saw!

1913 bids fair to be a record breaker. Business is on a boom. Everybody feels good about the future and there will be lots of building.

How about your equipment of Hand, Rip, Panel, Compass, Keyhole, Back and other Saws? Are you ready?

ATKINS *Silver Steel* SAWS

Truly the finest mechanic's Saw that has ever been made. SILVER STEEL is as fine as razor steel. It is hard and tough but not brittle. It receives just that sharp cutting point that you most wish and then holds it. Less refitting with an ATKINS SAW.

It is scientifically ground on an actual taper from the tooth edge THROUGHOUT the blade toward the point on the back. That's why they run free and easy even in wet lumber and require but little set.

ATKINS SILVER STEEL SAWS are smithed by mechanics who are required to serve a four years apprenticeship. This removes tight and loose spots and permits them to run free and easy and cut true to the line.

If these are the kind of Saws you want—then go to your dealer and tell him you want a Genuine ATKINS SILVER STEEL SAW with our name on the blade. He will get it for you from his wholesale house in case he does not carry it in stock. Try it out on your work and if it does not give you better satisfaction than any other Saw you have heretofore used, take it back to your dealer and GET YOUR MONEY BACK.

If Your Dealer Won't Supply You, Then Write to

E. C. ATKINS & CO., Inc.,
INDIANAPOLIS, INDIANA

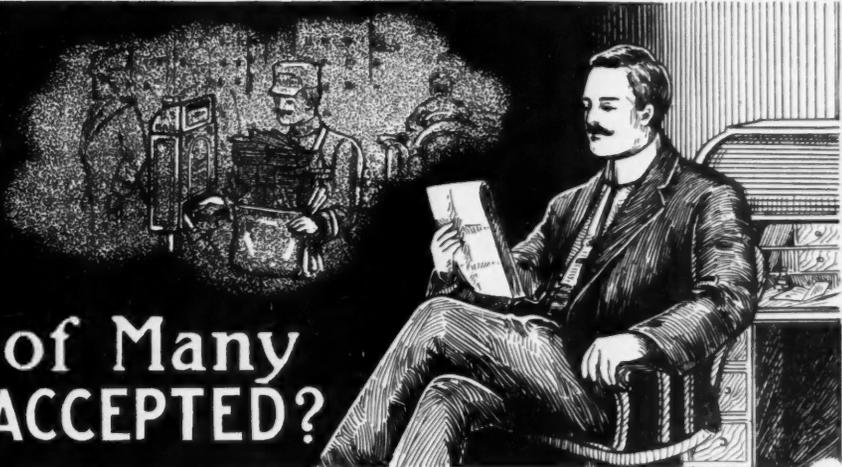
Or write to E. C. ATKINS & CO., at Chicago; Atlanta; Memphis; Minneapolis; New Orleans; New York City; Portland, Oregon; San Francisco; Seattle; Hamilton, Ont.; Vancouver, B. C., Canada. We have branch houses and complete stocks of goods in each of these cities



When Writing Advertisers Please Mention the American Carpenter and Builder.

YOUR BID

Is But One of Many
WILL IT BE ACCEPTED?



THAT depends. If you are clever at "cutting corners"—yes. Otherwise—no. You can't honestly cut the quality of the material, and you can't hire good men for much under the schedule—but you can cut down on time if you own an Oshkosh "Eveready" Saw Rig. This is no idle boast. We can actually prove that

The **OSHKOSH** ^{TRADE MARK} "EVEREADY" *Lowers*
 Portable *Labor*
SAW RIG *Cost*

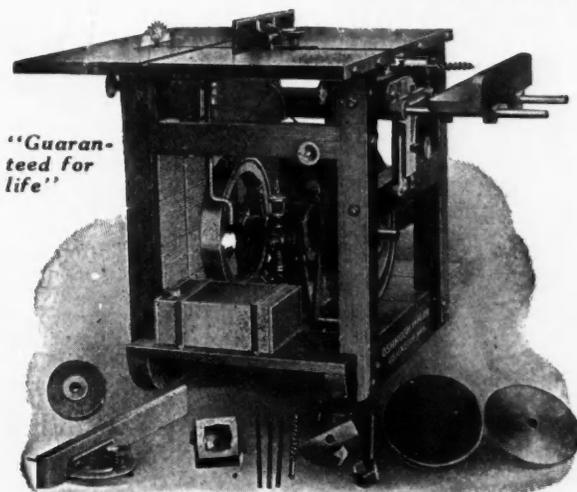
Hand Work is Expensive—Rip and cross-cut sawing, mitring, boring, sanding, jointing, grooving, tool grinding, etc., by hand are what run your bid up. All this and more can be done on the "Eveready" right on the job; no special experience is needed. If you are running a big force, it will actually save six men's wages, and its work will be truer and better.

Sixteen Cents a Week!—That's all it costs for gasoline. The "Eveready" is furnished with the best four-horse, 2-cycle, "valveless" engine we could buy. You can't beat it for economy. And when we say four-horse power, it is more apt to be four-horse plus. Yet the "Eveready" is so light three men can easily hoist it into a wagon for transportation to the job.

All These Attachments FREE

(Besides one rip and one cross-cut saw.)

JOINTER HEAD	SANDER	JIG SAW
EMERY WHEEL	BORER	DADO HEAD
SAW GAUGE AND MITER DEVICE		



"Guaranteed for life"

Try It A Week FREE

We will gladly send you the "Eveready" for a week's free trial. Try it under every condition of your work, in the shop and on the job—using all the attachments. Then if you don't want it, don't keep it.

Write for Circular and Details of
Free Trial Offer

Oshkosh Mfg. Co.

316 S. Main St. :: OSHKOSH, WIS.

When Writing Advertisers Please Mention the American Carpenter and Builder.

Side-Track Trouble and Increase Profits By Using This Mixer



Designed and Built by Brains

THE OSHKOSH CONCRETE MIXER is designed and built by men who not only have had experience in Concrete, but also men who have had experience in, and KNOW the machinery building business. With these experts we were able to design and build a CONCRETE MIXER that would not only Mix and Discharge Concrete in the quickest and best possible manner, but one that **combined strength and durability with a saving of operating power.**

OSHKOSH CONCRETE MIXER Produces a Mixture that Stands All Tests

This Mixer is built of fewer parts than any other mixer made, consequently **BREAKDOWNS** will be fewer and **REPAIR BILLS LESS.** It is a **SANE, SENSIBLE MIXER**—a practical, working reality that delivers a smooth, well-blended mixture, day in and day out, without having to be tinkered with. Twenty-five years of manufacturing and construction experience—uniformly successful—backs the OSHKOSH. This means much to the **MIXER BUYER.**

The Mixing projections on the OSHKOSH are so arranged in the drum as to cause a **QUADRUPLER** or **FOUR-WAY** mix, which means turning, pouring, kneading and flowing of the batch while it is being mixed. This absolutely insures a perfect mix and we can guarantee that there is none better.

THE OSHKOSH is bound to make a "hit" with you when you figure up your income from the first job on which you use it.

Made in every size demanded, equipped with Standard or Batch Hopper or Power Charger, with either Steam, Gasoline or Electric Power.

**Loads Easily
Dumps Quickly
and Completely**

**Rapid and Thorough
In the Extreme**

The Frame is constructed of Channel Steel, with five heavy semi-steel cross-beams riveted to the Channels. The Drum is made of Semi-steel, no less than one-half inch thick at any one point. It is rotated on large self-oiling rollers, making it roll smooth and easy, which means **LONG WEAR.** All parts are standardized and fitted to interchange in the field with ordinary tools.

RIGID GUARANTEE

THE OSHKOSH MIXER is absolutely **GUARANTEED** as to **DURABILITY, QUALITY OF MATERIAL,** and **ALL-ROUND EFFICIENCY.**

The **THOROUGH** and **RAPID MIXING FEATURES,** together with the perfect mechanical construction of the **OSHKOSH CONCRETE MIXER** will appeal to the contractor who is interested in manipulating time and quality to profitable advantage.

Write Today for Further Information.

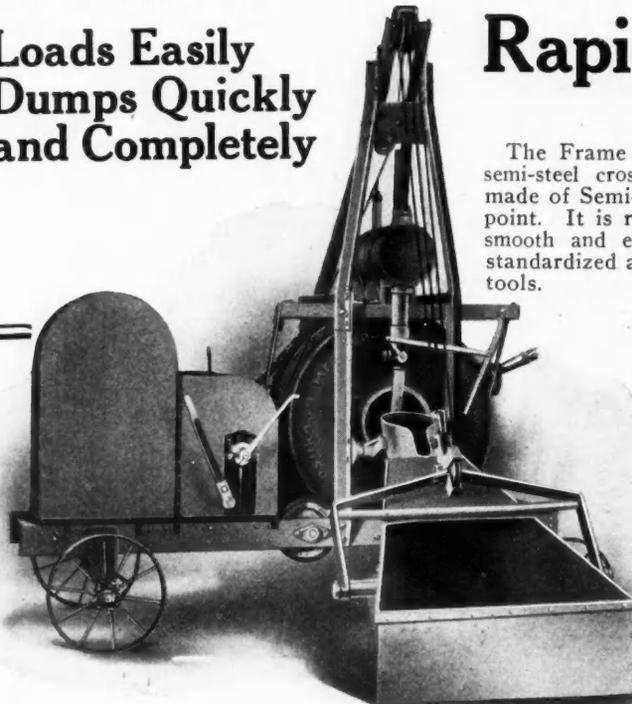
OSHKOSH MANUFACTURING CO.

316 South Main Street
Oshkosh, Wis.

1452 Monadnock Bldg., Chicago, Ill.

**LIVE AGENTS WANTED
IN OPEN TERRITORY**

When Writing Advertisers Please Mention the American Carpenter and Builder.



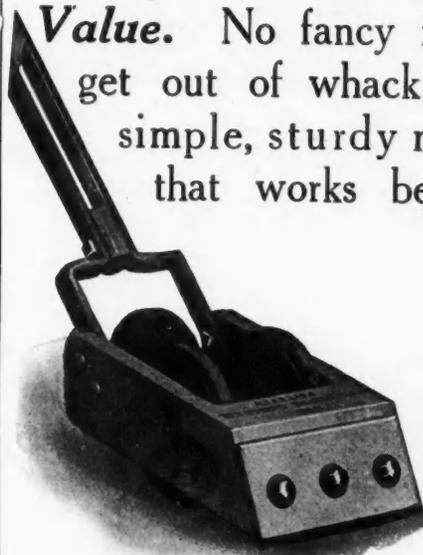
The Carpenter profits most when he pays \$25.00 for a

Fox Floor Scraper

He gets something for his money. It's all *Scraper Value*. No fancy fixings to get out of whack. Just a simple, sturdy machine that works beautifully.

Will you give it a trial?

FOX
Supply Co.
BROOKLYN, WIS.
Dept. A



The WEBER DOUBLE ACTING Floor Scraper Has Two Knives

YOU can use the front knife till you want to rest, then raise it and drop the rear one. This change saves your strength and thus greatly increases your speed. The time saved over hand work often amounts to \$12 a thousand feet. When it

SCRAPES BOTH WAYS

the Weber also enables you to reach the centers of the smallest rooms. Blades easily adjust to any angle for perfect work on all old or new flooring, and shear-cut without side-draft. Flexible knife holders prevent floor-waves. And an

Adjustable Handle

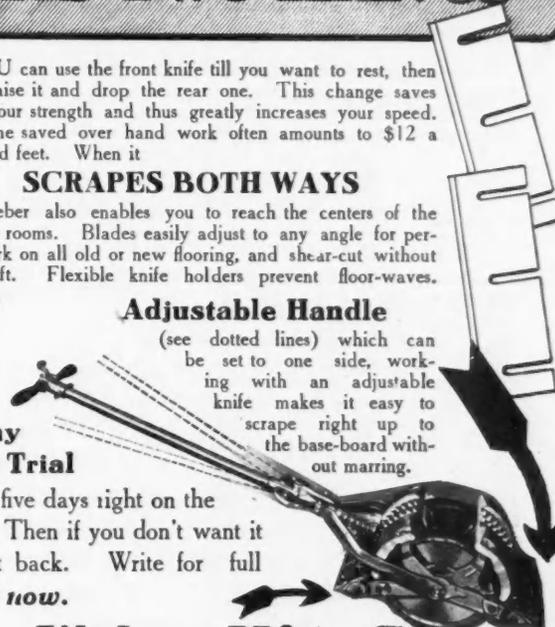
(see dotted lines) which can be set to one side, working with an adjustable knife makes it easy to scrape right up to the base-board without marring.

5-Day Free Trial

Try it five days right on the job. Then if you don't want it send it back. Write for full details *now*.

Weber Mfg. Co.

670 71st Avenue West Allis, Wisconsin
Chicago Sales Office, 704 Mortimer Building

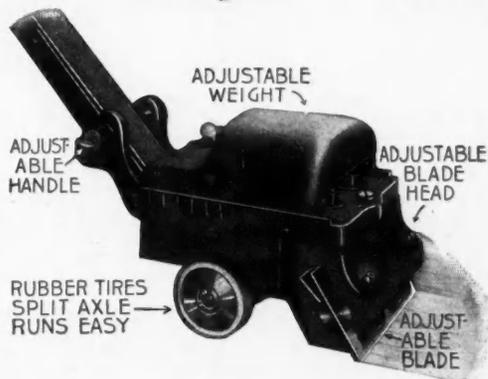


Why pay twice the amount for a machine on approval when I will sell you

A Better Floor Scraper

for half the price on

30 Days' Trial



PRICE COMPLETE \$22.50
Money back if not satisfactory

H. P. DIDRIKSEN

115 West 11th Street :: Anderson, Ind.

Scrape Your Floors With this LITTLE GIANT—

You Can Try It At Our Expense



A floor scraper is now a necessity with every builder. In this Little Giant you get a floor scraper you can always depend upon to do its work properly. It is easy to operate. Scrapes floors rapidly, perfectly and economically. We'll let you try this Little Giant before you buy it—a fair proposition—and you can prove to yourself just what it can do. Write us NOW for our special offer for YOU.

The THOR Electric Home Laundry Machine

should be in every home. This machine does away with all laundry troubles. Home owners and builders appreciate their convenience and usefulness and it is good policy on your part to install them for your clients. There are now more than 51,000 in use. Sizes, designs and prices to meet every requirement. Sold on liberal FREE TRIAL EASY PAYMENT Plan.

You ought to have our circular matter describing our Little Giant Scrapers and THOR Washing Machines. Write for this NOW.

Hurley Machine Company

New York 1008 Flat Iron Building
37 S. Clinton Street, Chicago



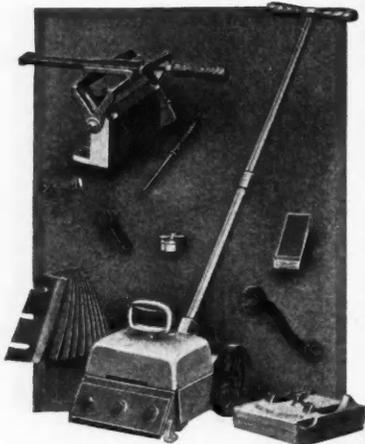
When Writing Advertisers Please Mention the American Carpenter and Builder.

The American Floor Surfacing Machine

IS NO EXPERIMENT. Its work since 1903 has established a standard for finely surfaced and polished floors. It is the only machine whose work is specified by leading architects and used in the best government buildings and will surface and polish any kind of a floor from common pine to the finest parquetry. **IT IS THE ORIGINAL** and only two-roll, self propelled, dust collecting machine, that surfaces close to the wall and can be used in small rooms. Anyone can operate it. **ITS WORK IS RAPID, regular smooth and even** because the power that drives the rolls, also propels the machine at the same ratio of speed. It has surfaced and polished millions of square feet of the finest floors in America and Europe. **GET A MACHINE** that does first class work and in paying quantities, that is fully guaranteed and sold on its merits. Don't be fooled with an imitation.

Write for Our Free Book, "Surfacing Floors as a Business."

Manufactured By **The American Floor Surfacing Machine Co., TOLEDO, O.**



Try It—But Don't Buy It—

until you have convinced yourself, by actually working with the machines, that they are satisfactory in every particular. In order that you may know just what the

Acme Floor Scraping Outfit

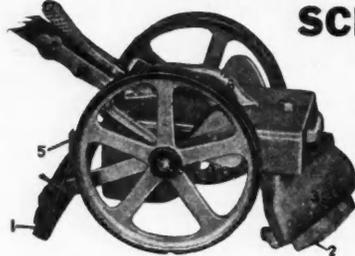
can do on your own flooring, I want to send the same to you on a WEEK'S FREE TRIAL. Thousands of carpenters and contractors have accepted this offer and if you haven't done so, get busy and write for full particulars and catalog to-day.

JOSEPH MIOTKE 247 Lake St., Milwaukee, Wis.

BUILDING CONTRACTOR AGENTS

to use and sell
the RAPID FLOOR SCRAPER

FREE TRIAL
USE IT FIRST— THEN PAY US



Saves its cost in 10 days.
Send for our special proposition and catalog.

MONARCH MFG. CO.
2612 Shepard Bldg.
GRAND RAPIDS, Mich.

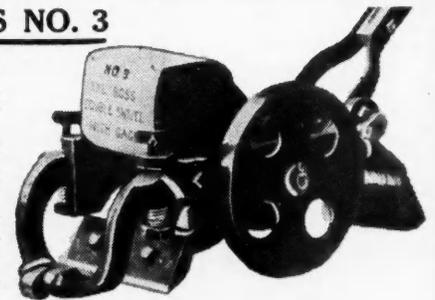
THE BOSS NO. 3

The wheels will adjust themselves to any uneven floor and not interfere with the scraping knife.

The Boss is the only Floor Scraper which leaves no mark where you start to scrape, or waves.

The Boss can be set by a Thumb Screw which is over the Gage to any thickness of shaving.

It can be set for any shearing cut right or left up or down to suit the kind of lumber.



Write for Prices and Circulars to Dwight, Ill.

C. J. KEPPLINGER
FACTORIES: Dwight, Illinois and London, Canada

\$25.85



THE ADJUSTABLE TOOL



The Haven Planing Floor Scraper

You May Try This Haven Planing Floor Scraper at Our Risk

We will guarantee you absolutely against expense if you are not entirely satisfied with the Haven Planing Floor Scraper after keeping it for one week.

The "Haven" eliminates all the defects of other floor machines. Study this machine. Mark its simplicity. Raise the handles, draw them toward you and the work proceeds rapidly. Note the light-running carriage on the smooth trackway, the handle swinging on a pivot for a shearing cut and moving laterally in dressing the area within machine. It will appeal to your common sense because its tool is merely a scraping plane, such as you have always known. The angle of blade and thickness of cut are each regulated by a small screw in the usual way. Because the tool is a true plane, it prevents chattering, gouging and "waves." It planes and scrapes at the same time and all woods are alike easy. It also does away with the man-killing toll of pulling a heavy weight. The most simple, easy and rapid machine on the market and solves the problem practically and permanently. Saves its cost within five days.

Don't pay exorbitant prices for an inferior machine, when you can get the best on earth for \$25.85. Send for catalogue and complete particulars to learn how we can make this wonderful proposition on a guaranteed machine.

THE HAVEN MFG. CO. RACINE, WIS.

When Writing Advertisers Please Mention the American Carpenter and Builder.

You Should Know the Difference Between the Triple "A" Spring Driven and the Ordinary Hand Power Floor Scrapers



3 Machines in 1
A Floor Scraper
A Floor Sander
A Blade
Sharpener

It won't cost you anything to write in and find out. The TRIPLE "A" SPRING-DRIVEN does the work of three other machines and runs easier.

For quality of work there is no other machine that begins to compare with the Triple "A."

It has 160 pounds of weight to keep the scraper from jumping and making waves. The weights are demountable and adjustable, so that the machine can always be used with just the proper amount of weight for the work at hand, as follows:

For scraping old and varnished floors at 160 lbs.
For scraping new floors at 135 lbs. (with top weight removed.)

No Carpenter could operate any other machine having that much weight, and that's the reason weight—the one essential for smooth work—has been sacrificed in other hand power machines.

Not so with the Triple "A."—The Spring does more than half of the work, and with all of its 160 lbs. of weight it is the easiest running floor scraper on the market.

Spring Power is a thing which can be used on every building. It requires no fuel or electricity and entails no power expense.

It's no trick for an average carpenter to scrape 1000 square feet of floors per day with a Triple "A."

You can't afford to waste time with a hand scraper or a dead-weight machine. Investigate the wonderful labor saving qualities of the Triple "A" Spring-Driven now, and then when the next job of floor scraping is ready you can begin to make some easy money—or.

You can start right in now, anywhere, and contract to resurface old and varnished floors at a profit of from \$15.00 to \$30.00 per day. The Triple "A" is guaranteed to fulfil all claims and to do satisfactory work or money refunded.

Send This Coupon or Write Postal or Letter TODAY

Triple "A"
Machine Co.,
1014 Chicago
Opera House Bldg.
Chicago, Ill.

Please send full particulars concerning your Triple "A."

Name

Address

Write Now for Full Information.

Triple "A" Machine Company
1014 Chicago Opera House Bldg., Chicago, Illinois

WOOD



Made in three sizes:
8 x 18, 8 x 15 and 8 x 12 in. Flexible Roller.
Edge Roller easily adjusted to either side.

FREE TRIAL

**Perfect Results Are Easily Obtained By
Using Schlüter Rapid Floor Scraper**

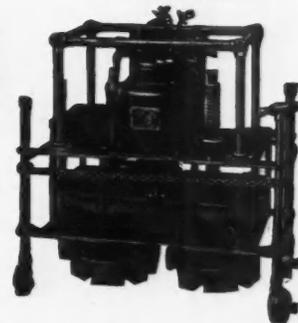
This machine is built on the only correct principle. It is guaranteed to be **The Best** machine with which to produce an even, smooth surface on any kind of large or small wood floor, old or new, hard or soft, and in all buildings: Residences, Stores, Factories, Bowling Alleys, Roller Skating Rinks, Reception and Dance Halls, etc.

The Schlüter will remove all joints or warped edges, and oil, wax, lime stains, or the 'muck' from skate wheels, in a most satisfactory manner. (Earning capacity \$20.00 to \$25.00 per day.)

Send for prices and **FREE TRIAL PROPOSITION.**

M. L. SCHLÜETER, Chicago, Ill.
107 N. Canal St., Chicago N. Y. Office, 1001 Flat Iron Bldg.

CONCRETE



Rapid and Flexible Stone Floor Surfer for Concrete with Terrazo, Mosaic Tile, Cement, etc.

**We Make Panels of any Thickness and
Any Kind of Wood—Curved or Flat.**

FOR
Wainscoting
Ceiling
Mantels
Doors
Counter Tops
Partitions
Cabinets
Shelving
Drawer Bottoms

Our products excel in Quality and Durability, because we concentrate our best efforts in their manufacture.

We specialize in Panels and have the facilities for producing best results.

Try us with your next order. Send us your specifications and ask for our prices.

AMERICAN VENEER CO.

Specialists and Manufacturers of Built-up Veneer Panels

We appreciate small orders as well as large ones

12 Market St.,

KENILWORTH, N. J.

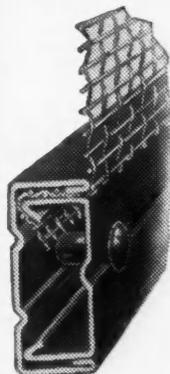
Fly Screens

Metal Frame
REWIRABLE CIN-MAN-CO.

See method of securing wire cloth, held by rounded corners, which prevents cutting by vibration.

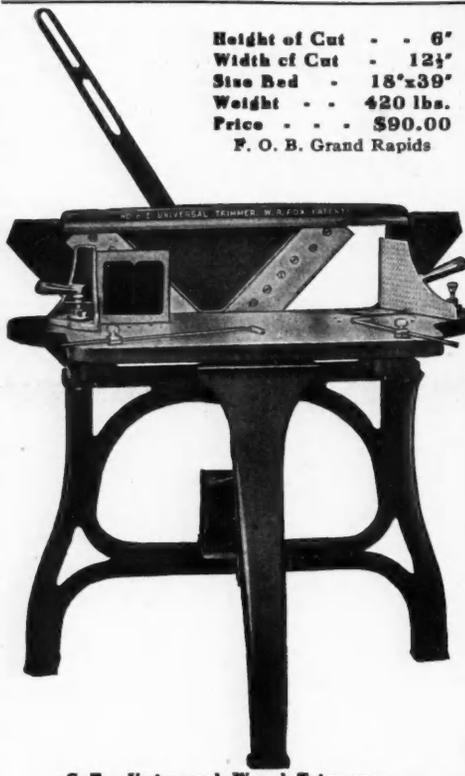
Special inducements to
Carpenters and Builders
Booklet Free

The Cincinnati Fly Screen Co.
1010-1026 Evans St., Cincinnati, O.



When Writing Advertisers Please Mention the American Carpenter and Builder.

TRADE **FOX** MARK



6-E Universal Wood Trimmer

Height of Cut . . . 6"
 Width of Cut . . . 12 1/2"
 Size Bed . . . 18"x39"
 Weight . . . 420 lbs.
 Price . . . \$90.00
 F. O. B. Grand Rapids

Bench and Floor Type

Universal Wood Trimmers

To Meet Every Demand



4-A Universal Wood Trimmer

Height of Cut . . . 4"
 Width of Cut . . . 8"
 Size Bed . . . 7 1/2"x17 1/2"
 Weight . . . 32 lbs.
 Price . . . \$22.50
 F. O. B. Grand Rapids

EVERY PATTERN SHOP, INTERIOR FINISH MILL, FURNITURE FACTORY, and others doing work requiring perfect glue joints and angles should have our Trimmers or Miter Machines to produce the best results.

WRITE TODAY FOR COMPLETE CATALOG OF OUR TOOLS

FOX MACHINE CO.

22 N. Front Street
GRAND RAPIDS, MICHIGAN
 30 Church Street, New York
 J. B. STONE & CO.,
 135 Finsbury Pavement, E. C.

139.50

FOUR MACHINES FOR THE COST OF ONE

A Band Saw—A Saw Bench—An 8 inch Jointer and Planer—A Mortiser and Borer—all in one machine for only \$139.50.

Here is big value for you. A real woodworking equipment for only \$139.50. This type "C" Universal Woodworker is a substantial, portable, easy-to-operate, all cast iron machine, that represents the best investment you can make. In this type "C" Woodworker you get FOUR distinct machines in ONE A Band Saw—A Saw Bench—An 8 inch Jointer and Planer—A Mortiser and Borer. Our type "C" Woodworker is equipped complete, including tools and belting. The heavy base is fitted with wheels—one of which swivels—making it very easy to move machine. Get our descriptive matter about this machine, also particulars about our 30 day trial selling plan. Drop us a line for full details right now.

THE TANNEWITZ WORKS
 316 N. Front Street
 Grand Rapids Mich.

COMPLETE OUTFIT

Hand and Foot-Power **MACHINERY**

Our No. 3 Wood Turning Lathe can be speeded from 1,000 to 2,000 revolutions a minute with perfect ease. Stopped or reversed at will of operator.

Write for Particulars

W. F. & Jno. Barnes Co. 74 RUBY ST., Rockford, Ill.



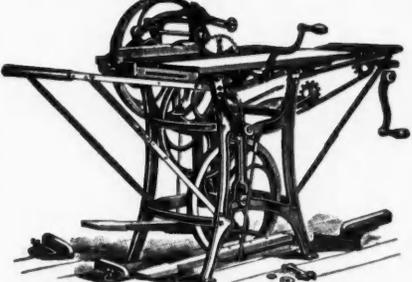
FOOT, HAND AND LIGHT POWER WOOD-WORKING MACHINES



"Victor" Scroll Saw



"Diamond" Mortiser



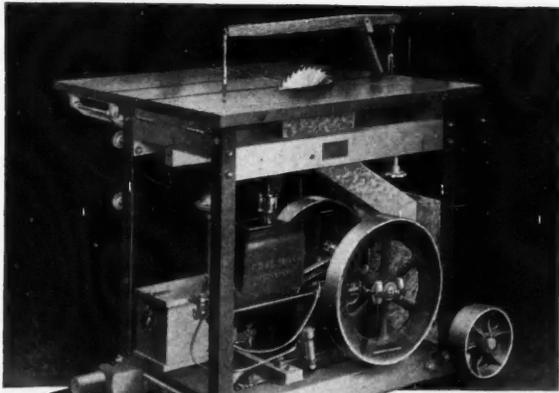
No. 5 "Union" Self Feed Rip and Cross-Cut Saw

Carpenters, Builders, Cabinet-Makers and other wood-workers can successfully compete with large shops by using our labor saving machinery. Save for yourself some of the profits you have been paying to the mills. With our machines one man will do as much work as four to six men using hand tools; will do it easier; will do it better.

Send for Catalog "A" describing our complete line

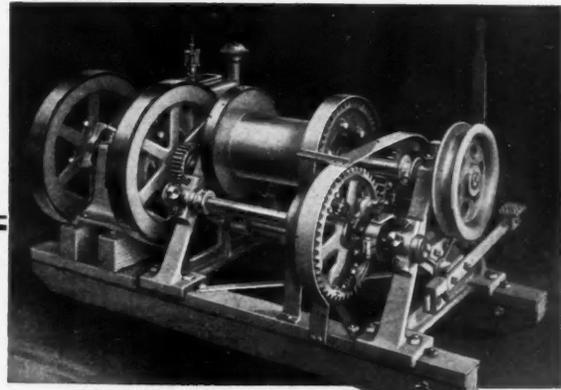
THE SENECA FALLS MFG. CO.
 28 Water Street - SENECA FALLS, N. Y., U. S. A. (249)

When Writing Advertisers Please Mention the American Carpenter and Builder.



No. 3 Saw Rig

Portable Saw Rigs, Hoists, Elevators, Pumps, Engines.



Builders' Hoist

**WRITE US FOR OUR
ATTRACTIVE
CATALOG JUST OFF THE
PRESS.**

C. H. & E. Manufacturing Co., Inc.

322 Mineral Street

Milwaukee, Wis.



SECTION OF MAIN FLOOR EXHIBIT AND SALESROOMS

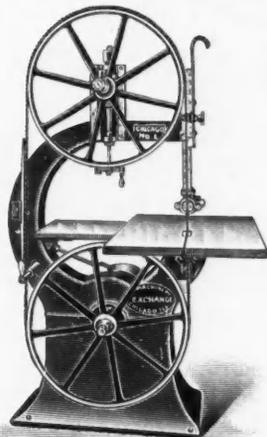
\$130.00 FOR BOTH To Contractors and Builders

Ask for prices on one if you can't use both.
Used for Planing, Jointing, Shaping, Match-
ing, Rabbeting, Grooving, Chamfering,
Beading and making Mouldings.

Ask Us for Complete Catalogue

Chicago Machinery Exchange

1215-1223 Washington Boulevard - - - - Chicago, Ill.



27-inch Chicago Band Saw.



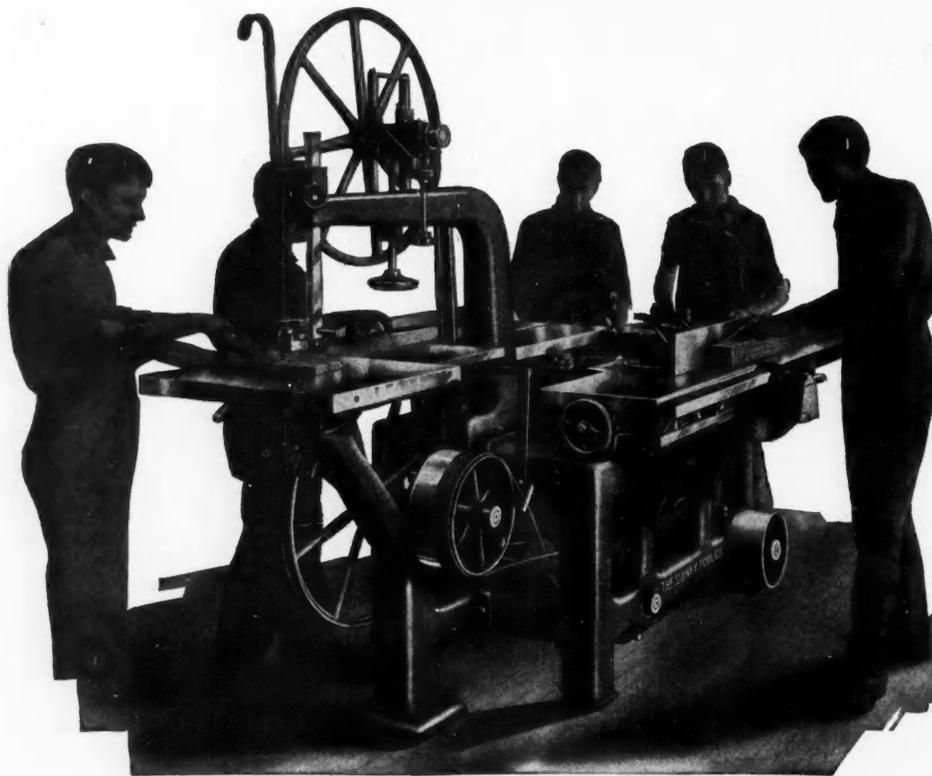
Chicago 8-inch Jointer.

When Writing Advertisers Please Mention the American Carpenter and Builder.

4'
5'
7'
8a.
80
L, FUR-
fect glue
achines to
LS
t
HIGAN
ork
ant, E. C.

PLETE
FIT
nd Foot-Power
HINERY
o. 3 Wood
g Lathe
speeded
1,000 to
revolutions
ute with
ct case.
ed or re-
at will of
r.
Particulars
RUBY ST.,
ckford, Ill.

CO.
S. A. (249)



Here Are Sixteen Machines

27-in. Band Saw; 12-in. Jointer; Single Spindle Shaper; Variety Saw Table (with raising and lowering Arbor); Borer; Planer; Disc Sander; Drum Sander; Hollow Chisel Mortiser; Knife Grinder; Emery Grinder; Band Re-Saw; Tenoner; Tongue and Pole Rounder; Adjustable Felloe Rounder; Spoke Tenoner, Rim Borer and Wheel Equalizer

There are three reasons why every carpenter, contractor and builder need the FAMOUS "30" in his shop

The first reason is IT BOOSTS YOUR PROFITS; the second reason is IT SAVES TIME; the third reason is GREATER CONVENIENCE TO YOU AND YOUR CUSTOMERS. It enables you to beat your competitors on price and time because you save planing mill *profits* and planing mill *delays*.

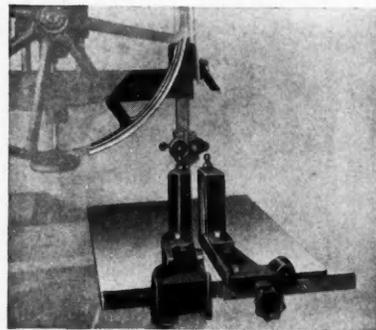
The Universal woodworker is a recognized necessity because it gives the carpenter all the advantages of a well-equipped planing mill, yet necessitates only a moderate investment. One machine is made to perform the work of sixteen, thereby economizing in cost, floor space, power and maintenance.

1,700 Now In Use

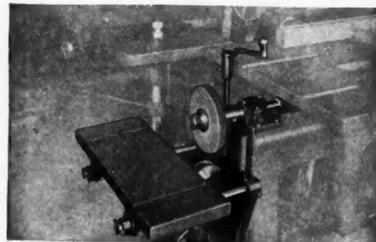
The "30" is the latest FAMOUS machine and is revolutionizing the woodworking machinery business. It is not merely an improvement—IT IS AN INNOVATION—and cannot even be imitated. The success of our previous models (we have over 1,700 in use), has caused the market to be flooded with universal woodworkers; and the majority are clumsy imitations of the FAMOUS. For your own protection you are asked to investigate the advantages offered by Famous machines before you buy and SAFEGUARD YOURSELF AGAINST COSTLY AND UNSATISFACTORY "EXPERIMENTS."

The Famous "30" dominates the woodworker question. Its refinement of design and wonderful efficiency are far in advance of anything ever attempted. Read what it *is*, what it *does*, and how it *saves*.

—all combined on one base—always ready for work—furnishing all the woodworking equipment a contractor needs.



Band Re-Saw



Emery Grinder

THE SIDNEY TOOL COMPANY
 Chief Offices and Factories
 SIDNEY, OHIO
 U.S.A.
 AGENCIES AND DISTRIBUTING CENTERS THROUGHOUT THE UNITED STATES AND ABROAD

Ask for
 Catalog
 No. 12

When Writing Advertisers Please Mention the American Carpenter and Builder.

The *only* Woodworker worth space in your shop

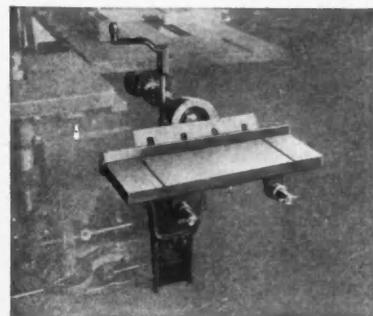
Everything we *say* we can *prove*. Making sweeping assertions without proving them is *not our way of doing business*.

We state the Famous "30" is the BEST Universal Woodworker ever marketed. That's plain English. Of course our competitors can say the same thing—but we say it *truthfully*.

Compare the Famous "30" with any or all others—feature for feature, part for part. The result would show the Famous to be so far superior as to be in a class by itself.

Compare the operation. The Famous allows five men to work at one time, each doing a different kind of work. This is *not possible* with any other woodworker.

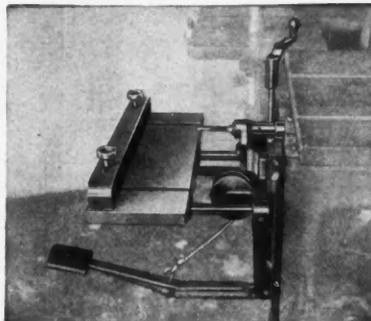
Compare the variety of work. The Famous does sixteen different kinds of work—far more than competitors can even claim.



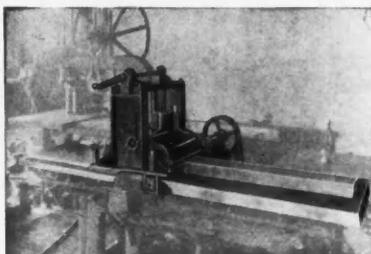
Knife Grinder



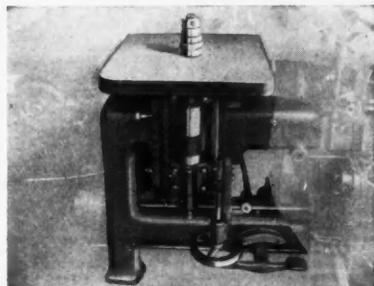
Tenoner



Hollow Chisel Mortiser



Planer



Shaper



Drum Sander

Frame Is Cast In One Piece

Compare the quality of work and you'll readily see how the Famous leads them all.

Compare the workmanship and durability and results are astounding. The frame of the Famous is *cast in one piece*, while other machines are simply bolted together. Besides, we guarantee the Famous for *all time*.

Famous Superiority Beyond Question

Compare the compactness. The Famous has all belts and pulleys *inside* the machine, entirely out of the way, which is an exclusive Famous idea.

And so on down the list. We could give *dozens* of comparisons which would prove *beyond doubt* that Famous superiority is a *tangible certainty*—not an empty claim.

We have spent a fortune in developing the Famous Universal Woodworker and educating the trade to its benefits. The result is a record of over 1,700 machines in use, with never one returned or reported as being unsatisfactory. The price is lower than you think.

Aren't these *bedrock facts* impressive and convincing?

It's easy for you to own a Famous "30" if you **ACT NOW!**

Extra liberal terms are offered if you act within the coming month. This is an extension of our offer which proved so successful in January and is made for the purpose of popularizing this new model. You take no risk and place yourself under no obligation by sending a post card for particulars. It will bring details of the Famous Woodworker and the Famous special offer to your desk. Mail it now—as a duty to your business.

Our beautiful large catalog No. 12 is now on the press and will soon be ready for mailing. Send us your name for a copy—today.

The Famous Line Embraces

All Types of Universal Woodworkers

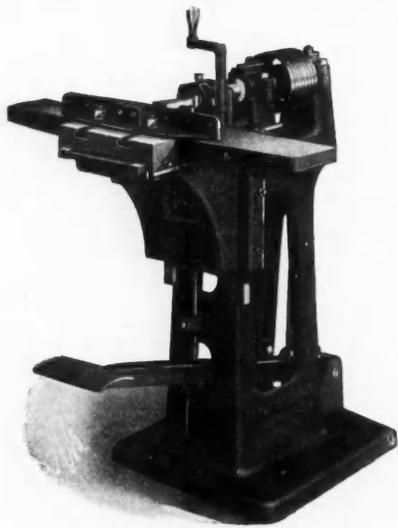
The wide variety of styles and sizes means we can exactly suit the needs of large and small carpenters, builders and contractors. Tell us what kind of work you do and we will gladly go into details and advise which of our machines is best suited to your business.

The low prices of FAMOUS Universal Woodworkers are made possible by our huge output and exceptional manufacturing facilities.


THE SIDNEY TOOL COMPANY


Chief Offices and Factories **SIDNEY, OHIO** U.S.A.
 AGENCIES AND DISTRIBUTING CENTERS THROUGHOUT THE UNITED STATES AND ABROAD
 Service of Kovnat & Short—Chi.

When Writing Advertisers Please Mention the American Carpenter and Builder.



**FAY-EGAN "LIGHTNING" No. 270
Hollow Chisel Mortiser**

is a very useful and handy addition to any carpenter shop, sash, door and blind plants, cabinet factories, etc., makes clean mortises up to 1/4" square and 3" deep. :: :: ::

Write for description

J. A. FAY & EGAN CO.

545-565 W. Front St. :: CINCINNATI, O.

**Install It
It's Radically Different**



Write us today and let us show you how you can save 25 per cent of your next month's income.

SEE HERE—Read What A Big Contracting Firm Says About Our Double Arbor Rip and Cut Off Machine

HEDDEN CONSTRUCTION COMPANY,
Builders

Metropolitan Tower, New York City.
Subject: Northwestern Mutual Life Building of Milwaukee, Wis.,

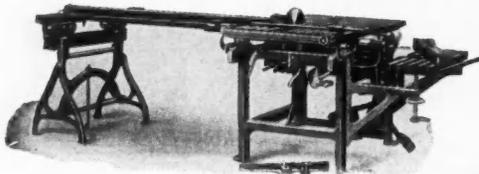
Milwaukee, Wis., June 12, 1912

Beach Manufacturing Co., Montrose, Pa.

Gentlemen—We beg to acknowledge your favor of the 7th inst. In reference to the No. 3 Double Arbor Rip and Cut-off Machine which we purchased from you. In reply to same, beg to advise you that we have been entirely satisfied with the work performed by this machine and found it to be a great labor saving device.

RWB/NC.

These Portable Double Arbor Rip and Cut-Off Saw Machines with either Iron or Wood Frames, can save you time, labor and material on any job. The machines are easily portable and require but small space to operate in. They are equipped with either electric motor or gasoline engine.



Our Double Arbor feature gives you in one machine a Rip and Cross-Cut Saw ready for use at any time. Their boring attachments require no pushing of lumber to bit. The bevel gauge will make any cut that can be made on a tilting top table. The mitre gauge can be set to any angle—right or left. The dado head can be used in either saw arbor.

Our table extension is framed together, trussed to prevent springing and provided with steel lumber roll, at outer end.

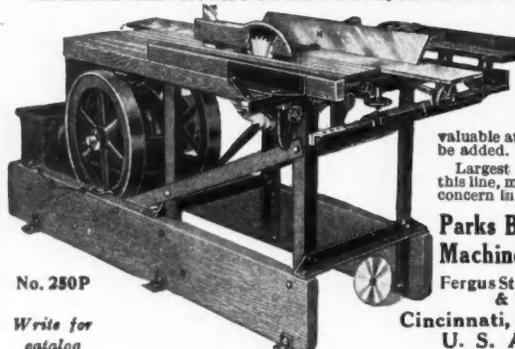
We guarantee these machines in every respect. Write us today about them. Get our catalog "M."

BEACH MANUFACTURING CO. - MONTROSE, PA.



Parks Portable Single and Combination Woodworking Outfits

This machine combines three of the most necessary tools to have on the job, name-



ly Circular Rip or Cross-cut saw, 6" Jointer tilting guide and boring machine. Jig Saw, Band Saw and many other

valuable attachments can be added.

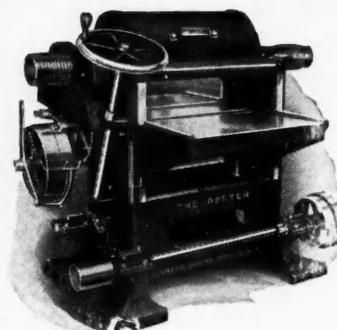
Largest assortment, in this line, made by any one concern in the world.

Parks Ball Bearing Machine Company

Fergus Street and C. H. & D. Ry. Cincinnati, Ohio, U. S. A.

No. 250P

Write for catalog



The
PORTER

24x8, Single Surface

A quality machine in every respect and sold at a reasonable price. Better get our catalog of the best machines on the market for the Contractor, Builder or Mill Worker.

C. O. Porter Machine Co., Grand Rapids, Michigan

When Writing Advertisers Please Mention the American Carpenter and Builder.



"MORE PROFIT"

Can be made in your business
by putting in a

"Grimm Woodworker"

NINE MACHINES IN ONE

Here is a Letter From a User: Grimm Mfg. Co., 46 Keystone Street, Buffalo, N. Y.

Gentlemen:—I have been in fourteen states and went as far as Phoenix, Arizona, and took the GRIMM Woodworker along and have seen hundreds of machines, but none of them had the GRIMM beat one inch. In doing good work or being handy the GRIMM cannot be made better. I have not spent \$3.00 for repairs in the twenty months that I have had the machine, and work it every day. I have no shop and keep it out on the jobs. The GRIMM will do more work than the best five carpenters that you can hire, and pay them fifty cents per hour. I will not part with the GRIMM as long as I contract. The GRIMM will burn less gasoline than any other engine ever put on the market for sale, and saves all kinds of scrap lumber for you.

Very truly yours,

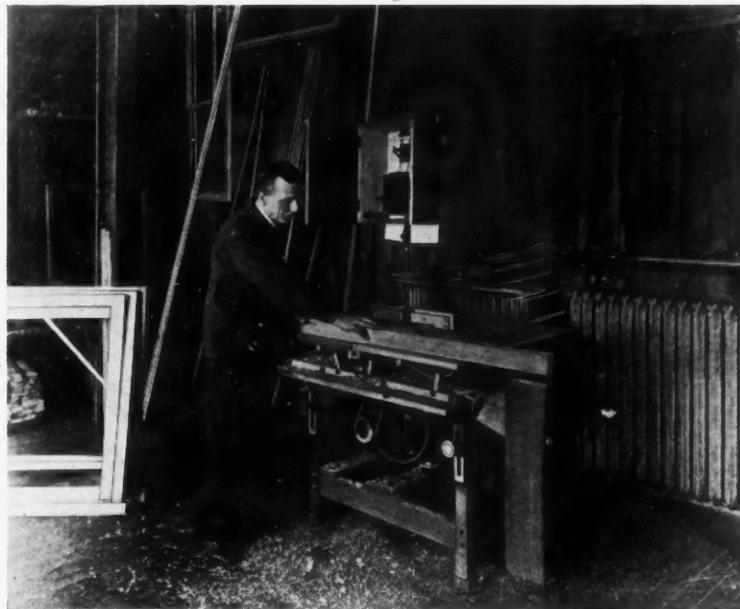
JOHN WOLTER, Box 414, De Pue, Illinois.

☐ The profit question then is important to you and is solved by you if you get one of these machines at once, because upon it you can do your own ripping, cross-cutting, dadoing, boring, jointing, moulding, sanding, jig sawing and grinding.

☐ There are thousands of our machines in use, giving complete satisfaction:

☐ "GRIMM" Woodworkers are built with gasoline engine drive for portable use, also with electric motor or belt drive for use in the shop or factory.

☐ Send for catalog and prices. "DO IT NOW!" before you forget it.



Grimm Manufacturing Co.

46 KEYSTONE STREET

BUFFALO, N. Y.

When Writing Advertisers Please Mention the American Carpenter and Builder.



Metal Top.

ROYAL VENTILATORS

Will Exhaust More Air than any other ventilator made. This is why you should always use **Royal Ventilators**. The sharpened bottom cone insures a greater exhaust of air per minute and also offers the least resistance to natural draft.

It ventilates better and there is no back draft.

Note the double deflector, which deflects the air over and out of the ventilator and out of your building.

Wherever ventilation is necessary, as in Factories, Engine and Boiler rooms, Foundries, also School buildings, Hospitals, Residences, etc., the **Royal** is made in every size and shape with metal or glass top.

Royal Ventilators have proven the most efficient for the purpose.
Write for catalog.

ROYAL VENTILATOR CO. :: :: **417 Locust Street, Philadelphia, Pa.**

GET THE ROOF THAT LASTS

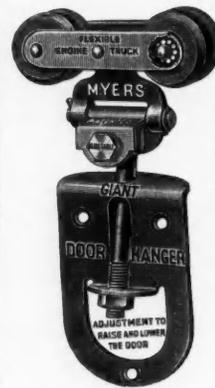
—the kind that never fades, never wears out, never needs any painting, re-coating or repairing every few years and never absorbs any water.

GENUINE FRANKLIN TUNNEL SLATE

—the strongest, the most uniform in color the best hand-selected, made from the best slate deposits makes the "Roof that Lasts a Lifetime" and Guarantees Freedom from all Roofing Troubles.

Plan Now to roof Right. Begin by sending to-day for our new Catalogue. Just out. It points the way to immense roof saving. Write for your copy to-day. It is sent Free.

SLATINGTON SLATE CO. Sole Manufacturers **SLATINGTON, PA.**
G. F. T. Slate puts "The Finishing Touch" on any Building.



THE MYERS GIANT ADJUSTABLE TANDEM DOOR HANGER

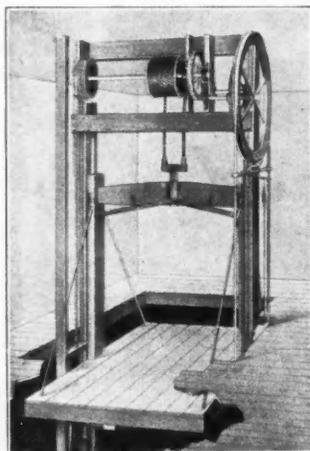
for TUBULAR GIRDER TRACK is adjustable to and from the building, and up or down as necessary. Has flexible engine truck with steel rollers revolving on steel roller bearings. The adjustable features prevent trouble from weather conditions or sagging of building. Storms, sleet or ice do not affect it, owing to complete protection afforded by the tubular track. Track and Hanger are constructed to carry and operate heavy doors easily.

This and other styles of Tubular and "Stayon" Door Hangers are shown in our Door Hanger Booklet. Copy mailed on request.

F. E. MYERS & BRO.
ASHLAND, OHIO

The "Blake Line" Elevators

Will pay for Themselves in a Short Time
Mechanically Correct—They Save
Hard Labor—They Save Time



Dumb - Waiters, Carriage, Auto and Store Ele- vators.

Our Elevators are noted for their Easy Running and Serviceable Qualities. They are practically self-contained, and can be erected by any carpenter in a few hours. We furnish plans for erecting.

The Low Cost will Surprise You

State your requirements, giving capacity, size of platform and number of feet of travel and we will name our money-saving estimate.

SIDNEY ELEVATOR MFG. CO., SIDNEY, OHIO

TRADE **Sedgwick** MARK ELEVATORS AND DUMB WAITERS

— HAND POWER —

Standard of Quality the World Over

SEDGWICK MACHINE WORKS

82 Carroll St.,
Poughkeepsie, N. Y.

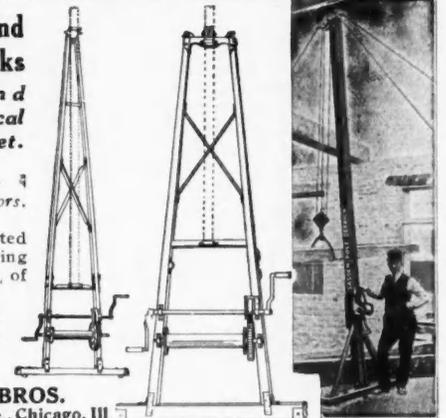
New York Office,
132 Liberty St.

Sasgen Poles and Setter Derricks The Latest and Most Practical on the Market.

Sent on trial to
Reliable Contractors.

Write for illustrated catalog No. 2 showing complete line of Builders Derricks. We will exhibit at Pittsburgh and Chicago Cement shows.

SASGEN BROS.
2053-57 Racine Ave., Chicago, Ill.



When Writing Advertisers Please Mention the American Carpenter and Builder.

S
you
ures
e to

the
oiler
the

Pa.

ANT
M
ER
is adjust-
nd up or
le engine
g on steel
e features
ditions or
et or ice
te protec-
k. Track
arry and

oular and
wn in our
mailed on

BRO.

MARK

ERS

KS
k Office,
rty St.



Get Ready to Make Big Profits This Season—NOW

Don't wait until you're right in the midst of a lot of work this Spring and then decide that if you had a wood worker you would be making more money in less time.

Start right this season—get a wood worker and have it in your shop and working before your rush begins. Be prepared to tackle any job and not have to "farm" part of it over to "some one else" and let them make the big profit. Do all the work and keep all the profit in your Own shop.

Our Crescent Universal Woodworker is just the sort of woodworking machine you want—and need—because it is practical in both construction and operation. The Crescent Universal gives you all the advantages of a fully equipped planing mill. It isn't just simply a combination wood worker.

Four men can work upon the Crescent at one time without in any way interfering with one another. In addition to its 5 separate units—the band saw; the jointer, the shaper; the table and borer—various attachments for panel raising, tenoning, mortising, tool grinding, knife grinding, sanding, dadoing, resawing, moulding making and pole rounding can be added.

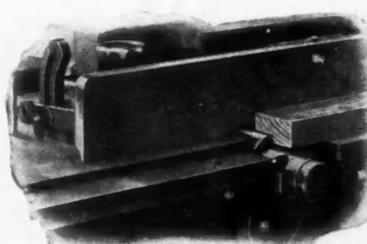
With the Crescent each machine is entirely independent of the others—each can be started and run and stopped at will. It is compact. It is convenient. It is well built throughout—and is always ready for work. It is particularly suitable for the kind of work you have to do. It operates easily. Any average mechanic can handle it satisfactorily. We equip the machine with either a 26-in. or 32-in. band saw, and with either an 8-in., 12-in. or 16-in. jointer. We can also furnish the machine without the band saw.

Fill out this coupon and mail it to us to-day. We'll send you our new 128-page catalog FREE. It will explain to you fully just why the Crescent is the machine you want to get. Send in the coupon NOW.

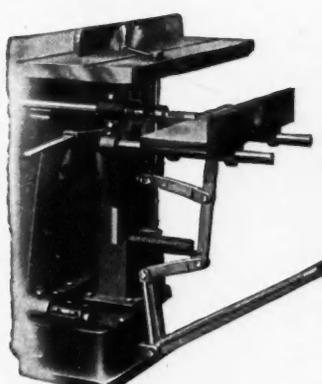
The Crescent Machine Co.

224 Main Street

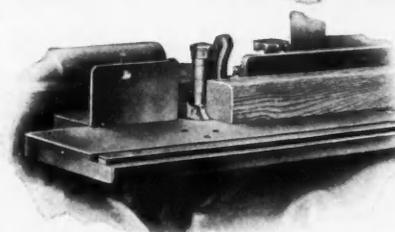
Leetonia, Ohio



This shows how to do rabbeting on the jointer. You can't do this on every jointer. How it is done on a CRESCENT is fully explained in our latest catalog.



This attachment converts the borer into a hollow chisel mortiser, suitable for cutting mortises up to 3/4 inch square.



Poles and shafts can easily be rounded on the shaper spindle. This feature will appeal to the wagon and carriage builder. All you need to do this work are the special knives.

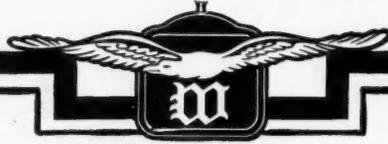
CRESCENT

CLIP AND MAIL THIS COUPON IN—TODAY
The Crescent Machine Co.
Leetonia Ohio

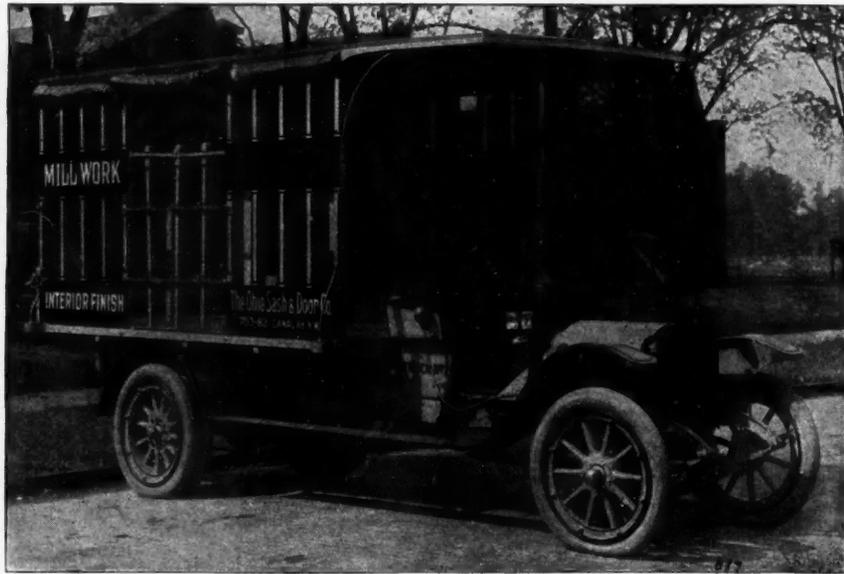
Gentlemen:
I am interested in your Crescent Universal Woodworker. Send me your latest catalog and all particulars FREE and without obligating myself.

Name
Address
City or Town

When Writing Advertisers Please Mention the American Carpenter and Builder.



WHITE MOTOR TRUCKS



WHITE Motor Trucks are, without doubt, the best known motor truck in the United States today. Among the prominent users of motor trucks in this country, the owners of White trucks are by far in the majority.

In the first place, White trucks are made in capacities of 3-4, 1 1-2, 3, 5 tons, making them suitable for practically every line of business.

Secondly, White trucks are designed and built in the best possible manner for the service they are to perform. They have passed through the real test—the test of service—and have made good.

Lastly, White trucks are manufactured by a company which has had the confidence and respect of the industrial world for over fifty years. The name of the White Company is the best guarantee in the world of the sterling quality of White trucks.

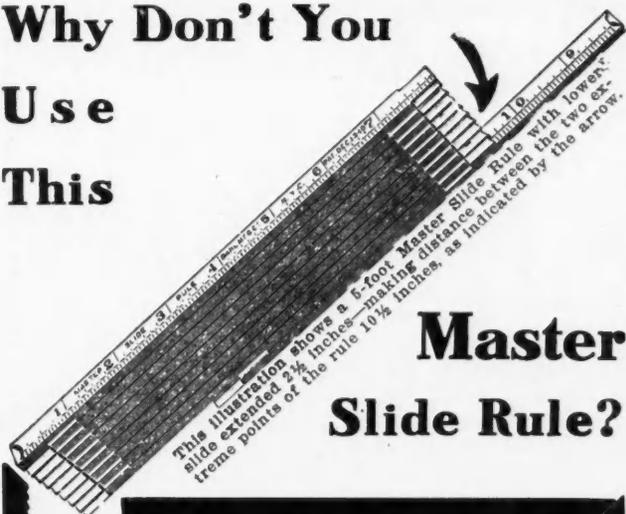
The White  Company

CLEVELAND

MANUFACTURERS OF GASOLINE MOTOR CARS, TRUCKS AND TAXICABS

When Writing Advertisers Please Mention the American Carpenter and Builder.

**Why Don't You
Use
This**



**Master
Slide Rule?**

is a rule every carpenter, builder, contractor, architect—in fact man about the job—can make constant use of.

This Master Slide Rule is particularly intended for taking inside door, window trim, etc., measurements.

This rule is quick and easy to use—always accurate.

It is made of select boxwood—trimmed with brass plated steel. When extended it is kept in place rigidly by strong steel springs. It opens and closes instantly. One side is marked for inside measuring—the reverse side is marked the same as standard rule. This rule measures 8 inches when closed. By extending lower slide you get exact measurement from point to point.

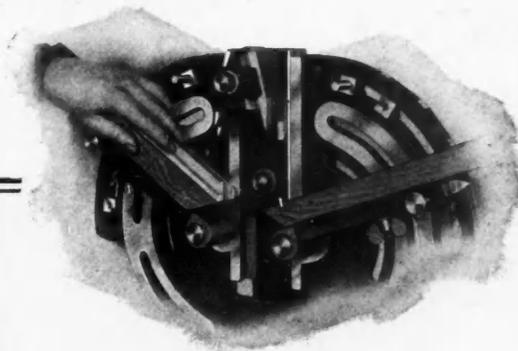
The Master Slide Rule is made in lengths of 2 to 6 feet. The price is only 15 cents per lineal foot for either a 4, 5 or 6-foot rule. You need a rule of this sort—get one now.

Get our circulars, detailed particulars and agent's proposition. Write in right now.

American Patent Sales Co.

417-A Fifth Avenue

New York City



1 Man Can Outdo 3

by using the

AMERICAN SASH TRIMMER

Because it bears the same relation to fancy sash that the moulding machine does to fancy moulding.

You would not think of trying to get out a lot of fancy moulding by hand, because it can be made better and at less cost by machinery.

It is just so with fancy sash.

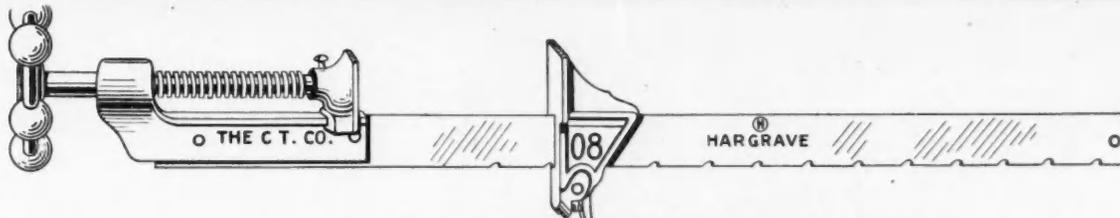
The American Sash Trimmer cuts each piece of bar to just the length and angle wanted and copes the end to just the shape desired.

We will gladly ship a machine on approval to any responsible concern

THE HEALD MACHINE COMPANY

No. 2, New Bond Street,

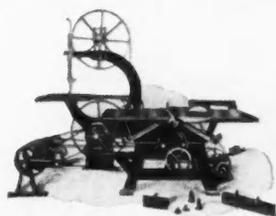
Worcester, Mass.



WHERE work demands a light steel bar clamp opening up to two feet, our Joiner Clamp is particularly applicable. This Clamp is shown above. It is built on the lines of our heavier New Adjustable Clamp, having a carefully cut square thread steel screw which is securely keyed—not pinned—to malleable iron hand wheel, which allows more rapid work than does the crank handle. The Frame is of malleable iron and is extended to reinforce the bar. Ample bearing is provided for the screw to prevent thread stripping. Bar is made of springy steel which will not buckle nor bend out of line. Tip is of malleable iron with plenty of bearing for screw, and so shaped that it will not bind on the bar. Slide is equipped with hardened forged steel dog, which will not wear out. Notches close together to allow rapid work, but not so close as to weaken the bar.

(H) ALL the Hargrave Tools are made just as carefully as this Clamp.

Made By THE CINCINNATI TOOL CO. Dept. H., Norwood, Cincinnati, Ohio



Let Us Quote You On
**Several Styles of
Combination Machines**

Lowest Possible Prices

United Machinery Company
86 Centre St. NEW YORK CITY



SAMSON SPOT SASH CORD



Reg. U. S. Pat. Off.

Reg. U. S. Pat. Off.

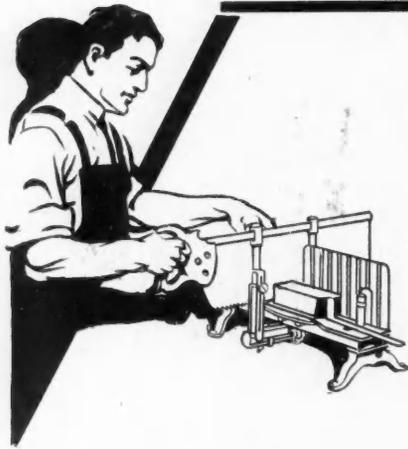
Samson Cordage Works

Boston, Mass.

Made of extra quality stock, carefully inspected, and guaranteed free from the imperfections of braid and finish which destroy common cords so quickly.

The spots on the Cord, in any color, are our trade mark. Don't be misled by imitations. Samples and full information gladly sent.

When Writing Advertisers Please Mention the American Carpenter and Builder.



PERFECT MITRES
**THE LANGDON
 Acme Mitre Box**

When supplied with back saws fitted by ourselves, they are warranted to do perfect work.

Quickly Adjusted for any Angle

Some of the advantages over older models are: In longer guides which hold the saw steadier. These guides are provided with elevators to hold the saw stationary when desired above the work.

In a graduated arc showing the various angles commonly used.

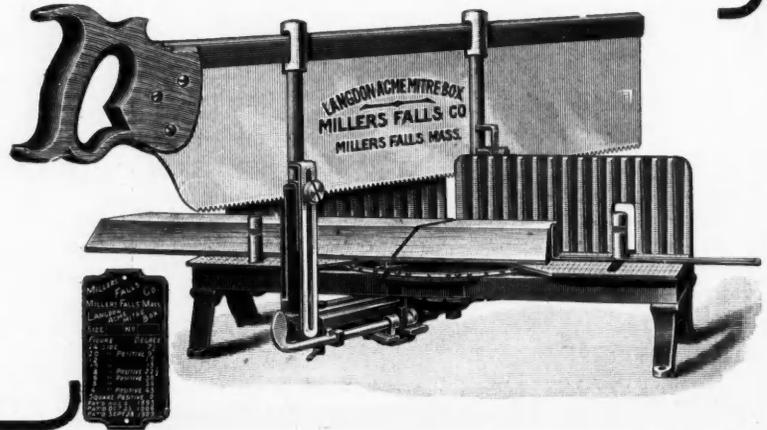
In supporting guides to hold the work in place.

In an appliance for quicker adjustment of extension lever.

In a length gauge for duplicate lengths.

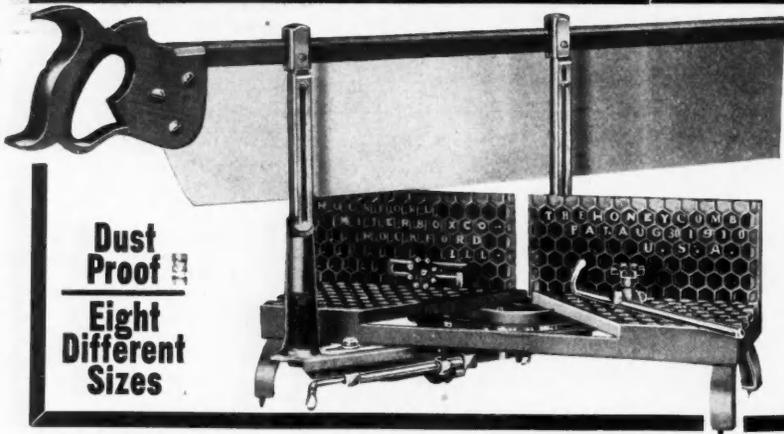
These boxes are made in three sizes and put up with varying sizes of saws, ranging from 22"x4" to 30"x5".

Send for the FREE book, "Tool Practice."



MILLERS FALLS CO.

28 Warren Street NEW YORK



Dust Proof
Eight Different Sizes

AN OFFER TO CARPENTERS AND BUILDERS

We want one of our new improved Honeycomb Mitre Boxes in every community, and will sell one box at wholesale, to Carpenters and Builders where they are not handled by the dealers.

Combines greatest strength with extreme lightness.

Lever can be adjusted off square if necessary for filing or other exceptional requirements.

There is an intermediate gib to take up the wear, thus keeping the gib always flush with the bed plate.

The index is conveniently placed for accurate adjustment.

Easily moved from place to place, and will stand securely without fastening.

Base made of malleable steel and warranted not to break.

Write for descriptive circular and prices.

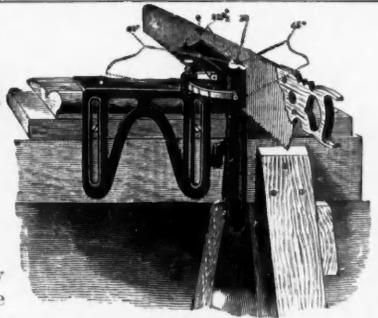
ROCKFORD MITRE BOX CO.
 252 Mill St. Rockford, Ill.

The Demand Continues by
 Mechanics in All Trades
 For the Lightweight
 Practical



"RED DEVIL" SEAVEY PATENT MITRE BOX

Over
 125,000 Sold



You need it and can get it from any Hardware Store, anywhere. Insist on the "RED DEVIL." Look for the "Red Devil" Trade Mark and take no substitute. If you can't get it locally send us your dealers name and \$2.00 and ONE ONLY will be sent you prepaid. Try your dealer first.

SMITH & HEMENWAY CO., 125 Chambers Street, New York City, U. S. A.
 (Smith Hardware Co., Ltd., Montreal, Canada)

(If you cut glass a "Red Devil" Glass Cutter is the only tool to use.)

When Writing Advertisers Please Mention the American Carpenter and Builder.



On That Nice Job
use a
Starrett Scraper
You'll Be Proud of the Result

In an instant you can have a new, sharp, true cutting edge by turning the handle with the ball joint connection.
You can get into corners or close up to walls without bruising your knuckles.
For sale at the nearest hardware store. Send for our Catalog No. 196.

The L. S. Starrett Company
Athol, Mass.

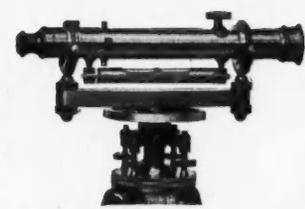


NEW YORK
150 Chambers St.

LONDON
36 & 37 Upper Thames St., E. C.

CHICAGO 42-10
17 No. Jefferson St.

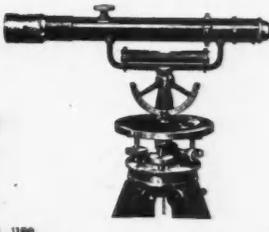




Over 3000 in Use
There's a Reason
WHITE'S
IMPROVED LEVEL

is guaranteed to give satisfaction or money back. Ask for catalog and special price—Ask today.

DAVID WHITE CO.
419 E. Water St., Dept. C, Milwaukee, Wis.



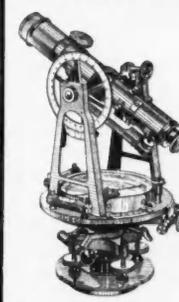
The Yankee
Compound Level

A reliable instrument for simple leveling and laying off horizontal and vertical angles. Can be handled speedily and easily.

The Yankee is particularly adapted for Architects, Builders and Contractors use. The Yankee is made of high grade materials throughout. All complicated and costly unnecessary features have been eliminated. The Yankee is not an experiment. Yankees are in extensive use. They are giving thoroughly satisfactory service in every way. The Yankee is the BEST moderate cost instrument made. It is light and simple. The vernier on a circular plate saves the circle from springing elliptical in case the instrument falls. It is the only instrument where the plate levels are saved by quickly employing the telescope level. Before you buy any level write us for complete particulars concerning the Yankee Compound Level. Let us send you this information right NOW.

FROST & ADAMS CO., - 31 Cornhill, - BOSTON, MASS.

THE BEST CONCRETE BUILDINGS
are erected with the aid of a good instrument



None better than the
BECKMANN

Our high power telescopes are especially adapted for work of this nature and will show an error of $\frac{1}{8}$ inch in 300 feet. It will pay you to investigate our Levels.

Send for Circular Y.

The L. Beckmann Company, Established 1874
500 Adams St., Toledo, Ohio



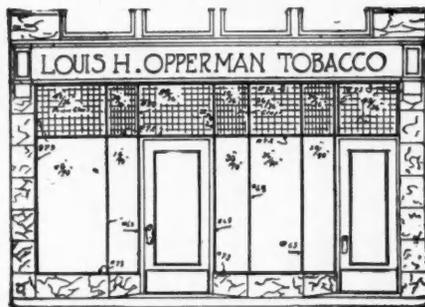
Why Carry A Heavy Transit?

Architects, Contractors, and Builders, this is the serviceable instrument for you. A portable transit that is of special light design. It is easily carried and handled. Is thoroughly accurate and especially adapted for fast work. Built upon practical substantial lines. We manufacture a complete line of surveying instruments in various sizes and at a wide range of prices.

All instruments guaranteed by us. Our circular No. 27 will explain our instruments to you in detail. It will pay you to get it before deciding upon any surveying instruments.

KOLESCH & COMPANY, 138 Fulton Street, NEW YORK
Surveying Instrument Makers. Established 1885.

When Writing Advertisers Please Mention the American Carpenter and Builder.



FRONT ELEVATION.

Investigate This Bar

That's all we ask. Get the facts about Petz Bars, consider the elements of safety, strength and beauty they will give to that new store front you are planning; compare them with others, and we will be satisfied.

Petz Bars insure handsome appearance, long life, perfect ventilation and absolute safety to your glass. Easy to install; permit the lowest rate of insurance.

Our booklet, "Metal Store Front Construction," gives you all the facts about the different styles of bars we make. A copy for your desk sent promptly on request.

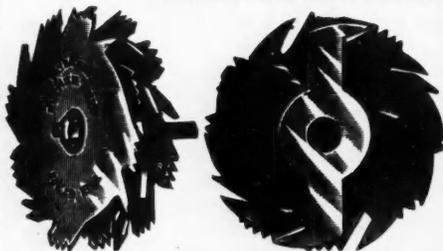
Detroit Show Case Co.

Sole Makers

491 Fort Street, West :: Detroit, Mich.

Huther Bros. Patent Groover or Dado Head

(Will save it's cost in three days' time)



Showing Arrangement of Cutters

of massive ground smooth cutting circular Mitre Saws, for either rip or cross cut; Grooving Saws for all kinds of special work; Lock, Corner Cutters Osmee Saws, etc.

Try our Scraper Blades and you will use no others.

HUTHER BROS. SAW MFG. CO.

1000 University Ave.

ROCHESTER, N. Y.

Can be used on any Circular Saw Mandrel

For cutting any width groove from 1/4" to 2" or over. Will cut a perfect groove, either with or across the grain, and leave edges smooth. Will ship to any responsible firm on ten days' approval; if not satisfactory you are at liberty to return at our expense. We also make a specialty

INTRODUCTORY TRIAL OFFER

If the SELF-SETTING PLANES are not sold in your town and you write us saying, "I saw your trial offer in A. C. & B.," we will send you particulars, a carpenter's pencil and our \$1.00 Certificate, which we will receive as \$1.00 in payment for a SELF-SETTING PLANE as stated in our \$1.00 Certificate, and if this S. S. Plane is unsatisfactory and returned to us at our expense, we will send you \$1.00 more than you sent us, as the \$1.00 Certificate says.



As this paper guarantees we will do as our advertisement says, you know the plane must be O. K. ALL WE ASK is to have you TRY the SELF-SETTING PLANE on your own bench, in your own way, with or against the grain, on the WORST cross-grained eaty, knurley, knotty, hard or soft wood you can find, THAT IS FREE FROM SAND OR DIRT,

If it is not worth to YOU, OR YOUR MEN, TWICE ITS COST, return it at our expense as above stated.

If you send us the addresses of ten carpenters, no matter where they live we will send you another hard, tough carpenter's pencil.

Give the SELF-SETTING PLANE a chance to PROVE ITS WORTH, if it FAILS, return it and we will return your money.

Carpenters' Hard, Tough Pencils, 30c per dozen, postage prepaid.

GAGE TOOL CO., Vineland, N. J.

STOP THE FLOPPING

of that Pantry Door. The everlasting "flip-flop" of the Butler's Pantry Door is not only very annoying, but is extremely dangerous. It pinches fingers, bumps heads and breaks dishes.

The RIXSON PANTRY CHECKING Floor Hinge

puts a stop to all these troubles. A perfect Floor Check at a low price.

THE OSCAR C. RIXSON CO.
544 W. Harrison St. CHICAGO

Makers of Sperry Casement Adjuster.

LUFKIN
Tapes & Rules
are Standards of Accuracy, Durability and Workmanship.

SEND FOR CATALOG

THE LUFKIN RULE CO.

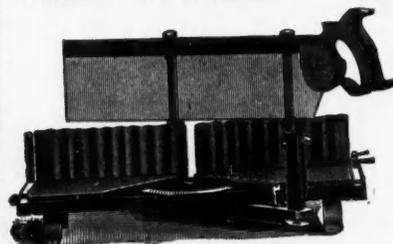
SAGINAW, MICH.

NEW YORK, LONDON, ENG., WINDSOR, CAN.



GOODELL MITRE BOX

Made of STEEL - Cannot Break



First in Quality and Improvements Automatic Stops for holding up saw. Corrugated Backs Graduated.

Gauge for duplicate cuts and many other features

Send for Circular "C"

GOODELL MFG. CO., Greenfield Mass.

When Writing Advertisers Please Mention the American Carpenter and Builder.

Are You Ready for the Spring Rush

Your tools should all be in the best of shape, ready to meet the rush of work that comes as soon as the frost is out of the ground. If your bits are not in good shape or if some sizes are missing you can't do better than to stock up with

Russell Jennings Auger Bits

They are the only bits made of genuine crucible steel. They outlast any other bit. They bore fast, clean, and true. Made with ordinary shank for ordinary brace chucks, or with the new Precision turned shank which never pulls out or wobbles in the Precision brace chuck. And don't forget the new Russell Jennings braces, expansive bits, etc. Any hardware dealer will show you the full line.

Russell Jennings Mfg. Co.
Chester, Conn. 21-108



USE Crescent Nails In Your Roofing Work

With Crescent Roofing Nails you can put on more roofing in less time than with the old style tin plate and nails—and Crescent Roofing Nails will last much longer.

The stems of Crescent Roofing Nails are riveted both sides of head and they cannot leak as they are in one piece. The heads are thicker than the tin plates, this prevents their rusting out.

The heads of Crescent Roofing Nails are large—they have more bearing on the roofing and this prevents it from tearing off.

Crescent Roofing Nails have a good true point, which enables the roofer to make straight laps. Their large head prevents them from being driven through the roofing as is the case with the old style roofing nail or wire ringheads.

Crescent Roofing Nails are being extensively used. Be sure YOU use them on your next roofing job—they will save you time and they will give you better satisfaction.

Crescent Roofing Nails are made 1 inch and 1½ inches long.

You can get Crescent Roofing Nails from your supply man. If he should not have them write us for descriptive circular, samples and name of dealer in your locality from whom you can get Crescent Roofing Nails.

Crescent Brass and Pin Company
DETROIT, MICHIGAN

Every "Yankee" Tool is a Labor Saving Tool

And there are 17 varieties to say nothing of the 100 and more different tools comprising them.

*Here are
a few*



But you
ought to get acquainted
with the full line.

*Our Tool Book tells you.
A postal brings it.*

Your dealers sell the "Yankee"

North Bros. Mfg. Co.
Department A
PHILADELPHIA, PA.



==== A ====
Good Tool
 — is a source of —
Satisfaction

It is so much easier to turn off a good quantity of work each day when efficient labor saving tools are used; tools that will stand up and do what you expect of them.

It adds to your peace of mind for the poor or slow work of poor tools frets a good workman.

**The No. 111
 Spiral Ratchet
 Screw Driver**

is such a tool, it does its work so well.

The angle slant of the spiral has been calculated so carefully that the tool is fully as powerful as others that are much larger and heavier.

The interior mechanism is so carefully constructed from superior materials that with proper use it is practically indestructible.

*Remember
 the
 number is*

111

Goodell-Pratt Company

Toolsmiths

Greenfield, Mass., U. S. A.

“American”

Wrought Metal

SASH PULLEYS

Electrically Welded



Ball-Bearing

Most up to date line on the market.

We make all kinds.

Our Famous Ball Bearing and Roller Bearing Pulleys are superior to all others. Wheels are made with combination groove for chain or cord.

Our Pressed Metal Pulleys are indestructible and are cheaper, lighter and better finished than cast pulleys and can be delivered promptly.

Send for Catalogue.

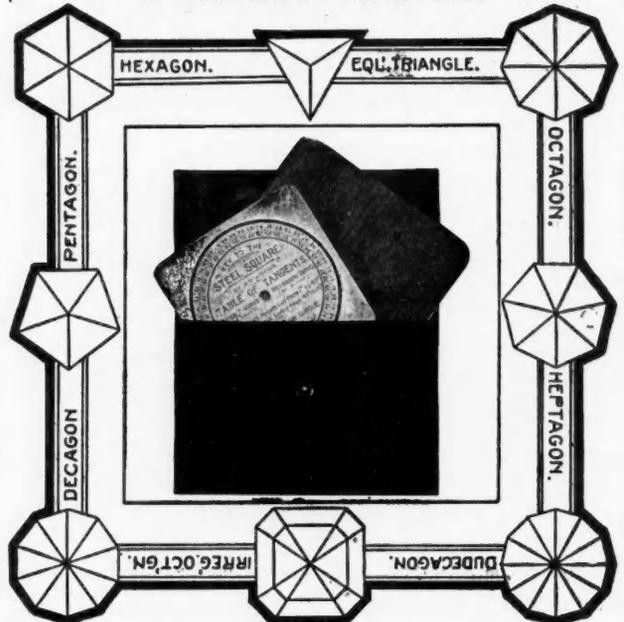
THE AMERICAN PULLEY COMPANY

OFFICE AND WORKS: PHILADELPHIA, PA.

Warehouses: New York, 203 Lafayette St. Boston, 185 Pearl St. Chicago, 124 S. Clinton St.

ALFRED W. WOODS' KEY TO THE STEEL SQUARE

A WONDERFUL INSTRUCTOR



It should be in the possession of every carpenter, or those having work in angles. It tells the whole story of how to use the common steel square, to obtain the cuts in degrees, or by inch per foot run for all kinds of framing.

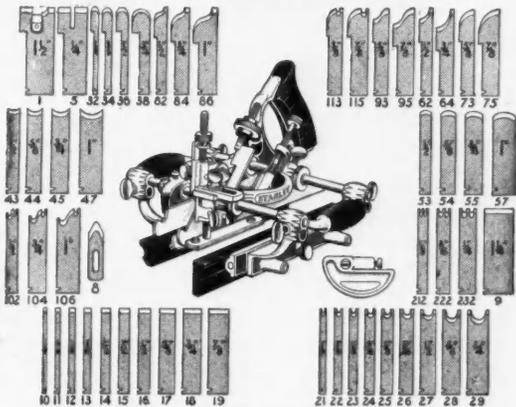
Price \$1.50, Postpaid

AMERICAN CARPENTER & BUILDER

178 W. Jackson Boulevard, CHICAGO

When Writing Advertisers Please Mention the American Carpenter and Builder.

Stanley Tools



“55”

A Planing Mill Within Itself

THE “55” Plane will do a greater variety of work than can be done with a full line of so-called fancy planes. It is 10 inches long, weighs only 7 $\frac{3}{4}$ lbs. (with 93 cutters 11 lbs.), and replaces practically the complete line of fancy planes weighing, probably, 90 lbs.

¶ The regular Equipment sent with this Plane comprises the 52 cutters shown in the cut. A further line of 41 Special Cutters is regularly made.

List Price, \$14.00

¶ If unable to obtain this plane from your hardware dealer, we will, upon receipt of above price, send same, delivery prepaid, to any part of the United States.

ADDRESS

Stanley Rule & Level Co.
NEW BRITAIN, CONN. U.S.A.

1853



1913

Fine Beveled Edge
Shank and Socket

Chisels

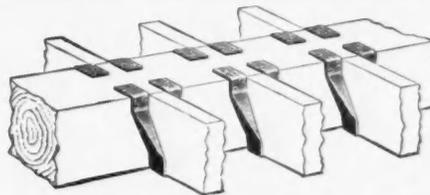


Tang and Socket Butt Chisels

Plain and Beveled Edges

Send for illustrated Catalog

Buck Bros., Millbury, Mass.



JOIST HANGERS

SPECIAL FEATURE: PROMPT DELIVERY
100 SIZES IN STOCK

Lane Brothers Company

The Door Hanger People

Cherry Street POUGHKEEPSIE, N. Y.

MONITOR SASH LOCKS



(PATENTED)

NEVER BREAK

BECAUSE THEY ARE MADE OF VERY HEAVY GAUGE METAL AND PERFECTLY CONSTRUCTED.

If the upper plate drops, the Monitor “Never Break” Sash Lock will pick it up from a lower point than any other, adjust the sashes perfectly, prevent all vibration and lock securely, so it cannot be opened from the outside.

MADE IN TWO SIZES AND ALL FURNISHED BY

The Champion Safety Lock Co.
Geneva, Ohio

Bishops Refined "Greyhound" Steel Saw—A Masterpiece

Of the Saw Maker's Art. We are proud of its quality and guarantee it to cut faster and run easier in all kinds of wood, to hold its sharpness and set longer than any other good saws.

It's the Your-Money-Back-If-Not-Satisfied Saw

30 Days' Trial Will Prove Our Guarantee



The "Greyhound" is the result of years of experimenting to originate a purity of steel with fine grain and tough body.

Made in both Straight and Skew Back

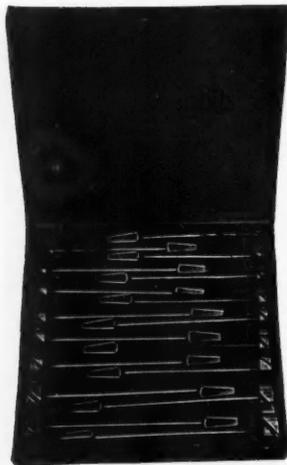
Length	18	20	22	24	26	28	30	inches
Each	\$2.35	\$2.50	\$2.65	\$2.80	\$3.00	\$3.30	\$3.65	net

Packed One in a Box



GEO. H. BISHOP & COMPANY
LAWRENCEBURG, IND.

"A Bit of Utility"



Guided by its circular rim—instead of its centre—the Forstner Labor-Saving Auger Bit will bore any arc of a circle, and can be guided in any direction.

Doesn't matter how hard the wood is, no consequence whether it is full of knots, or the grain awkward to negotiate. The Forstner Bit works with equal smoothness under any condition and leaves a true polished surface on every job.

Unequaled for Delicate Work

Supersedes chisels, gauges, scroll-saws, or lath tools combined, for all kinds of delicate work. Cabinet and pattern makers and carpenters are enthusiastic because they do more work than other bits and cost no more.

We can offer something special in the matter of price on sets packed in a sensible box. Send today for particulars and catalog.

The Progressive Mfg. Co.
Torrington, Conn.



ROOF SLATES

STRUCTURAL SLATE BLACKBOARDS

When Writing Advertisers Please Mention the American Carpenter and Builder.

E. J. JOHNSON
38 Park Row, New York

Quarry Operator

BLACK, GREEN, PURPLE, RED

Booklet, Samples and Prices on Application



HERE IS A Can't Slip Screw Driver

It Is The Mayhem "Peerless" No. 510

As this Peerless Screw Driver will not slip from screw slot it prevents any marring of work

Any one who uses a screw driver—whether a good many times every day or just once in awhile—should try out a Mayhem "Peerless" Screw Driver.

You will find this No. 510 "Peerless" very easy to use, it is not tiring to hand or wrist, it is made thoroughly and of A No. 1 materials, and the special "Peerless" point prevents any slipping from screw slot.

No. 510 and No. 511 "Peerless" Screw Drivers have blades forged from fine tool steel and riveted through ferrule. Ferrule is drawn steel, nickel plated. Handle is hard wood, fluted. The blade extends slightly through handle end and allows pounding without damaging handle.

No. 510 comes in regular sizes from 2 to 12 inches
No. 511 comes in cabinet sizes from 2½ to 12½ inches

You will get complete satisfaction and thorough service from any Mayhem tools. We manufacture Drills and Braces, Breast Drills, Ratchet Drills, Bits, Gimlets, Counter Sinks, Reamers, Screw Drivers, Nail Sets, Punches, Awls, etc., etc.

The next time you buy any tool ask for a Mayhem. If your dealer does not handle Mayhem tools write to us and we will tell you the dealer of your locality who does

Why not drop us a line anyway for information about our tools?

H. H. MAYHEW COMPANY, Shelburne Falls, Mass.

THE BUSINESS END OF
A Peerless Screw Driver



An enlarged view of Peerless Screw Driver point. Note that point is non-slipping.

THE WORCESTER

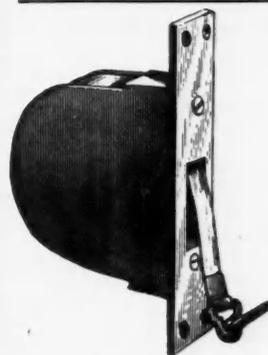


Improved BLOUNT
DOOR
CHECK

*The most certain,
durable and strong-
est door check built.*

Worcester Mfg. Co.
10 E Worcester St.
Worcester : Mass.

CALDWELL SASH BALANCE



Does away with weights
and cords, and VASTLY
more durable.

Makes sashes work per-
fectly.

Permits greater window
space in new work, as box
frames are not necessary.

May be applied to old
windows without altering
sashes or frames.

Write for circular to the

Caldwell Mfg. Co.
15 Jones Street, - Rochester, N. Y.

50c FOR THIS Clamp Fixture

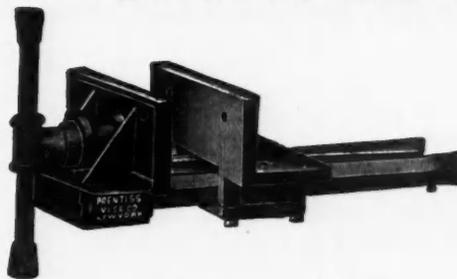


*It is Unequaled for Strength—
Quick Action and Last-
ing Qualities*

Write for Catalog of Sheldon's Clamps and Vises.

E. H. SHELDON & CO.
184 Nims Street " " MUSKEGON, MICH.

BLAKE QUICK ACTING VISE



For Cabinet Makers and Wood Workers. Simplest—Strongest

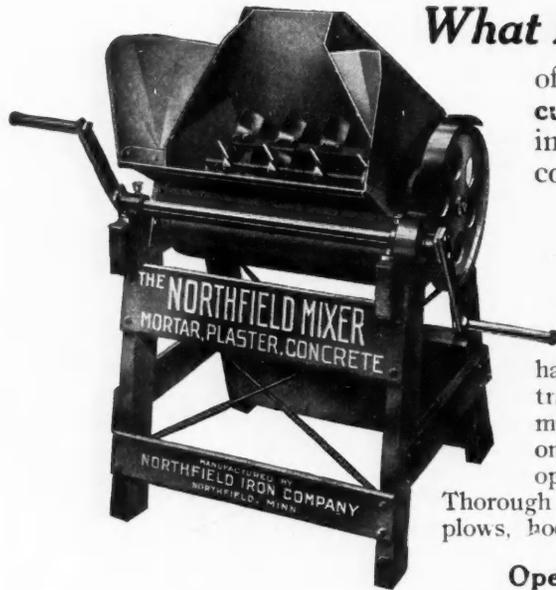
—Cheapest—Best

Send for Catalogue of all kinds of Vises

PRENTISS VISE COMPANY, MAKERS
106-110 La Fayette St., New York, U. S. A.

When Writing Advertisers Please Mention the American Carpenter and Builder.

A Proven Success



What Do You Think

of a hand mixer that **will mix ninety cubic yards of concrete per day?** Can you imagine any convenience to a builder or contractor that would be more profitable?

The Northfield Batch Mixer

will do it. Speedy, handy, inexpensive, simply and durably constructed. Weighs only 300 lbs. Easily shifted to always discharge direct into forms. Saves half of wheeling time and labor, saves three-fourths transportation costs and repair charges, saves big money, time and worry on every job. Easy to operate—not a man-killer.

Thorough mixing principle that plows, boes and stirs the entire mass many times per second.

SATISFACTION GUARANTEED

SOLD ON TRIAL

Operates by either Engine, Motor or Hand Power

NORTHFIELD IRON COMPANY

402 Water Street

NORTHFIELD, MINN.



MONEY MAKING CONCRETE

Mr. Block-Maker

**Wet Process is Right.
 Face down is Right.
 Three blocks at a time is Right.
 Triple Tiering is Right.
 Damp Curing is Right.**

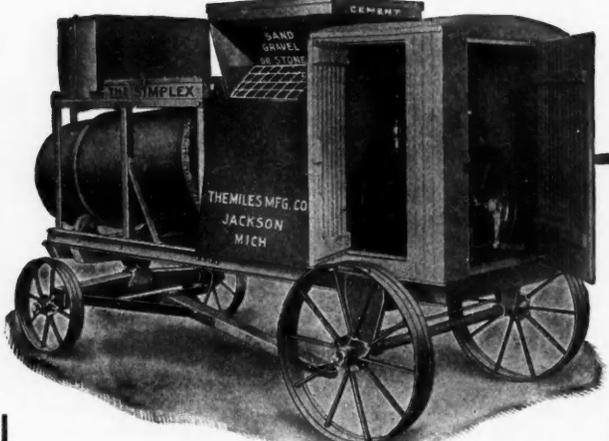
**The Mogul Invincible Block Machine
 COMBINES ALL THESE
 IT IS RIGHT**

It is 46 inches long and will make three 16" or two 24" blocks at one operation. It makes sills, caps, copings, rails and steps, faster and better than a special mill machine. It has every adjustment that any other machine has and many that no other machine has.

PRICE—Machine and Outfit, \$75.00

WRITE FOR CATALOG

THE PETTYJOHN COMPANY
 634 No. 6th St., TERRE HAUTE, IND.



THE SIMPLEX IMPROVED MIXER 1913 MODEL



3-Hoppers, Continuous Feed Rolling Mix. Low down Steel frame. Simple, Strong and Accurate.

"The Miles" No. 5, Down Face, Wet Concrete Block Machine

Makes Stone in Lengths, 4", 6", 8", 10", 12", 16", 18", 20", 22", 24". In Width: 4", 6", 8", 10", 12". In Height, 4", 6", 8". Also Angle Stone, Circle Stone, Gable Stone, Hollow or Solid Stone. The Contractor's Friend, Simple, Strong and Rapid. Lowest in price.

WRITE FOR NEW 1913 CATALOGUE
 309 E. Franklin St.
THE MILES MFG. CO., Inc. JACKSON, MICHIGAN

When Writing Advertisers Please Mention the American Carpenter and Builder.

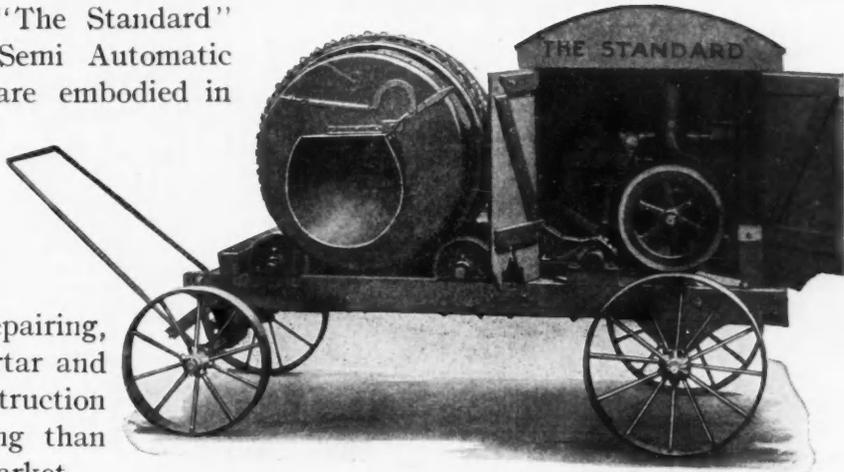
“THE STANDARD” JUNIOR

Low Charging Concrete Mixer

The Junior is the only small batch mixer on the market that meets all the requirements that are required of a small mixer.

All the advantages of “The Standard” mixers, Low Charging, Semi Automatic Discharge, Open Drum, are embodied in the Junior, making it the greatest little mixer in the world.

The Junior is adapted to sidewalk work, curb and gutter, culverts, street repairing, etc., will mix cement, mortar and plaster for building construction at a much greater saving than any other mixer on the market.



Our Special Catalog No. 144 J will interest you and will be sent to you upon request.

The Standard Scale & Supply Company

Chicago
1345-1347 Wabash Avenue

Pittsburgh
243-245 Water Street

Philadelphia
35 South Fourth Street

New York
136 West Broadway

Lay Your Own Concrete

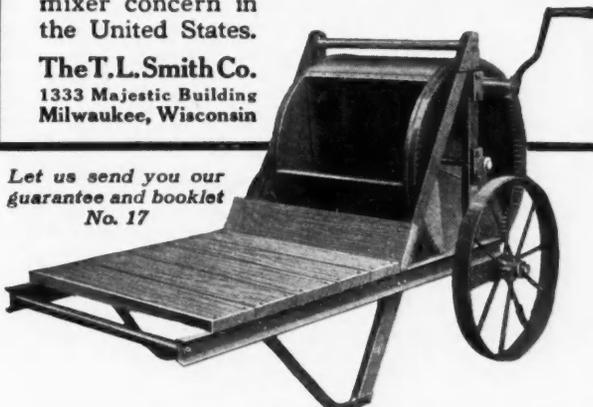
AS the forests are cut, builders turn to concrete. Concrete construction is not difficult. It pays liberal profits. Hundreds of contractors are going into concrete every year. You can start with a small investment—some wheelbarrows, shovels, small tools and a

Smith Hand Mixer

IT is a *batch mixer*, guaranteed to mix a perfect batch in three slow, easy turns of the drum. Cranks easily—popular with the men. Batch capacity, 2½ cu. ft. Output, 25 to 30 cu. yards per day. Weight, 1000 lbs. Guaranteed fully by the biggest and oldest mixer concern in the United States.

The T.L. Smith Co.
1333 Majestic Building
Milwaukee, Wisconsin

Let us send you our guarantee and booklet No. 17



We Can Save You Money In Your Mortar Mixing

Mr. G. Ed. Berry, a Harrisburg, Ill. contractor, writes us that with the Blystone Mixer, “One man has slaked my lime and made mortar for eight and ten masons besides having time to spare for other work. I have saved the cost of at least one man’s wages and a gain of ten per cent more mortar per barrel of lime over the old way of mixing.”

Is YOUR mortar or plaster mixing a profit eater. Why not make it a profit producer. Our Blystone Batch Mixer is a mortar and plaster mixer as well as a concrete mixer. It can save you time, labor and material on every mortar or plastering job you do.

The Blystone Mixer operates very easily. It is filled while in motion and material is discharged while machine is in motion. It mixes material in full view, insuring an absolutely accurate mix. The reverse spiral paddle system of the Blystone mixes rapidly, turning material over forty times in ONE minute. Blystone Mixers are furnished with gasoline engine power equipment, or for belt driving. Mounted on skids or portable hand trucks.

BUILDERS—Get The Facts About The Blystone

Let us send you our catalogs and other matter explaining in detail just how the Blystone can save YOU money.

Write us for this information right now—while you have it in mind. Asking us for details puts YOU under NO obligations.

THE BLYSTONE MACHINERY CO.
19 Carpenter St. : CAMBRIDGE SPRINGS, PA.

When Writing Advertisers Please Mention the American Carpenter and Builder.

Here, Mr. Contractor---Read



*What a Minnesota
Contracting Firm
Say about the
Baby Grand Mixer*

HAVREBERG & ELVERUM, Contractors and Builders

Jackson, Minnesota, March 8, 1912.

HALL-HOLMES MFG. COMPANY, Jackson, Mich.

Gentlemen:—The "Baby Grand" mixer we bought last year, we have used on different kinds of work and are very well satisfied with it. We find it is very accurate in proportioning and it mixes very thoroughly and being light in weight can be used in places where a heavier machine would be out of the question. We find it very easy for three men to mix four cubic yards an hour with this machine.

Yours respectfully,

HAVREBERG & ELVERUM (Signed.)

"The Baby Grand Runs Like a Watch"

Every Contractor who has had experience with any of our Baby Grand Machines will tell you they are the best mixers on the market. They are of the continuous type. They have a mechanical proportioning and feeding device. They eliminate guess-work and make mistakes impossible. No matter what kind of concrete work you do a Baby Grand Mixer can and will do better work and make more money for you.

We manufacture Baby Grand Mixers, also Hartwick Mixers, "the two trough mixers" in many various sizes and for any type of concrete construction work. Write for catalogues, prices, etc., and find out about our mixers—first hand—before buying any mixing machines. Learn what they are doing for others—they'll do as well for you.

Hall-Holmes Manufacturing Co., 429 Oak St., Jackson, Mich.



Making ready to insert the floor beams.

Van Guilder Hollow Wall Concrete Machine— Continuous Air Chamber from Cellar to Roof

Steel Reinforced Throughout

DONT WASTE YOUR MONEY

The labor employed for making building material, such as blocks, brick, tile, etc., we utilize to erect the building.

Completely revolutionizing building methods.

Our Walls are Stronger

being double and monolithic from footing to roof plate, with a continuous air space everywhere between—a house within a house. The walls are tied together, also steel reinforced horizontally every 9" high.

Our Buildings are Warmer in Winter, Cooler in Summer

Damp proof Frost proof Fire proof Vermin proof No Maintenance
Everlasting Cost Less Sell Higher Exterior finished up-to-date Italian Stucco

Our Silo Machines

build the best silo walls in the world. Continuous air space. No freezing of ensilage. No vermin. No repairs. Stand forever.

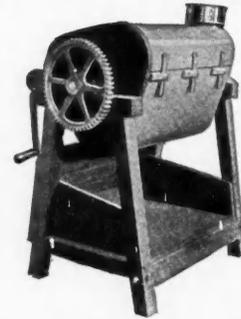
Cold Storage Machine

Makes 3 walls and 2 continuous air chambers at one time For cold storage, fruit and vegetable storehouses.

See Our Exhibit at the Chicago Cement Fair, Space 175.

VAN GUILDER HOLLOW WALL COMPANY 720 CHAMBER OF COMMERCE
BLDG., ROCHESTER, N. Y.

Mix with a Mixer



With mixers selling at the present prices, no one doing concrete work wants to be without one.

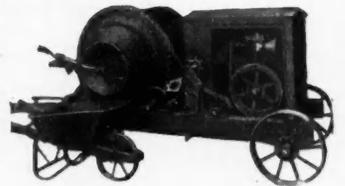
Hand mixing is slow, expensive and wasteful. Laborers are often hard to get.

Machine mixing is faster, cheaper and much more thorough.

Our hand mixers sell from \$24.00 (like cut) to \$75.00 each; three sizes.

Power Mixers (like cut) sell from \$300 up; five sizes. Equipped with side loaders, automatic water tanks, friction clutches, and all up-to-date conveniences. Capacity a batch a minute.

Our \$300 mixer is the ideal machine for the country contractor. Weight, 1500 lbs. Wide gauge. Can be moved anywhere. The only machine of its kind made.



Ask about this machine when writing or come to the cement shows and see it on exhibit.

LANSING CO., 606 Cedar Street Lansing, Mich.

Agents Everywhere

The construction of the

PEERLESS BRICK MACHINE

In the vital parts of this machine where a slight twist would cripple the brick, the PEERLESS is made of heavy, solid castings, carefully welled and planed. (Others use angle iron.) The entire set of plates which molds the faces of brick is of one piece of special mirror finished steel machined to shape. (Others use separate pieces.)

The above are examples of the superior way in which every part of the Peerless is made.

Next month we will tell more reasons why THE PEERLESS WILL MAKE MORE PERFECT BRICK AT LESS COST THAN ANY OTHER CEMENT BRICK MACHINE ON THE MARKET.

Write for illustrated catalog containing our unparalleled guarantee.



Peerless Brick Machine Co.

19 No. 6th St., Minneapolis, Minn.

When Writing Advertisers Please Mention the American Carpenter and Builder.

xer

elling at
no one
rk wants

slow, ex-
ful. La-
rd to get.
is faster,
ch more

e cut) to
up; five
tic water
conveni-



or come

Mich.

S

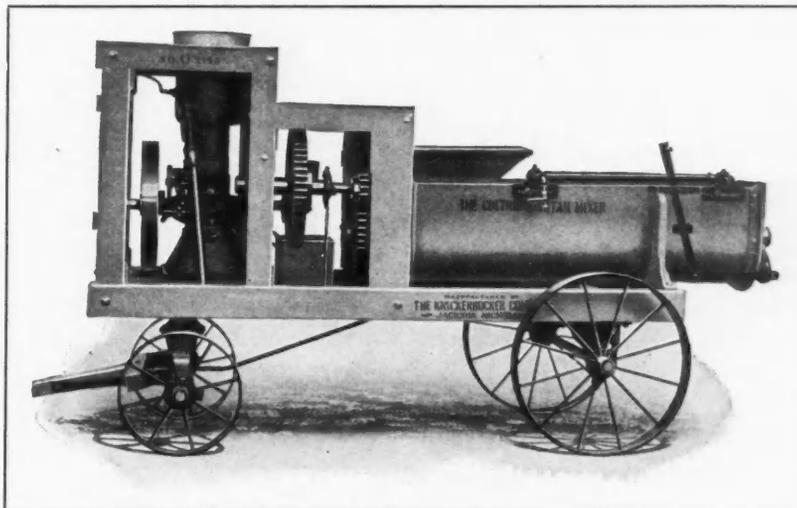


e Co.
nn.

A Revolution in Mortar Mixers

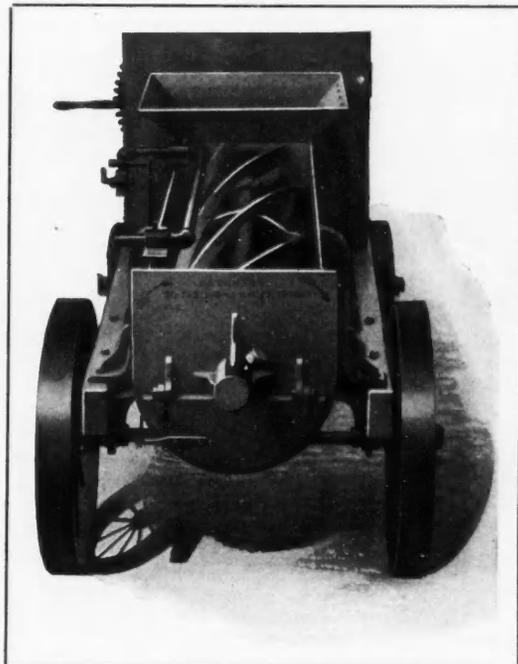
—The— Coltrin MORTAR MIXER

Will mix mortar better and more thoroughly and in less time than any other machine.



Why!!

Look at the Spiral Mixing Blades in the cylinder.



There is Your Answer

Material is thoroughly blended by being cut through at the bottom, lifted and poured from the side and turned over and over by Spiral Mixing Blades.

No arrangement of paddles can possibly do the work of the Coltrin Blades.

No Chains—Sprockets or Belts to break or slip.

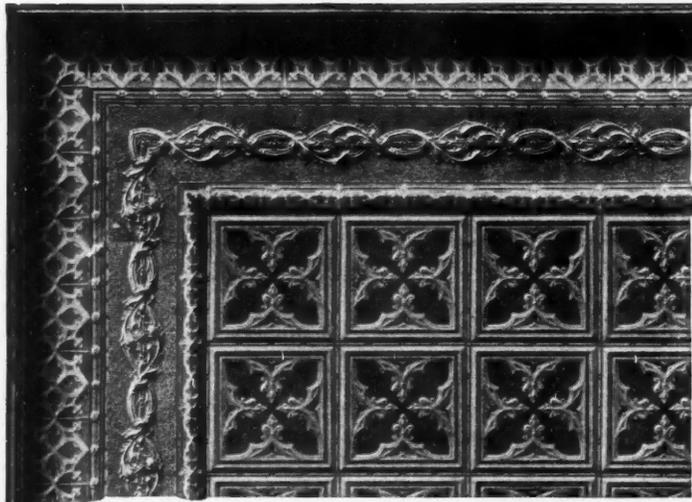
Direct Geer Drive and only Two Pair.

Every builder knows that the better mortar is mixed the more brick his men can lay in a given time.

Write for 1913 Catalog

THE KNICKERBOCKER COMPANY, Jackson, Mich.

When Writing Advertisers Please Mention the American Carpenter and Builder.



Edwards Metal Ceilings and Walls

Carpenters Contractors and Builders

Here is a chance for you to build up an independent, profitable business for yourself right at home. Many agents are now devoting their entire time to selling our Metal Ceilings. Others have made big profits simply devoting part of their time to selling and applying our Metal Ceilings and Walls. *Write us to-day about your territory.* Our business is growing so rapidly that it is necessary to have an agent in every community. The territory is going fast. One day's delay may mean that some one else will be given your territory. *Don't delay. Write today for our special agents' proposition and large handsome catalog of attractive designs.*

The Edwards Manufacturing Company, "The Sheet Metal Folks"

401-417 Eggleston Avenue, Cincinnati, Ohio

Largest Manufacturers of Metal Ceilings, Metal Shingles, Steel Roofing and Siding in the World

Eastern Representatives: The W. H. Daycock, Jr. Co., 81-83 Fulton Street, New York

Branch Office and Warehouse: 1625-1627 Pacific Avenue, Dallas, Texas. J. F. Agnew, Manager

BAYONNE ROOF AND DECK CLOTH

**Looks Best, Wears Longest,
Results Speak for Themselves**

Bayonne Roof and Deck Cloth is used by a great many Architects on account of its wearing quality. Years of manufacturing experience stand behind every inch that leaves our factory, ensuring you the fullest value for your money when you specify Bayonne Roof and Deck Cloth. It is

**Strong, Smooth, Undentable,
Waterproof, Windproof and
Practically Wearproof**

Will not rot or peel though exposed to the severest elements or usage. Although Bayonne Roof and Deck Cloth looks better, and wears longer, it costs less than you pay for the ordinary roof and deck coverings.

Write us your needs, and we will tell you what this strong, lasting covering means to you, and send you a sample. Investigate *now*.

John Boyle & Company, Inc.

112-114 Duane St. New York 70-72 Reade St.

Concrete Marble Decorative Concrete Composition Flooring Processes

FOR SALE, Shop, County or State Licenses.

No machinery used. Big Profits for Contractors and Builders. For literature write to

Art Stone Co.

Waynesboro, Pa.

Box A

Genuine Peach Bottom Slate

THE BEST ROOFING MATERIAL IN THE WORLD

It has been in actual use over 170 years. It will not fade, but grow darker with age. It is the **toughest** and **strongest** slate in the world. It is the cheapest slate to use. Little or no breakage in shipping, and when once on the roof practically speaking will need no repairs at all, as long as your building may stand.

FOULK JONES & SONS Manufacturers
SLATE HILL, PA. :-: :-: DELTA, PA

When Writing Advertisers Please Mention the American Carpenter and Builder.

**"Art-Kraft"
Ceilings
Made Right—
Sold Right**

Do you realize that the ceiling designs offered by many manufacturers are considerably antiquated?

We offer you patterns stamped from **dies absolutely new and original.** Appropriate designs for all purposes.

This gives you a great advantage over dealers handling other lines. *There is more to tell—Shall we tell you?*



On Roofing, Siding, Shingles and Tile, Metal Brick and Stone, Spouting, etc., *you will find our prices very interesting.* Shall we quote you? Catalogs on request. Specify which you wish, Ceilings—General or Shingles. Ask for Tile Samples.

The Canton Metal Ceiling Co.
1947 Harrison Avenue Canton, Ohio



The above cut shows a corner in a display room finished with

DECO VENEER

It is not an imitation. It is made of natural wood of the best quality of both foreign and domestic timbers.

Panels furnished either finished or unfinished. Unfinished panels are sanded ready for the finish.

For wainscoting and similar construction, panels with strips, caps and base are furnished ready for installation. No mill work necessary.

Deco is used for wainscoting, window backgrounds, bank and bar fixtures, and all interior decorations where ply veneers are used.

Contractors and builders have found Deco a most satisfactory substitute for old style ply veneers and more economical.

We want agents in every city and town. Write for our agency proposition.

Illustrated catalog sent on request.

Deco Manufacturing Company
Indianapolis, Indiana



CANTON

Art Metal Co. Ceilings

Are the kind that have the famous Punched Nail Holes and Repressed Beads which save so much time on the job and increase your profits

**Perfect Fitting Plates
Artistic Designs**

Write today for our mammoth Art Metal book just fresh from the press for further information

**THE CANTON
Art Metal Co.**

"Quality Products"

CANTON : : OHIO

Eastern Office and Wareroom
THE CANTON STEEL CEILING CO.
11th Ave. and W. 25th St.
NEW YORK CITY

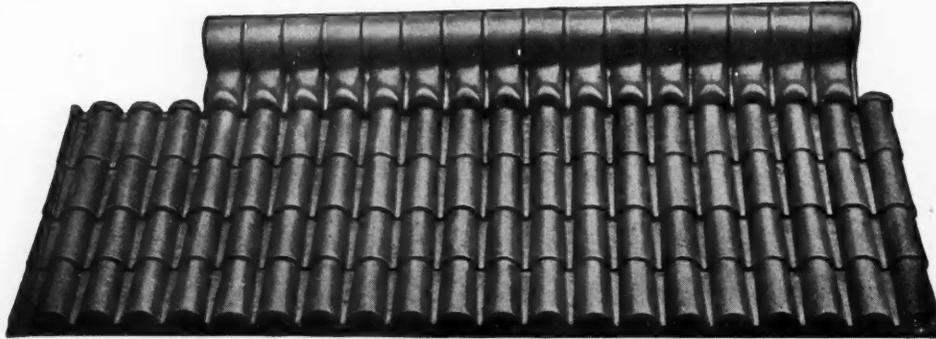
Western Branch
THE CANTON STEEL CEILING CO.
206 S. 3rd St.
MINNEAPOLIS, MINN.

When Writing Advertisers Please Mention the American Carpenter and Builder.

Mullins Metal Tile Roofing

has won widespread and lasting favor because of its many superior qualities. Beauty, simplicity, durability—these are its salient characteristics. Absolutely storm-proof and water tight.

When put on according to directions, Mullins Metal Tile Roofing is guaranteed to keep in perfect condition for years. No other roofing can equal it for all-round satisfaction. Many of the finest buildings in this country are equipped with it.



We also make Cornices, Building Fronts, Finials, Tympanum panels, Rosettes, Faces and other architectural ornaments. Many thousands of designs to select from.

Ours is the largest and best equipped factory of its kind in the world. We use

only the finest materials. Every artisan in our employ is a masterhand. Our prices are attractive, our services prompt. Glad to submit quick estimates on special jobs.

Catalogue along any desired line will be sent you by return mail.

The W. H. Mullins Co.

214 Franklin St.

SALEM, O.

Your Customers Want Artistic Up-to-Date Designs

AND

YOU Want A Price That Will Give YOU Big Profits



Get our ceiling catalog DA and discount and you will have this combination that will satisfy both YOUR CUSTOMERS and YOURSELF

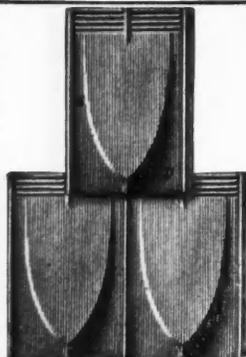


The Kanneberg Roofing & Ceiling Co.

::

::

Canton, Ohio



PLACE YOURSELF ABOVE YOUR COMPETITOR

AND SELL **"TITELOCK"** THE BEST

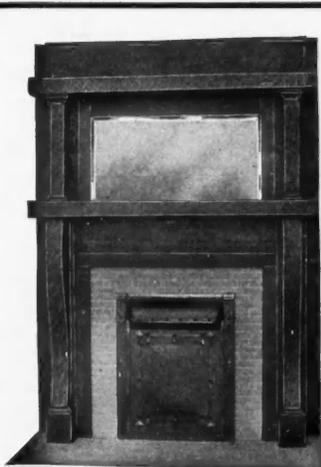
METAL SHINGLES made. They are business-getters and money makers. **FIRE, WATER AND LIGHTNING PROOF.**

Write for Samples and Prices

MILWAUKEE CORRUGATING COMPANY
MILWAUKEE, WIS. KANSAS CITY, MO.

Style "B"—Showing Method of Laying

When Writing Advertisers Please Mention the American Carpenter and Builder.



\$28.60

For this elegant massive, selected oak or birch, mahogany finished mantel. Beveled Mirror 18x36

"From Factory to You"

Price includes our "Queen" Coal Grate with best quality enameled tile for facing and hearth. Gas Grate \$2.50 extra. Mantel is 82 inches high, 5 feet wide. Furnished with round or square columns, as shown in cut. Dealer's price not less than \$40.00.

No. 8754.

"Reputation and Quality Count"

Central Mantels

are distinctive in workmanship, finish and style. Twenty-five years' experience enable us to know and satisfy the needs of those who want mantels of quality, different from the rest. We build all styles—Colonial to Mission.

CATALOGUE FREE—Will send our 100 page catalogue, the finest ever issued, free, to carpenters, builders and those building a home.

CENTRAL MANTEL COMPANY

1247 Olive Street

St. Louis, Mo.

High Grade Mantels and Fireplaces

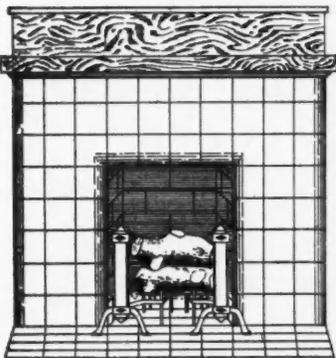


Our line of Colonial, Mission and Standard Mantels is the most complete in the country. All goods are guaranteed as to quality. Our large new catalogue, showing also brick mantels and a large selection of fireplace fixtures, consoles, colonnades, etc., sent free on request.

If building or remodeling be sure and write us.

CHAS. F. LORENZEN & CO.

701 N. Sangamon St. CHICAGO, ILL.



Do You Want Our Handsomely Illustrated MANTEL-CATALOG?

We show the most complete and up-to-date line of *MANTELS, GRATES and TILINGS* at the *LOWEST PRICES.*

Catalog free upon application

MOORMANN & OTTEN, 611-613 Main Street CINCINNATI, - OHIO

HESS MEDICINE SANITARY LOCKER



The Recessed Steel Medicine Cabinet

The Only Modern, Sanitary STEEL Medicine Cabinet

or locker, finished in snow-white, baked everlasting enamel, inside and out. Beautiful beveled mirror door. Nickel plate brass trimmings. Steel or glass shelves.

Costs Less Than Wood

Never warps, shrinks nor swells. Dust and vermin proof, easily cleaned.

Should be in Every Bath Room

Four styles—four sizes. To recess in wall or to hang outside. Send for illustrated circular.



HESS, 920L Tacoma Bldg., CHICAGO
Makers of Steel Furnaces Free Booklet The Outside Steel Cabinet

PLUMBERS' SUPPLIES AT WHOLESALE



When in the market for Plumbing Supplies and you wish to

SAVE 20 to 40 Per Cent

on every article, write for my free illustrated Catalog. The only house that sells first class guaranteed goods at wholesale prices direct. Shipments are promptly made from a very complete stock.

Small orders are as carefully handled as large ones.

B. B. KAROL, 768-772 W. Harrison St., Chicago, Ill.

When Writing Advertisers Please Mention the American Carpenter and Builder.

Our First Public Message Means Profit for You

A CONTRACTOR'S greatest asset is a satisfied customer. You know that from your own experience, don't you? When you build a house that has particularly pleased Jones, almost invariably some friend of his wants a house "like Jones'."

And furthermore you know that no house can give as complete satisfaction as a brick house. Taking into account the saving in fire insurance, heating, repairs and painting, the brick house represents the lowest expenditure, after a few years. No other house compares with a brick house in beauty, comfort, durability and economy.

Then why not build your houses of the best brick and give the greatest satisfaction? Here are a few reasons why

Hy-tex Brick

is the best brick for you to use:

Our unexcelled facilities—with our twenty-two plants scattered across the country—for manufacturing every kind and variety of brick; our ability to deliver the same brick year after year; our rigid inspection; the distribution of our plants making for quick deliveries and low freight charges; the stability and reliability of our organization—all these factors make us the logical organization for contractors to ally themselves with.

**There's a Hy-tex Face Brick
in
Every Tint and Texture**

We also make a full line of Enameled Brick which we positively guarantee will not craze, scale or discolor.

No Order Too Large for Our Capacity or Too Small For Our Attention

*Get in touch with us—and let us co-operate with you.
Write now to our Contractors' Department at St. Louis.*

Hydraulic-Press Brick Company

St. Louis, Missouri

BRANCH OFFICES

BALTIMORE, MARYLAND, 11 E. Lexington Street	MINNEAPOLIS MINNESOTA, Security Bank Building
CHICAGO, ILLINOIS, Chamber of Commerce Building	NEW YORK CITY, Fredenburg & Lounsbury, 381 4th Ave.
CLEVELAND, OHIO, Schofield Building	OMAHA, NEBRASKA, Woodman of the World Building
INDIANAPOLIS, INDIANA, Board of Trade Building	PHILADELPHIA, PENN., Real Estate Trust Building
KANSAS CITY, MISSOURI, Rialto Building	TOLEDO, OHIO, Ohio Building
WASHINGTON, D. C., Colorado Building	

When Writing Advertisers Please Mention the American Carpenter and Builder.



Get Ready for Big Spring Business

THE energetic carpenter and builder no sooner gets his equipment put away for the winter and settles himself down to do a little reading and studying about his business, than he sees the days getting longer again, and he knows it is about time to get into shape to get out on the job.

It looks this year as if building is going to start extra early; and all indications point to probably the most active season in years.

We had the chance recently of talking with a large number of contractors and builders, members of the Big Family, who were in, attending the Cement Show.

You never saw more optimism. As one subscriber said:—

"I don't know anything about prospects generally, but I do know I have more contracts on hand and in sight than I can possibly take care of. That's one of the things that brings me in here to the Cement Show. I've got to get a couple of concrete mixers, a portable saw rig, and a hoist. Men are too scarce for me to use them on work that gasoline will do cheaper and better. In order to handle my contracts at all this season, I've got to have all the help that power machinery will give me."

Men or Gasoline?

THIS builder showed his good sense. We took him around and looked over with him, some of the machines on exhibition. We found mixers both large and small, batch or continuous, hand power, gasoline engine, or steam driven; in fact a size and pattern to suit every builder's taste.

We also looked at mortar mixers, power trench pumps, power portable wood workers, contractors' derricks, and power hoists.

The range of prices seems to be down a little this year, too; due probably in part to competition and in part to the fact that contractors' power equipment is now on a sound business basis.

How are YOU fixed for the busy building season that's ahead of you?

Contents for February, 1913

Authentic Plumbing Charts for the Up-to-Date Builder.....	50
Better Building—Why and How.....	66
Big Remodeling Proposition.....	80
Bright Outlook Ahead.....	76
Builder and the Nickel Show.....	38
Builders' Hardware.....	56
Canvas Roofing Now Mildew-Proof.....	57
Chance for a Controversy.....	84
Combined Blinds and Storm Windows.....	82
Concrete Staves.....	75
Correction.....	84
Corner Bead Worth While.....	75
Corner Construction of a Log House.....	81
Correspondence.....	76
Details of Artistic Book Case.....	46
Details of Modern Chimney Corner Seats.....	46
Details You Can Use.....	46
Do You Want to Make a Woodworker?.....	76
Duties of Building Superintendent.....	81
Editorial.....	37
Editor's Drawer.....	74
Encouraging Good Work.....	37
Failure of a Wooden Retaining Wall.....	79
Floor Scraper Contest Decided.....	86
Good Barn Work.....	78
Handy Farm Devices Wanted.....	76
He Submits an Idea.....	83
Home Workshop.....	64
How to Attach Plaster to Concrete.....	49
How to Do Work Fast.....	53
Ideas for Home Builders.....	40
Important Door Hardware—Butt Hinges.....	56
Latest Ideas in Home Planning and Building.....	40
La Vergne School, Berwyn, Ill.....	45
Learn About Oak Flooring.....	75
Let Gravity Do the Work.....	75
Making Power Woodworkers Pay.....	62
Modest American Homes.....	58
More Shop Kinks.....	69
New Idea in Picture Moulding.....	74
New Patents of Interest to Builders.....	85
Noon-Hour Talks by the Boss Carpenter.....	48
Piano Finish for Furniture.....	82
Plans for Five-Room Brick Cottage.....	70
Plans for Five-Room Stucco Bungalow.....	58
Plaster Board.....	85
Plumbing and Sanitation.....	50
Poured Concrete Houses at Low Cost.....	74
Practical Carpentry.....	53
Price Competition Closes February 5th.....	57
Process of Soldering.....	83
Public Buildings.....	45
Residences.....	70
Self-Dumping Wheelbarrow.....	74
Steel Square.....	54
Story of the Boss Who Didn't Know.....	54
Texas House.....	82
To Stretch Screen Wire.....	82
Tool Holder.....	85
Tool for Removing Floors, Siding, Scaffolds, Etc.....	85
Trade Notes and Items of Interest.....	86
Two Unusual Handcraft Furniture Pieces.....	64
Two-Wheel Trailer for Carting Materials.....	77
Unique Vase and How I Made It.....	78
Watching Jimmie—Part III.....	62
Which Is Right?.....	79
Which Is Stronger?.....	78
Wisdom of Waterproofing.....	68
Wrong Use of Strength Values.....	84
Yours for Safer Building.....	48

Will it be gasoline or hand labor with you this year? Those who have tried both ways, never can be induced to go back to hand labor.

We advise you to look into this matter now while you have time. Write for catalogs and booklets. Study up this proposition and get ready to handle your work this year in the most economical way.

The Builder Who Draws Plans

WE would like to know how many of our readers are their own architects! How many draw the plans from which they build?

In a great many places it is out of the question to go to the distant city and have special plans drawn by a professional architect. Many of the builders' customers are not willing to go to this extra expense. They look to the builder himself for this service. The local carpenter and builder is the expert, the authority on building; and they feel he should know all about it.

In order to handle the planning end of the business, the carpenter and builder must give it special study. If he is to draw plans, he might just as well draw them right. With study his plans can look just as well as those of the man who does nothing else.

We have just issued a set of two books which are just the thing for carpenters and builders—"Radford's Drafting." These books are something special, published just for our own folks. Only readers of the AMERICAN CARPENTER AND BUILDER can get them. They are now being distributed to our readers who want to better themselves by learning to draw plans.

See March Issue for Prize Winners

OUR Big Prize Competition announced in the January number closes on February 5th. We have been astonished and delighted at the material which has already come in. The March AMERICAN CARPENTER AND BUILDER is to be an extra big number. It will contain the Prize Winners in the seven divisions of this big Competition.

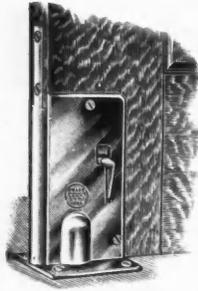
There is something in this Competition to interest and benefit everyone of our readers. Don't let any chance come between you and this issue of your magazine. We will all be pleased with the "Prize Winning Structures Planned and Built by Our Readers." Cordially yours,

Editor AMERICAN CARPENTER AND BUILDER.

CHICAGO SPRING BUTTS

REPUTATION

Do you specify a spring hinge with distinctive features which will appeal to your client and assure satisfaction to all concerned?



Chicago "Relax" Spring Hinges

are in great demand. They are substantial in construction and readily applied. The EXCLUSIVE FEATURE of spring action release, allowing the door to be placed at any desired position and automatically re-engaging when the door is closed, is of recognized merit and utility.

Send for Catalogue C 29. It fully illustrates and describes the most complete line of Spring Hinges manufactured.

Chicago Spring Butt Company

CHICAGO



NEW YORK

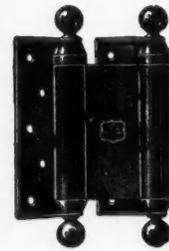
BOMMER SPRING HINGES

ARE

Quality Goods

BUT COST NO MORE THAN THE SUBSTITUTES

This trade mark



Reg. U. S. Pat. Office

on every genuine Bommer Hinge

Durable—Neat—Reliable

BOMMER SPRING HINGES

ARE THE BEST

Bommer Bros., Mfrs., Brooklyn, N. Y.

Sharpen Your Saw

Our Free Book, "Saw Points," compiled by experts, will show you the way to get the best results from every kind of a SAW.

The Morrill Saw-Set

A mechanically perfect Saw-Set made with a rotatable anvil that is gauged so as to set any saw not over 16 gauge. The gauge screw and check nut insure the right angle and uniformity of set. It will take the wrong set out of a saw and put in the right set at one operation. Send for Free Booklet Today

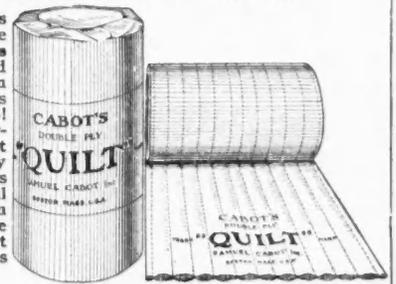
CHAS. MORRILL, 273 BROADWAY NEW YORK



CABOT'S "QUILT"

Cold-Proof, Heat-Proof, Sound-Proof
40 Times Warmer Than Common Papers

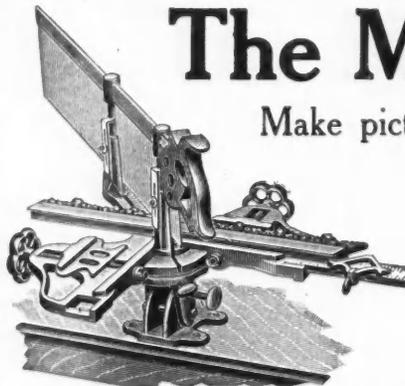
THE many imitations of Cabot's Quilt are the best evidence of its wonderful efficiency and success. Quilt is sold on quality—the imitations are made to sell cheap! Quilt is rot-proof, vermin-proof and almost fire-proof. It will pay for itself in two winters in saving coal and will keep the house cool in summer as well. It is the only deadener that breaks up and absorbs sound-waves.



SAMUEL CABOT, Inc., Sole Mfrs., Boston, Mass. U.S.A. 1133 Broadway, New York. 350 Dearborn Ave., [Chicago

The Marsh Miter Machine

Make picture frames and novelties during your dull season on a Marsh Miter Machine.



Cuts and joins perfect corners.

Over 50,000 in use.

Any one can operate it.

Send for circulars.

H. C. MARSH CO.

606 Race St.

ROCKFORD, ILL.

When Writing Advertisers Please Mention the American Carpenter and Builder.

Copyright 1913 by American Carpenter and Builder Company



The
**World's Greatest
Building Paper**

Important Notice

When your subscription expires, renew at once, using the blank enclosed in your final copy. If it expires with this issue your renewal must reach us before February 25 to avoid missing the March number. Use P. O. or Express Money Order if possible, but bills or 2-cent stamps may be sent at our risk.

The
**World's Greatest
Building Paper**

American Carpenter and Builder

Entered as second-class matter July 1, 1905, at the postoffice at Chicago, Ill. under the act of Congress of March 3, 1879.

Published on the first day of each month by

AMERICAN CARPENTER AND BUILDER COMPANY

178 W. JACKSON BOULEVARD, CHICAGO

EDITORIAL DEPARTMENT

WILLIAM A. RADFORD, EDITOR-IN-CHIEF
BERNARD L. JOHNSON, B. S., EDITOR
WILLIAM REUTHER
ALFRED W. WOODS } ASSOCIATE
ALFRED S. JOHNSON, M. A., PH. D. } EDITORS

BUSINESS DEPARTMENT

WM. A. RADFORD, PRESIDENT AND TREASURER
H. M. RADFORD, SECRETARY
E. L. HATFIELD, GENERAL MANAGER

New York Office, 178 Fulton Street

E. B. WOLFROTH, EASTERN REPRESENTATIVE

VOL. XIV. FEBRUARY, 1913. No. 5

SUBSCRIPTION RATES

One Year, \$2.00; six months, \$1.00; payable always in advance. Single Copies, 20 cents. Canadian Subscriptions, \$2.50. Foreign Subscriptions, \$3.00.

ADVERTISING RATES

Furnished on application. Advertisements, to insure insertion should reach our Chicago office not later than the 20th of the month preceding date of publication.

PRIZE Competition Closes Feb. 5th.

BE careful how you say it; *architect*, according to Webster, is pronounced ar'ki-tekt. Noah set the style so when he built the Ark.

Encouraging Good Work

THE world may not be growing very much better—though personally we believe it is—but it is certainly growing much fairer. The laboring man, the mechanic, is enjoying more and more the fruits of his labor. And, just as the man with an orchard will gather a bigger crop if the apples are his own, so the mechanic who has a personal interest in the work he is doing will produce more and better work.

At the Christmas season just passed, many large

employers "let their men in" by means of various bonus and pocket-sharing arrangements. The letter of the L. S. Starrett Co., the tool people, announcing their yearly divide with their men is so full of appreciation for what the work of our mechanics really means in American industry and is so full of business wisdom that we give it in full herewith:

To Our Employees:

The past year has been one of prosperity and progress.

The gradual and steady increase in our sales is gratifying, but not less significant and encouraging is the manifest improvement in conditions inside the factory.

Our employees have shown that they appreciate more than ever before the fact that their interests and the Company's are identical; that quality in our product is the chief thing—the indispensable thing—and that next are efficiency and loyalty on the part of our co-workers.

When a man gets over the idea that he is paid for simply putting in so many hours a day and turning out just enough work to get by, and puts intelligent, interested effort into what he does, and even gets a bit enthusiastic over finding a way to improve the quality or increase the amount of his production, his value to the Company is largely increased and he is in a way of making much more of a man of himself. We want men, not human machines; not time alone, but brains. A man who is worth twenty dollars a week takes up no more room than one who is hardly worth ten. We are glad to repay increased efficiency by increased wages. We have made many increases in pay during the year for this reason.

We feel however that the increase in efficiency due to intelligent and interested industry in our plant during the past year has been so general and has been such an important factor in the healthy growth of our business, that we may well make some special recognition of it at this time. It was therefore voted by our Directors at a meeting held the eleventh instant, to pay, as soon after the first day of January, 1913, as practicable, to each person in the employ of the company on that date, a sum equal to two per cent of the entire amount of wages paid to such employee during the year 1912.

THE L. S. STARRETT CO.

Athol, Mass., 20 December, 1912.

When a man gets over the idea that he is paid for simply putting in so many hours a day and turning out just enough work to get by, and puts intelligent, interested efforts into what he does, and even gets a bit enthusiastic over finding a way to improve the quality or increase the amount of his production, he is on the up-grade towards success,—and nothing can stop him.

The Builder and the Nickel Show

A SECOND ARTICLE ON MOVING PICTURE THEATERS

By Leonard Lytle

With The Lytle Construction Co. Inc., Sioux City, Iowa

SINCE the first article on moving picture theaters, which appeared in the AMERICAN CARPENTER AND BUILDER in November, 1910, the author has had more experience in the designing and construction of these buildings.



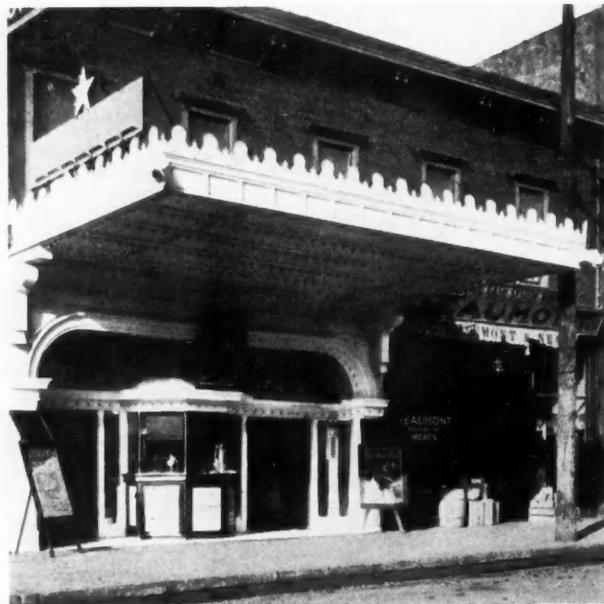
Pick a Short Name—Electric Letters Cost \$20 Each

Moving picture theaters are now universal. Every village has one or more, and in the large towns there is one to every five or six thousand people.

Any carpenter and builder may be called on to build one of these theaters at any time, and if the builder has a general idea of the necessities of the business and can give the showman suggestions and the latest ideas he will be almost sure of securing the work. Every showman is willing to spend money for anything novel and original, as that is his best advertisement. Next to a good show the front of the theater is the showman's most valuable asset. Moving picture theaters have been in existence long enough now that they are in some cases getting a little out of date and the owners are clamoring for new features. There is a field here for the progressive builder to enter. He can suggest changes and improvements to some of the old theaters, or perhaps an entire new front.

Projecting Canopy of Galvanized Iron

A canopy projecting over the sidewalk will do wonders towards drawing nickels and dimes. Cut No. 1 shows a very popular theater, the front of which is



Projecting Canopy is a Business Bringer

constructed mainly of galvanized iron. The canopy is made of the same material and is supported by chains running to the second story. The lower part of the canopy is painted snow white and is studded with hundreds of small electric lights. This canopy can be seen up and down the street for several blocks. An electric star indicates the name of the theater. The entire front of the ticket office is plate glass, being divided at the angles with copper bars. As this theater is situated near a street car junction point, the manager has installed an electric sign board which informs his patrons what cars are waiting. Little things like this bring the people back again.



Store Room Remodeled in Simplest Way

This theater is in a narrow room 22 by 60. The design of the front makes the entrance look very wide.

The Cheapest Form of Remodeling

Cut No. 2 shows a front that was installed for a very small amount. In this case very little remodeling was done. The plate glass were removed and the columns cased. The prism glass was left in place and panel work placed below it to reduce the height. A modern cornice projecting about 3 feet completed the exterior ornamentation. There are places perhaps where it would not be wise to build a more elaborate front than this, but the showman is more often inclined to spend several hundred dollars on the front alone.

Compo Ornamentation for Finest Fronts

Cut No. 3 shows a theater whose front has been improved by various additions of ornament. Orig-



For Strongest Effects use Compo Figures and Ornamentation

nally it had only the wooden cornice and square wooden posts. Later the composition figures were erected and considerable plaster relief work was placed. The Decorators Supply Co. of Chicago furnished these materials. This theater has marble base around the front. The wood work around the entrance doors, ticket office and oval windows in the balcony was finished in mahogany. This theater was built at the time the building was constructed and the floor was given the proper slope when it was first placed.

A Costly Mistake in Sloping Floor

Right here is where the owner made a mistake. Instead of supporting the ends of the joists on sloping girders so that the floor could be raised to a level, at any time if necessary, the joists were bricked into the two side walls. Just recently the owner of the building had a chance to lease this room for store purpose but had to give it up on account of the great expense of cutting off all joist ends and raising the floor and supporting same. This theater is 20 by 130 and has a retiring room for women in the basement, which is seldom used, however, on account of its being dark and gloomy.

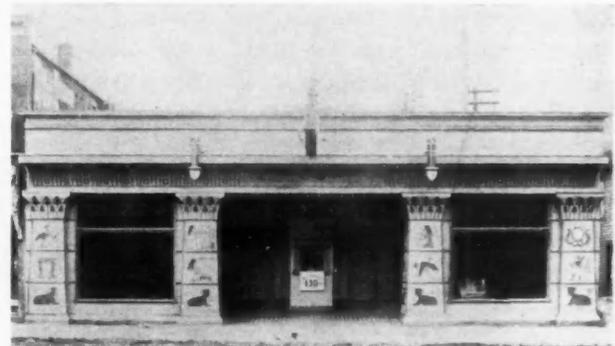
No. 4 shows a theater designed and erected by the writer last winter when the temperature was 20 below zero. The building is 50 by 130, one story with a basement under the front 40 feet. The building was in one large room, but had a row of posts down the center. The ceiling was low, being only 12 feet.

On account of the short time for which the lease could be obtained it was not advisable to spend too much on remodeling. In order to lower the floor it would have been necessary to remove the old floor; excavate to the desired slope and rebuild the floor. As the excavation would have gone below the walls these would have had to be underpinned and extended. Consequently it was decided to build up a sloping entrance into the theater, leaving a level floor for a

few feet at the rear of the room, and then sloping down to the back of the room to the original floor. As the showman had to lease the entire building he took advantage of the opportunity of decorating the entire 50 feet of front, regardless of the fact that he had a small storeroom to rent at each side.

In order to remove the posts in the center of the room frame trusses were placed on the roof, spanning 50 feet from wall to wall. Rods let down from the center of the trusses carried a girder, which in turn supported the roof and ceiling joists.

The Egyptian style of architecture was selected as peculiarly adapted to such a low, broad front. In addition, it was an economical way in which to secure a heavy, massive and extremely novel effect. The Egyptian ornaments and decorations are not raised, being merely flat paintings with no relief. This made it possible to build the front of cement plaster over metal lath, and to paint on the symbols and hieroglyphics, lotus leaves, etc. On the interior, plain Egyptian ornaments were stenciled on for frieze, etc. Lines were run from floor to ceiling to increase the apparent height. Being situated on two alleys, a great many exits were put in, which helped advertise the place at once. The front entrance was paved with 6 by 9 Ludowici promenade tile with $\frac{1}{2}$ -inch



"Isis" Theater, Done in Egyptian Style

white cement joints. Retiring rooms for men and women were placed on the first floor. Skylights, windows and two large exhaust fans furnish excellent ventilation.

The two store rooms nearly pay the rent on the entire building. Care was used in selecting tenants that would not be detrimental to the show business. The Egyptian color scheme was carried out, yellow for the back ground and bright red and blue for the ornaments. Two coats of spar varnish were put on all exterior painting work after completion.

This theater seats 416. The wiring (in conduit) cost \$950, and the remodeling, plumbing, heating, painting and all rebuilding cost about \$3000. This does not include seating, sign or machines, but the figures do include the fire proof operating room. Even the name of the theater is Egyptian. "Isis" was, however, selected for another reason, as the word contains but four letters and electric signs cost \$20 a letter.

IDEAS FOR HOME BUILDERS

Latest Ideas in Home Planning and Building

PHOTOGRAPHS AND DIMENSIONED FLOOR PLAN DIAGRAMS OF FOUR VERY WELL-DESIGNED MODERN RESIDENCES

THE popularity of the small house has resulted in the development of a variety of attractive designs, varying in type from the common bungalow to modifications of Colonial models, and each has its special advantages. One appeals to us through its convenience and compactness; another through its quaintness; and still another through its harmony of contour. All are worthy of our admiration.

They offer such a widely varied choice that house-builders are often perplexed just which type to select. There is one feature that they all possess in common however, and that is the opportunity for variation in arrangement. This feature has been developed to such an extent by present-day architects that frequently one model is used as the basis for several houses,

and each is worked out along entirely different lines, so that one not versed in architectural construction would hardly believe that the same design served as the foundation for all.

This feature of variety of arrangement has proved a boon to the small house. And present day house builders, quick to take advantage of any scheme that guarantees comfort and convenience, have availed themselves of its possibilities, and the result is a steady increase in favor of this type of dwelling. The charm of the small house is undeniable. Its compactness bestows a homelike atmosphere that a large house, no matter how well it may be planned, can never effect, and then, too, it affords an opportunity for decorative treatment to a slight degree, which would

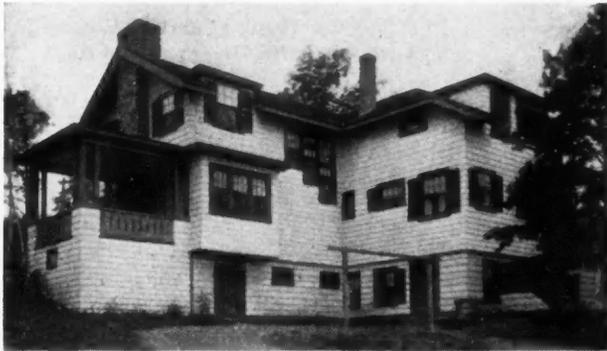


Residence of Mr. Rodney W. Brown, Reading, Mass., Cost Complete, \$6 500

be wholly unsuited to a large dwelling, but which in the case of the small house is quaintly attractive and wholly in harmony.

One interesting design is illustrated on pages 40 and 41. It is a modern adaptation of the old-time cottage model. Its broad, low lines give no hint of monotony of outline, yet they are sufficiently pronounced to convey an impression of spaciousness, and this effect is enhanced by the generous dimensions of the attractively grouped windows. No garish ornamentation has been allowed to intrude to detract from the studied simplicity of contour, and the result is a house comfortable, attractive, and homelike in appearance.

The site which it occupies is generally level, save at the rear where it slopes gently away. The house is built upon a foundation of field stone, with superstructure of broad spaced shingles, and the roof is also of



Rodney W. Brown House from Rear

shingles stained dark. The coloring is soft grey, with Japanese green for the trim and blinds. In shape, the dwelling is rectangular, with a wing-like projection at the rear, and other variations of the main contour are piazzas and porches at front, sides and rear. Interesting exterior features are the sleeping porch and field-stone chimney, the former at the rear, opening from one of the interior chambers, and the latter at one side, where it affords an effective bit of contrasting coloring.

The approach from the roadway is along a stone

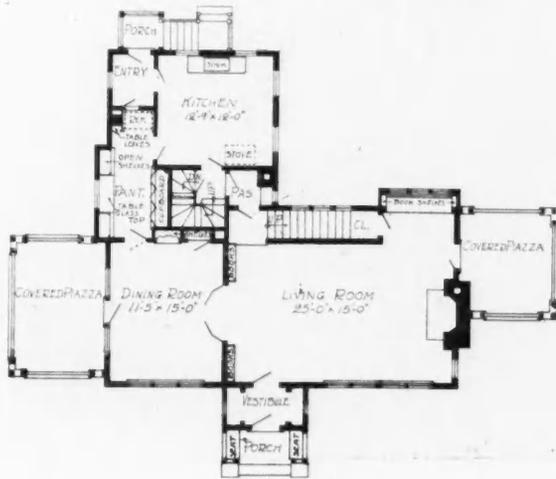


View of Living Room in Brown Residence

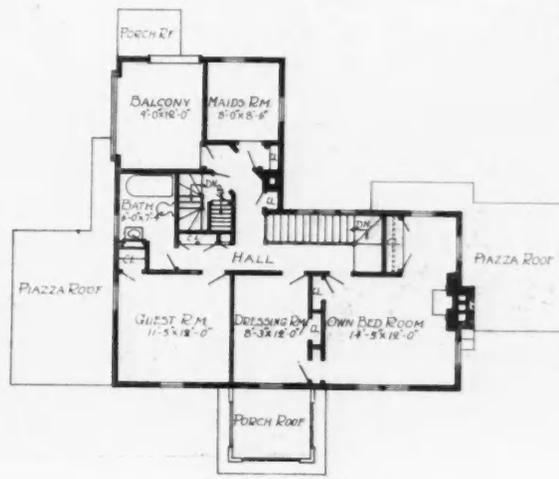
paved path that ends at an attractive entrance porch. From this opens a good sized vestibule, which opens direct into the living-room.

This apartment in its arrangement and equipment is particularly attractive. Broad grouped and single windows render it light and cheerful, and a French window connects it with the side veranda at the right. The finish here is cypress with Dutch blue grasscloth for the wall hangings; and the window over-hangings repeat in tone this harmonious combination of coloring. The feature of the apartment is the large fire-place of dull red brick laid in white mortar, which graces one end. Its spaciousness of dimension sounds the keynote for the roomy comfort which is everywhere in evidence, and it serves as a center about which the other attractive features of the room are grouped. At the left is a cozy inglenook, affording space for a long window-seat, with built-in book case at one end, and just opposite, wide glass doors afford access to the dining-room. Facing the entrance door a broad staircase ascends to the second floor apartments.

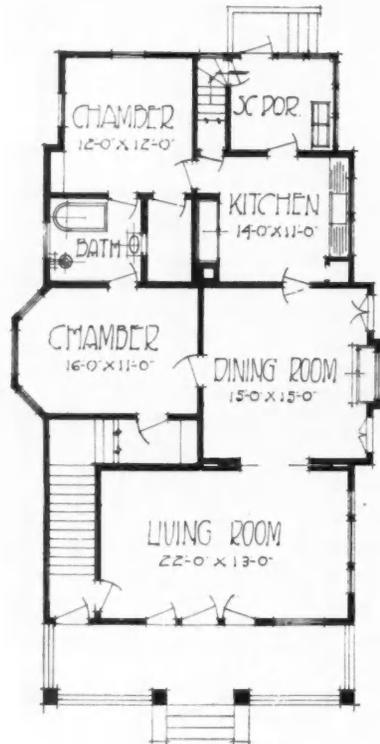
The dining-room is finished entirely in cypress, affording a neutral and pleasing background for the several interesting features which the apartment boasts. At one side a French window connects with



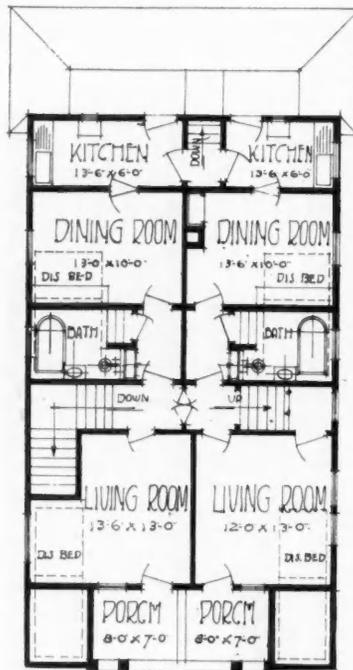
First Floor Plan



Second Floor Plan



First Floor—a 5-Room Flat



Second Floor—Two 3-Room Flats

the side veranada on the left, and at the front grouped windows admit an abundance of light and sunshine, rendering the room particularly cheerful. Quaint innovations here are the paneled doors that open upon adjoining apartments, the upper panels of which are glazed with leaded diamond lights. This same treatment is employed in the doors of the built-in cupboard, and the effect is very interesting and attractive.

From the dining-room leads the kitchen and pantry,

the former provided with sink, cupboards, and entry space for the refrigerator, and the latter equipped with the customary cupboards, counters, and drawers.

The second floor shows two chambers, dressing-room, linen closet, and maid's room, as well as storage space, and each room is provided with good closet accommodations. This feature, together with plenty of windows for light and air, were among the owner's chief requirements of the architects at the time of planning.

The dwelling is the property of Mr. Rodney W. Brown, and was built from plans of Messrs. Adden & Parker, architects, of Boston.

California Three-Family Cottage, Equipped with Disappearing Beds

A residence of considerable novelty has been designed and built by Contractor J. M. Cartwright, Santa Ana, Calif. This dwelling is illustrated on this page.

It will be seen that in exterior appearance, this is an artistic bungalow just like any single family residence. The floor plans, however, show that there are ample living quarters for one family on the first floor, while two families are accommodated upstairs.

The first floor is a five-room apartment. In each of the apartments on the second floor there are three rooms and bath. No bed rooms are provided; and it seems that none are required where rooms are



Three-Family Bungalow at Santa Ana, California. Designed and Built by J. M. Cartwright



Substantial Brick Veneer Residence Designed and Built by Oliver C. Nusbaum, Wakarusa, Ind.

equipped with the disappearing beds.

The disappearing bed is a California invention. Almost every house, besides many hotels and apartment buildings, have them out there. They are simply ordinary metal beds built very low and set on extra large casters, so that they can be rolled easily. The building is specially designed to accommodate them. There has to be some place where they can roll back under into the wall, and so be out of the way. The foot board is made of ornamental wood panelling to match exactly some piece of built-in furniture, such as buffet, book-case, seat, etc.

In this house there is a disappearing bed in each of the living rooms, upstairs. These slide back under the low part of the roof. There is also a bed in each of the dining rooms, built in as part of the side-board and sliding back under the bath room floor; which is elevated three steps above the rest of the floor level.

By this arrangement these three-room apartments on the second floor give the accommodations of five rooms.

A house like this makes a very fine renting property.

This house is covered with redwood shingles and redwood siding. The interior finish is Oregon pine. It was built complete at a cost of \$4,000.

Nine-Room Brick Veneer

A hip roof design of great strength and dignity is represented on page 43. This is a brick veneer nine-room residence designed and built by Mr. Oliver C. Nusbaum, Wakarusa, Ind. The roof is cement shingles, the foundation undressed field stone.

In this residence there are five rooms on the first floor and four on the second. The front porch is of the broad, com-

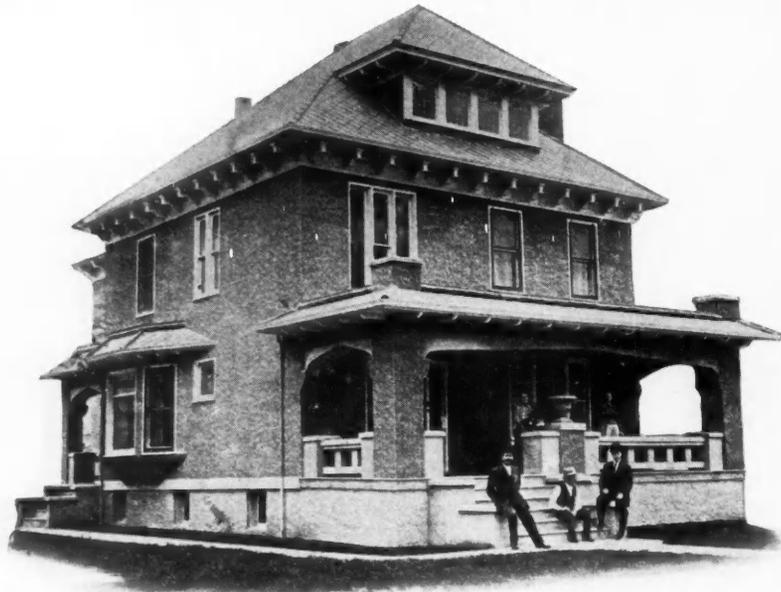
fortable sort. Entrance is direct into living room. To the left, through a columned arch-way, is the parlor. The stairs go up from the living room, yet are slightly recessed, forming an interior stair hall. The down-stairs chamber opens from this.

The dining room is a very well lighted apartment immediately back of the living room and connected with it by columned opening. The kitchen has plenty of light and air and is very conveniently situated.

This house is of the very popular square hip design. A one-story addition at the rear accommodates kitchen, pantry, bath room and cellar stairs. There is a side porch leading into the kitchen, also a grade entrance at the rear opening onto the cellar stairs landing.

The second floor is very nicely laid out with three bed rooms and a sewing room. There is a goodly





RESIDENCE OF MRS. W. R. ALLAN, MORRIS, ILL.
Remodeled by Contractor H. A. Taylor

supply of clothes closets. Stairs go up out of the hall to the third story, which may be finished off into one room besides storage space.

Ten Room Pebble Dash Residence

Mr. H. A. Taylor, a carpenter and builder of Morris, Ill., has made quite a reputation for himself and his work by specializing with a dry pebble dash finish on cement stucco houses. The work illustrated on page 44 is an example of this.

This was an old house, remodeled and planned for Mrs. W. R. Allan, Morris, Ill.

The roof of this house is of red asbestos slate shingles. The sides of the house are covered with the dry pebble dash work. After building the frame and sheeting it all over outside, Contractor Taylor put on lath from bottom to top—every one a foot apart; then put on No. 24 metal lath, all over the house, covering the porch posts with metal lath. Then he put on a two coat work of cement. After troweling straight, scratched it lightly so as to receive the last coat. When first coat was dry the hose was turned on and wet it all over. Then last coat of cement was put on, followed up very close with a fine crushed granite or pebbles. He throws them into the cement while soft, being very careful to get the stone on very even all over the house. It then shows the color of any granite or pebbles used and will not require to be washed with an acid to clean off the cement, making one of the finest effects that can be put on the outside of a house.

The stone was taken from a local gravel bed, a golden color, and it makes a beautiful contrast with the red slate roof. This house has been covered with the pebble dash nearly two years and it looks better today than when done.

The porch in front of the house is 10 feet wide and 30 feet long, being held up with a truss from the large porch posts, 18 by 18 inches square.

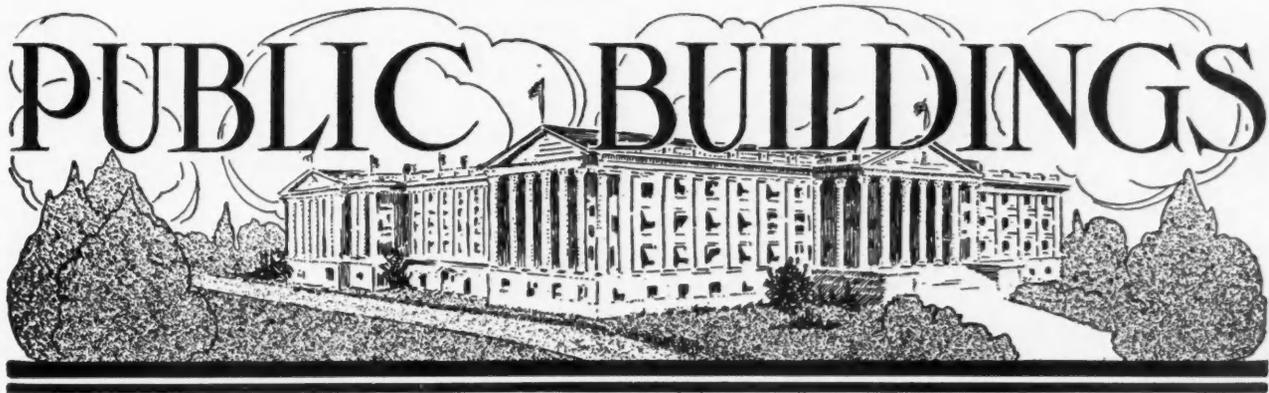
The inside finish of the house is all red oak with tile mantle.



Chemical Industries in Europe

Is it necessary to ship American raw phosphate rock all the way to Europe to have it transferred into the superphosphate that is so valuable as a fertilizer? The exports of raw phosphate rock to Belgium in 1910 were valued at over \$400,000, and the imports of superphosphates from that country for the same year were valued at about the same amount, according to a statement by Consul Thomas H. Norton, of Chemnitz, Germany, in a monograph on the chemical industries of Belgium, Netherlands, Norway, and Sweden, soon to be issued by the Bureau of Foreign and Domestic Commerce. It is Consul Norton's opinion that the superphosphates could be made more cheaply at home. Other striking anomalies in our foreign trade are discussed in the report. Attention is called to the successful manufacture of oxalic acid in Norway in connection with the lumber interests. So far this industry has not been extensively established in this country, although the primary raw material, sawdust, is plentiful. The monograph treats in considerable detail the various phases of the chemical industries and the trade in chemical goods in the four countries mentioned.



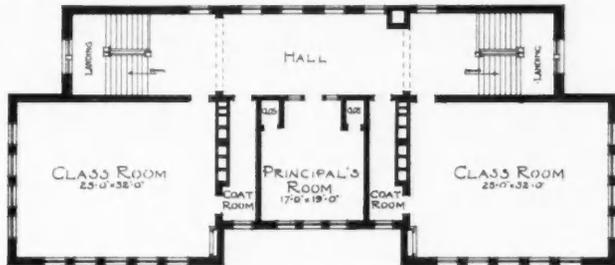


La Vergne School, Berwyn, Illinois

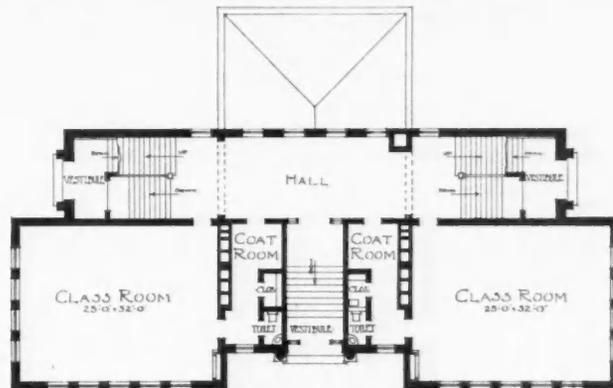
One of the new schools of Berwyn is illustrated—a four-room brick structure, planned to allow an addition of four more rooms to be built on at the rear any time they are needed.

The grouping of the windows in this building deserves attention. The brick work is rich brownish red, trimmed with white dressed stone. The spandrels

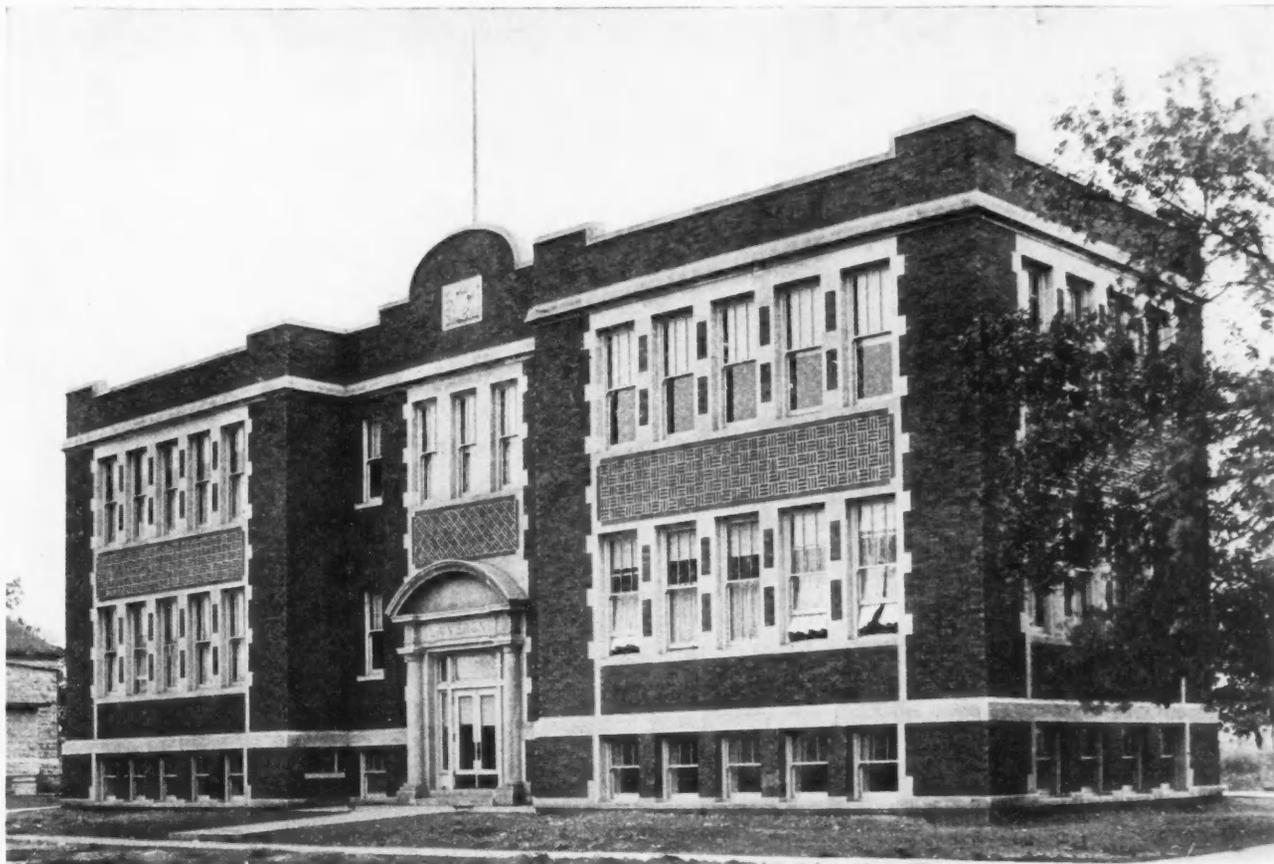
between the first and second story window groups and over the main entrance are filled with ornamental brick work, the bricks being laid in checker-board effect, laid with wide light-colored mortar joints.



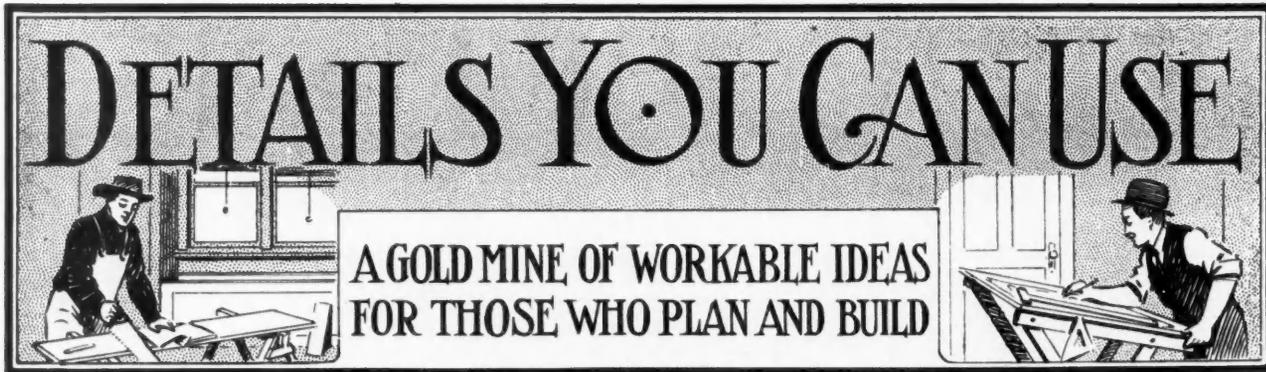
Second Floor Plan



First Floor Plan



New La Vergne School, Berwyn; G. W. Ashby, Chicago, Architect



Artistic Book Case; also Modern Chimney Corner Seats

THE up-to-date builder has to be continually on the lookout for neat little ideas in interior finish which he can work in to good advantage. The built-in book case is wanted as often as any; and for living rooms, libraries, and dens, a nice appearing book case makes a classy finish.

The case illustrated in the photographs and detailed on this page is more elaborate in design than most. This is a Colonial design finished in white enamel. The diamond shaped panes in the doors are very good.

The chimney corner seats shown in the photograph

and detailed drawing on the opposite page, work in nicely at the end of any living room. The open fire place with wood mantel has come back again, and these window seats, built in connection with it, make the coziest sort of a retreat imaginable.

The trim shown in this photo is a good example of modern hard wood, finished natural—all the beauties of the grain showing.

Note how the entrance is arranged here; a partial vestibule is formed by the post and panelling at the end of the seat nook. Seat covers can be raised to store away games, books, etc.

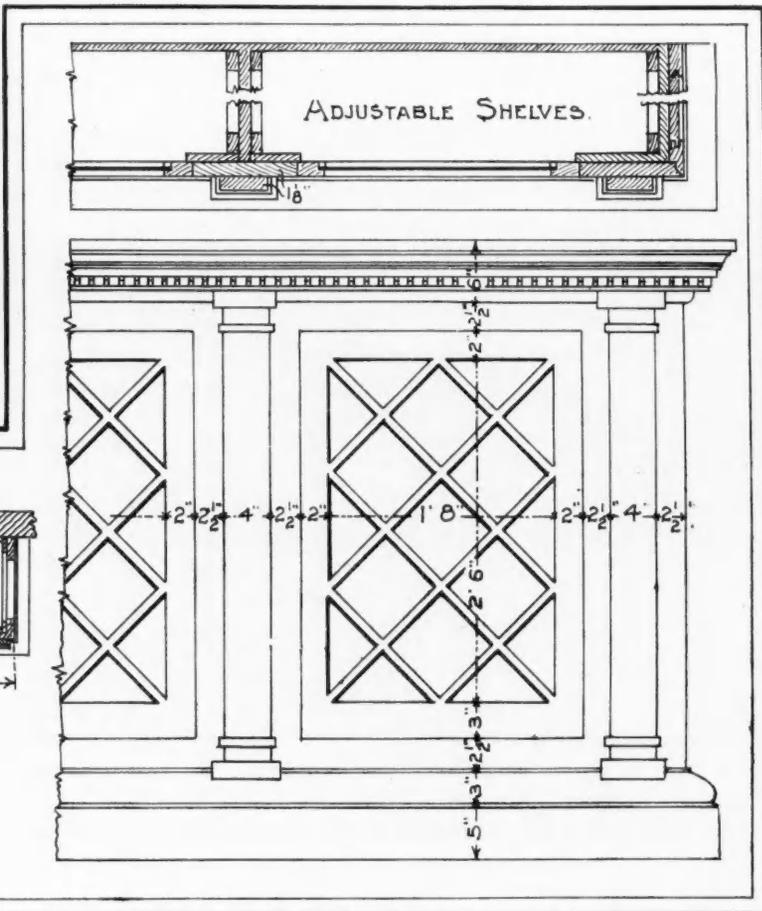
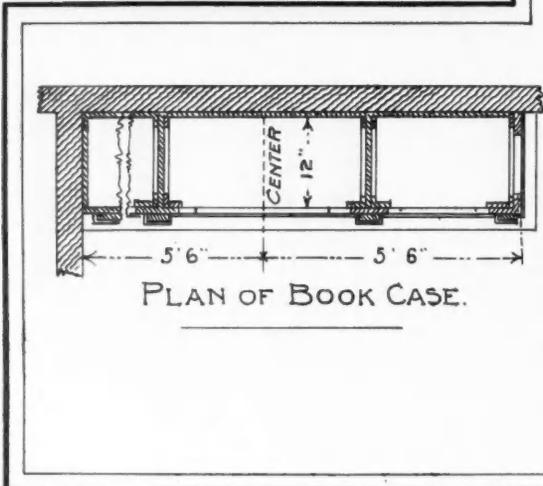


Photo and Dimensioned Drawings of Luxurious Built-in Book Case

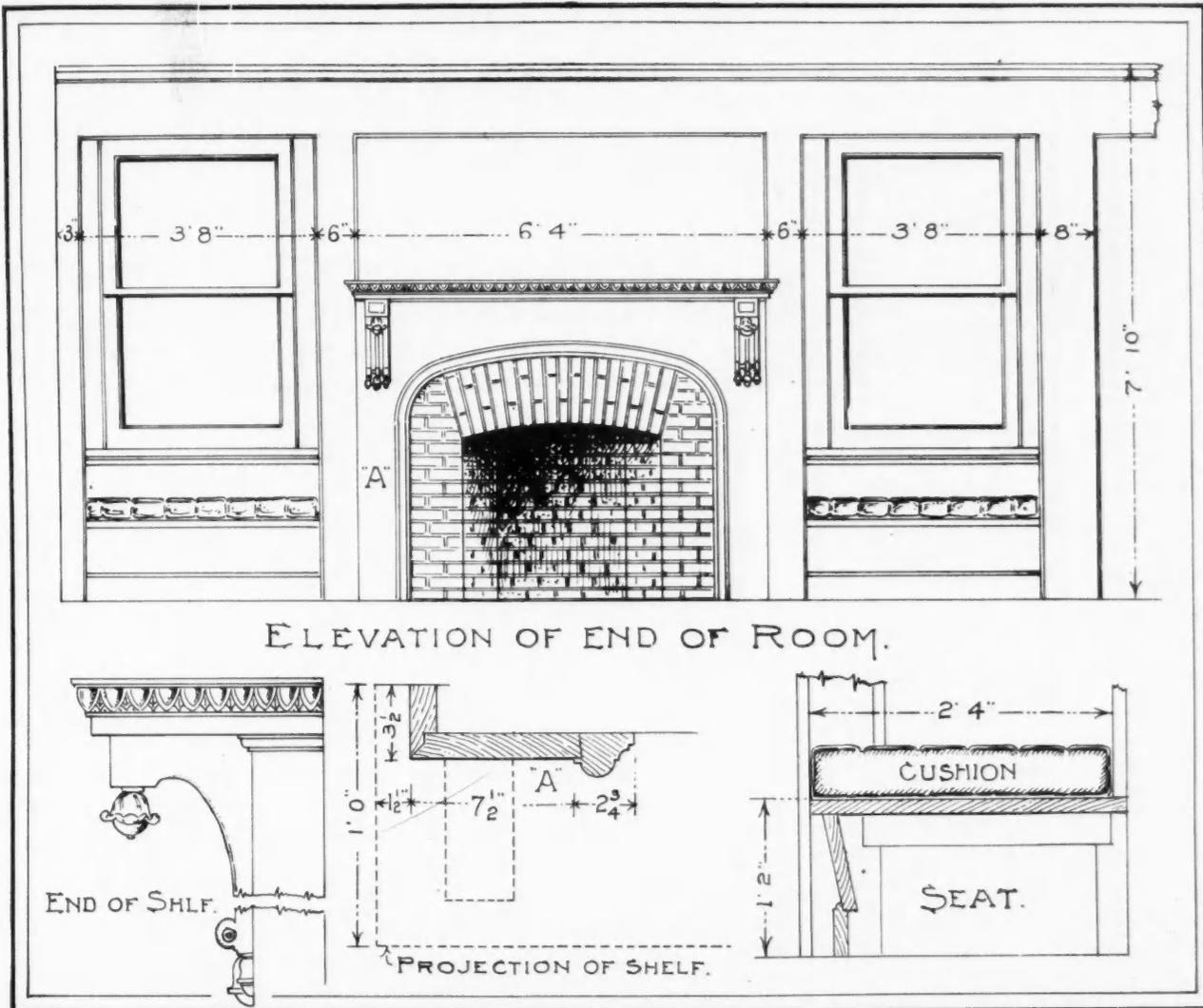


Photo and Dimensioned Drawings of Fireplace with Built-in Window Seats



Noon Hour Talks by the Boss Carpenter

Talk No. 6

THE BOSS EXPLAINS HOW TO FIGURE CANTILEVER BEAMS, AND TELLS HOW CALCULATIONS SHOULD BE CHANGED WHEN TIMBER DOES NOT RUN FULL SIZE

“AS long as I have heard some of you fellows talking about the methods of figuring posts or columns,” said the Boss, “I am going to leave the matter of steel beams alone for awhile and tell you about the principles upon which the strength and size of columns are based. Do you really know what a *column* is?”

“A stick of timber, or a cast iron member, structural steel member, brick pier, or concrete post whose length is several times its least width of cross-section, may be referred to as a *column* in a general sense, when this structural unit stands vertically and carries a load at the top. Slanting, or even horizontal pieces which have forces applied at each end which tend to put the member into a similar condition to the one just referred to are figured as columns and will be considered in a later Talk.

“Engineers differ as to what relation between length and least dimension of member shall be the dividing line between different methods of considering or figuring columns. Everybody agrees that experiments on vertical structural members when loaded at the top show that columns or compression pieces of a given size of cross-section will fail by direct crushing down when the length is only a few times the least dimension, while if the length of the piece is increased beyond a certain limit, the method of failure will not be due to direct crushing, but to a combination of crushing and bowing or buckling out sidewise. A common dividing line is that compression members, or vertical members which hold a *central* load at the top will be considered as *short blocks*, or *short columns* when the length divided by the least dimension, both in the same unit of measurement, is not greater than 10 or 12. If this value of length divided by least dimension is greater than 10 or 12, the member is considered to be a *column* or by some a *long column*.

“The regular formulas which I will give you in the first part of our consideration of the subject of columns will be for columns which carry a load which

acts straight down through the center of the column cross-section, or for *centrally loaded* columns. Afterwards, we will look at columns which carry loads out of center, or *eccentrically loaded* columns.”

At the request of one of the men, the Boss drew Fig. 12 and Fig. 13 on a sheet of the “log book” in order to illustrate the difference between *central* and *eccentric* loading of columns. He then called their attention to the fact that the kind of material from

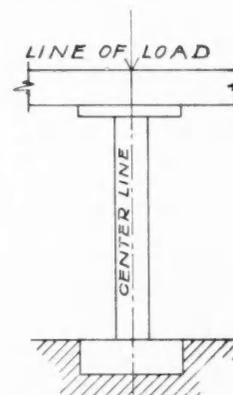


Fig. 12. Short Column with Central Load

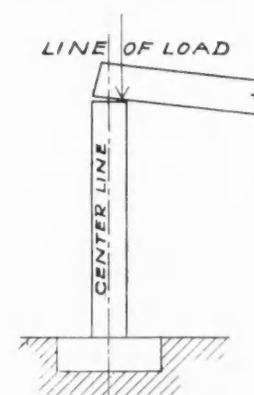


Fig. 13. Short Column with Eccentric Load

which the column was made was considered in the amount of load which would be allowed on a column of a given size, and would be taken care of by the unit working stress allowed in figuring the column.

So as to get a start on the subject, the Boss explained that he would figure the central load which might be safely carried by a short timber post. He then turned to Fig. 12 and wrote the following problem on the page.

“Let us see what central load an 8-inch by 8-inch Georgia yellow pine column 6 feet long will carry with a factor of safety of 5. The load applied as in Fig. 12.”

“This column,” said the Boss, “comes under the *short block* or *short column* heading, since 6 times 12 divided by 8 equals 9. The rule to be applied to

centrally loaded columns of this length and size of least dimension is one which provides for failure by direct compression or crushing of the material. It is

$$W = CA \text{ (Formula No. 5.)}$$

where W is the central load in pounds, C is the working crushing strength, or direct compressive strength of the material in pounds per square inch of cross-section, and A is the area of the cross-section of the column in square inches.

"Applying Formula No. 5 to our problem, we would have

$$W = \frac{5000}{5} \times 8 \times 8 = 64,000 \text{ pounds.}$$

where 5000 is the breaking or final crushing strength of yellow pine in a direction along the length of the fibres in pounds per square inch, 5 is the factor of safety used, and 8×8 is the area of the cross-section of the column. This load of 64,000 pounds should be applied to the top of the column in such a manner that it will bear equally over all parts of the top area, or located so that it will act directly downward over the center of this area. The ends of the column should be flat and squared up nicely so that all parts of the end surface will touch the parts of the structure between which the column forms a connection. Carelessly sawed ends, or slanting end surfaces will cause the column to either rest more on one side than on the other, or will throw the load on the column to one side of the center line, thus causing an eccentric load. Fig. 14 shows this condition and same should be avoided.

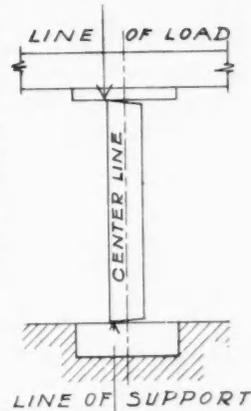


Fig. 14. Short Column with Eccentric Load Due to Unevenness of Ends

"If any timber other than Georgia yellow pine is to be used, the value of the final crushing strength may be taken from the following table.

Final Crushing Strength of Building Materials, in Pounds per Square Inch

(Loads on Timber Applied in Direction of Grain)

MATERIAL	Short Column Under 12 Times Least Dimension	Columns over 12 Times Least Dimension
White Oak	5000	7000
White Pine	3500	5500
Long-leaf or Georgia Yellow Pine	5000	7000
Douglas Fir	4500	5700
Short-leaf Yellow Pine	4500	6000
Norway Pine	4000	5000
Spruce and Eastern Fir	4000	6000
Hemlock	4000	5000
Cypress	4000	5000
Cedar	3500	5500
Chestnut	4000	5000
California Redwood	4000	5000
California Spruce	4000	5000
Cast Iron	80,000	70,000
Mild Steel	60,000	50,000
Concrete (1:2:4 mixture)	2000	2000

"The value for Georgia yellow pine which we used was taken from the first column of values given in the table. The values in the second column are given at this time, but should not be used in Formula No. 5 in any problem, since they are for use in a formula which will be given in Talk No. 8.

"If a cast iron post, structural steel rolled shape, or concrete post is used in the place of the timber column, and of a length not greater than 10 or 12 times the least dimension for a solid cross-section, Formula No. 5 may be used by supplying a proper value of C from the table.

"Brickwork piers or stonework will vary in strength according to the quality of the work and the kind of mortar used. The height of a masonry pier should not be greater than 6 or 8 times its least dimension in order to be figured by Formula No. 5. The value for C for brickwork to be used with safety and without using a factor of safety will be 110 pounds per square inch when a lime mortar is used, and 200 pounds per square inch when a Portland cement mortar is used.

"The safe value of C for rubble stonework is about 75 pounds per square inch where lime mortar is used, and 140 pounds per square inch when Portland cement mortar is used. No factor of safety is required with these values of C ."

The Boss then asked the men to try and find out how large a brick pier, 6 feet high, would be needed to support a girder which carried a load of 20,000 pounds, as in Fig. 12. Try it for next time and see for yourself.

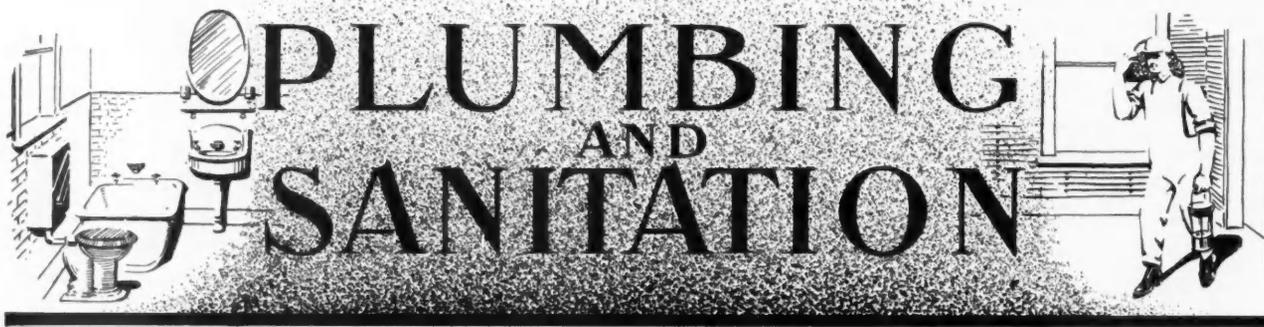


How to Attach Plaster to Concrete

The Aberthaw Construction Co., Boston, Mass., recommend the following method of attaching plaster to concrete. "Make the concrete as porous as possible by omitting sand from the mix and by not spading the concrete next to the forms. Where plaster is required underneath a floor or roof, if the forms are sprinkled with 1/2-inch stone before the concrete is placed, a rough surface will be obtained to which plaster will key nicely.

To attach Portland cement plaster to smooth concrete, hack the surface with a point, brush the surface thoroughly to get the dust out, wash it, and in every case make sure that the under concrete is thoroughly wet before the plaster is applied. Otherwise the water will be soaked out of the plaster and the plaster will not adhere. Wash the surface with grout just ahead of the plaster and make sure that the plaster is applied before the grout has time to set.

It is the experience of the Aberthaw Construction Co. that lime plaster is very unsatisfactory for placing on concrete surfaces. The only way they have been sure of a satisfactory result is to use plaster which is principally composed of plaster of Paris.



Authentic Plumbing Charts for the Up-to-Date Builder

TWO DIAGRAMS GIVING COMPLETELY THE SERVICE PIPING AND THE SOIL, WASTE, AND VENT PIPING FOR AN AVERAGE RESIDENCE AS REQUIRED BY THE NEW YORK BUILDING CODE

By Harold L. Alt

EVERY builder is responsible for his houses—at least that is the way that the average purchaser looks at the matter—and when a carpenter or builder undertakes the erection of any structure in the capacity of general contractor, he should be fully prepared to assume obligations for all the work entering into the construction regardless of whether the work is carpentry (which his own men may perform) or masonry, plumbing or heating (which he may perhaps sub-let to some other contractor). It is a poor policy and a lame excuse indeed for a builder to try to justify the faults and failings of a plumbing system which may have been put in his structure with the apology that "the plumber did not do me a first-class job on this house, etc., etc." The only way that the average builder can avoid this is by knowing what a first-class system requires and the essential points which are absolutely necessary to secure sanitary and healthful results.

For this reason the AMERICAN CARPENTER AND BUILDER has gone to the expense of having prepared two charts showing a typical small residence and its plumbing complete just as it should be installed, which may serve not only as a guide for the builder but also as a reference in case of any dispute between the builder and the plumber. These charts show in the first one a complete "Drainage and Vent System," and in the second one the complete water supply or, as it is commonly called, the "Service Piping." Both of these charts have been worked up according to the requirements of the New York Plumbing Code adopted last year (1912), which is not only one of the most stringent and complete codes in existence but which is also regarded as a general standard in the plumbing world.

According to the requirements demanded under these rules the soil and waste piping inside of the house must be of extra heavy cast iron uncoated pipe, (although galvanized wrought iron or steel pipe with galvanized cast iron drainage fittings is allowed to be substituted; this is seldom done in residence

work on account of the increased expense). Every plumbing fixture has to have its individual trap and the trap and extended up, either running through the a system of vents taken from or near the crown of the trap and extend up, either running through the roof or connected into the soil stacks. Just inside the house wall has to be installed a house trap which cuts off the sewer gas from the street sewer and lateral house connection from penetrating beyond this point. In the house side of the trap is placed the fresh air inlet which is for the purpose of admitting air into the drainage pipes inside the house. These drainage pipes are extended up through the roof, the idea being that the air in these vertical pipes on account of being inside the structure will become warmed and rise up drawing fresh air in through the fresh air inlet, thus keeping up a constant circulation. To prevent a reversal of this air flow through back drafts or other causes it is required to place an automatic air valve on the fresh air inlet which allows the air to enter this pipe only.

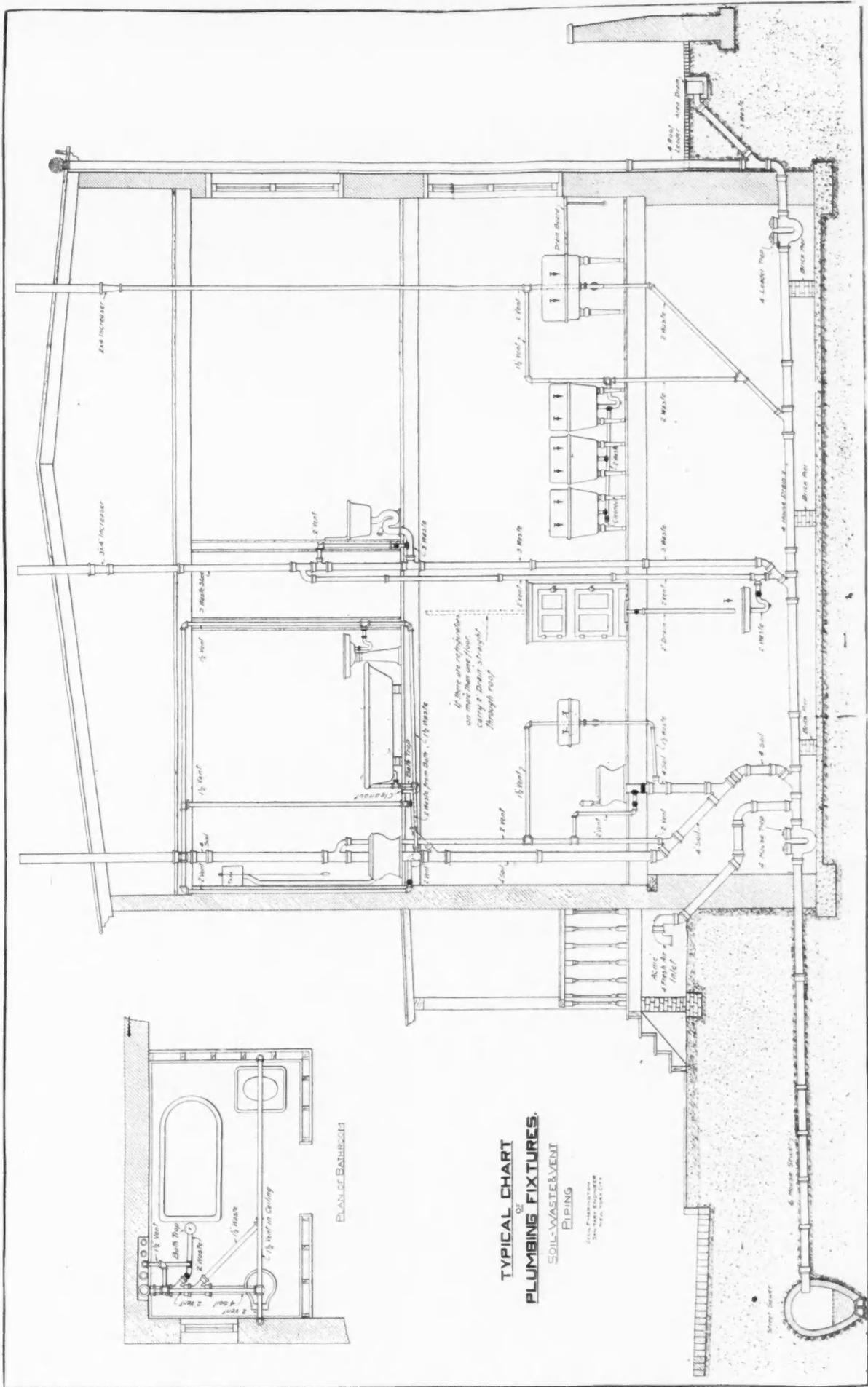
The soil or waste connection for each fixture into the drainage system must be at least of the following sizes:

For Water Closets	.....4	in.
For Urinals	.....2	in.
For Slop Sinks	.....3	in.
For Kitchen Sinks	.....2	in.
For Lavatories	.....1½	in.
Laundry Tubs	.....1½	in.
Laundry Tubs	.....2	in. when set in a battery of 3.
Shower Baths	.....2	in.

The use of lead pipe is restricted to what is called short branches (a length of 8 ft. 0 in. for 1½ in. pipe; 5 ft. 0 in. for 2 in. pipe; and 2 ft. 0 in. for 3 in. or 4 in. pipe); its use being permitted for the bends, traps and roof connection only.

For the service piping it is provided that the service mains for dwelling must be of ¾ in. in size with a stop cock under the sidewalk at the curb and another stop just inside the front wall of the building. The sizes of branches to the various fixtures is fixed at ½ in. for all fixtures except water closets, cisterns, or lavatories, unless the piping is of lead or brass

(Continued to page 55)



TYPICAL CHART OF PLUMBING FIXTURES, SOIL-WASTE & VENT PIPING

© 1913, THE AMERICAN CARPENTER AND BUILDER, NEW YORK, N. Y.

Chart Showing Complete Drainage and Vent System for a Modern Two-Story and Basement Residence; as Prescribed by the 1912 New York City Plumbing Code

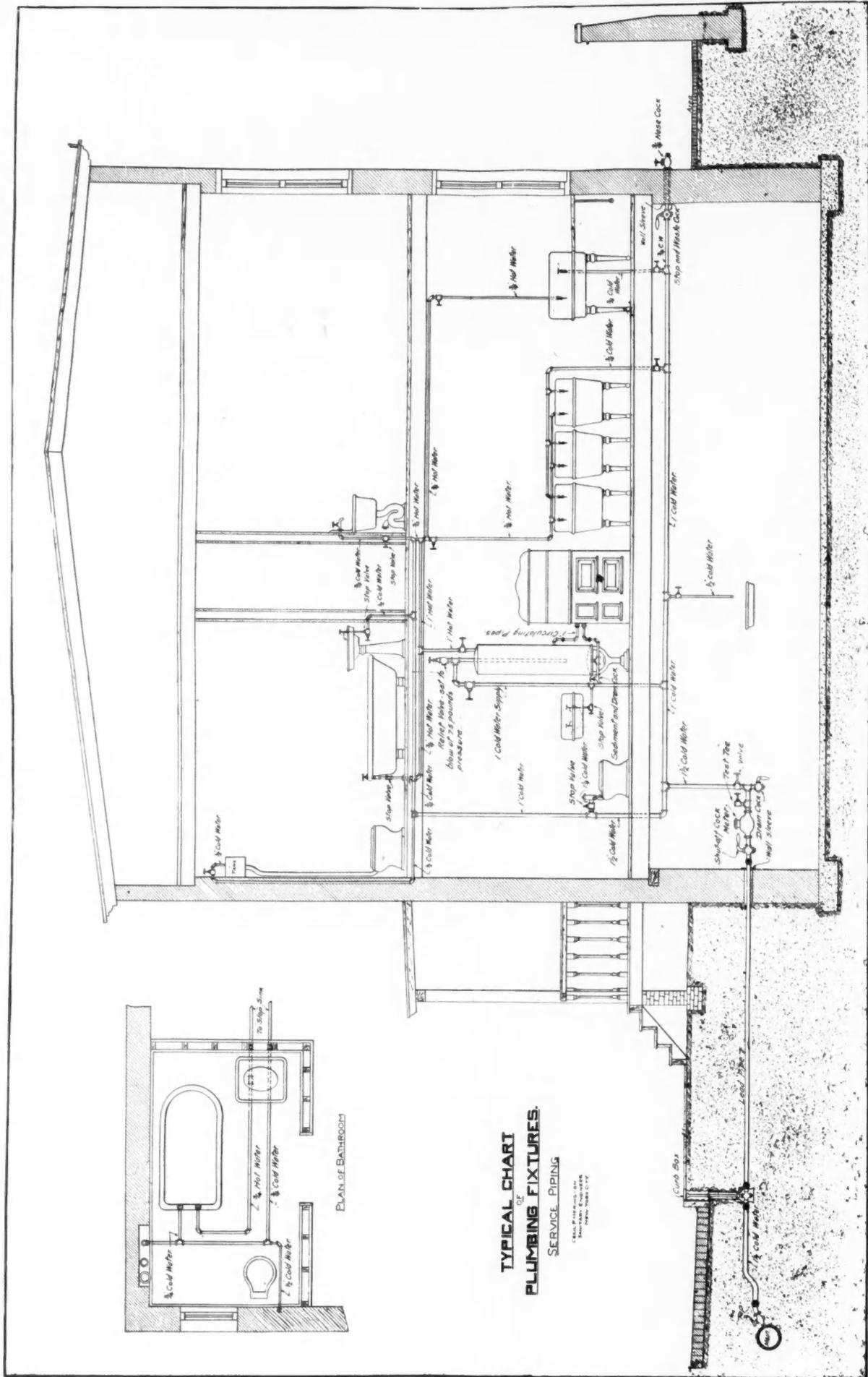


Chart Showing Complete Service Piping for a Modern Two-story and Basement Residence; as Prescribed by the 1912 New York City Plumbing Code



How to Do Work Fast

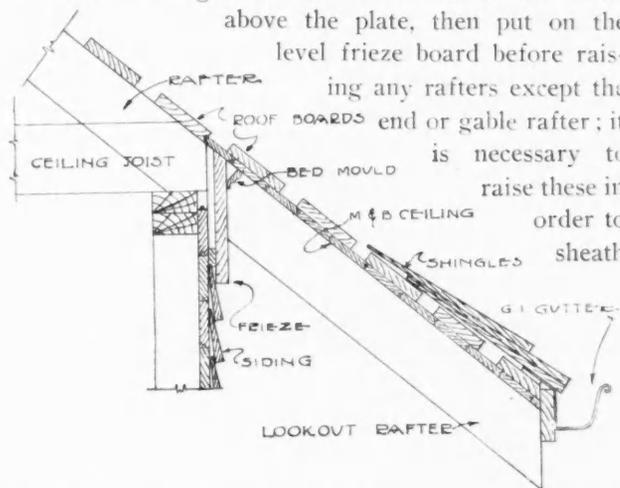
FIFTH PAPER—THE BUNGALOW CORNICE

By I. P. Hicks

IT seems to be the general opinion that it takes much more time to construct a bungalow cornice than it does the ordinary box cornice. If the building contractor or rather his foreman knows just the right method of construction to follow, it is safe to say that the bungalow cornice can be constructed just as quickly and cheaply as the average box cornice.

The bungalow cornice, as we all know is a very wide cornice with exposed rafter ends. This of course makes it necessary to notch the frieze up and around all the rafters in order to get a tight job. This is a slow and very troublesome job unless you know just how to go about it. If you take the right method it is as easy as any kind of work.

To do this work in the most advantageous way, find out how high the back of the rafter will come above the plate, then put on the level frieze board before raising any rafters except the end or gable rafter; it is necessary to raise these in order to sheath



up the gables. Put on the frieze board so that the top edge of it will come flush with the top edge of the rafter. It is no trouble to cut the frieze around the end rafters when the others are not in the way. After the level frieze is on, carefully space the rafters on the frieze board, also set off their thickness, and with a saw and chisel cut out the notches for the rafters. The frieze can be notched out by this method much quicker, far more accurately; and the result will be a better job in every respect.

The rafters should be framed so that the notch at

the bottom of rafter will fit against the sheathing; this avoids the notching out of the sheathing and only the frieze board has to be notched. The rafters should also be set so that they will come right by the side of the ceiling joists. This gives better facilities for nailing, and makes a stronger job.

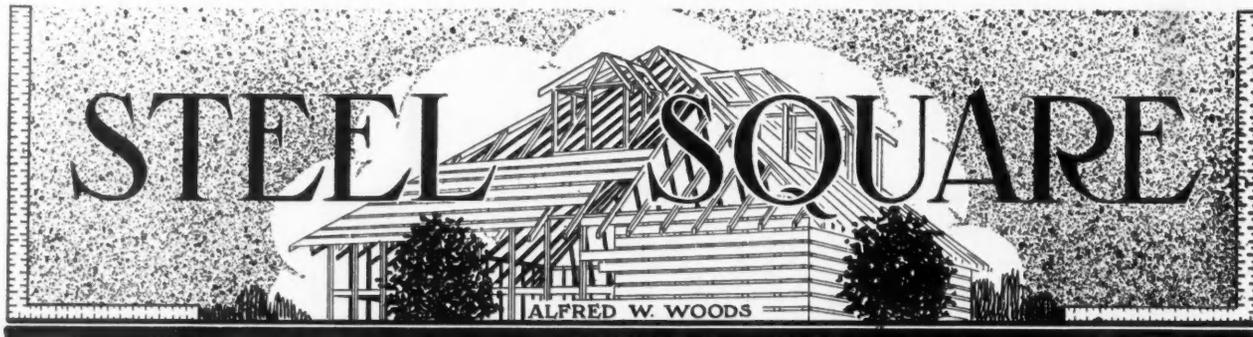
Beaded ceiling is much used for the plancher on bungalow cornices and many rip the rafter ends out at the bottom on the top edge the thickness of the ceiling used so that the roof sheathing may be laid over the same and on up the roof, keeping an even surface. Now it is not at all necessary to rip out the rafter ends; besides, this weakens the rafters where they are notched to set on the plate. After you have the frieze on, and the notches cut out, then raise the rafters. Next, cut in the bed mould between the rafters, keeping it well up so that when the ceiling is put on it will hug tight to the moulding. The moulding can be cut in far quicker and better at this time than afterwards.

Now commence at the bottom of the rafters and put on the ceiling as far up as required to complete the eaves cornice. Stop the ceiling on the ends flush with the gable rafters. Where the ceiling stops on top of the rafters this can be tapered down to the rafters by furring the rafters with a few shingles. The break from the ceiling to the rafters can be evened up with a few shingles so evenly and gradual that it can never be noticed and it is much quicker and better than ripping out the rafters. The ceiling up the gables can be run lengthwise of the rafters and can be nailed directly to the roof sheathing. It will be found that this makes a strictly first class job all the way through; and, when done in this manner, it is as cheap in the cost of labor as a box cornice would be under ordinary construction methods.

Taking Measurements Quickly and Accurately

Every carpenter should learn to take measurements quickly and accurately. Many carpenters squander lots of time in taking measurements. Carpenters who have much laying out to do should carry both a two

(Continued to Page 55)



The Story of the Boss who Didn't Know

UNCLE DAN JONES AND HIS HAPPY30LUCKY SYSTEM OF LAYING OUT BARN FRAMING—SOME BARN ROOF PROBLEMS SOLVED BY THE STEEL SQUARE

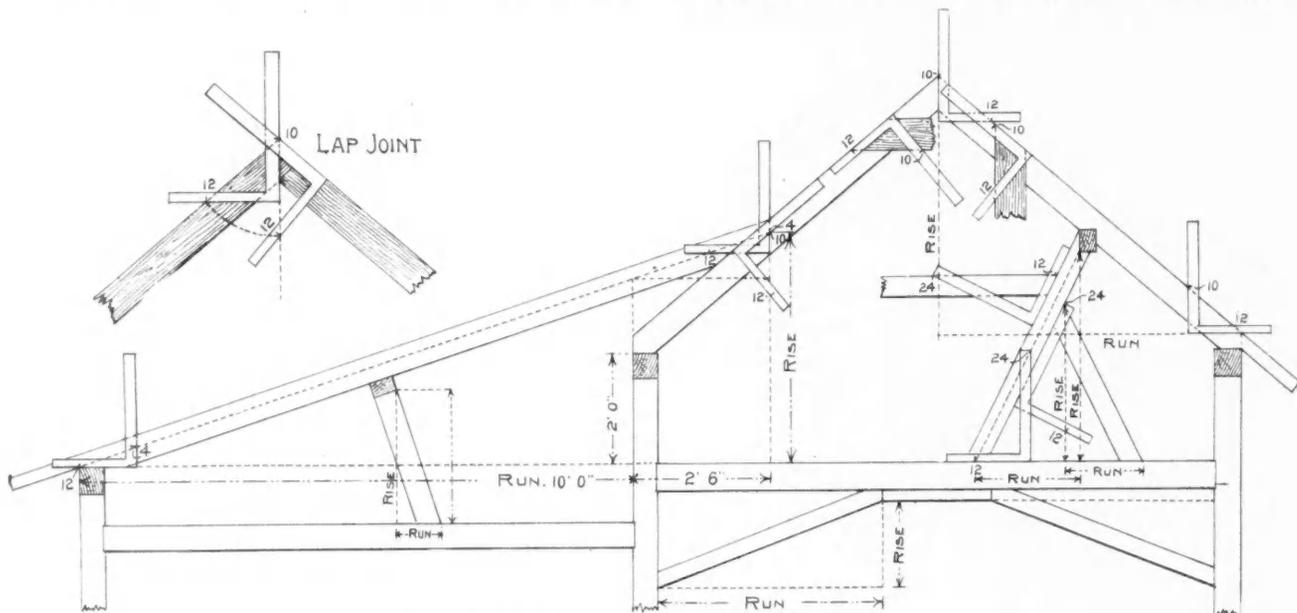
D ID you ever stop a minute to think how simple it is to frame the timbers in connection with the roof, by the aid of the steel square? Well, perhaps you have, but there are a great many that have not. They do not realize how simple it is; and they just keep on making hard work of it.

Years ago Uncle Dan Jones was rated by his neighbors as a sort of jack of all trades; and in fact Dan thought what he did not know was not worth much. He was the boss at most all of the house and barn raisings; and the way he went to it and shouted his commands, few were there to challenge his right to the place. He prided himself on the use of the square in cutting the rafters and braces; but he thought when he got the seat and plumb cuts, that ended the use of the square and he let his plumb bob and level unbalance his head when he should have kept on using the square. He did not think how simple it was; and he made hard work of it. He worked with hands, instead of with hands and brains combined.

On one of these barn raising occasions, we call to mind, after the rafters were up, Dan started the men to putting on the sheathing boards; and after this was done and the men came down to take a drink

and have a social chat before proceeding, one of the men ventured to tell Dan that he had made a mistake in not sheathing the gables first, because he could then use the top edge of the rafter to mark the boards for the cut. But Dan was equal to the occasion. A smile stole across his face and a knowing twinkle of his right eye was convincing proof that he knew what he was doing. He lost no time in getting a hold of a broad axe and with a few well directed strikes, he clipped a corner off of a piece of board and with level in hand, he shinned a ladder up to the gable and after plumbing the board and tacking the same, he placed the level up against the roof boards and then marked along its lower edge; this being done he tossed the board down with the remark,—“This is your pattern.” And then the men all joined in a laugh at the expense of the one man that thought he knew more than Dan. Thus, he jogged along, passing life's mile-stones until he came to the River Styx and he passed over to the house not built with hands.

In his career as a builder, Uncle Dan did not always stop to think, but went right along with his work; he had no time to study cause and effect, but he possessed a wonderful faculty of getting there,



Barn Framing Diagram Showing Use of Steel Square

although usually not the shortest way there. And so he did not stop to think that the same figures that he had used on the square for the seat and plumb cut of the common rafter, would give the cut across the board when placed either horizontally or plumb in the gable, as shown in the illustration. In this are also shown some of the simple things over which many otherwise good carpenters make hard work.

In the illustration are shown the cuts of the purlin posts. The purlin brace is set at the same pitch as that of the post. NOTE,—the same figures that give the plumb cut applied to the plumb line, give the cut to fit against the main post. The same rule applies to a low pitch joining that of steeper pitch, also shown in the illustration. The low pitch is 12 and 4 (1/6) and the high pitch is 12 and 10 (5/12) and the square should be placed as shown. This rule also applies to the lap joint as follows:

Say we want to make a lap joint at the comb of the main rafters instead of a miter, 12 and 10 give the miter or plumb cut as shown. Now, suppose the square is pivoted at 10 and we take hold of the blade and swing it until 12 on the tongue rests at the plumb line and the blade will be in line with the pitch of the adjoining rafter and gives the cut as shown.

Here is another thing that puzzles a great many and that is where will the low pitch intersect the main rafter and what will be the length of the low pitch rafter? It is an easy matter to find the length to a point above the plate line of the main rafter, because the run is a known factor, but just what the necessary extension should be to catch the main rafter, is the question. It is simply this. One rafter has a rise of 10 inches and the other has 4 inches. Four is contained into ten $2\frac{1}{2}$ times and represents the extension of the run of the low pitch rafter, making its total run 12 feet 6 inches and the length of the rafter will be found to be 13 feet $2\frac{1}{8}$ inches.

✦ How to Do Work Fast

(Continued from page 53)

foot rule and a five foot rule. These two rules can both be carried in the apron pocket. Suppose it is necessary to measure off ten feet, with the two foot rule you have to measure five lengths of the rule to get it, with the five foot rule you have to measure only two lengths. The five foot rule is a handy rule to have in your pocket and there is frequent use for it. Use it for taking long measurements. You will find it much the handiest rule for laying out door and window openings, partitions, etc. Of course, it takes more time to open up a five foot rule than it does a two foot rule. If you are laying out work and have frequent use for the rule do not close it up or just close it once making it two and one-half feet, then it is as handy to carry in your hand as a square or you can set it down near by, same as you frequently do when you are using the square. But always keep it within easy reach. If you are taking short measure-

ments, say two to four feet, then it is the handiest to use the two foot rule. I advise the carrying of both rules, using each where it will best serve.

Some will say, "what's the use of all this? I won't get any any more pay for doing this way than if I don't." This may be practically true; but here is something to think of. Your employer will never advance your wages before you can prove to him that you are worth it. You have always got to earn more money than you are getting, before you can get it. If you were hiring men yourself you would not raise the wages of a man who to all appearances you were paying all the man was worth. It is the same with others the world over and if you want the best jobs and the best pay you must always be on the lookout to increase your efficiency and means of producing results. It is in this way that you stand in line for promotion and a raise in wages. If your present employer does not recognize your worth in time, someone else will, and sooner or later someone will offer you a better job and at better pay. But this is not likely to happen to the man who drags along in the same old way and in the same old class. The demand for the men who can produce the best results is always good and this class never goes begging for a job so it stands everybody in hand to increase their efficiency in very possible way.



Plumbing Charts for the Builder

(Continued from page 50)

in which case the size is allowed to be cut to $\frac{3}{8}$ in. Flush valves on water closets have to have $1\frac{1}{4}$ in. supplies and for urinals $\frac{3}{4}$ in.

In houses where hot water pipes are run, these pipes are not allowed closer together than 6 in. unless the hot water pipe is covered. This is to avoid the cold water line becoming heated necessitating a big waste of water every time it is desired to obtain a cool drink. If the water pressure is not sufficient to reach the top of the house freely and continuously a house tank is required of wood or iron or wood lined with tinned and planished copper with metal covers to exclude dust and with an overflow pipe not connected directly into the drainage system. For refrigerators it is required that the pipe be either $1\frac{1}{4}$ in. or $1\frac{1}{2}$ in. of galvanized iron with branches of at least 1 in. in diameter and with strainers over each inlet. These waste pipes are not allowed to be trapped and have to discharge into a water supplied, trapped, and vented sink located in some room not used for living purposes. This is for the double protection of excluding not only sewer gas from ice box but all air liable to become foul or vitiated. Every water closet and urinal apartment has to be connected with the outer air by windows or skylights or galvanized vent ducts whose area is at least one square foot for a single water closet or urinal with an additional half a square foot for each additional fixture.



Important Door Hardware—Butt Hinges

Part II

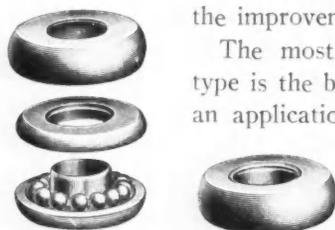
By R. G. Spencer

(With the Stanley Works)

IN our previous article (November, 1912, issue, page 65) the general subject of "loose pin" butts was discussed. The vast majority of the butts used in this country are of this type, as it best serves the requirements of modern building methods. It is the purpose of this article to present a few of the modifications of design of loose pin butts.

No matter how fine the material may be or how carefully an ordinary loose pin butt is made, if the knuckles of the joints bear directly on each other, they will gradually wear down, causing the door to sag and bind. Various types of washers to reduce the friction and prolong the life of the butt have been used, with varying results. Washers of special composition have been used and such butts are known as *fibre washer butts*, *anti-friction butts*, etc. Tests show that in some cases these special washers add somewhat to the life of the butt, chiefly by reducing the friction. In other cases the metal of the washer, being softer than the steel, it wears down more quickly and the improvement is of doubtful value.

The most successful butt of this type is the ball bearing butt. This is an application of the familiar device of ball bearings, which is so generally used in machine construction, axles, bicycles and other cases



Hinge Ball Bearings

where the friction is an important factor.

The ball bearing washer contains a number of hardened steel balls which carry the entire load of the door. Each single steel ball is capable of sustaining a crushing load of over 1000 pounds, and as a result there can be no wearing down under the load of the heaviest doors. This has been conclusively demonstrated by tests ranging as high as one million revolutions of a heavy door with no deterioration of the butt. In actual service ball bearing butts have invariably stood up under the most severe conditions, and given entire satisfaction.

The ball bearing washers are so constructed that

the steel bearings are protected from dust and moisture by a brass cap. This prevents rust and makes oiling of the butts unnecessary. This is a distinct advantage as oil mars the appearance of the plated surface.

The increasing use of hollow metal doors and doors with metallic coverings has necessitated butts of special design. The ball bearing butts, as well as the better grade of loose pin butts, are now made in what is known as the Template D design, with holes accurately punched to template to match holes in the metal doors. It is important in hanging such doors to use these special butts as otherwise trouble will occur in the application of hinges, the holes of which do not exactly correspond. The manufacturers of metal door butts will furnish templates for the contractors to use in drilling the holes in the casements and the doors to match the butts ordered on a job.

Half Surface Butts

There has been an increasing use of what are generally known as half surface, half mortise, or ornamental butts, particularly on the cheaper types of construction. The advantage of such butts to the carpenter is obvious, as the labor of mortising is reduced just one-half. The ornamental leaf of these butts is screwed directly to the surface of the door. These are usually of pleasing design, and finished to harmonize with the locks, handles and escutcheon plates, some of these call for oval head screws for the surface leaf to complete the contour of the design. Such screws are furnished with the hinges. These butts are usually so constructed that the pin can be taken out, the lower tip which is slotted unscrewed, and the pin reversed so that the butt can be used on either right or left hand doors.

There are many other styles and types of door butts for special purposes, and a carpenter can generally find just what he requires in the ample sample rooms of the builders' hardware stores.

Suffice to say that the important thing to observe in buying butts is to procure the best that can be afforded and to accept only standard makes. Economy lies in buying good hardware rather than butts of cheap inferior design, and workmanship and poor finish.

Canvas Roofing

NOW MILDEW-PROOF AND PRESERVED FROM THE DELETERIOUS ACTION OF PAINT

By **W. H. Adams**

Chief Chemist

With *William L. Barrell Co., New York*

A piazza roof has two distinct advantages over an umbrella. It holds itself up and it is not readily blown inside out, at least in the eastern part of the country; but it is nevertheless subjected to many adverse conditions intending to impair its integrity as a shelter.

Owing to its exposed existence it is treated to every twist, strain, and savage tug of the elements—is heated and frozen, battered and pounded, wrenched and strained, and subjected as well to the more insidious elements of wear from weather, air, ice, rain and sun.

Often lightly framed as it is, particularly in its upper part, it is distorted to a considerable degree by the strains it bears; and, unless its roof surface possesses unusual qualities, it inevitably will be broken down in time; and a leaky piazza roof is not the least of the minor evils that the house owner is called upon to endure.

We have found after much study and experimenting in which many other kinds of roof covering have been used that a piazza roof coating giving entirely reasonable satisfaction for such severe work is one of duck. For steam boat deck and roofing use where the conditions of the piazza are met in merely greatly exaggerated form, this practice is practically universal. Owing to the spore-free air over the ocean and the germicidal and preservative qualities of salt spray and salt air, the marine use of canvas is not prevented by the rapid growth of mildew as is so generally the case with duck used ashore. Unfortunately, ordinary duck is deteriorated rapidly by mildew when used as a roofing material on land. Cotton canvas in its untreated form is particularly liable to attack when frequently subjected to moisture in the form of mist, dew, rain, or even general dampness, and this tendency is not overcome or even greatly diminished by painting, inasmuch as linseed oil—which is the universal vehicle for all kinds of paint—is in itself a fairly satisfactory food for fungus growths.

It has been found possible, however, to so prepare cotton duck by a combination of chemical and water-proof treatments as to endow the goods with mildew resisting qualities and at the same time prevent the absorption of the moisture which makes mildew and other forms of fungus growth possible. This treatment has also been designed to fill and prime the duck on one side and improve its adhesive qualities on the other so that the laying of the roofing on a fresh white lead or paint film is greatly facilitated, and the outer subsequent painting rendered economical and easy.



HURRY! HURRY!

Competition Closes Wednesday, February 5th

We are delighted with the practical, interesting material already entered in Our Big Prize Competition. This is going to be the biggest and best thing yet. Don't miss it.

YOUR BEST WORK will win a prize—and much honor for yourself. We want to see you represented.—But your photo and plans must reach our Chicago Editorial Rooms on or before Feb. 5th.

HERE ARE THE COMPETITION SUBJECTS

First, Second and Third Prize in Each Class

(Class A.) **Best Designed Residence Planned by a Reader of the "A. C. & B."**

Each entry should include photo of complete Residence, Sketch or Blue Prints for Floor Plans and 250-word Statement of Materials and Equipment Used.

(Class B.) **Best Designed Church, School, or Business Building Planned by a Reader of the "A. C. & B."**

Each entry should include photo of complete Structure (also an interior photo if possible), Sketches or Blue Prints of Floor Plans and 250-word Statement.

(Class C.) **Finest Dairy Barn or other Farm Building Planned and Built by a Reader of the "A. C. & B."**

Each entry should include photos, both outside and inside and statement of size, modern equipment used; how arranged, cost, etc.

(Class D.) **Largest and Most Costly Structure Built Complete by a Reader of the "A. C. & B."**

Each entry should include photos and detailed statement of size, cost, special equipment, by whom designed, how long in building, number of men employed, etc.

(Class E.) **Most Modernly and Completely Equipped Residence Planned and Built by a Reader of the "A. C. & B."**

Each entry should include photos and Floor Plans and detailed statement of all special or advertised materials and equipment used.

(Class F.) **Finest Piece of Carpentry Work or Cabinet Making Done by a Reader of the "A. C. & B."**

Tell just what the work is and how you did it. Illustrate with good photograph.

(Class G.) **Most extraordinary Piece of Work Pertaining to Building not usually Classed as Carpenters' Work, done by a Reader of the "A. C. & B."**

This may be Heating, Plumbing, Lighting, Painting, Concrete Work, Masonry, Bridge or Road Building, Landscape Gardening—in fact, anything interesting you are called on to do as a builder. Each entry should include photo or drawing and clear statement of the proposition and how you handled it.

Prize Winning Plans, Photos and Articles will be Published in the March American Carpenter and Builder, Our Big Spring Building Number—DON'T MISS THIS

MODEST AMERICAN HOMES



Plans for Five Room Stucco Bungalow

ARCHITECTS PERSPECTIVE FLOOR PLANS AND ELEVATIONS OF ATTRACTIVE TYPE OF BUNGALOW

JUDGING from the number being constructed and contemplated there is evidently no lessening of the bungalow fever. Admittedly this style of house very generally affords both an attractive and comfortable type of home. As such a combination is always desired by home-builders, and as the bungalow rarely fails to meet these requirements it may be expected to grow in popularity, at least, until another style of house has been developed which offers additional advantages at average bungalow cost.

The bungalow detailed this month was constructed for Mr. Robert Chilvers at Riverside, Ill. It is a five room, hall and bathroom affair of a stucco exterior finish. Entrance from the porch is direct into a good size living room, having a built in bay window seat. The opening from living room into dining room is large. To the right of doors leading to dining room is a door leading into hall. Kitchen is directly off of dining room and has built in shelves, cupboard, etc. From the kitchen are stairs leading to attic space.

The hall is accessible from dining room, living

room, front and back bed rooms. Off of this hall are the bath room, linen closet and stairs leading to basement. Both the bedrooms have ample closet space.

Entire basement has a cement floor and proper provision has been allowed for both laundry and heating equipments.

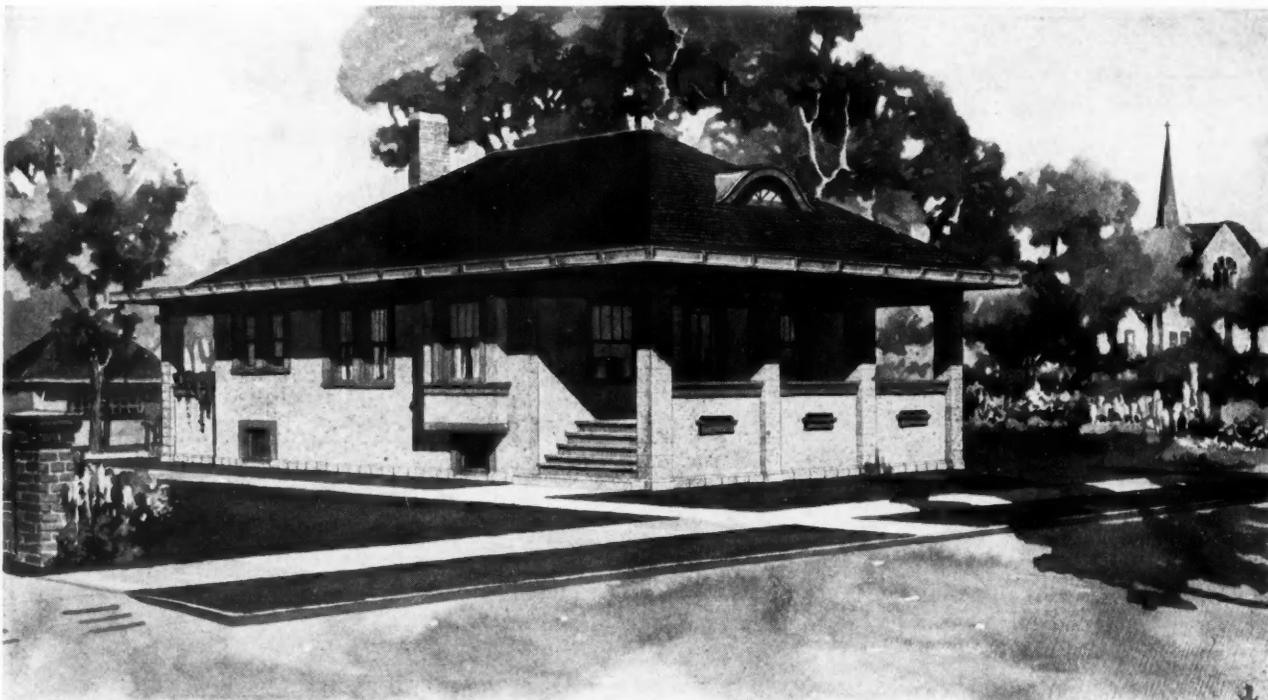
Particular features of this bungalow construction include the use of cement blocks in foundation above grade and a concrete base below. The four columns rising from front porch are built of cement blocks, as is also the column of rear porch. The roof is stained shingles.



Each Pew Heated

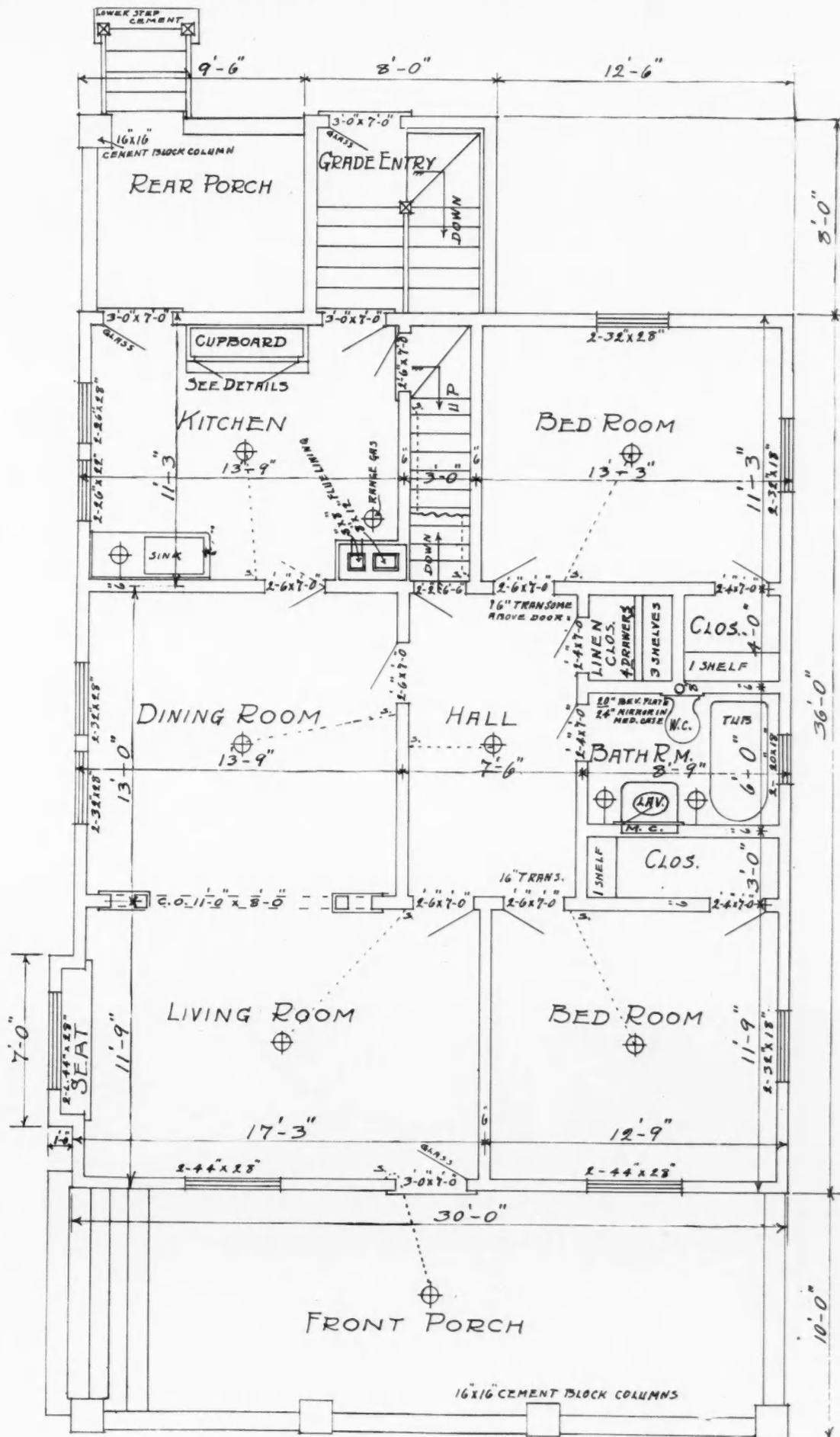
A Nuremberg church seating 1,200 has an electric heater for each pew. A 3-inch iron tube encloses a small tube wound with resistance wire, and this heater runs in front of the seat and along the back of the pew ahead. Each heater has its own switch.

Rafferty—Sure, Kelley, but I'm glad to see yez. I thought ye were dead. I heard siv'ral payple shpakin' well av yez.
—Puck.

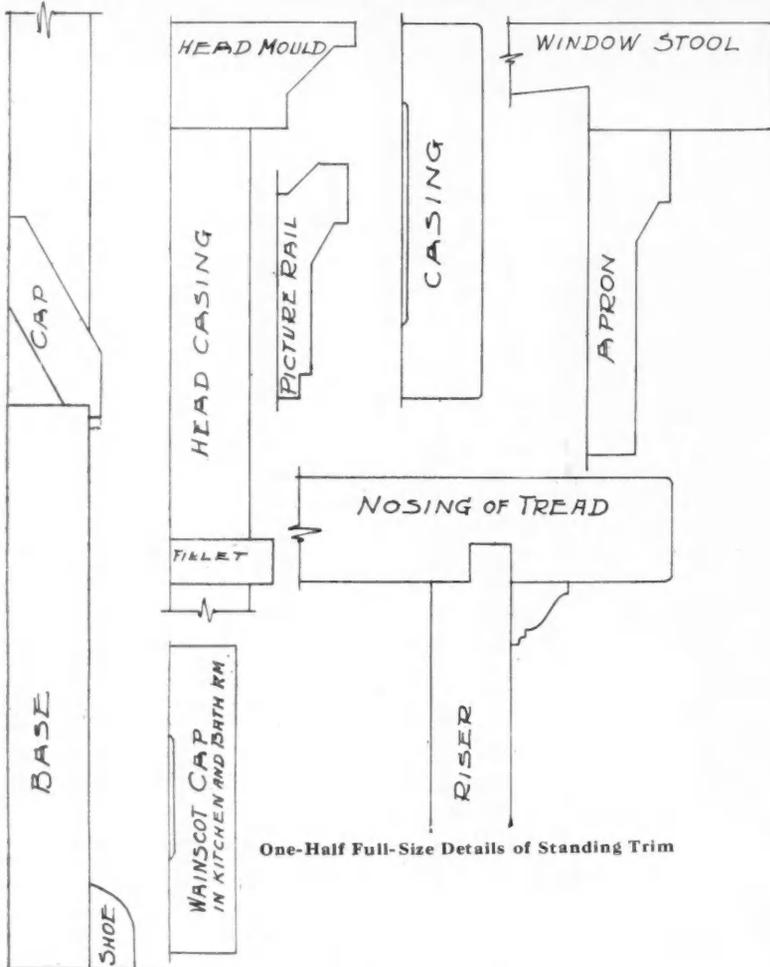


Neat Little Stucco Bungalow Designed for Mr. Robert Chilvers, Riverside, Ill.

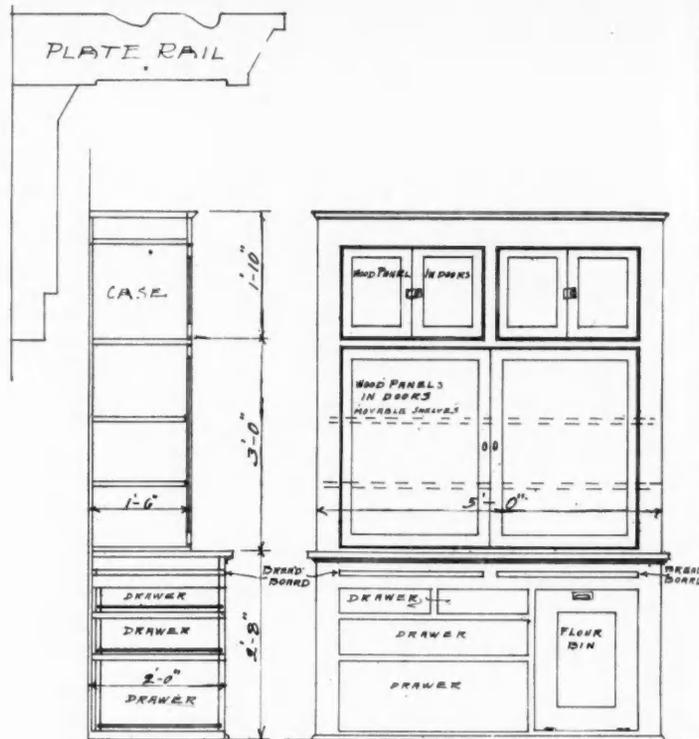
WORKING DRAWINGS FOR THIS HOUSE ARE PRESENTED ON THE 3 PAGES FOLLOWING



MAIN FLOOR PLAN
(Bungalow on Opposite Page)

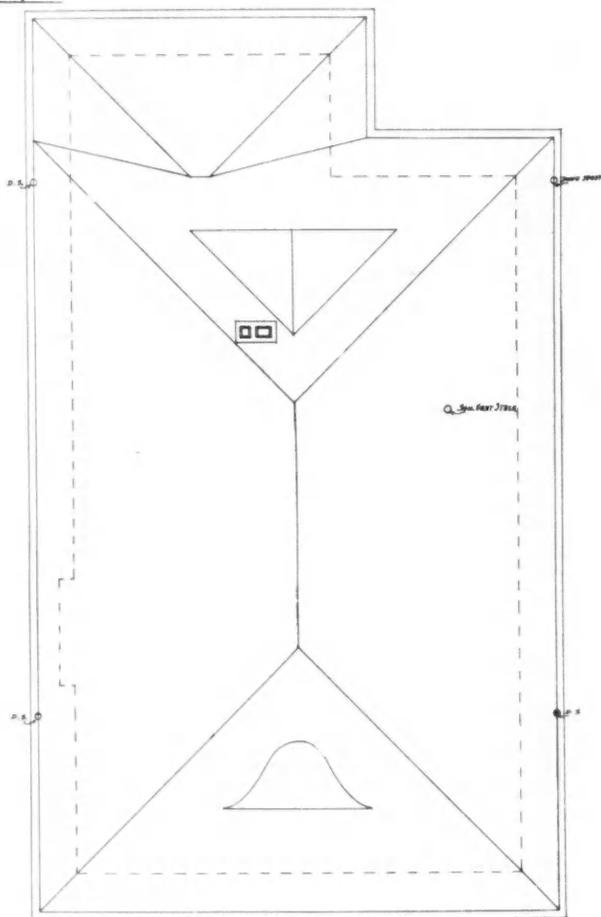


One-Half Full-Size Details of Standing Trim

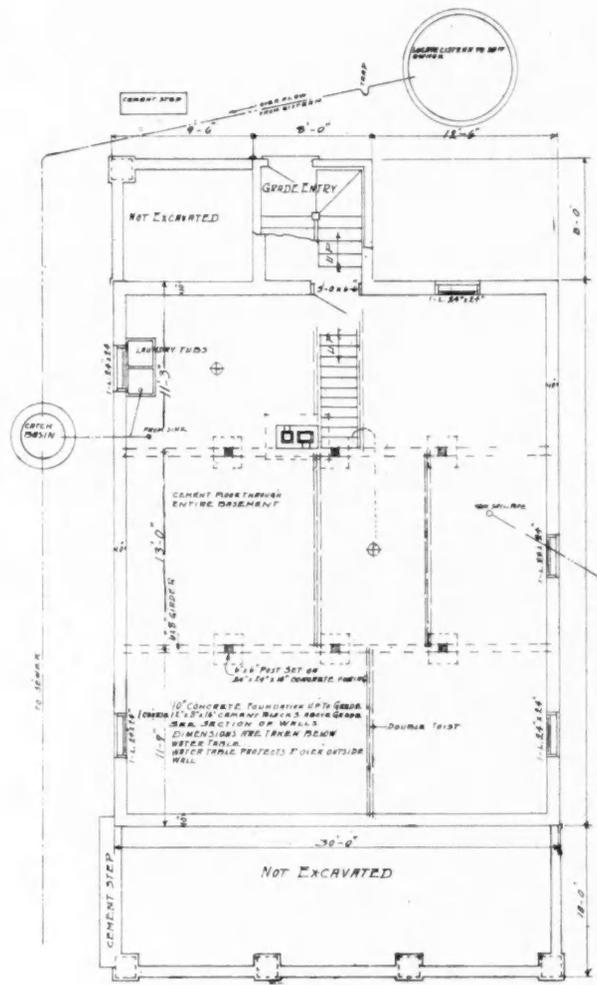


SECTION AND ELEVATION OF KITCHEN CUPBOARD

Scale 3/8 in. = 1 foot

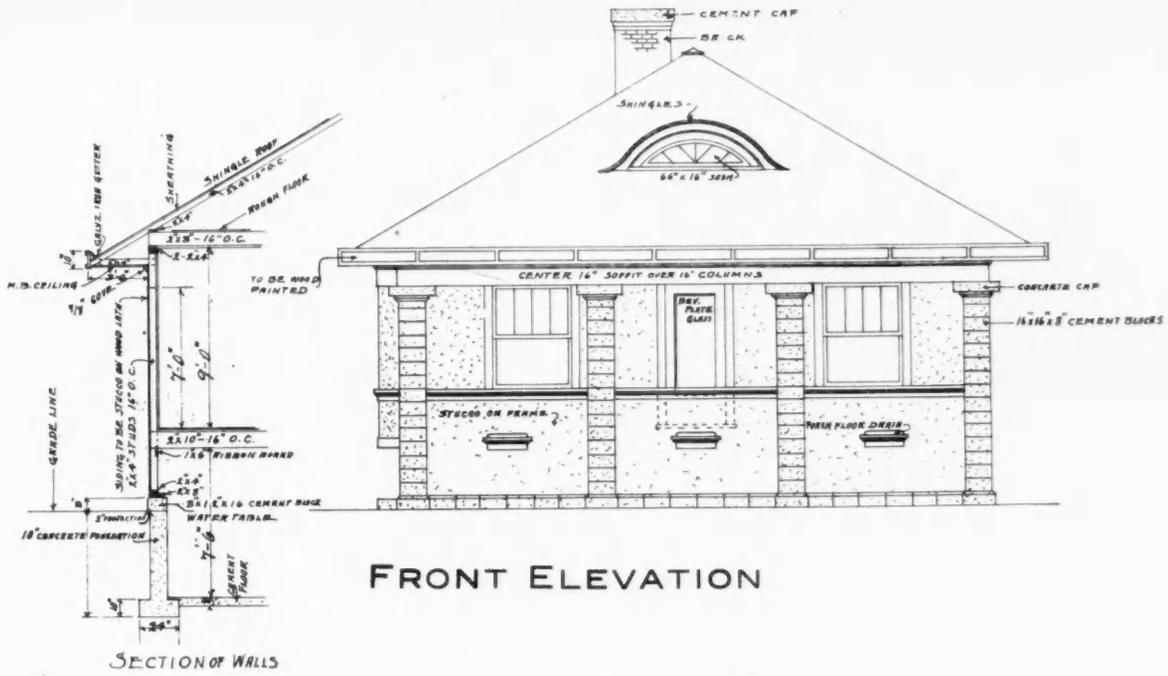


ROOF PLAN



BASEMENT PLAN

(Bungalow on Page 58)





MAKING POWER

Watching Jimmie

Part III

THE PLOT THICKENS—ALSO SEVERAL NEAT WOODWORKING TRICKS ARE INTRODUCED

By W. D. Graves

I WOUND up my previous communication somewhat hastily because I wished to prevent Jimmie from feeling forced to escort Lorna in her outgoing; but Harriet, as is a woman's way, spoiled my plan. Just as Jimmie opened the front gate she found it necessary to seek my advice about some changes in our winter refrigerator, or window cold box. This device, by the way though Blaysdell made it some years ago, does not appear to have come into general use, and seems worthy of a passing descriptive word.

A Window Refrigerator

It is simply a tight cupboard, a trifle wider than the kitchen window and of its full length, hung outside on a pair of smoothly working barn door rollers. A barn door pull on the side makes it handy to reach out, when the lower sash is raised, and pull this cupboard in front of the window when access is desired; and, even with the shelves fully laden, it is easily pushed aside; so that we lose none of the lighting capacity of the window. The back being sided same as the outside of the house, and painted the same, it is inconspicuous. It solves the problem of keeping frozen, without endangering the teeth of the neighbor's cats, the bit of fresh meat which Harriet likes to keep in reserve; while it also saves many a trip to shed and cellar.

Good Lumber Still to be Had

The suggested changes having come to naught—it does seem as though the woman sometimes hatched up excuses just to keep me at bay—I got back to the parlor just in time to see Jimmie and Lorna disappear down the street. It was too bad, for I knew that both of them were disappointed—though they didn't show it—and I was just about to follow when I noticed that Jimmie had left a copy of *THE AMERICAN CARPENTER AND BUILDER* open to a full page ad of "White Pine and Plenty of it." If he had wanted to catch my eye he couldn't have set a better trap, for I had come to suppose that any man who possessed a piece of real white pine kept it in a safe deposit vault along with his fresh eggs and other valuables.

Looking farther I found more good news, too—all about Birch, and Southern Cypress, and Arkansas Soft Pine, and about flooring lumber both Oak and Maple.

I pondered long over these; for I love wood and always like to learn all I can about it. Presently I must have dozed off.

I was aroused by the sound of a kiss, though, curiously enough, I didn't feel it; but Lorna is a soft little puss and I scarce even felt the weight of her hand as she fondled my hair.

"Where's Jimmie, didn't he see you home?" I asked.

"Yes, Jimmie just went out and it's ten o'clock and time for old folks to be abed" she answered, all in a breath, as she flitted up stairs. She was evidently annoyed. I must talk to Jimmie.

How They Grind Nowadays

When I got down to the shop next morning Jimmie had, clamped on the end of his work bench, a little contraption which I took for a toy emery wheel. He was turning it by hand—with a crank, mind you—and making as though he was grinding an axe on it. I turned away in disgust and had gotten nearly to the door when the sight of Blaysdell laughing, evidently at me, made me mad. Turning to Jimmie, I said: "I wouldn't be surprised to see your father playing with a thing like that, he's in his second childhood anyway, but I thought you had something better to do."

"I don't know what better a man can do than to grind his own axe," said he.

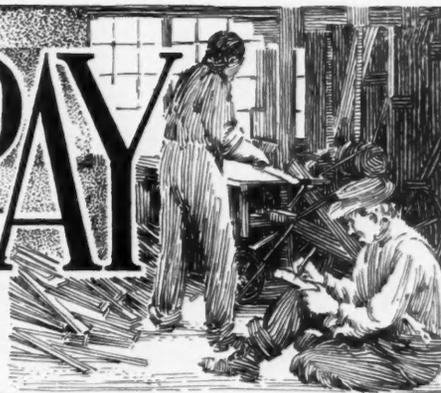
"You don't mean to soberly say that you are accomplishing any real results in the way of grinding that axe on a dinkey little toy like that, do you?"

"Sure thing I do. Just look at it now, then sit down on that horse and watch me for a minute."

The axe was pretty dull and I didn't expect him to get it to an edge for an hour—nor ever, for that matter—but Jimmie isn't dull: so, just to see what the boy was driving at, I sat down and watched. The speed he got on the little thing, just by turning the crank moderately, surprised me; and its hum was regular machine talk, not the rattlety slam bang of an agricultural implement. The way that little wheel made the sparks fly was a revelation to me. If it had been a real emery wheel, run by power, I should have thought he was burning the axe up.

"I hadn't any idea you were developing so much muscle," I said.

WOOD WORKERS PAY



"Muscle?" said Jimmie. "It doesn't take any muscle to run that. Here, take hold of it for a minute."

"No you don't. That thing cuts about as fast as your father's power driven wheel and it must take lots of strength to run it that way."

"It doesn't cut as fast as the wheels father uses now. I should not have used this only that it was hardly worth while to start the engine for this little job. You are thinknig of the emery wheels of ten or a dozen years ago, this is different. Here, take hold and try it."

Rather fearsome of some trick, for Jimmie has a grain of mischief in his make up, I gave the thing a few cautious turns. It *was* different. With far less exertion than it would have taken to turn a grindstone, and with the lightest possible touch of the tool, it ground far more rapidly than the emery wheel of but a few years ago while it heated the steel far less.

"But," said I, "you say that your father now has this same kind of wheel and I don't understand why, when you have free access to his shop and power, you should buy this, even if it is little and cheap."

"For the reason that I don't want to run in here from my job every time I want to touch up a tool, and I can do any ordinary job of grinding just as quickly right on the job as I could do it here. The machine isn't much heavier than the Texas man's gun; and, while the need of it may not be quite as urgent, it comes oftener."

Just then Blaysdell came along and asked Jimmie what he was grinding his axe for.

"I'm going to hew out some rollers for a house moving rig," said Jimmie.

"Hew them out! Why don't you bring them in here and turn them?"

"Your lathe hasn't swing enough."

"Turn them on the buzz-planer then—or you might turn them on that little saw rig of yours."

It was Jimmie's turn to look surprised and mine to grin.

"Turn rollers on a buzz saw!" he exclaimed.

"Sure."

Now Jimmie learned as a boy that when his father promised him a pair of skates, or a spanking, he was dead sure to get the one or the other; and later, that when Blaysdell said he would do a thing with a machine it was as good as done. So he expressed no doubt, but he did look puzzled.

"Perhaps you can bore some three inch holes

through them with the buzz-saw, too," he said quizzically.

Blaysdell chuckled. "Not exactly with the saw," he said, "but if you have a three inch auger I guess we can attach it to the machine so as to utilize the power at least."

"Well," said Jimmie, "I'm not going to question your veracity, but if that machine can be made to bore and turn I want to see it done. I'll have the blocks and the auger here in time to begin work to-morrow morning. Better be around early, Dad, and see the fun."

Though confident that I knew about how Blaysdell would proceed I determined to wind the old alarm clock and be on hand as soon as the shop was open in the morning.

A V Ceiling Trick

After Jimmie went out I noticed, among his machine attachments, a small, thick, and very coarse toothed saw with the teeth set to the extent of half its thickness. That is to say, it was set so wide as to be capable of cutting a kerf of twice its thickness. The teeth were filed square across the front, but the tops were beveled to an angle of about 60 degrees, in such manner as to make it capable of cutting a V shaped groove about a quarter of an inch deep and wide.

"Now what the deuce is that for," I asked of Blaysdell.

"You've noticed that they are making the jets of bungalows, and of many other buildings, of ceiling?"

"Yes."

"Well, instead of ceiling Jimmie is using, in some cases, wide stock with that V groove run every four inches of its width. The effect is exactly the same, as the matching serves no good purpose in such case, and there is quite a saving of lumber. It also enables him to work up a good many odds and ends in short lengths."

"But he can't run in that sort of thing where the specifications call for ceiling."

"Not without the consent of the architect or owner, of course, but Jimmie always uses them fairly—and doesn't often have difficulty in getting any reasonable concession from them. Of course, this makeshift is not worth while in all cases, but he occasionally strikes a job lot of lumber, in a quiet time, which makes it a trick worth knowing."



Two Unusual Handcraft Furniture Pieces

HOW TO MAKE A COMBINATION SETTLE AND TABLE—HOW TO MAKE A DESK LAMP—PHOTOS, WORKING DRAWINGS AND COMPLETE DIRECTIONS FOR MAKING

By Ira S. Griffith

THE combination settle and table will be found a convenience about the house. When the occasional game is played it may easily be drawn into the middle of the room and made into a table by simply lowering the top. When not as a table it provides extra seating space. The deep and broad recess furnishes a convenient place for storing music, cards, small game boards, etc. The settle should be made of some hard wood such as oak. Soft woods do not wear well as cabinet woods. The following stock will be needed:

STOCK BILL FOR COMBINATION SETTLE AND TABLE.

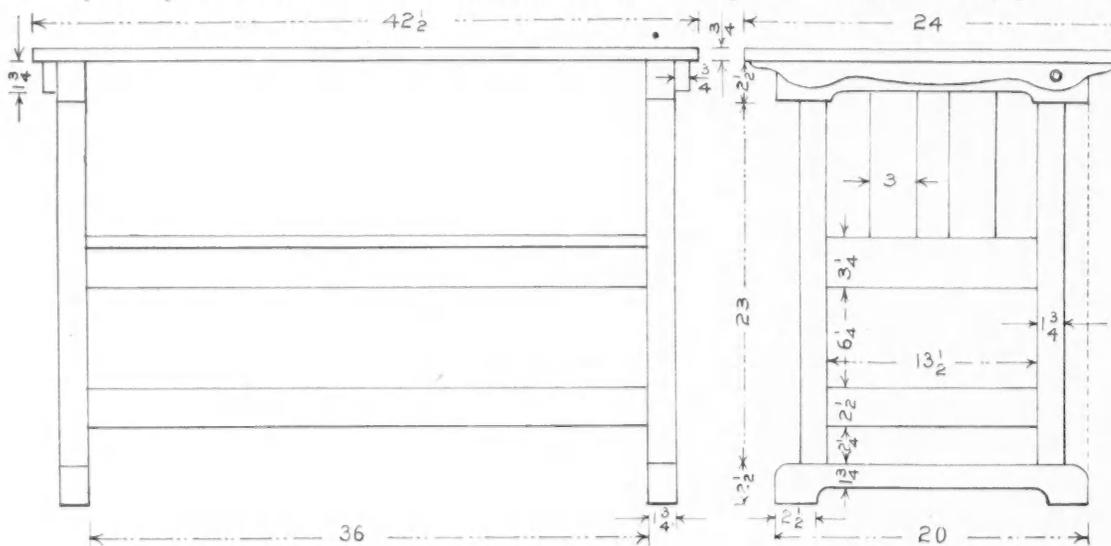
- Top, 1 piece, $\frac{3}{4}$ by $24\frac{1}{2}$ by 43 inches, S-2-S.
- Cleats, 2 pieces, $\frac{3}{4}$ by $1\frac{3}{4}$ by 24 inches, S-4-S.
- Posts, 4 pieces, $1\frac{3}{4}$ by $1\frac{3}{4}$ by 25 inches, S-4-S.
- Horizontals, 4 pieces, $1\frac{3}{4}$ by $2\frac{3}{4}$ by $20\frac{1}{2}$ inches, S-4-S.
- Rails, 2 pieces, $\frac{3}{4}$ by $2\frac{1}{2}$ by 16 inches, S-4-S.
- Rails, 2 pieces, $\frac{3}{4}$ by $3\frac{1}{4}$ by 16 inches, S-4-S.
- Rails, 2 pieces, $\frac{3}{4}$ by $2\frac{1}{2}$ by 38 inches, S-4-S.
- Rails, 2 pieces, $\frac{3}{4}$ by $3\frac{1}{4}$ by 38 inches, S-4-S.
- Bottom, 1 piece, $\frac{3}{4}$ by 15 by 38 inches, S-2-S.
- Seat, 1 piece, $\frac{3}{4}$ by 4 by 38 inches, S-4-S.
- Seat, 1 piece, $\frac{3}{4}$ by 14 by 38 inches, S-2-S.
- Cleats, 2 pieces, $\frac{3}{4}$ by $2\frac{1}{2}$ by 14 inches, S-2-S.
- Slats, 4 pieces, $\frac{5}{16}$ by 3 by 10 inches, S-4-S.
- Panels, 2 pieces, $\frac{5}{16}$ by 7 by 14 inches, S-2-S.
- Panels, 2 pieces, $\frac{5}{16}$ by 7 by 37 inches, S-2-S.

Square up the stock in the usual manner. Remove

the millmarks from the surfaces of all the stock specified in the bill as S-4-S. and see that the surfaces are square with the face-side and face-edge. Lay off the respective lengths and saw the various pieces. Those ends which are to be tenoned need be sawed only; those which are not to be tenoned should be planed smooth as well as square. The beginner should recall his rules for working duplicate parts. To work to the best advantage all parts that are alike should be worked at the same time. This applies to the laying out of mortises as well as lengths and widths. For example, in working the posts lay the four pieces upon the bench side by side with the face edges up, lay off careful measurement the location of tenon shoulders and ends by measurement upon one of the pieces. With a square carry these lines across all of the pieces. Separate the pieces and carry these lines entirely around each. This method is quicker and more likely to be accurate than working one piece at a time.

Make and glue up the ends of the settle first. While the glue on these parts is hardening the top and front and back may be prepared. After these parts are prepared the whole frame may be assembled and the top, seat and bottom placed. Thoroughly scrape and sandpaper every part ready for the finish.

If a dark finish is to be applied, put on a stain of the color desired for the "highlights." Smooth this lightly with fine sandpaper and apply a thin coating of shellac to seal the pores of the wood in the highlights. Sandpaper this



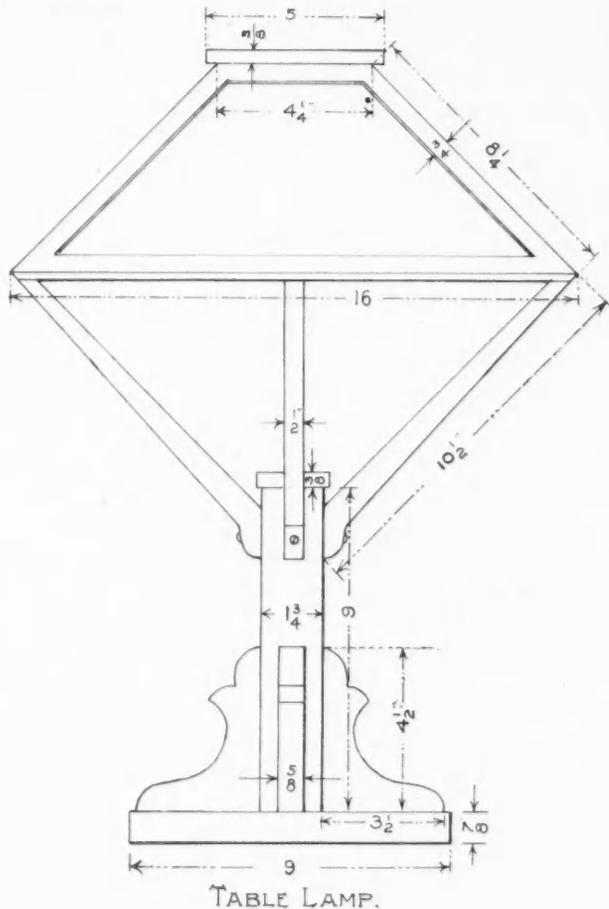
COMBINATION SETTLE AND TABLE.

lightly; then apply a filler somewhat darker than the stain. Be careful to get the surplus filler out of all corners and wiped clear of the highlights as far as possible.

Upon the filler apply a coat of shellac. Sand this lightly and then apply several coats of a good rubbing varnish. Rub the first coats with curled hair and the last with powdered pumice and raw or crude oil.

How to Make the Desk Lamp

The desk light shown can be used for either gas or electricity. The photograph shows it fitted for gas. The design is exceedingly simple and, aside from the shade, will give little trouble to even the young boy.



STOCK BILL FOR DESK LAMP.

Base, 1 piece, $\frac{7}{8}$ by $9\frac{1}{2}$ by $9\frac{1}{2}$ inches, S-2-S.
 Vertical, 1 piece, $1\frac{3}{4}$ by $1\frac{3}{4}$ by $9\frac{1}{2}$ inches, S-4-S.
 Cap, 1 piece, $\frac{3}{8}$ by $2\frac{1}{4}$ by $2\frac{1}{4}$ inches, S-2-S.
 Braces, 4 pieces, $\frac{5}{8}$ by 4 by 5 inches, S-2-S.
 Shade supports, 4 pieces, $\frac{1}{2}$ by $1\frac{1}{2}$ by 11 inches, S-2-S.
 Shade, 1 piece, $\frac{3}{8}$ by $5\frac{1}{2}$ by $5\frac{1}{2}$ inches, S-2-S.
 16 feet, $\frac{3}{8}$ by $\frac{3}{4}$ inch rabbeted one edge for glass, rectangular in section.

The base may be squared up first and then the vertical. Make a templet or pattern and then lay off and cut the curved braces of the base. Shape a pattern for the shade supports and work these.

The photograph shows the general plan and arrangement of the shade. Half-lap joints may be used at the corners and each side of the shade is to be builded



Combined Settle and Table

separately. After this they are to be fitted one to the other and the cap attached.

The braces are to be attached by means of screws. A Mission finish will be suited to this design. Apply a Mission stain. Allow it to dry then sand lightly and apply a thin coating of shellac. Sandpaper this shellac lightly and then apply several coats of wax or any of the special preparations upon the market for this purpose. These pieces made by H. Geib, Chicago.



Desk Lamp

BETTER BUILDING

WHY AND HOW

The Wisdom of Waterproofing

WHAT EXPERIENCE TEACHES ABOUT MAKING FOUNDATIONS, BASEMENTS, AND OUTSIDE WALLS OF CONCRETE, BRICK OR STUCCO DAMP PROOF

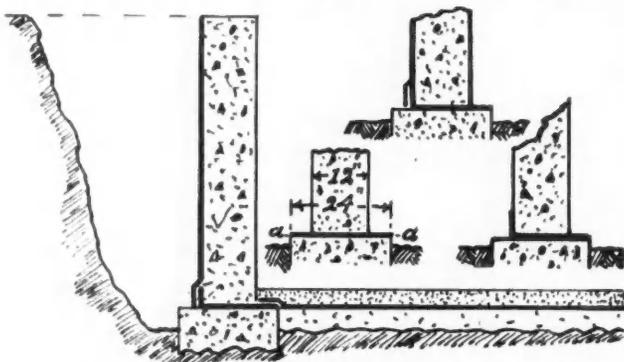
THE old fashioned cellar is no more. In its place we now have the modern basement, with foundation walls of concrete or masonry; and the basement floor a smooth concrete pavement.

Proper and thorough water- and damp-proofing is necessary for satisfaction in this part of a building. A wet basement means a damp house and is an abomination. Builders can make a good name for themselves by tending rigorously to this detail of their work—or they can as easily give themselves a “black eye.”

We are giving more thought these days to waterproofing problems, and a practical solution has been worked out for every one of them.

Your customers and clients *want* damp-proof structures. Wise builders will take special pains to make every part of their work all that it should be in this respect.

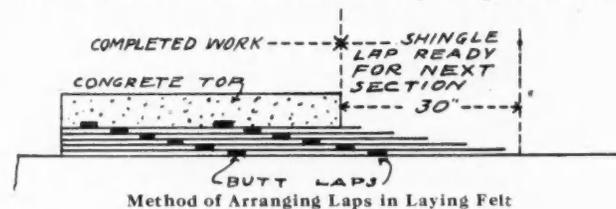
Waterproofing, in its entirety, presents a great number of conditions to be met and ends to be achieved. In some instances—as, for example, in the construction of reservoirs, tanks, and irrigation works—it is necessary to render the structure impermeable to water, even under abnormal conditions of pressure. In other cases—as in the erection of foundations and walls for buildings, where only normal conditions of ground-pressure and atmospheric moisture are to be met—it is necessary not merely to prevent seepage of water through the structure, but to avoid all tendency even to the absorption and retention of moisture from the air, with their



A Reliable Method of Waterproofing or Damp-Proofing below Grade

resultant unhealthful dampness. And in still other cases—as in some concrete buildings both monolithic and of block construction, where all danger of the penetration or absorption of water has been obviated—it is necessary to take special measures to prevent condensation of moisture on the inside.

In view, thereof, of the great complexity of conditions that characterize the problem, it is highly improbable that any single method of waterproofing can ever be said to meet in the most effective and at the same time the most economical way all possible con-



Method of Arranging Laps in Laying Felt

ditions, and to be unqualifiedly “the best” for all possible cases. As with other construction problems, the particular features of each individual case call for individual attention and treatment.

Concrete is not the only porous building material that has been known to mankind; there is abundant authentic evidence to show that it has no monopoly of the unenviable quality of absorbing moisture. Concrete houses are not the only ones haunted with the specters of reeking dampness and mould and other un-hygienic ghosts of bygone times; nor are they the most difficult to flood and flush and brighten with the health-giving stream of modern sunshine and fresh air.

Wood, brick, stone, and, in fact, other building materials in general, share in varying degrees with concrete the quality of being decidedly porous and absorbent; and it is altogether probable that if the principles of grading and proportioning to give mixtures of maximum density had been fully known and appreciated in the early days of the concrete building industry, the cry of “dampness” as regards concrete houses would never have been raised. A concrete house, *properly built*—and it is possible to build it so—is as

dry, as light and cherry, as easily regulated in temperature, as well ventilated, and as healthful, as one built in any other material.

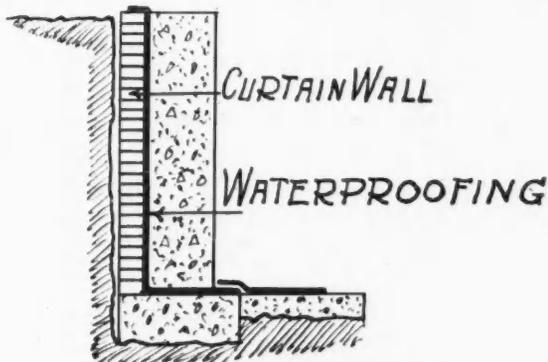
The importance of waterproofing is emphasized by several considerations. In the case of structures designed to retain water, it is, of course, self-evident. In the case of buildings designed for habitation or for commercial or industrial use, the prevention of abnormal dampness is essential to the health and comfort of the occupants, and has an important bearing on the life of the structure itself. Where the natural conditions of porosity and absorption common to structural materials in general are allowed to prevail unchecked, water is drawn into the foundations from the surrounding soil, and absorbed by the walls from the atmosphere. By capillary attraction, it spreads so as finally to premeate the entire structure, actively attacking and in time corroding and destroying the more or less unstable materials of which the structure is built, and producing damp, clammy walls which constantly foster and disseminate disease.

The adoption of an efficient method of damp-proofing and waterproofing is therefore of vital importance, not only preventing the gradual decay and disintegration of structural materials, but going further to establish better hygienic conditions for the benefit of all classes.

The various methods devised for the waterproofing of concrete may be classified under two broad divisions as follows:

1. *Mass or Integral methods*, in which the mass of the concrete itself is waterproofed prior to setting.
2. *Methods of external or surface treatment*, in which a protective, impervious covering is applied to the surface of concrete or placed between successive strata during the erection of the structure.

Both of these methods may be—and in many in-



Use of Curtain Wall in Close Quarters

stances are—effectively combined in the same construction.

Each of the above classes into which waterproofing methods are divided may be further subdivided into a number of special methods, differing from one another in marked characteristics.

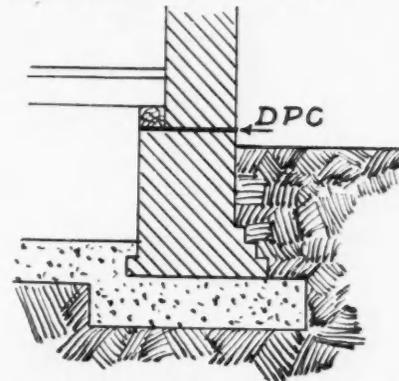
Integral Methods of Waterproofing

Integral methods, for example, comprise three great subdivisions as follows:

(a) The use of carefully graded and proportioned and thoroughly compacted mixtures to give maximum density to the concrete.

(b) The introduction of special waterproofing materials into the mixture; these may be in the form of a powder, a paste, or a liquid. They are sold under various proprietary trade names; and many of them possess great merit.

(c) The special treatment of Portland cement itself during the process of manufacture, so that as it



Method of Preventing Absorption from Foundations

comes from the mills it already contains all the waterproofing elements required, to give with approximate aggregates, an impervious mixture.

Surface Treatment Methods of Waterproofing

Under this head we find the widely used processes of asphalt and tar-product waterproofing, together with a long list of special proprietary compounds (many of which are asphaltic or bituminous in their nature) sold in paste or liquid form for direct application to the surface; also various special brands of weather-proofing and damp-proofing paints.

Surface-treatment methods of waterproofing may be subdivided according to the materials used:

(a) One method that has been very widely adopted and has been found of great practical efficiency, even under conditions of great severity, consists in the use of *asphalt* or of asphalt or tar product mixtures. Either alone or in combination with felt or other fabric these may be applied to the surface or between two sections or layers of the concrete structure. The latter method, in which the coating is effectively protected from abrasion, gives the most satisfactory results. A method very frequently adopted is the use of an inch layer of asphalt poured hot between the face of the main wall and a thin protecting wall of brick or concrete built in front of it and carried up as the work progresses.

(b) A method that has been proved effective where the requirements are not very severe consists in plastering the wall—immediately after the removal of the forms, if possible—with a coat of very rich cement and sand mortar. This coating is usually from one-half to three-quarters of an inch thick, and lime paste is sometimes added for smoothness in working. †

is essential that the coating be well troweled and smoothed off, preferably with a wooden float, as the hard skin developed by such treatment is practically waterproof. A neat cement wash is sometimes used, applied with a brush. On horizontal or inclined surfaces, the surface of the concrete should be worked and troweled, giving the effect of a cement coating.

(c) Another method that has given satisfactory results in preventing water penetration and absorption under conditions of moderate pressure, consists in the application of *washes* that depend, for their effect, upon chemical action. Perhaps the most widely used

twenty-four hours, four coats being usually sufficient to effect the desired result. From the chemical combination of the soap and alum, an insoluble compound is formed which effectively fills the pores of the structure to an appreciable depth and checks the penetration of moisture.

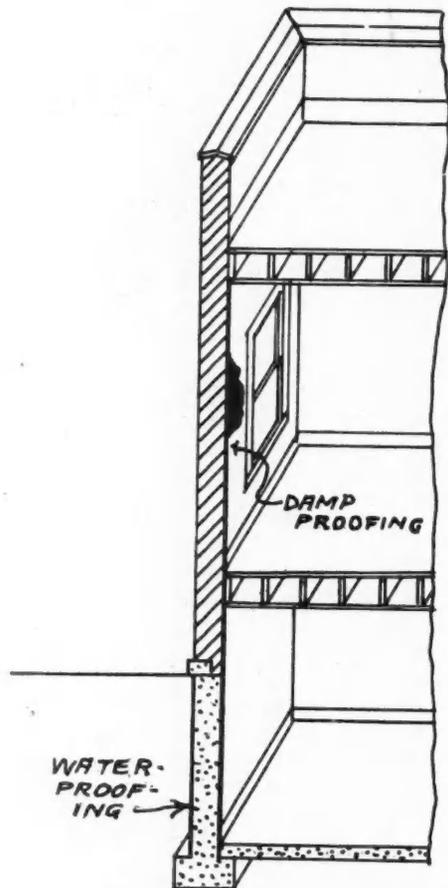
A process similar to the above in its action has been used for making mortar non-absorbent. Powdered alum (one per cent by weight) is thoroughly mixed with the dry cement and sand; and about one per cent of the potash soap (such as ordinary soft soap) is dissolved in the water used in mixing the mortar. A wash consisting of five pounds of alum dissolved in two gallons of water, to which one pound of concentrated lye has been added, has been successfully used on green concrete surfaces. Boiled linseed oil, applied in successive coats until it ceases to be absorbed, has also been used effectively.

(d) In addition to the above methods of surface treatment, there are on the market a large number of special patented waterproofing compounds and processes of more or less merit, manufactured according to formulae, and sold under various proprietary trade names.

It must be understood that there is no hard and fast line of demarcation between the integral and surface methods of treatment. A method that is in its nature essentially integral, involving the incorporation of special materials throughout the mass of that portion of the concrete which is directly affected, may, in the manner of its application, have all the appearance of a purely surface method of treatment, the waterproofed material being spread upon the surface or deposited between successive strata in much the same way as asphalt and other bituminous products are applied.

There are some points of vital bearing on the problem of waterproofing, regarding which there is no dispute. It is universally conceded, for example, that proper proportioning of ingredients, proper grading of aggregates, thoroughness of mixing, and careful methods in placing concrete are factors of the utmost importance. *The densest concrete that can be made with the given materials will be the most impervious to water.* Also, the richer the mix, where no special compounds are used, the more nearly waterproof will the concrete be. It is evident, therefore, for practical reason, that, for waterproofing work where the concrete alone is depended upon, a tendency to excess of fine materials is better than the reverse. Especially in monolithic construction, it is now generally conceded that a wet mixture, a rich concrete, and a proportioning of aggregates to give great density, are essential for securing a waterproof structure.

The amount of pressure exerted by water against walls and beneath floors is frequently underestimated, especially where the hydrostatic head is low or is prevalent for but a short time after a rainfall.



Application of Damp-Proofing to Plastered Wall in Place of Furring and Lath

example of this method is what is known as the *Sylvester* process of waterproofing, which consists in the alternate application of hot solutions of castile soap and alum. The application is preferably made while the concrete is still "green"; but the process may be used for the waterproofing of old walls either of cement or lime plaster, stone, brick, or other more or less porous material. The walls in every case should be clean and as dry as possible, and the temperature of the air not lower than 50 degrees F. The soap is first dissolved in water—three-quarters of a pound of soap to a gallon of water—and, while boiling hot, is spread over the surface with a flat brush. Twenty-four hours later the alum solution—one pound of alum to eight gallons of water—should be applied in the same manner at about 62 degrees F. The process is repeated every

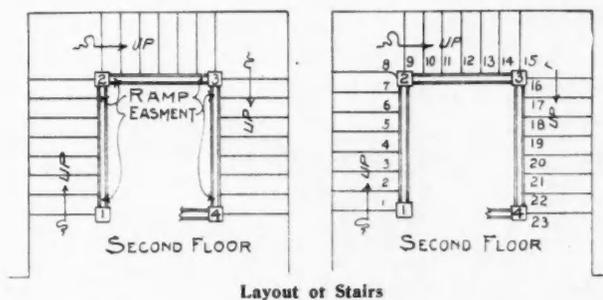
More Shop Kinks

HELPFUL IDEAS AND SUGGESTIONS FOR CARPENTERS, CABINET MAKERS AND MACHINE WOODWORKERS

By Wm. C. Jasbury

A CABINET MAKER'S FAD. I saw an old cabinet maker who had put up on a post near where he worked at his bench, a strip of sand paper, a piece of leather and a thick woolen rag, saturated with oil. They were all on a board about a foot square. The sand paper he used to point dowel pins on by rubbing down the paper and by twisting or turning his hand as he did the rubbing act, it sharpened the dowel so that it would start in the hole easier. He used the strap of leather to whet up his chisels and plane bits, to give them what he called "My razor hedge." The oil rag was for this: he would not put oil on his oil stone and sharpen as an ordinary human being, but would rub the edge first on the oiled rag, then sharpen on the stone. Everybody seems to have their own way of getting away with their task, and strange to say, they all work out about the same.

SOMETHING ABOUT RAMPS. Let me say something about getting out ramps (or as called by some "goose-necks") for stairs. Where a flight of stairs has ramps and easements both, the height of the rail at the easement point has to be established

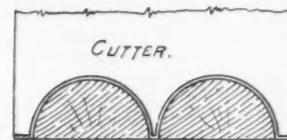


Layout of Stairs

first, then the ramp laid out to reach it; that is, the neck of the ramp is long enough to come up to the same level plane as that of the easement. Now then, in the accompanying plan the ramps at newels Nos. 2 and 3 would both be at the same height and the ramps at newel No. 4 would not be so high; the neck would only be long enough to reach up to the level rail height, 2 feet 8 inches. This is always the case, unless the rise and tread of the various flights differ (and it never should); then each one has to be laid out separately.

The ramp question is not the same by any means in a case where the top riser of a flight has a curved riser, such as shown at newel No. 2, because the face of the riser, No. 8 does not strike at the center of the newel, as in the usual case, as shown at No. 16. This throws the newel forward. This is a good trick; I have had it to contend with many times.

RUN TWO AT A TIME. In running one-half inch round screen moulding on the moulder, the only successful way I have found is to make two lengths at the same time, letting the cutter separate

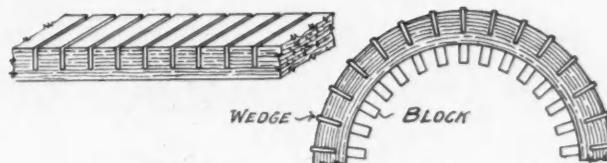


Cutting Two Half-Rounds at Once

them. I have seen the stuff run, or fellows try to run it, one at a time; and on account of the stuff being so small (the going in stuff) the feed rollers break it at every cross grain and the material is always of that stuff, being the leavings, waste edgings. Here is the dope. (See sketch.)

MENTAL CALCULATION. Here is the way a foreign cabinet maker I know, adds fractions of an inch. Instead of saying $5 \times \frac{5}{8} = 3\frac{1}{8}$ or $7 \times \frac{3}{8} = 2\frac{5}{8}$, he takes his rule and holds his fingers at the figures and says 5 times $\frac{1}{2}$ is $2\frac{1}{2}$ and 5 times $\frac{1}{8}$ is $\frac{5}{8}$ and $2\frac{1}{2}$ and $\frac{5}{8}$ is $3\frac{1}{8}$, or for the second example he would say, 7 times $\frac{1}{4}$ is $1\frac{3}{4}$ and 7 times $\frac{1}{8}$ is $\frac{7}{8}$, then $1\frac{3}{4}$ times 7 more $\frac{1}{8}$ is $2\frac{5}{8}$. He has the system down fine and no high falutin instructions to do it otherwise is of any use to him.

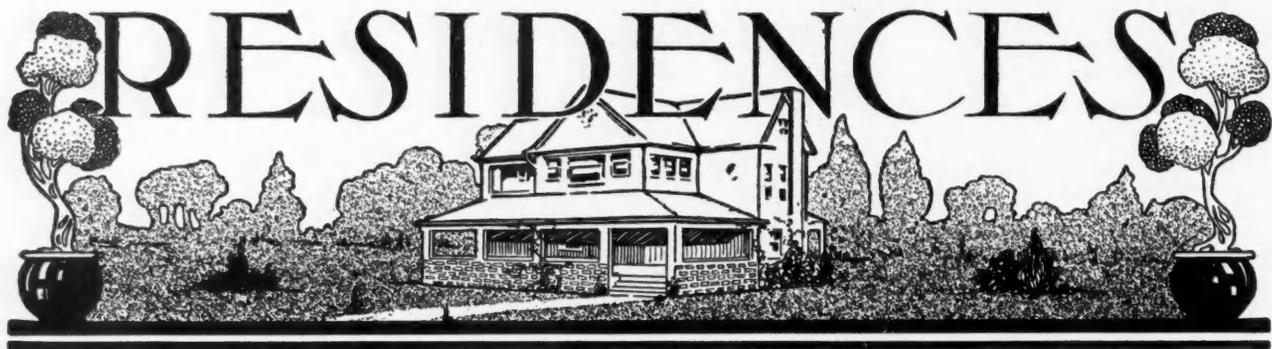
SOMETHING ABOUT ARCHES. In getting out circular arches and such like, I have tried different ways, some good and some not so good. One way is to take the soffit piece, say it is $\frac{7}{8}$ inches thick and 10 inches wide; set a wabble in the rip saw and kerf the board all the way across the back, leaving about $\frac{1}{4}$ or $\frac{1}{8}$ inch intact; this thickness depends on the radius to which the soffit is to be bent. Now, nail blocks on the floor to the proper curve and wet the face of the soffit and bend it around on its edge against the blocks, fasten with hand screws and drive wedges in the



Kerf, Bend, and then Wedge in Position

now tapering kerfs with glue on the wedges, this makes a good strong job.

Another way is to take two or three pieces, according to the shortness of the radius, and dress them up the required thickness, whatever it may be; and bend them around one at a time, set in glue and fasten.



Plans for Six-Room Brick Cottage

FULL SET OF ARCHITECT'S WORKING DRAWINGS, TOGETHER WITH RENDERED PERSPECTIVE SHOWING A VERY ATTRACTIVE MODERN BRICK BUNGALOW

THE time has passed when parties wanting a small house or cottage are satisfied with just a plain little box. They want something cozy and artistic; and they feel that this small house is every bit as important as the rich man's fifteen-room, three-story mansion.

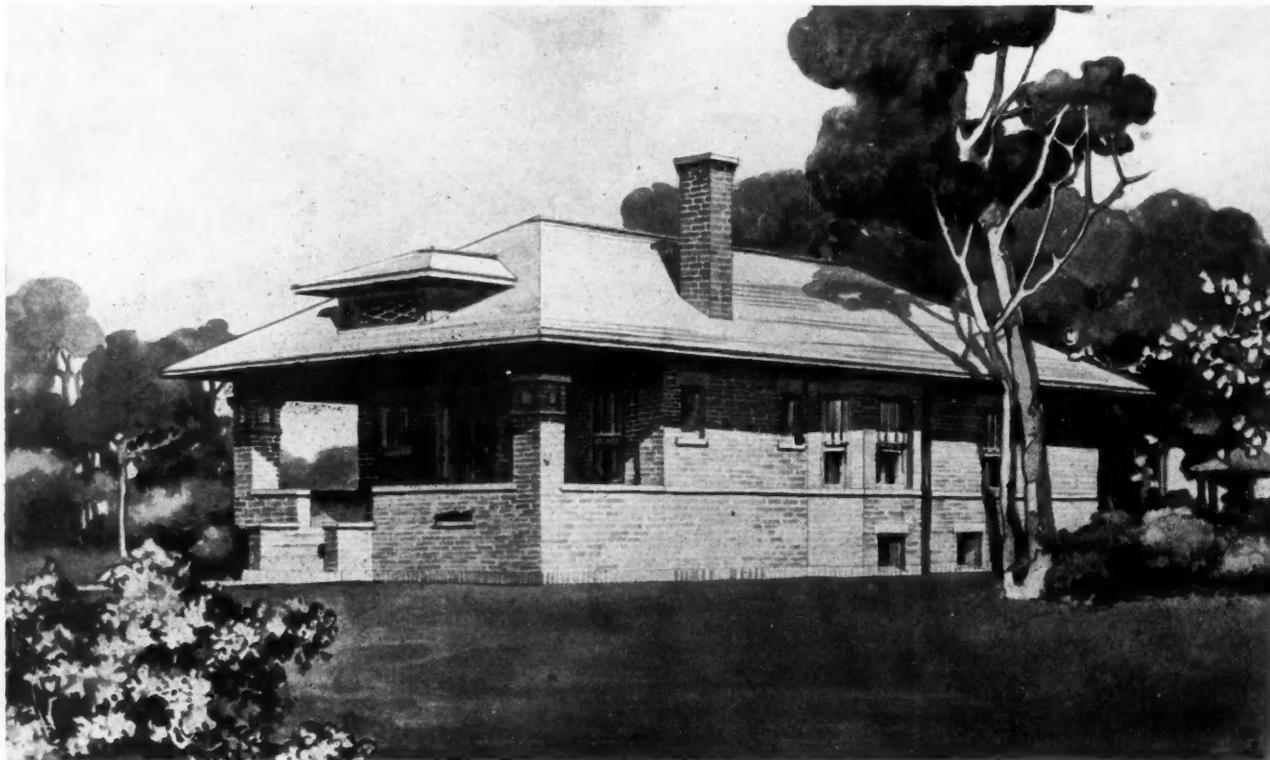
Many builders have of late years specialized on small and medium sized homes. They find that these sell faster than they can put them. Then, too, they are usually wanted completely equipped with all modern conveniences, and so the contract runs into pretty good figures before all is done.

The little cottage illustrated on this page, and complete working drawings of which are presented on the three pages following, is a good example of up-to-date brick bungalow work. The porch is large and roomy.

Entrance to the house is through a vestibule into a well lighted reception room. A nook, five by seven feet in size, opens from this. A built-in seat makes this a very cozy corner. A cloak closet opening from the reception room accommodates hats, coats, rubbers, etc.

The living room is at the right, connected by cased opening. This room is exceptionally light and cheery with a large bay window and open fire place. The dining room is directly back of the living room. This room is finished with Lincrusto panelling below the plate rail. There is a wide cornice mould of wood entirely around the dining room.

From the dining room a hall runs back to the kitchen. From this hall the two bed rooms and the bath room also open. Each bed room is provided with good



Attractive Six-Room Brick Bungalow Designed for Mr. J. M. Stark, Chicago
COMPLETE WORKING DRAWINGS FOR THIS HOUSE ARE PRESENTED ON THE 3 PAGES FOLLOWING

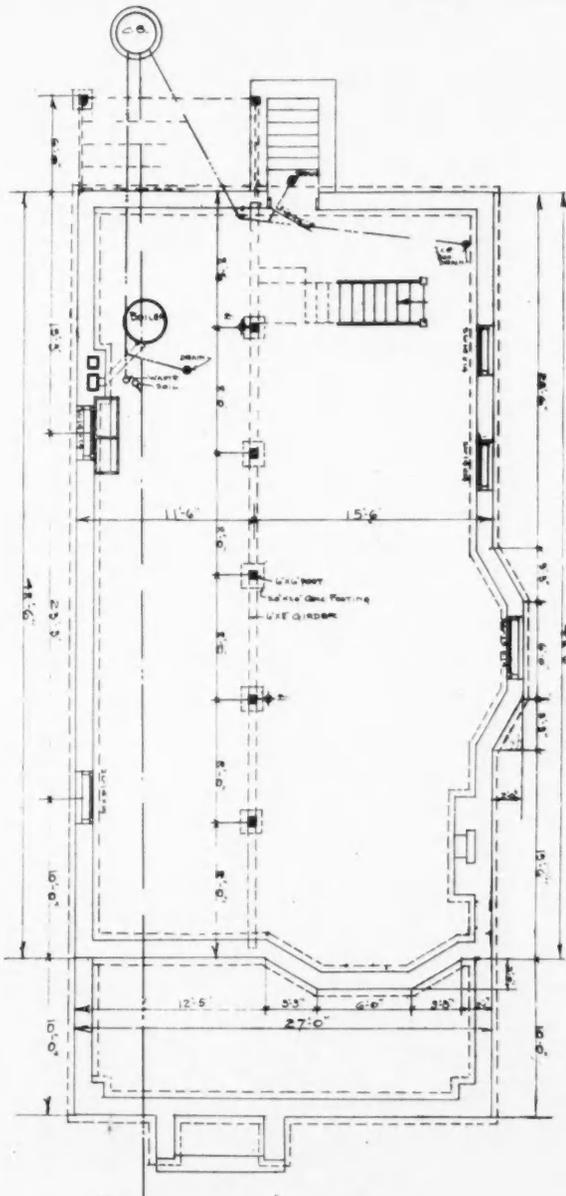
closet space. A built-in linen closet with shelves and drawers opens from the hall. The kitchen and pantry are at the back of the house. Both are well lighted.

The owner of this house wanted a nice appearing piece of brick work, yet did not want to go to the expense of using face brick for anything except the front porch. Low priced common brick was selected for the side and rear walls. These were laid with care, using mortar colored dark reddish brown. The result was quite unusual and many think more attract-

Specification for Cement Top Floors

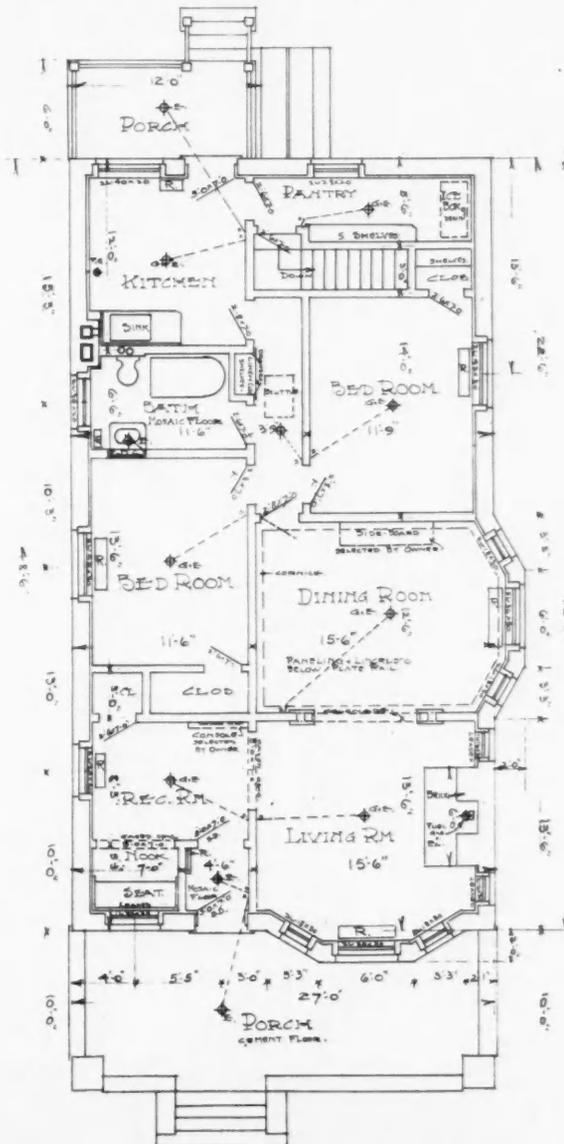
The Aberthaw Construction Co., Boston, specify as follows for cement top floors. This specification is for laying hard finish on new rough concrete, either piling or slabs supported by forms.

Finish to be mixed one part of cement to two parts crushed trap rock or hard gravel screening, which will pass through a half-inch sieve, and from which the fine dust has been removed. This is to be thoroughly mixed in a mixing box or by a machine mixer, with an amount



BASEMENT PLAN

(Brick Bungalow Shown on Opposite Page)

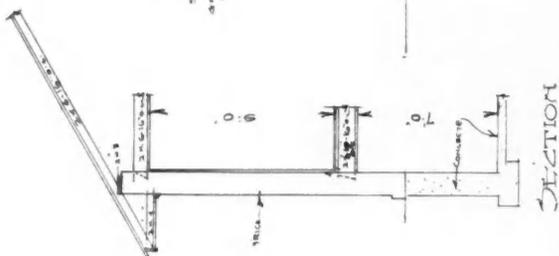
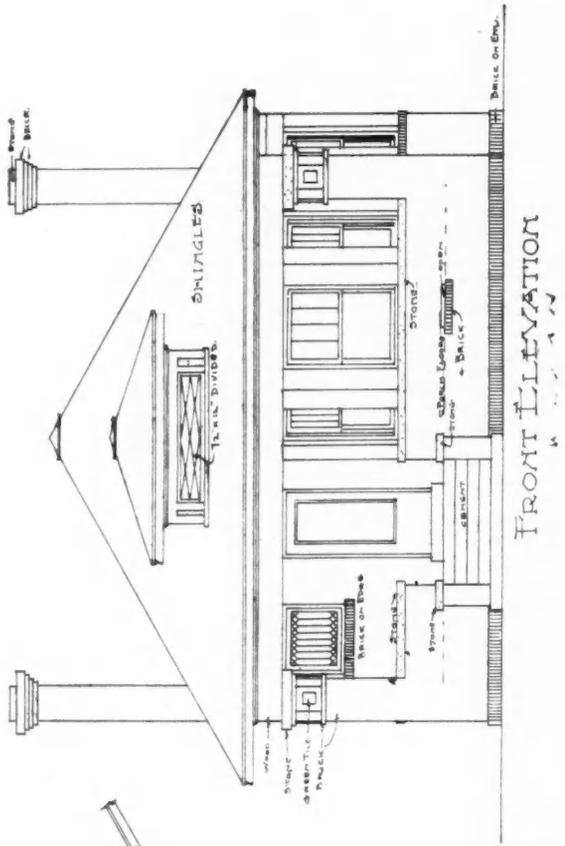
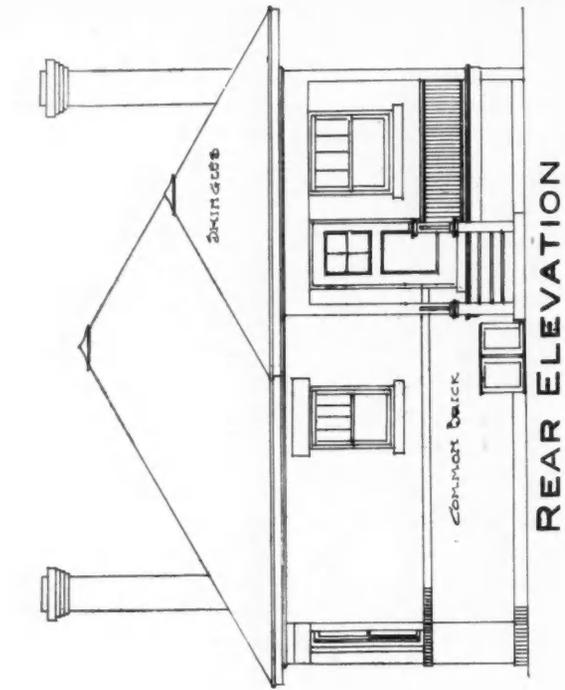


MAIN FLOOR PLAN

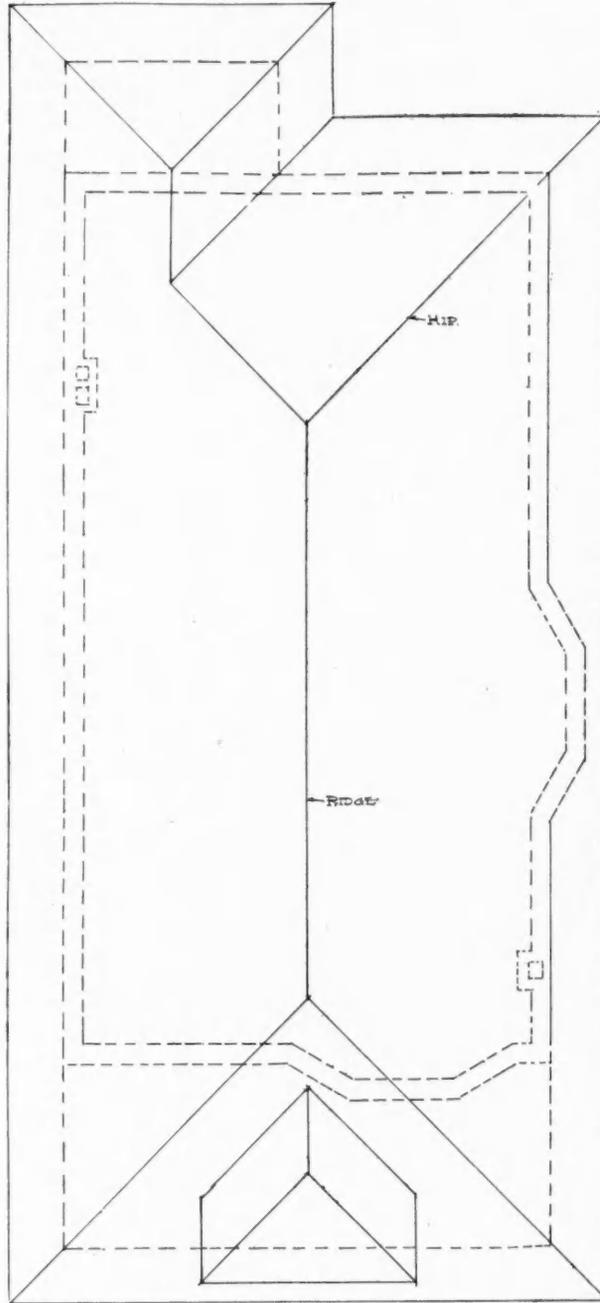
ive than that produced by the more expensive pressed brick. It gave an interesting rough texture surface, quite similar to that of the wire cut brick which are now in such great demand.

This brick bungalow is equipped with hot water heating system. The location of all radiators show on the floor plan. The wiring for electric light is also indicated.

of water to produce a plastic but not a sloppy consistency; spread on the under-concrete before either the finish of the under-concrete has had time to set, floated with a wooden float to a true level and then lightly troweled with a steel trowel as soon as possible to bring it to proper level and to smooth the slightly. This will give a finish which is pebbly. It will not be dead smooth or slick like a good finish.



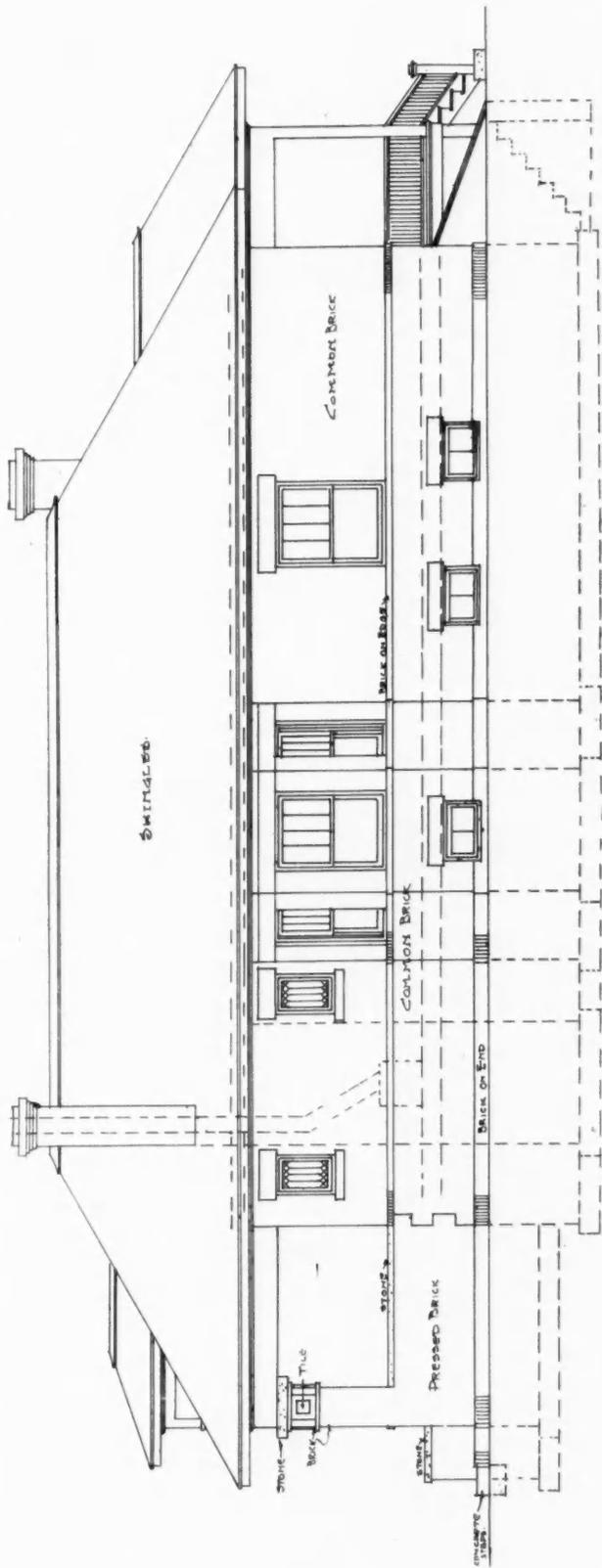
After the finish has been troweled and has set sufficiently so that the covering will not mar the surface, it should be covered with sawdust, sand, cloths, or any other material which will hold water on it continuously. In building reinforced concrete work, difficulty will be caused by the sand and sawdust blowing about the work filling the forms, and generally getting in the



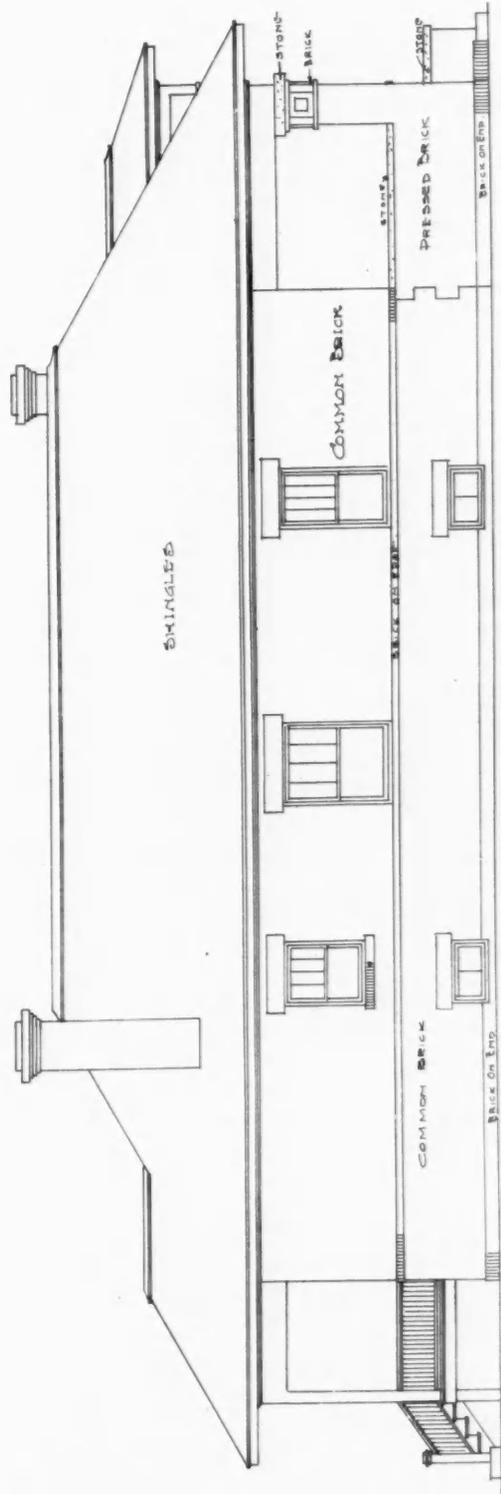
ROOF PLAN, WALL SECTION, FRONT AND REAR ELEVATION OF BUNGALOW (Shown on Page 70)

way. In working around a textile mill there is usually plenty of old bagging, and in a paper mill there are usually plenty of old felts which can be borrowed for the purpose of preventing this.

The finish should be kept soaking wet for at least a week, or better for ten days. After two days it is possible to put up studs and do miscellaneous work on top of the new finish, provided it is not allowed to dry out.



RIGHT SIDE ELEVATION



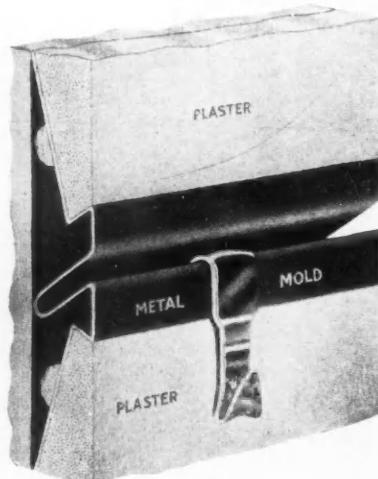
LEFT SIDE ELEVATION
(Brick Bungalow Shown on Page 70)

The Editors Drawer

New things worth while

New Idea in Picture Moulding

The latest thing in picture mould is made of sheet metal, and instead of projecting from the wall is sunk back into it. The scheme is really ingenious and among the fastidious is all the more so.



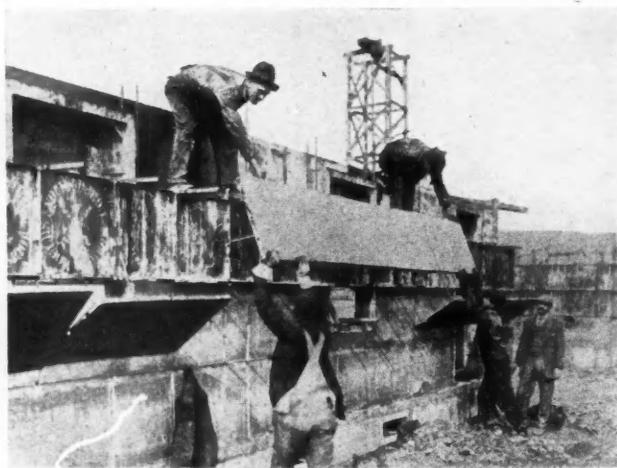
New Style Picture Mould

The ordinary wooden picture mould nailed on through the plaster (and trusting to luck that some solid nailing place will be run onto), has never been quite satisfactory. Many a picture mould has proved to be not so solid and strong as it looked and some valuable painting or print has paid the penalty. This new style mould is nailed in place before the plastering is done. Solid nailing places are at that time easily found. The sheet metal mould comes in 10-foot lengths, galvanized. If desired, it can be made invisible by decorating it the same as the wall, or it can be finished in some contrasting color to give an attractive effect.

The cost of this new style picture mould is said to be reasonable. It is gaining quite a vogue for public schools, hotels, office buildings, art galleries, etc.

Poured Concrete Houses at Low Cost

Contractors and builders who are accustomed to figuring wooden forms for concrete work at from 5 to 15 cents per



Swinging Form Plates at Nanticoke, Pa. Note Tie-bars Projecting to Form Support for Scaffold Planks

square foot of wall surface will prick up their ears when they hear of a practical tested system of concrete forms which cuts this cost down to less than one cent per square foot.

The system of concrete construction which has passed the experimental stage, yet doubtless is new to the majority of builders, is illustrated. These forms are pressed steel plates made in units and fastened together most ingeniously. A series of plates is fastened together, set up and the concrete poured in. By the time the forms are filled clear around the building the beginning of the course has hardened enough for the forms to be removed and set one course higher.

So the building goes up one course at a time, using the same pressed steel plates over and over with no money lost for spoiled lumber and labor charges.

The photograph shows a contract at Nanticoke, Pa., being economically handled with these steel forms. They are so light that a whole group of them are swung up together at one time.

Hundreds of residences, factory buildings, and other structures, big and little, are being successfully handled by this method. Builders seem to like it, as it puts them beyond the reach of competition in their localities.

A Self Dumping Wheelbarrow

A wheelbarrow that is claimed to cut down by half the effort of dumping the load is illustrated. The upper view shows the wheelbarrow ready for loading and wheeling. When ready to dump the load, pressing down on the handles throws the hopper as shown in the lower view. The load is dumped over the front wheel and can be placed very accurately just where wanted.

This wheelbarrow was especially designed for contractors,



Wheelbarrow in Wheeling and Dumping Positions

masons, plasterers and builders supply men. It looks like a time saver in handling concrete for the mixture can be placed accurately in forms directly in front by merely pushing down on the handles. The labor is very much lightened and the wear and tear on the wheelbarrow is less. It seems that specially designed, ingenious wheelbarrows of this kind will be well worth their slight extra cost.

L. L. Newton Advanced

The vacancy in the office of Secretary of the Luther Grinder Mfg. Co., through the resignation of the former incumbent, was filled recently by the election of L. L. Newton to the

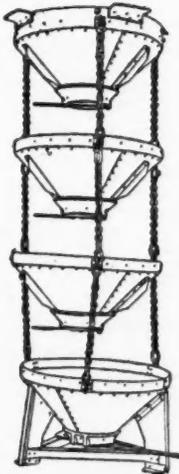
office of Secretary and a member of the Board of Directors. Mr. Newton has been in charge of the advertising of the company for the last year or more and has been connected with the company a number of years previous to that.

He is the present Secretary of the Advertiser's Club of Milwaukee and while acting as Secretary for The Luther Grinder Mfg. Co., still has charge of their advertising.



Let Gravity Do the Work

A concrete power mixer which requires no power to operate (not even man power) may seem too much like a pipe dream,—too good to be true.



A Powerless Mixer

It's a fact, nevertheless. Gravity does the work and does it A number one style.

The mixer simply consists of four conical hoppers, one above the other. The materials to be mixed are deposited in the upper hopper. The man opens the valve at the bottom and the material runs through and over itself into hopper number two. When it is all through, number two valve is opened and the mixture runs through itself again into number three. This is repeated into hopper number four and by this time the mix is thorough. From the fourth hopper it drops direct into caisson, foundation, or excavation of any kind where concrete is to be used.

Simple isn't it?—yet effective.

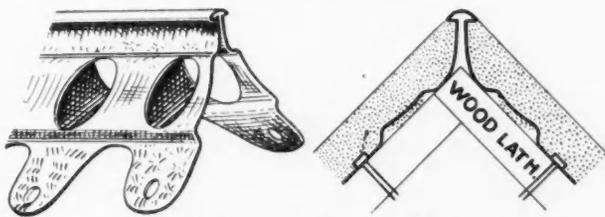
The total height of this arrangement is 11 feet 6 inches. It weighs some 1800 pounds. For many kinds of concreting propositions this looks like the most economical sort of mix. No doubt the ingenuity of contractors and builders will find many places to use it.



Corner Bead Worth While

The function of a corner bead is to protect a plastered corner. Some cover such exposed corners over with neatly turned three-quarters round wooden moulding, but the critics now say this is bad taste. The corner bead should be secret, inconspicuous, out of sight.

A metal corner bead can now be obtained which is nailed on to the corner before the plastering is done. It will work equally well with wood lath or metal lath. There are round



Metal Corner Bead and How Used

openings every little way to give the plaster a good bond right out to the corner.

For a good many kinds of work something of this sort is just the thing. Little refinements of this kind are appreciated. They make a durable, neat appearing job.



Learn About Oak Flooring

With the increasing demand for fine floors, builders are often asked rather embarrassing question about grades of flooring, sizes, methods of finishing, etc. That is to say,

such questions are decidedly embarrassing if by any chance the builder does not know the answer.

Foreseeing the demand for specific reliable information concerning hardwood floors, the leading producers of oak flooring established, sometime ago, what is known as The Oak Flooring Bureau, 890 Hammond Building, Detroit, Michigan. The secretary of this bureau has been mailing out free of charge some very interesting and instructive matter pertaining to oak flooring. Every architect, builder, and carpenter should see that he is on the list to receive these booklets and bulletins as they are sent out. The readers of the AMERICAN CARPENTER AND BUILDER need only to mention that fact to be placed on the list and receive this material free of charge.

Many of our readers have learned that it pays to keep posted.



Concrete Staves

One of the novelties at the Cement shows this year was the demonstration of the use of cement staves. It seems that these can be used almost anywhere that a wooden stave can be, as for silos, water tanks, culverts, etc. The staves are 2½ inches thick by 10 inches wide and 30 inches long.

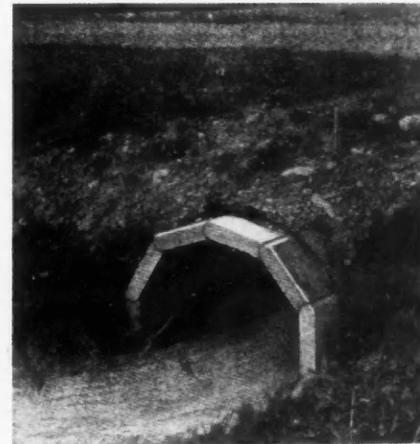
The one edge is concave and the other convex so that whatever the size of silo, tank, standpipe, culvert, well-curb, etc. it is desired to construct, the staves will make a perfect joint.

In the silo work the staves are held together with strong 5/8 inch round steel hoops jointed with patent lugs.

As each row of staves is placed in position the hoop is put on.

There is therefore no danger in quitting work at any time, as the structure will withstand any wind at any moment at any stage. The degree of expansion from heat and contraction from cold is the same in the cement stave as it is in the hoop.

These staves are made on a simple machine. It is thought that more farmers around your home town will want cement stave silos than you can build with one machine this season.



Cement Stave Culvert on Michigan Highway After 7 Year's Wear



Motor Trucks on Huge Job

H. P. Smith of San Jose, Cal., in explaining further detail of the remarkable accomplishment of a fleet of Kissel-Kar trucks in drawing material for the construction of the "Big Meadows Dam" says:

"The road surface was decomposed lava and when it was first proposed to do the work with motor trucks all the wise men said that it was impossible. We operated four of the trucks night and day and averaged 80,000 pounds of cement every 24 hours, the distance traveled being 25 miles each way. This, considering the character of the roads, and the grades, was quite marvelous. The Big Meadows Dam will flood a mountain valley forming an artificial lake 44 square miles in extent. With the exception of the Assaun dam on the Nile it will impound more water than any similar structure in the world."



Our Readers are Requested and Urged to Make Free Use of These Columns for the Discussion of all Questions of Interest to Carpenters and Builders

Handy Farm Devices Wanted

To the Editor: Bemdji, Minn.
 In your section devoted to furniture problems or in some other section, I'd like to see once in a while something of interest to farmers—as plans for eveners, wagon poles, neck yokes, step ladders, folding ironing boards, step ladder and chair combined, etc.

A. D. BAILEY, Instructor of Manual Training.

Do You Want to Make a Woodworker?

To the Editor: Equality, Ill.
 The very first thing that I want to say, is a word to the Editors of the AMERICAN CARPENTER AND BUILDER. A few years ago, we thought the A. C. & B. was as good as it could be, but we are ready to admit now that we were mistaken, for it gets better all the time. The Correspondence Department is now a feature of interest that is valuable to every member of the great army of subscribers, any one of whom "striking a knot," as it were, has only to "squeal" and the editorial staff, or some member of the building fraternity is ready and willing to come to his aid. I am a charter member and have on file a complete set of every copy from the first.

Now, about screen frames, let me say a word to Mr. Geo. P. Schildwachter, that I think his plan for stretching wire on screens is the best scheme I ever saw for the purpose, but would suggest that in case a beam overhead or a ceiling

is not in reach, to use a cabinet clamp to fasten the two 7/8 by 4 inch pieces together to clamp wire. Then I wish to offer a plan for making screen frames that I think is an improvement over his method.

First—It is better because it is cheaper and easier made and because the screen is hinged at the meeting rail of sash and swings out at the bottom, thereby making it much easier working than the sliding style of frame.

Second—It is made of lighter material and the top and bottom rails are gained one-half into the stiles, thereby counteracting the tendency of the end rails to twist on the nails when wire is stretched tight.

Third—When wanted, the whole window may be screened and frame is then hung to the top casing and top sash may be lowered for ventilation.

The hangers, of course, are different from those used on the half screens, and are advertised from time to time in this magazine. The hangers for the half window screens I get of my local hardware dealer and cost five cents a set.

In conclusion, will say that when I need anything I generally make it to suit myself. About three years ago I built a power sander to run with a gasoline engine and also have attached to it a boring machine; and I want to say right here, that they both do all that I could expect of them, and only cost a trifle. The sander is a drum 24 inches in diameter by the same in width. It is geared to run 350 revolutions per minute, driven by a two horse power. The boring machine is of the horizontal type and I have bored as many as 15,280 holes with it in nine hours,—Yes, fifteen thousand, two hundred and eighty holes. That is going some, isn't it?

Now, if any of the brother carpenters are interested enough in this to wish to make one and will send their request through the Correspondence columns, I will be pleased to send the Editor plans for publication. Any carpenter can make it and any carpenter that owns a shop and an engine cannot afford to be without it.

J. H. GODFREY,
 Contractor and Builder.

Bright Outlook Ahead

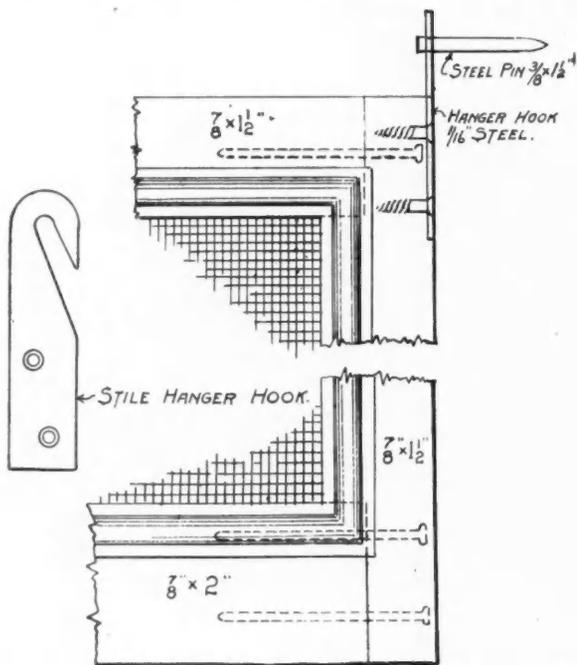
Chicago, January 1, 1913.

EDITOR, AMERICAN CARPENTER AND BUILDER,

It is rather a difficult matter to predict what effect, if any, the pending change in the administration of the affairs of the country will have upon our general prosperity.

Broadly speaking, however, any nation with an agricultural production, such as that of the present year, aggregating in estimated value the sum of \$5,000,000,000 and the bulk of which output will be consumed right in its own great industrial and manufacturing centers; and that is already in possession of something more than \$1,000,000,000 in gold, may safely face the future with complacency.

No check in our present prosperity is, therefore, anticipated; it may be that politics may cause more or less uneasiness during the early life of the new administration, but at the



Window Screen Hung from Two Side Hooks and Made to Swing Out

worst, this condition can only be temporary.

Crops also may not be nearly so productive in 1913, but on the other hand, there is every reason to anticipate a further large increase in the volume of our soil products, due to more scientific methods of production, widely encouraged by both state and federal government.

Bankers everywhere, are optimistic as to the future. With the advent of the greatest grain and cotton crops on record, business has been good, clearings heavier than in 1911 and money generally more plentiful.

The railroads of the country have naturally shared in this prosperity. Their earnings from the movement of crops and other commodities are far in excess of any corresponding period during 1911 and the placing of large orders quite recently for 1913 delivery, would seem to indicate that they expect the present condition to prevail for some time to come.

The steel mills are working full capacity. Unfilled orders for various classes of iron and steel are numerous and new business both for the home and export trade is plentiful. Building construction goes on uninterruptedly. A report covering the permit values in eighty-five cities for the first eleven months of the year shows an increase of three per cent over the value of the permits issued during the corresponding period in 1911.

Government plans embrace a variety of large improvements in 1913; the U. S. Reclamation Service is at the present time soliciting bids on 210,000 barrels of Portland Cement for shipment to Denver, Colo.

The investment in fire-proof construction among factory owners all over the country has shown a decided increase during 1912 and promises even greater development next year. State, County and Municipal work is likewise on the increase, permanent improvements in the form of bridges and highways are largely contemplated. In fact we look to 1913 for the completion of a larger amount of work of this character than in any previous year in our history. During 1912, approximately 230 cities and communities situated in all parts of the country were engaged in the problem of highway construction and in these localities, more than 2,000,000 square yards of the concrete type in its various forms representing an investment of \$2,500,000, were laid.

An ocean-to-ocean highway involving an outlay of \$10,000,000 is now spoken of by the automobile manufacturers of the country who propose to, themselves, defray the cost of its construction and plans for the work will doubtless mature early next year.

Added to this is the large number of contracts embracing almost every phase of building construction delayed, due to the inability of the railroads to handle the necessary material in the late Fall of this year and which will be pushed to completion with the arrival of Spring.

For these various reasons the consumption of Portland Cement in 1913, should show a material increase, even over the present year's total, which, in the absence of authentic figures, promises to be itself, the largest on record, and in that event, prices will consequently remain firm.

The new administration is in power absolutely. It has, however, a proper appreciation of its responsibilities and no measures tending to affect the gen-

eral prosperity of the country will receive its sanction. I believe we may assure ourselves of that.

Yours very truly,
NORMAN D. FRASER,
President Chicago Portland Cement Co.



2-Wheel Trailer for Carting Materials

To the Editor:

Spokane Bridge, Minn.

I have certainly enjoyed the past numbers of your valuable magazine. The letters are very instructive, especially those written by some of the more experienced tradesmen, like Mr. Woods and Mr. Hicks. I think we should discuss our methods of doing the work, and the tools that we find best adapted to that piece of work.

If Mr. H. J. B., of San Rafael, Cal., will get the Leinhart straightedge leveling device, he will find it far ahead of the common level attached to the straightedge. Then it can be fastened to the jamb stick, making a perfect tool for setting jambs. When making frames I tack the two sides together, smooth sides out; then mark them, and use an adjustable back saw to cut the dado, which is far ahead of any dado plane.

I have found that a good way to brace the rear legs on a folding step ladder is to take two pieces of 18 or 20 gage wire, long enough to fasten at the hinge bolts and near the bottom, leaving them just long enough to come together in the middle. Put a piece of lath between them and twist up tight; and nail the lath to the legs. This is much lighter than wood and perfectly rigid.

I will inclose the picture of a store that we built last year. My partner and I are on the picture—also our means of locomotion; the two-wheeled cart is hitched behind the auto for hauling material.

There isn't anything on wheels that will equal the motorcycle for getting around.

R. R. GEBBERS.



Builder Gebbers and his Partner, with their Wheel Equipment—Photo Shows Auto Being Used as a Hoist

A Unique Vase and How I Made It

To the Editor:

Sullivan, Mo.

I see that the boys are all giving themselves away through the columns of your valuable paper, so I will try to do likewise.

To begin with, I procured 12 boards 1/4 inch thick, 4 inches wide and 10 inches long. Six of these boards, were dark and six of them were light; no two being of the same kind of wood. With some good, strong glue, I glued them together, as in Fig. 1, making a block 3 by 4 by 10 inches

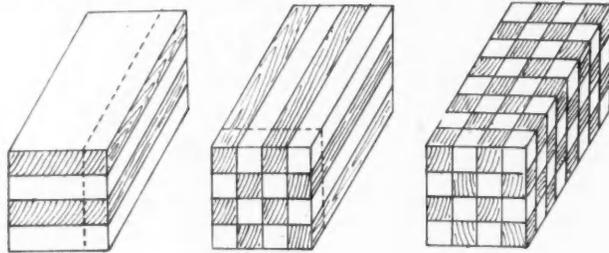


FIG. 1. FIG. 2. FIG. 3.
Process of Making Ornamental Stock for Turning

long, with the light and the dark layers alternating. The extra width and length were necessary to allow for saw kerf in the further working.

I then, with a smooth cutting saw, cut it up into 12 quarter inch boards again, following the direction of the dotted lines in Fig. 1. These I glued together again, turning every other board over so that the light strips would lie next to the dark strips, making the end look like a checker-board, as in Fig. 2.

Next, I carefully sawed squares off the end of the block 1/4 inch thick, following the direction of the dotted lines as in Fig. 2, until I had 32 squares, each one composed of 144 quarter inch cubes. These I turned quarter way around and glued together again, so that the light and dark cubes alternated, as in Fig. 3.

Now, I had a block 3 inches square and 8 inches long composed of 4608 quarter inch cubes, which I chucked in the lathe without the dead center and turned it into a beautiful vase which I polished and varnished before removing from the lathe.

J. J. BANTA.



Which is Stronger?

To the Editor:

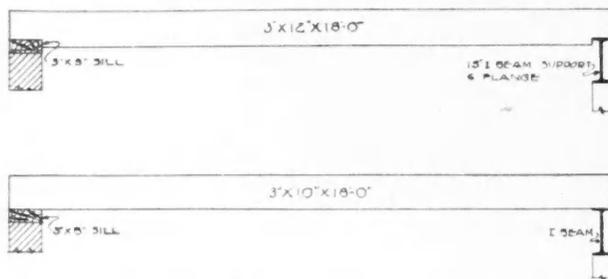
Forty Fort, Pa.

Please inform me which is the best and strongest joist of these two in every way.

If we use a 3 by 12, 18-foot hemlock joist, we will have to size each end down 2 1/4 inches deep and 8 inches long on one end and 6 inches on the other.

But if we use a 3 by 10, 18-foot hemlock, it will rest just right on both sills without any sizing at all. D. M. LITTS.

Answer: We would consider that a 3-inch by 12-inch hemlock joist 18 feet long with ends cut down 2 1/4 inches in depth so as to make the depth of joist over support equal



3x12, Cut Down 2 1/4" at ends is stronger than 3x10

to 9 3/4 inches, would be stronger than a 3-inch by 10-inch hemlock joist of the same length and quality of material, when subjected to the same amount of load under the same working conditions.

We base our answer on calculations for strength in bending as calculated by Formula No. 1, Talk No. 1, Noon Hour Talks by the Boss Carpenter. The greatest bending action in either beam will come in the middle of the beam and will be withstood by the internal strength of the cross section. The quantities I and e for a 3-inch by 12-inch beam will be greater at the center than for a 3-inch by 10-inch beam. On account of the great length of the beam a shearing failure will not occur.

If the beam was shorter there is a possibility of a shearing failure occurring. Then the 3-inch by 10-inch beam would be the stronger of the two. Such a condition is treated in Talk No. 4.

PAUL CHESTERTON.



Good Barn Work

To the Editor:

Cavour, So. Dak.

I am enclosing a photo of some of my work. I am a



Well Designed Barn at Cavour, So. Dak.

reader of your valuable magazine and find it of great interest as well as helpful.

ALBERT J. WEIER.



Nailology

To the Editor:

McCook, Neb.

In answer to Mr. E. M. Light, Lisbon, Iowa:

In the early days, all nails were hand made, by forging on an anvil; and in Britain and the north of Europe vast quantities are still made in this manner, being preferable for many kinds of carpenter work, to those made by machinery.

In France the greater part of the nails used for light carpenter work are made of soft iron wire, pointed with the hammer; and in order to head them, they are pinched in a toothed vise, which leaves a portion of the head projecting, and makes below it three or four, grooves in the nail, which increases its hold on the wood when driven home. The head is beaten into a countersink on the vise, which regulates the size.

The iron used for hand nail making in Britain is sold in bundles, and is called nail rods; it is either prepared by rolling the malleable iron into rods or small bars of the required thickness—which process is only employed for very fine qualities—or by cutting plate iron into strips by means of rolling shears.

Several inventions, in which America took the lead, have been introduced, and are successfully worked, for making nails direct from plate iron either by cutting them cold or hot, and a very large proportion of the cut nails in use are made in this way and are said to be superior to the wire nail, as it has greater holding power, and is more durable, especially when used in damp places.

Cut nails are heavier than wire nails, and as they count fewer to the pound, are more expensive. The standard table for the trade terms, lengths, gauges, and number per pound, for

the cut nails, gives us, 3d fine, 1 1/8 inches long, 16 gauge, 720 to the pound, to 60d common, 6 inches long, 3 regulars, 10 to the pound.

Nail making by machinery was originated in Massachusetts in 1810. Nails are classified by the U. S. patent office as cut, wrought, horseshoe, shoe, barbed, composition, button, carpet, coffin, sheathing, galvanized, harness, leather-work, picture, siding, slating, trunk, upholstery, weather-tiling, and screw nails.

Galvanized nails, either cut or wire, that have been dipped into molten zinc and become coated with this metal are termed galvanized.

It is advisable to use galvanized nails in places that are exposed to the dampness, as in shingling, in slating, in fence building, or in structures erected near the seashore, as numerous tests has proven that ordinary nails rust through in such places in a few years.

The cheaper grades of galvanized nails are usually coated with lead, and will withstand the government test—dipping them into vitriol. An easy way to test the coating of a galvanized nail is to rub the nail on a piece of white paper. A lead coated nail will mark the paper the same as a lead pencil and should be rejected.

The standard table for wire nails gives us, sizes from 2d, 1 inch long, 15 gauge, 876 to the pound, to 60d, 6 inches long, 2 gauge, 11 to the pound.

Cement coated nails are said to be superior to all other nails for use in green, or sap lumber, as the cement coating has a tendency to draw and hold the sap, which forms a solid coat around the nail, and gives it a greater anchorage. After all the sap has evaporated from the lumber this coating will be found to be so hard and well set that the heads of most of the nails will give way before the nails can be released.

P. M. BELL,
Architect and Engineer.

Failure of a Wooden Retaining Wall

To the Editor:

To secure more room for the storage of lumber a planing mill in Sioux City, Iowa, built a retaining wall of six inch cedar posts and two inch planks. Half inch galvanized wire strand was placed around the posts and anchored to "dead-men" at the back. A fill of twelve feet was made back of the wall which carried the weight and pressure for two years.

A recent flood in the small creek dissolved the lower part of the earth fill permitting the upper part of the wall to fall with great force against the bottom of the wall. All of the posts are broken in one place and many of them are broken in two places. The wire cables pulled out at the farther end of the wall, but those in the nearer end are intact. None of the planks were broken.

LEONARD LYTLE.



Concrete Retaining Wall Would Have Been Better

Which is Right?

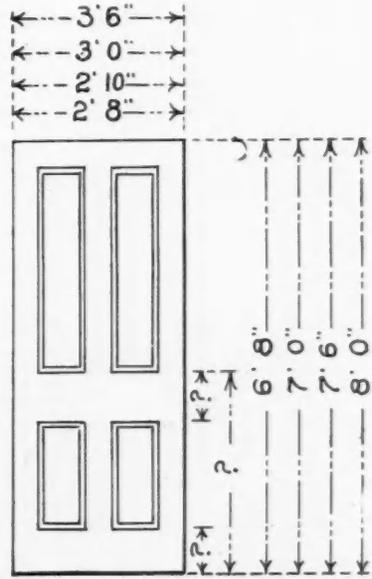
To the Editor:

Phillipsburg, N. J.

I have been a reader of your valuable journal for some time and as yet have never asked a question. Now, I am enclosing sketches of two things on which I would like for some one to give me some information.

First—What is the standard height to place the center or lock rail from the bottom of a four-panel door to top of rail, also width of bottom and center rails of the various size of doors that I have indicated on the sketch, or in other words, in what proportion should the lock rail be placed as to the various heights of doors?

Second—Most of my work is factory building and almost all outside doors are double. A question that has caused a great deal of argument among the men here in the East, is on which door should the lock or latch be placed on a pair of doors swinging outward, or vice versa?



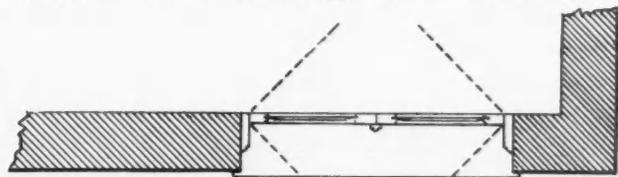
Door Parts Proportioning

We have agreed that whatever the AMERICAN CARPENTER AND BUILDER decides as right, will be considered as final.

E. C. RUSH.

Answer: The first question is one that is not given much attention by architects, since as a rule they detail to suit their own fancy, paying little attention to the standards used by mill men in making stock doors, such as are carried in all up-to-date lumber yards. On these, the proportions run as follows:

Stiles 4 7/8 inches, top rail 4 7/8 inches, lock rail 8 7/8 inches, bottom rail 9 inches, top of edge of lock rail 36 inches from the bottom. This we believe, applies to all stock doors; the



Double Doors and Lock Placing

difference in size being taken care of in the panels. The above is for over-all measurement; that is, it includes the sticking or moulding.

As to the second question, as to which door the lock should be placed on, will say, that we do not set our opinion up as an authority, but simply as we think it should be the most natural way to suit the most people; and that is, in approaching from the outside, the lock should be on the right hand door in either case, whether it opens in or out, as it is the most natural way to take hold of the knob or handle with the right hand. This of course, in coming out would seem the most natural way to use the left hand in opening the door. But really what is the difference? It has to be right and left in either case; then which is right? For looks, we say give the preference to the outside, because there is where the most people see it.

A. W. WOODS.

A Big Remodeling Proposition

To the Editor:

Riverside, Iowa.

It has been my privilege to read the *AMERICAN CARPENTER AND BUILDER* constantly, since June, 1906. I have all the copies except one number in 1907. To me they are valuable; they have been a source of revenue to me, so to speak. I have read with intense interest the many good things that have been published from time to time. They have broadened my mind, kept me abreast with the advancement of architectural and building possibilities; and in touch with all the new things that the building public demands of the architect and builder of today.

But with all these, we, as builders of modern homes, must devote our time and energy to produce what the home builder wants, as to conveniences, handiness, and a general good appearance both inside and outside. These are a few of the many points a mechanic must take in consideration.

We have but laid aside the tools of a summer's work,



Old Ford House Before Remodeling

trimmed our lamps for the long winter nights, counted up our gains, and our losses of the year just past. The losses of outworn things, the gains of fellowship, and we stand on the threshold of another year. The question naturally arises, can we better our condition? Yes! If all lend a hand to advance some new idea, or thought. We, as a class of workmen, cannot talk face to face, but if the editor will help us, we can help him. So all together men, and let us



Wreckage of Old House with a Part of the New Frame Erected

make the year 1913 the brightest and best of all.

The trials of a mechanic are many; yet to the man who has the building done, or to an onlooker, it appears that it is all sunshine with the mechanic. It has often been said, and many times demonstrated, that there is no class of work the average mechanic dislikes more than repairing or remodeling residences. There seems to be, on the part of the average mechanic, a dread of such work. I quite agree with you all that such work is not as pleasant as new work; but sooner or later we are called on to do such work, then what? Shall we turn it down?, and let the other fellow do it! No!! We cannot afford to if we are in the business to stay. Therefore, from my own experiences, I find it essential to do such work, and do it right, with some thought to produce the best effect we can with what we have to work with, taking the surroundings into consideration, producing, as it may seem, something out of almost nothing.

For the benefit of other readers, I am submitting some photographs of a remodeling job done by us in 1911. This is the home of Mr. E. W. Ford, Riverside, Iowa, on what is known as the Indian grove farms. We were asked to plan the remodeling of this farm home after it was thought, by some competitors, advisable to wreck the whole of the old house and build a new one. The floor plan of the old house showed the ordinary upright and wing arrangement.

To this floor plan of the old house was added 6 feet in length across the front, and to the wing on the east was added 4 feet in length and 19 feet in width. The front was



New Residence of E. W. Ford, Riverside, Iowa, viewed from the South; O. B. Overholser, Architect and Builder

raised from 12-foot posts to 18-foot posts, making all walls the same height. Then the ceiling joists were raised to a 9-foot ceiling below.

The first photo shows the old house from the west, before remodeling. The main or west part of this house was 16 by 36 feet with 6 feet added to it. The next view shows the wreckage of the old house and the course of construction as we came around the walls with our new work. In this picture you can get some idea how we removed the old roofing; it was done this way to maintain our old walls. These walls were spliced to make the required height by removing the plates and spiking to the old 2 by 4's and 4 by 4's, which constituted the dimension material of this frame. It was all of white pine and was built in 1848. This frame was all mortised and tenoned and pinned with $\frac{3}{4}$ -inch oak pins. The other photo shows the south side of house after remodeling.

This was a yellow pine job through all interior finishes, with three-coat finish natural, excepting kitchen and wash room, and they were a light oak stain. The house is modern in every way—hot water heat, air pressure water system, and gas lights with its own machine to manufacture gas. The cost to remodel this modern house was \$4,562.85. This includes the foundation and all the modern accessories.

O. B. OVERHOLSER,
Architect and Builder.



Duties of Building Superintendent

To the Editor: North Battleford, Saskatchewan.

As a reader and subscriber to your valuable paper, the AMERICAN CARPENTER AND BUILDER, also purchaser of Radford's Cyclopaedia, I would esteem it a favor if you would kindly inform me at your earliest convenience, the actual duties of a building superintendent.

I will state briefly my reasons for such information.

I am under contract to put in certain cement concrete floors. First mixture 5 to 1 and finish 2 to 1, graded to flush traps in floor. Work to be under supervision of superintendent.

Is the Supt. supposed to give all levels and grades? Also to see that mixtures are of proper proportion? And cannot he be held responsible and compelled to make good, if through neglecting such duties, the work turns out unsatisfactory?

B. STREETER.

Answer: Your question is of a rather vague nature, since such duties will depend largely upon the kind of work and the size of the job. We hardly know how to interpret your letter. That is, whether you are to perform the contract specified under the immediate supervision of a superintendent, or whether you have plans and specifications which are to be followed, while the superintendent is to watch the progress of the work and pass upon its quality and the final acceptance of same.

You ask whether the superintendent is supposed to give all levels and grades. We would consider that this would be dependent on whether such levels and grades were carefully marked on the plans to be followed or not. If no levels are given on the plans, we would judge that the superintendent would be responsible for the marking of same and seeing that the contractor understood clearly what was expected of him.

The general duties of a superintendent or inspector may be divided into three parts.

1. Inspection of the materials to be employed.
2. Inspection of the methods used in preparing the materials.
3. Inspection of the construction or placing of the prepared materials in the structure.

In performing the first section of his duty, the inspector is required to pass upon the quality of the material delivered and determine whether they meet the requirements of the

specifications or not, rejecting all that are defective.

Under the second division of his duty the inspector has to watch the methods employed in preparing the materials, to see that the quantities called for are used, and that the dimensions of all manufactured pieces correspond to those marked on the plans.

To efficiently perform his duty under the third section, the inspector must be familiar with the methods employed by the various craftsmen in executing their work. To provide against slighting by careless and indifferent workmen, constant vigilance is necessary, especially in parts of the work which are difficult of access, or will be covered up.

The specifications and plans for each particular work must be the inspector's guide as to the character of the materials and workmanship required, and in case of any discrepancy between them, or doubt as to the meaning of any of the clauses, the matter must be submitted without delay to the engineer or architect for an explanation.

On the failure of the contractor or any of his workmen to comply with the requirements of the specifications, the inspector should notify him or his representative of the defective work and allow him a reasonable time in which to make it good. If at the end of this time the rectification is not made, or if he refuses to comply with the notice, the inspector must immediately acquaint his chief with full particulars of the case, description of the defective work, character of the order given, and reasons advanced by the contractor for refusing to conform to it.

EDITOR.



Corner Construction of a Log House

To the Editor: Forest Grove, Oregon

I am sending you a sketch of the way many of the log houses are built in this section of the country.

Fig. 1 represents the corner of a building. The box is made out of a 2 by 6 inch and a 2 by 8 inch spiked together, as shown, the wider one being spiked on the edge of the narrow one.

The dotted ends show how the logs should be hewed to make a V shaped opening for daubing. The dotted lines at A and A show braces gained into the corners (reversed at plates).

Fig. 2 shows end view of log without corner box.

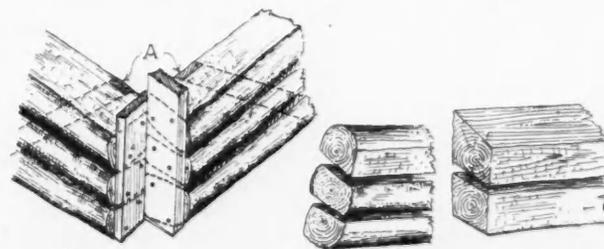


FIG. 1.

FIG. 2.

FIG. 3.

Detail of Log Construction

If a saw mill is close at hand, the logs can be slabbed on two sides, as shown by the center log in Fig. 2. If logs are hewed inside and out to make a smooth wall, the ends of logs would show square and would make a much better looking job.

The bottom logs are halved together and gained down at least two inches on top for the shoulder for the box to butt against. The plates are carried on the corner boxes and in case of logs that are shorter than the building, they may be spliced by letting in a two inch piece the same width as the log.

When the walls are up, place the plates and wedge up well under the rafters and there will not be any sagging or settling of the roof.

BYRON MARKHAM.

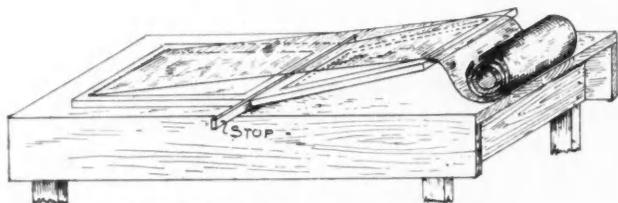
To Stretch Screen Wire

To the Editor:

Garden City, Kansas.

HAVING been a reader of the AMERICAN CARPENTER AND BUILDER since it started, I take great interest in it and always look for its coming. I wish it was once a week instead of once a month. If the young and old men alike in the trade would read it thoughtfully, I am sure they would find ever so many new kinks, as it is made up by the best talent to be found in the trades.

I herewith enclose a way I have to stretch screen wire: First,—clear the workbench of all tools, then take two screens of the same width and lay them flat, top end to top



Scheme for Wiring Two Screens at Once

end and nail the screen wire at both outer ends.

Then raise the outer end of one of the screens and insert a parting stop between the two inner ends.

Then lay the screen flat again on the bench; tack the screen wire along the sides and part on the mould. After the mould is on, cut the wire cloth at end and you will have a nice tight job on both screens.

If any brothers have any better way of stretching the wire cloth, let us hear from them.

J. B. LAGEESE,

Contractor and Builder.



Piano Finish for Furniture

To the Editor:

Sante Fe, Missouri.

I am a reader of your most valuable paper and have been since it started, and I think there is none better. I have a large shop and am now building some nice furniture; but the big stunt is yet to come; I want to put a finish on this work (regardless of time and money), equal to the piano finish that we see. All the material used is oak and walnut, and I would like for you to give me the information as to how to do this finishing. You may answer me through your paper, possibly some one else would be benefited thereby.

E. F. QUISENBERRY,
Contractor and Builder.

Answer: The finest of shellac finishes is French Polishing. It is not much used upon furniture because of the expense in time and patience. The following directions taken from Noyes' Handwork in Wood are intended for the amateur. The wood should be filled with a paste filler of an appropriate color. Directions for filling will be found upon the outside of the can in which the filler is contained. For an exceptionally fine surface several coats of filler should be applied allowing each twenty-four hours in which to harden.

"(1) Preparation. The surface of the wood must be perfectly smooth and even, sandpapered in the direction of the grain, stained if desired, filled, rubbed smooth and quite dry. (2) Apply two or three thin coats of shellac. After each coat, when dry, rub with No. 00 oiled sandpaper or No. 00 steel wool. Wipe thoroughly. (3) Make three pads about the size of a walnut, of clean, white, cotton waste, enclosed in some fine old or washed cloth with no sizing or lint—one pad for shellac, one for oil, one for alcohol. Fill one pad with shellac of the consistency of milk, enough in the pad so that when squeezed hard it will ooze out. The common mistake is to put too much shellac into the pad. Rub with circular motion, never letting the pad stop on the surface.

(4) Sprinkle a little finely powdered pumicestone and put a little oil on the surface here and there with the tip of the finger. Rub with second pad until the surface is dull. Wipe clean. Repeat (3) and (4) several times. Some use raw linseed oil to prevent sticking. Others use three or four coverings on the shellac pad, removing the outer one as it dries. A simpler way is to keep the shellac in pad (1) thin by moistening it with a little alcohol. (5) Spirit off (Follows process 4). Dampen pad, 3, with a little alcohol and wipe quickly in the direction of the grain. This should remove the circular marks. Too much alcohol in this third pad will "burn" a dull spot. The rubbers are said to improve with use, and may be preserved in closely stoppered jars to prevent evaporation. The different kinds of pads should be kept separate. Or the cotton waste may be thrown away, and the cloths washed in strong borax water. In the process just described, shellac alone, dissolved in alcohol, is used. The shellac may be used with other ingredients; for example, 1 pint grain alcohol, 1-4 oz. gum copal, 1-4 oz. Gum arabic 1 oz. shellac. Strain through muslin."

IRA S. GRIFFITH.



Combined Blinds and Storm Windows

To the Editor:

Tonawanda, N. Y.

Some of you carpenters have probably noticed long ago, that the use of outside blinds are far from what they used to be. Especially is this true in the larger cities or towns where nowadays you hardly see a house erected that is equipped with blinds.

Recently while in a neighboring city, I had occasion to visit an old carpenter who, having had blinds on his windows, had removed the slats and cut a rabbet $\frac{5}{8}$ of an inch wide and $\frac{3}{8}$ deep in the stiles of the blind. In winter time, he places glass in these blind frames, thus making a good outside window, protecting the house from cold and keeping the windows from freezing. In the warm weather season he removes the glass and replaces his slats which he has fitted in a frame to fit the rabbet, cut in the blind stiles. Thus, in an instant he can change from blinds to outside windows or windows to blinds, thereby making these frames answer a double purpose.

R. O. NEWBECKER.



A Texas House

To the Editor:—

Canton, Texas.

Enclosed herewith I hand you P. O. M. O. for \$4.00 to pay my subscription for next year, also to pay subscription for W. H. Starkey for next year both to begin with January number.

I am enclosing you photo of a 5-room house that I have



Well Framed Residence in Texas

just finished. The picture was taken while the house was under construction.

I think every carpenter should read the AMERICAN CARPENTER AND BUILDER.

F. L. WALKER, Contractor and Builder.

The Process of Soldering

To the Editor:

Preston, Iowa.

I would like to have you tell us about soldering, in your next paper. Please tell about the different acids and all the different materials used and how to use them.

LYMAN MARVIN.

Answer: The object of soldering is to unite two portions of the same metal, or of different metals, by means of a more fusible metal or metallic alloy applied when melted, and known by the name of solder. The parts which are to be joined must be thoroughly clean and free from oxides or tarnish. Surfaces may be scraped, filed, scoured or treated with acids to prepare them for soldering. The edges of the joint must fit well and be treated with a flux to aid in the operation.

Kinds of Solder

Solders are known as "hard solders" and "soft solders." Since "soft" soldering is the more common form, we will devote our attention to this process. Soft solders, also called tin solders or white solders, consist of readily fusible metals or alloys and do not possess much strength. They are easy to handle on account of the ease with which they are melted. Soft solders are composed of tin, lead-tin, and alloys of tin, lead, and bismuth. Plumbers solder, also called "half-and-half," is made of 1 part tin and 1 part lead. This solder melts at 370 degrees Fahr., and is used for wiped joints, etc. Ordinary solder for general use with a soldering-bit is made of 5 parts tin and 3 parts lead, and melts at 350 degrees Fahr. Other variations of these mixtures are used with the addition of bismuth for blow-pipe work.

Fluxes

No one flux can be assigned to any one metal as being peculiarly adapted to that metal for all purposes. The nature of the solder used, often determines the flux. The fluxes generally used in the soft soldering of metals are powdered resin, or a solution of chloride of zinc, alone or combined with sal ammoniac. A common method of applying resin in soldering is to powder the resin and apply it to the work by means of a swab consisting of a small tin or wooden handle to which a tuft of cotton or a few folds of cloth have been fastened. If a liquid resin solution is desired, the resin may be dissolved in alcohol, thus making a sort of varnish. This preparation when applied to the surface to be soldered, dries out, leaving a thin coat of resin just where it is desired.

Ordinary acid solution may be made by placing 3 parts of hydrochloric acid and 1 part of water in a lead, glass, or wooden vessel, then slowly adding small pieces of zinc as long as any action of the acid on the zinc can be observed. Always put in more zinc than the acid will dissolve and allow the solution to stand several hours. A test should then be made to see that there is sufficient water in the solution. To make this test, a small quantity of the solution is removed to a clean dish and a bit of clean new zinc is dropped in. Now add a few drops of water and see if any chemical action upon the zinc follows the addition of the water. If there is any action, the original solution should be diluted with water until further addition does not have effect upon the zinc. Pour off the clear part of the liquid for use. Care should be taken in this process since considerable heat is present.

A variation on the ordinary acid solution is obtained by dissolving the zinc in three quarts of common muriatic or hydrochloric acid without the water mentioned in the previous solution. Often the acid has dissolved all the zinc possible, pour off the clear liquid as before and add a solution made by dissolving 6 ounces of sal ammoniac in a

pint of warm water. Also, add 4 ounces of chloride of tin which has been dissolved in another pint of water. These quantities will make 1 gallon of solution, but may be cut down proportionately for smaller quantities. The combination of solutions will be a little cloudy, but may be cleared by the addition of a few drops of the hydrochloric acid. Be careful not to add any more acid than is necessary to clear the solution. The advantage of this solution is that it will not spatter when the bit is applied to it, and also will allow the use of a poorer grade of solder.

Soldering with Bit

See that all surfaces to be soldered are clean and free from any material which will prevent the solder from sticking. Old work should be brightened by scraping, filing or rubbing with emery cloth. For small work, the solder is applied to the bit instead of to the work. A small amount of solder may be picked up on the tinned part of the hot soldering bit to the place which is to be soldered. If the surfaces are clean and properly fluxed, the solder from the bit will readily flow over them and adhere solidly.

When large work is to be soldered, as in the case of seams in a tin roof, it is necessary to feed the solder onto the seam by melting the bar of solder on the top of the hot bit as it is moved along the seam.

Soldering Bits

Soldering bits are usually made of copper and are "tinned" on the point. To "tin" a bit, the tool should be heated hot enough to melt solder easily; the point of the tool quickly filed bright, and then rubbed through a mixture of solder and sal ammoniac spread on a piece of tin. This action will provide a thin coating of solder over the point of the bit.

Bits should not be heated too hot, nor should they be used too cold to produce smooth work. The bit should be just hot enough to melt the solder readily. Bits should be kept well tinned at all times for good work.

A gasoline blow torch or a charcoal furnace is best for heating the bit. Heating in a soft coal fire causes the tinning to vanish very quickly. . . "PLUMBER."



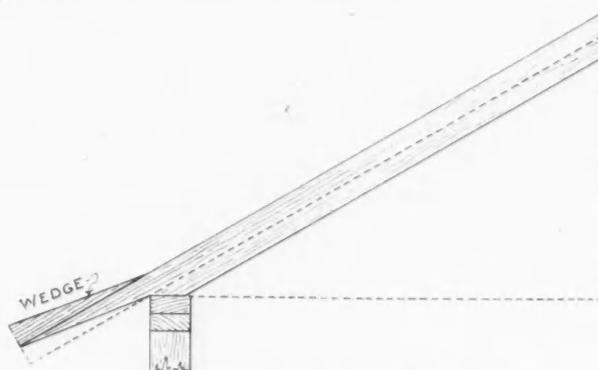
He Submits an Idea

To the Editor:

Stacy, Minn.

I have been a reader of the AMERICAN CARPENTER AND BUILDER for some time and will say, it is certainly a fine magazine for carpenters. I am myself a carpenter and have been for some ten years and take great interest in the magazine and am always anxiously waiting for the next number.

I see there has been some fast shingling done by some of the boys. I have a nailing machine and can get along pretty well with it, but cannot beat some of the stunts reported.



How Maloney Gives a Curve to his Rafters

I have an idea on the cutting of rafters which I think is an improvement in looks over the common straight rafter. It is this: Take the tail of the rafter and saw it wedge shape and then take the piece thus ripped off and nail it on top of the rafter, as shown.

As I have been benefitted by the ideas of some of the brothers, I hope this will be of some benefit to others.

JAMES MALONEY.



Chance for a Controversy

To the Editor: Kutztown, Pa.

I am a subscriber of the AMERICAN CARPENTER AND BUILDER, and wish some reader, or the Editor, would give the correct method. While making a closed stairway in a private dwelling, a dispute arose between the contractor and the owner as to the proper method of procedure. The difference of opinion was occasioned by the following question:

In making a closed stairway, which is the proper method (difference in time and labor not to be considered), to put down treads and risers first and place the wash board in position; or place the wash board first and then put down the risers and treads?

W. D. FISHER.



Wrong Use of Strength Values

To the Editor: Dublin, Mich.

I am one of the Boss Carpenter's class. I am studying those Noon Hour Talks. I am also doing a pile of thinking, and I know a few things myself. I have noticed a number of valuable principles which have been developed during these Talks by the Boss, but I notice in Talk No. 5, page 44, December issue, what appears to be a confusion of figures. I refer to the Boss' table for working unit stresses for timber. I fail to understand how the Boss gets the working stress of white oak to be 1,200 lbs. per square inch or that of hemlock to be 600 lbs. per square inch. Now, gentlemen, I have been doing a little figuring on this question and I find by taking the Boss' figures, the number of cubic inches contained in 12 inches of flooring joist $2 \times 8 = 212 \times 600$ lbs. $= 127,200$ lbs. for every 12 inches of a flooring joist, 2 by 8; and if the flooring joist is 12 feet in length, that will amount to $127,200 \times 12 = 1,498,400$ lbs. that a flooring joist 2 by 8 by 12 feet will bear up. Now, gentlemen, I think that that is a rather stout piece of hemlock.

Now for the white oak; the unit stress for white oak is 1,200 lbs. per square inch. The square of 12 inch of a flooring joist 2 by 8 inches is 212 inches $\times 1,200$ lbs. $= 254,400$ lbs. for every 12 inches of flooring joist 2 by 8; and if the flooring joist is 12 feet in length that will amount to $254,400$ lbs. $\times 12 = 3,052,800$ lbs. for every flooring joist 2 by 8 by 12 feet to bear up, and this will have to be multiplied by 6 and divided by 12 to give the amount to be carried by every 12 inch square of space, which will amount to $3,052,800 \times 6 = 18,316,800$ lbs. divided by 12 $= 1,521,400$ lbs. to be carried by every square foot of floor space. Now, gentlemen, do you not think that is a pretty stout piece of oak?

Hoping that I have not trespassed on your valuable time and space, Mr. Editor, I would like to have the Boss more definitely explain those figures and also give the exact size of flooring joist to carry a given load in size and length. Mutual exchange of ideas has been quoted as the modus operandi of material progress.

GEORGE G. McLAY.

Answer.—We fear that you have mistaken the meaning of the values given in the table. If you will notice you will see that the sub-heading which accompanies this table states that the values are for use in Formula No. 1, Talk No. 1. In Talk No. 1, this value of "p" was referred to as the unit bending strength and is only intended for use in the

I

Formula $p = \frac{M}{e}$. We are afraid that you have confused

this value of the working strength of timber with some other quantity, since in your letter you seem to find the cubic contents of your beam and then multiply this by the working strength for timber, as given in the table. This is not a correct use of the value of the working strength in any sense. It is not intended that each cubic inch of volume of a joist will bear a load of 600 pounds in the case of hemlock. What is meant is that the working unit stress at the top and bottom edges of the hemlock joist may be used as 600 pounds per square inch of cross section of joist at those points. This does not mean that each square inch of cross section of a 2 inch by 8 inch hemlock joist will carry 600 pounds, and only means that in the case of a hemlock joist a value of "p," equal to 600 pounds per square inch is to be used in Formula No. 1. You will find illustrations of this use in the problem in Talk No. 1; Talk No. 5; and also on the correspondence pages of the November issue.

An examination of the problem in Talk No. 1, will show how to find the total load supported by one joist when the floor load in pounds per square foot and the spacing of joist is given.

We would advise that you read the earlier Talks of the Boss again and see if you do not see matters in a new light.

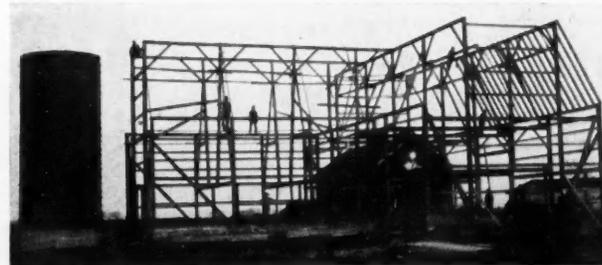
PAUL CHESTERTON.



Well-Framed B

To the Editor: Peotone, Ill.

Enclosed with my order for the renewal of my subscription to the AMERICAN CARPENTER AND BUILDER, you will find photos



Silo and Barn Frame at Peotone, Ill.

of a barn frame just after it was raised. It is 34 by 62 feet. I am building it for Wm. Staffenberg in Will county, Ill.

WM. J. KOENNING.

✦ Contractor and Builder.

A Correction

WE wish to call attention to our answer to Mr. Billman's question in the December number of, "How about the roof lines?" The article is all right, except where it says "All of the slopes given the roof, both in new and old part are of the same pitch." The illustration is correct, but the description is wrong in saying that the slopes are all of the same pitch. However, the change comes at a point that would be very unnoticeable.

Also we wish to call attention to Mr. Bryson's question of "How about the Tangents?" At point where it says "The length of the tangent for 9 degrees, it is practically 1.9 inches for one foot." Now, instead of this being equal to $1\frac{3}{4}$ inches, as printed, it should have read one and fifteen-sixteenths inches.

We exceedingly regret that these errors should happen, but we are glad to take this opportunity to call attention to same, making corrections so far as we can. It is not a sin to make a mistake, but it is a grave sin to try to cover one up after it is made. What we regret is that they were allowed to get away without detection.

A. W. WOODS.



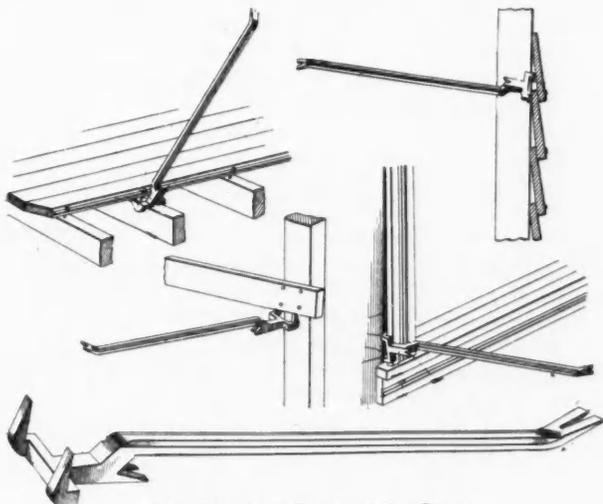
Conducted By Watson & Boyden, Patent Lawyers and Solicitors, Washington, D. C.

Tool for Removing Floors, Siding, Scaffolds, &c.

1,030,660—Patented June 25, 1912, by Henry C. Hunt, of Palacios, Texas.

The invention relates to improvements in tools for removing floors, sidings, and for taking down scaffolding, etc.

The object is to provide a simple, efficient and comparatively inexpensive device of great strength and durability, adapted to save material and labor in taking down houses,



A New Wrecking Tool and How Used

scaffolding, fencing and the like and opening boxes and capable of performing similar operations and of readily separating any two pieces of nailed lumber without scarring or otherwise damaging the same.

With these and other objects in view, the invention consists in the construction and novel combination of parts illustrated in the accompanying drawings.

Tool Holder

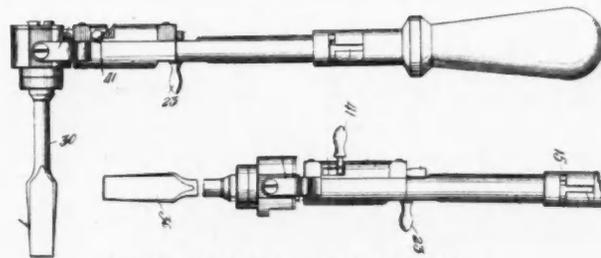
1,042,842—Patented Oct. 29, 1912, by Charles Tilssner, of Oglesby, Illinois.

An object of the invention is to provide a tool holder for use in connection with tools, such as screw drivers and wrench sockets.

It embodies among other features a device in which a screw driver can be adjusted at various angles and in which screw driver can be subjected to a ratcheting movement for the purpose of facilitating the use of the same in places where it is almost impossible to operate with the usual screw driver, consisting of a screw driver body and a handle rigidly formed therewith.

For the purpose mentioned, use is made of a shank provided with a handle at one end and having a head mounted

to swing and to turn at the other end thereof, the said head being adapted to receive a tool and movable relatively to the shank so that the tool can be swung into positions



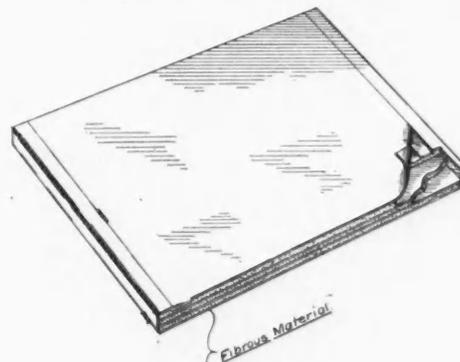
Handle Holds Tool in Several Positions

angular to the shank, and capable of turning with the shank when positioned in longitudinal alignment with the shank.

Plaster Board

1,034,746—Patented Aug. 6, 1912, by Clarence W. Utzman, of Chicago, Illinois, Assignor to the United States Gypsum Company, of Chicago, Illinois, a Corporation of New Jersey.

This invention relates to a plaster board, and aims to produce a board which shall be more substantial, durable and



A New Plaster Board That's Clean to Handle

efficient than any plaster board heretofore manufactured, which will give better results and more satisfactory service in use, and will better withstand the handling and rough usage to which all plaster board is necessarily subjected.

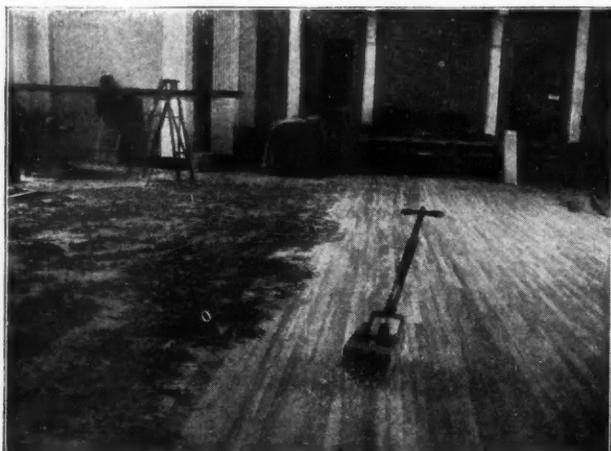
This invention aims to produce a plaster board the edges of which will be entirely inclosed by a sheet of covering material, and which will have no free or exposed edges of the covering material such as would be liable to be torn, loosened or peeled back in the handling of the board.

TRADE NOTES AND ITEMS OF INTEREST

Through this department the editors aim to keep builders, contractors, carpenters and architects in touch with what their friends, the manufacturers, are doing for them in new or improved tools and machinery, methods and materials—pertaining to building. Items for these columns must have real news value; they are offered here as interesting information for our readers; they are not advertising. No matter will be printed here simply because some advertiser wishes it. Likewise, no matter will be excluded simply because the article described is not advertised in this magazine. Suggestions for the betterment of this department are requested of our readers.

Floor Scraper Contest Decided

A good many of our readers have been interested in the photograph competition conducted by the Fox Supply Company, Brooklyn, Wis., which closed January 1st. They advertised to give \$25.00 first prize, \$15.00 second prize and \$10.00 third prize for the best photograph of a floor scraped



First Prize Photo—Henry M. Martens, Bay City, Mich

by a Fox scraper.

The editor of the AMERICAN CARPENTER AND BUILDER was asked to be one of a committee of three to judge these photographs and determine the prize winners. This proved to be a task of extraordinary difficulty. The large number of fine, interesting photographs submitted made it extremely hard to choose between them; and as it was, a fourth prize had to be given, also a number of photos were awarded Honorable Mention.

The prize winning photos, very much reduced in size, are shown here.

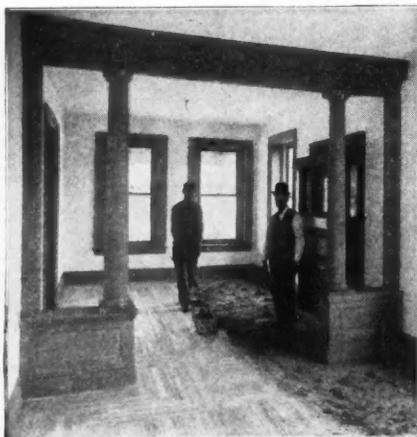
The first prize, \$25.00, went to Mr. Henry M. Martens, 313 N. Johnson St., Bay City, Mich. This is a very clear, distinct photograph of the interior of a large dance hall, having a finely dressed maple floor. The photo was taken just at the time of scraping. An abundance of shavings on part of the floor show the work that has been done. This photo is convincing proof that the Fox scraper did efficient, satisfactory work on this large job.

The second prize, \$15.00, went to Jacob H. Crist, 1551 West Market St., York, Pa. This is a photo containing much human interest. It shows a hard pine floor being surfaced in a typical modern residence. The flooring is laid in ornamental patterns, making a difficult floor to surface; but it is evidently being satisfactorily finished both with and against the grain.

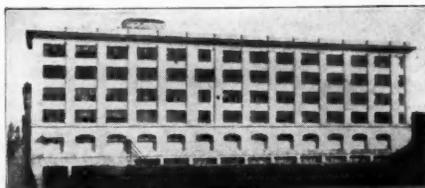
The third prize, \$10.00, went to Mr. R. M. Walker, Engineer and Contractor, 712 Grant Bldg., Atlanta, Ga. This prize was awarded on three photos in combination: Two exterior views of the new modern half million dollar freight and office building for the Southern Railway, Atlanta, Ga.; also an interior photograph showing two Fox floor scrapers satisfactorily handling this huge job—which amounted to 42,000 square feet of heart rift pine flooring.

An additional fourth prize of \$5.00 was decided upon, and awarded to Mr. J. E. Powers, Hinckley, Ill. This shows an unusually fine oak flooring residence job with machine in operation, and operator and fellow workmen very evidently well pleased with its work. Such personal endorsement by the workmen means much.

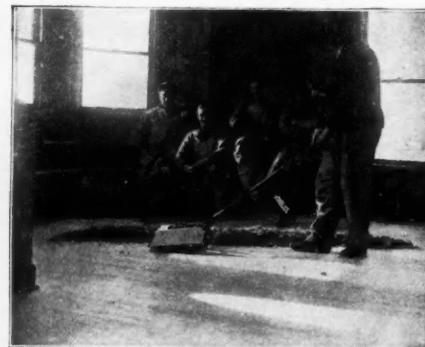
A large number of very interesting and creditable photos were also submitted which ran close, and made it very hard to decide the prize winners. To the best of these not receiving any of the prizes it was decided to award Honorable



Second Prize—Jacob H. Crist, York, Pa.



Third Prize—R. M. Walker, Atlanta, Ga.



Fourth Prize—J. E. Powers, Hinckley, Ill.

Mention as follows:

J. M. Philpots, Loyal, Wis.
 Edward Bailey, Pigeon Cove, Mass.
 R. C. Mellinger, Arcanum, Ohio.
 R. W. Henderson, Monticello, Iowa.
 Thos. Waddell, Eagle Grove, Iowa.
 J. H. Bohn, Elmira, N. Y.
 John L. Shaw, Coshocton, Ohio.
 V. Denick, Miles, Iowa.
 Ferdinand Waldron, Dighton, Mass.

The management of the Fox Supply Company can certainly feel proud of the work illustrated in these several photographs; and is to be congratulated on having secured such an abundance of convincing sales arguments.

❖ Buffalo Master Painters Elect

The Buffalo Association of Master Painters and Decorators have elected these officers: President, John H. Fish; vice-president, William Ely; secretary and treasurer, Fred C. Glunz. William Pinck, Casper Glunz and F. T. Smith were elected to the board of trustees.

❖ You Will Want "Doorways"

January 1, 1913, marks the arrival of a brand new publication for architects and builders—"Doorways" published by the Richards-Wilcox Manufacturing Company, Aurora, Ill., and filled with bright, readable things in addition to the solid information contained about Richards-Wilcox hardware specialties.

"A hanger for any door that slides" is the slogan of the Richards-Wilcox Mfg. Co. This little magazine, under the guidance of their advertising manager, Mr. Ralph Barnum, shows itself a friend-making representative of a highly thought of line.

The publishers want to place this book, as it is issued, into the hands of every architect and contractor interested in builders' hardware. Drop them a line and have your name put on the list.

It is expected that "Doorways" will live up to its name and prove to be in reality a doorway to bigger and better business for the Richards-Wilcox Mfg. Co., and for their customers.

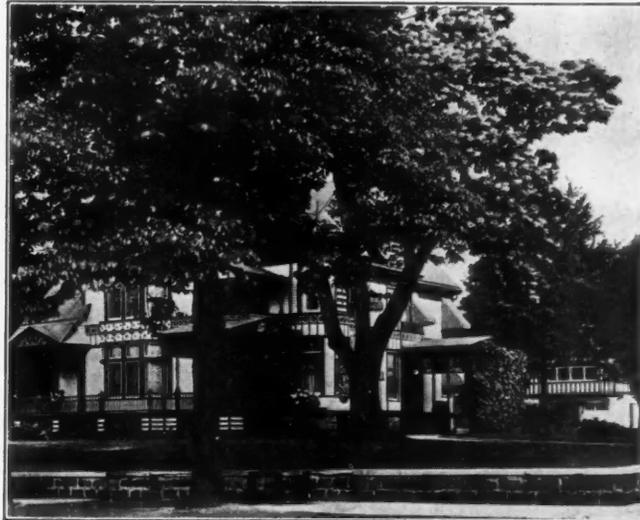
❖ Heating the House from the Garage

The latest idea in the heating of private dwellings is to locate the heating plant in a separate building. This innovation comes from South Bend, Ind., where the heating plant in the Ford residence, a picture of which is here shown, was moved to the garage, the heat being conveyed to the house by means of an underground steam line.

The advantages of a detached plant are at once apparent. No matter how carefully the private plant may be designed, that great bug bear, "dirt," will always be present in the form of coal dust and ashes, frequently accompanied by the fumes of coal gas rising through the living rooms. In addition, the fire hazard is always greater when the furnace is located in the cellar.

Before the new plan could be adopted it was necessary to solve a very vital problem—the problem of heat radiation from the underground pipes. Steam pipes that are not properly insulated rapidly lose their heating efficiency, which of course means excessive coal bills.

In the Ford heating plant this objection was overcome by laying the steam line in J-M Sectional Conduit, a strong, durable,



Ford Residence, South Bend, Ind., Heated From Garage

impervious tile piping, specially designed for protecting and insulating underground steam and hot water pipes. This conduit is furnished in three-foot lengths, each length being divided into an upper and lower section for convenience in laying.

The method of laying is to place all the lower sections in a trench. The steam pipe is then laid on roller supports in this semi-circular "gutter" and packed with asbestos-sponge filling, one of the most practical heat-insulating material known. Next the upper unit of the conduit is hermetically sealed to the lower one, after which the process of packing the filling around the pipe is completed. This thorough system of insulation practically prevents loss of heat from radiation, even when the steam pipe extends underground several hundred feet.

❖ Power Woodworkers for Carpenters and Builders

From the extensive advertising of combination wood-working machinery, it would appear that they are something entirely new when, as a matter of fact, J. A. Fay & Egan Co., said to be the world's oldest and largest manufacturers of woodworking machinery, have been building machines of this type for many years.

These Fay-Egan Combination Machines are not experiments or impractical affairs designed to lure the dollar from

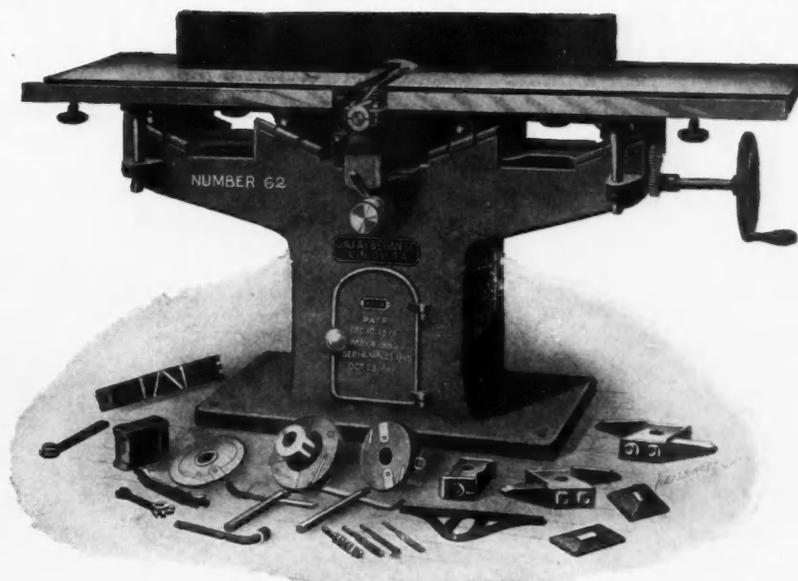


Fig 1. No. 62 Universal Woodworker

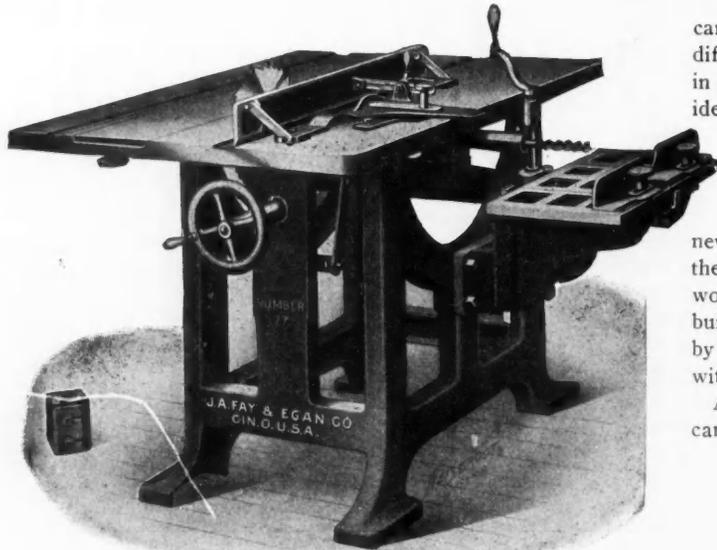


Fig. 2. A Medium Priced Woodstocker

carpenters and builders who desire to get all out of their business possible. On the contrary, they are time proved and tested machines, thousands of them being used all over the world. That they are paying investments for carpenters and builders is a proved fact. Even the larger mills and factories use them for running odd jobs and as general assistants to the big machines, since these combination tools can be set up to help out almost any machine which is overcrowded on a rush job or temporarily out of commission.

The most popular of these Fay-Egan Machines is their No. 62 Universal Woodworker, as shown in Fig. 1. This machine is also made with a side spindle and known as No. 63. This machine will plane out of wind; surface straight or tapering; rabbet door frames; rabbet; gain; chamfer; plow; make glue joints; square up posts, table legs and newels; raise panels, either square, ogee or bevel; stick beads; work circular moulding; rip; cross cut; tenon; bore (boring attachment being on back); rout; rabbet; joint and bead window blinds; work edge mouldings. In fact it is truly called a "whole wood shop in itself."

For those shops which do not require so complete an

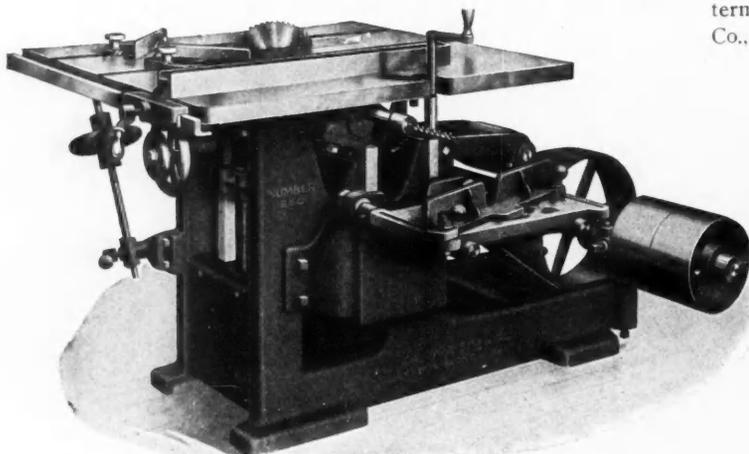


Fig. 3. Fay & Egan No. 260 Variety Saw

oufit, the Fay-Egan Co. build their No. 77, called "a Medium Priced Woodstocker" as shown in Fig. 2. This machine will rip, cross cut, panel, gain, joint, bore and do a great variety of general shop work.

Fig. 3 shows the Fay-Egan No. 260 Variety Saw with boring attachment. This machine is designed for those

carpenters and builders who do not have a great many different kinds of work to do, but who take special pride in getting out the very finest stuff. It was designed with the idea of making a variety saw with extremely accurate adjustments. It is used particularly in high grade pattern work.

For the man just starting up a shop and not wanting to invest too much money before he finds out how his new venture is going to work out, the Fay-Egan Co. make their No. 1 Variety Saw as shown in Fig. 4. This machine will work as its name implies, a great variety of carpentry and building stock. In fact, its uses are limited practically only by the ingenuity of the operator. This machine is also made with boring attachment, as shown in Fig. 5.

All of these Fay-Egan machines are built with the same care and attention that characterize the big machines which



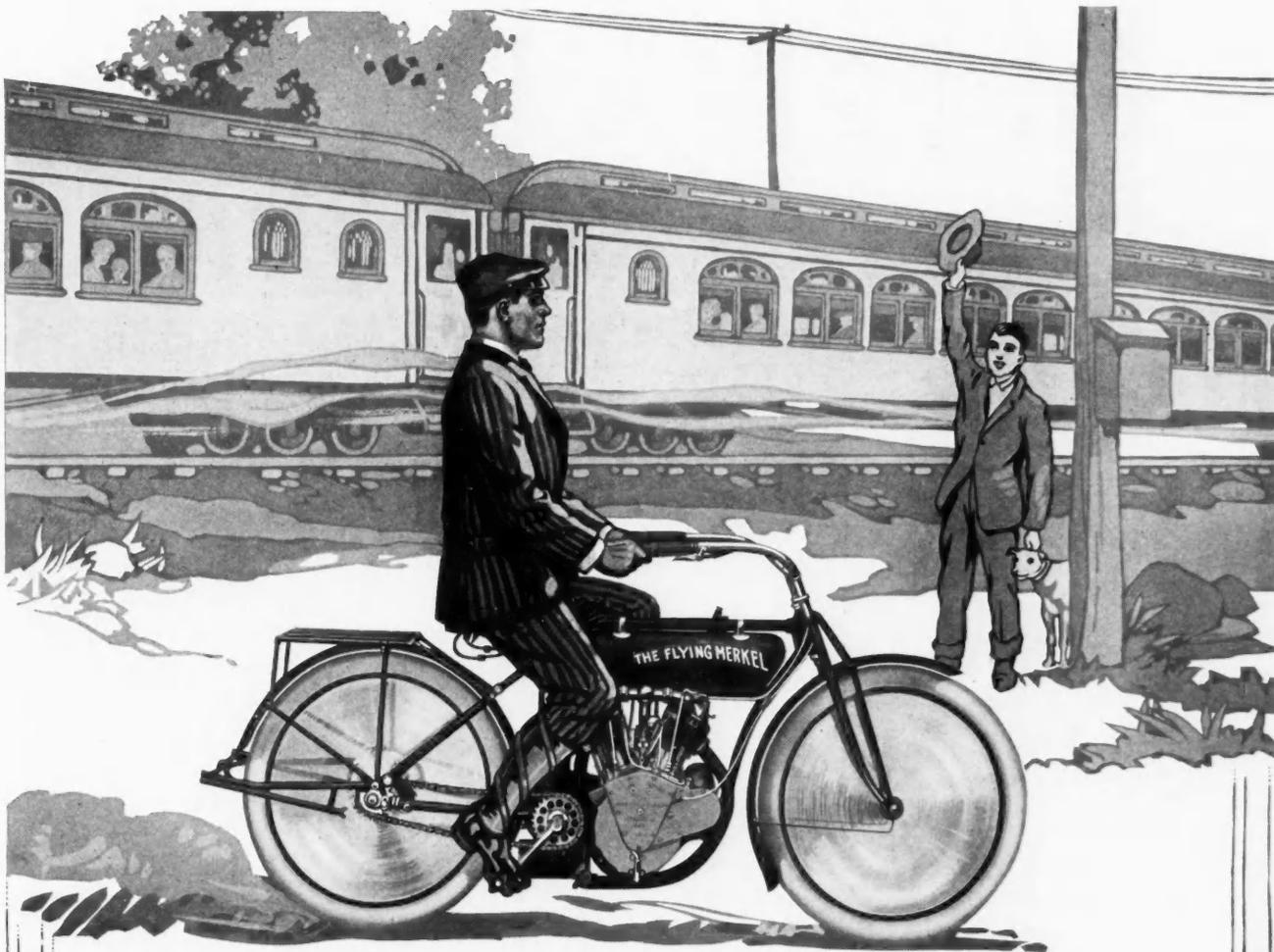
Fig. 4. No. 1 Improved Variety Saw

have made this company world famous. Only the highest grade workmanship and materials are employed in their construction. This means machines which will run at a low power and upkeep cost and give many years of service. Another point which should be noted is that they are all so designed that the changes and adjustments for different kinds of work can be quickly and easily made.

Any carpenter and builder starting up his own shop should carefully investigate these Fay-Egan machines before placing his orders. Full details of construction together with prices, terms, etc., may be had upon request to J. A. Fay & Egan Co., 545-565 W. Front St., Cincinnati, Ohio.



Fig. 5. No. 3 Improved Variety Saw (With Boring Attachment)



Contractors, Carpenters, Plumbers

And all persons whose work requires quick trips out in the country or to distant parts of town where time lost reduces profits will find the motorcycle the greatest time and labor saver of the Twentieth Century. It is essential, however, that the *right* machine be selected.

The Flying Merkel

**Is the Only Motorcycle in the World Fitted With
A Self-Starter and a Two-Speed Gear**

It is the original Spring Frame Motorcycle, and is positively the world's most comfortable motorcycle. The patented full ball bearing motor makes its power plant the most flexible and at the same time the most economical motorcycle engine in the world. Chain or belt drive, in six models. Write today for handsome art catalog fully describing all models.

"The Flying Merkel is the Best Motorcycle Made."

THE MIAMI CYCLE & MFG. CO.

601 Hanover Street

Middletown, Ohio, U. S. A.

When Writing Advertisers Please Mention the American Carpenter and Builder.

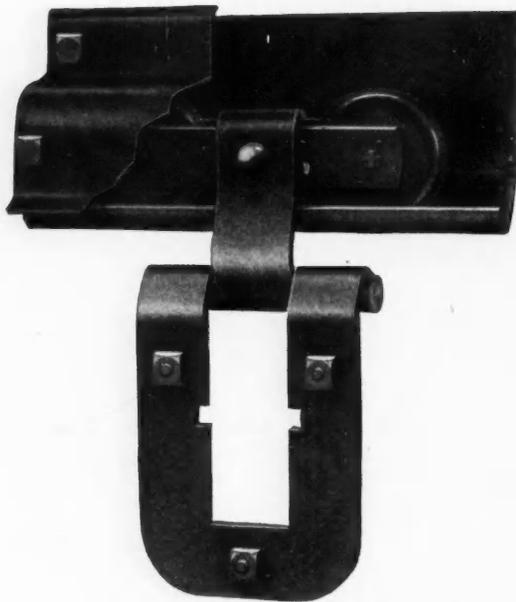
THE IDEAL

For Sliding

Are you satisfied with and rail and other doors that you have they always been satisfcomers?

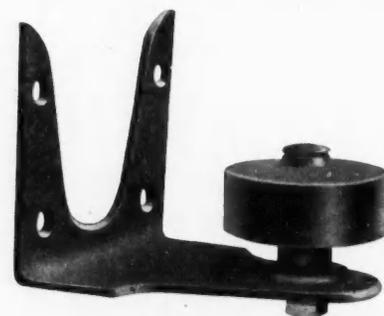
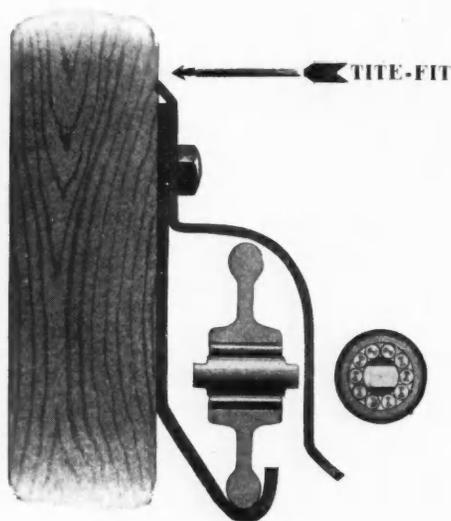
Hangers and Rail that will give such satisfaction that it to return to the job repeatedly are not the kind for you to

If you have been having trouble *and Rail*. They run easy, weight, in fact they are a com you cannot afford to overlook. job. They will insure both faction and peace of mind.



No. 77 Storm Proof

The No. 77 Storm Proof Hanger has two large wheels in tandem, equipped with steel roller bearings. Equalizing pin in center of drop strap distributes load equally to each wheel. Flexible Hinge joint. Axles and rivets galvanized to prevent rust. Packed one pair in a box with all necessary bolts, lag screws, etc.



No. 18 Stay Roller

Here is a strong, sturdy Stay Roller with extra wide space between screws giving unusual bracing strength. The wheel has rounded top and will not clog with dirt. It is adjustable also.

National Mfg. Co.,

When Writing Advertisers Please Mention the American Carpenter and Builder.

EQUIPMENT

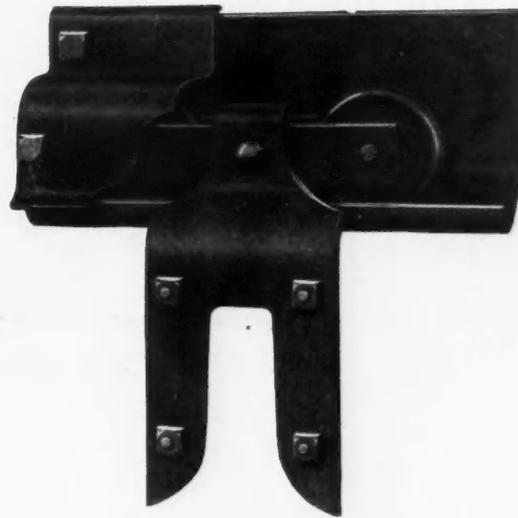
Barn Doors

the barn door hangers equipment for sliding used in the past? Have factory to your cus-

not carry their load easily and will not be necessary for you to put them in running order use.

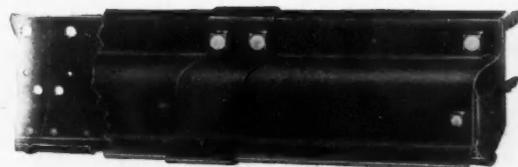
try *Storm Proof Hangers* are easy to attach, carry great plete, satisfying combination

Try them on your next barn you and your customers satis-



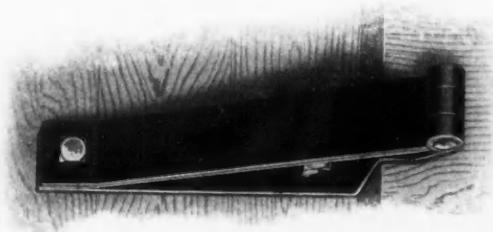
No. 66 Storm Proof

The No. 66 Storm Proof Hanger is built on the same heavy lines as the No. 77 and is similar in every respect except the flexible hinge joint. It is a rigid hanger. This style is also packed one pair in a box with all necessary bolts, lag screws, etc.



Storm Proof Rail

The Storm Proof Rail does not require any housing as it fits close to the building forming a perfect water shed. Bird Proof, too. Requires no brackets. Great carrying capacity. It will save you the time and lumber necessary to build a housing of wood. The best thing yet for you.

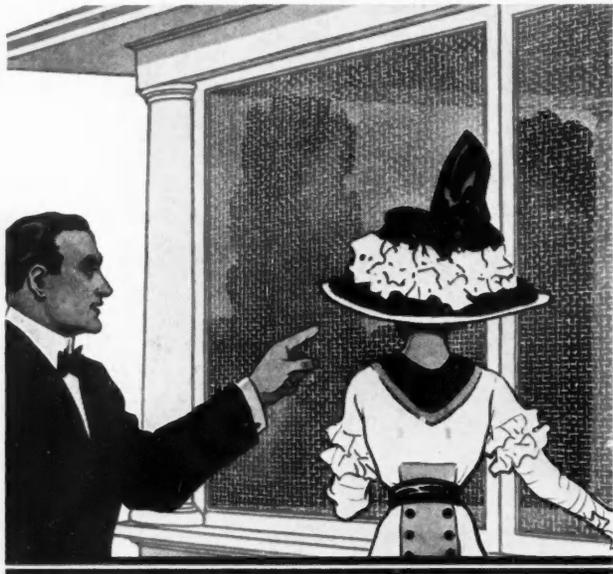


No. 16 Door Bumper

This bumper is something new. It is made of steel and will save you the time required to make an inferior one of wood. Lag screws are furnished with it and when placed on the building three inches above center of door will last as long as the door. It holds the door close in against the building, too.

Sterling, Illinois

National Mfg. Co.,
Sterling, Ill.
Gentlemen:
Please send me your catalog and
booklet, "Sliding Barn Door Equip-
ment." My dealer's name is
Yours truly,
..... 1913.



Take Advantage of This Twentieth Century Improvement in Screen—

You are a progressive man, are naturally quick to take advantage of twentieth century improvements in methods and materials—

Here is just what you have been looking for in a modern wire cloth for door, window and porch screens.

Gilbert & Bennett PEARL Wire Cloth is the name—the genuine article is identified by *two copper wires* in the selvage.

It is the most beautiful screen imaginable—and the most durable. The very process which gives it its beauty renders it highly weather-proof. In the long run "PEARL" costs *much* less than cheaper screen.

GILBERT & BENNETT
PEARL
WIRE CLOTH

For Screening Doors, Windows and Porches

Two grades are to be had—Regular Grade, suitable for doors and windows and Extra Heavy, made especially for porches. Both have the *two copper wires* in the selvage as a means of identification.

Gilbert & Bennett PEARL Wire Cloth is permanent and truly economical—the meshes don't break, separate or offer a lodging place to dust, dirt or germs. It is worthy of your work.

Now, if only for the sake of information—call upon the best hardware dealer in your town and talk to him about "PEARL"—or—write our Chicago office for samples and complete book.



Write for These Samples
and Particulars—
Address our Chicago Office!

The Gilbert & Bennett Mfg. Co.

Established 1818

Chicago Georgetown, Conn. New York City Kansas City

When Writing Advertisers Please Mention the American Carpenter and Builder.

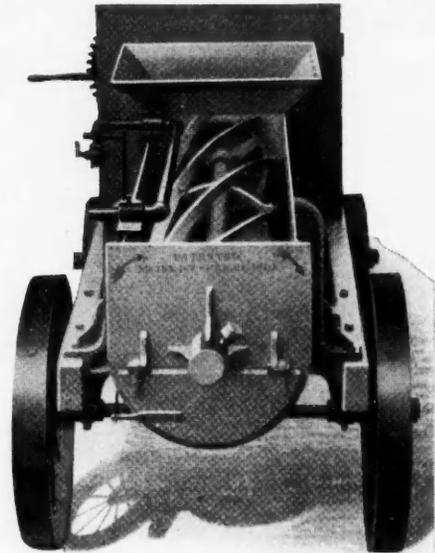
The Coltrin Mortar Mixer

The time has passed when the building contractor can afford to mix his mortar by hand. Labor prices are too high and the hand mixed mortar is seldom of the proper consistency.

Wide-awake builders are turning more and more to the gas power driven mortar mixer. One of the best of these is a No. 0 Coltrin mortar mixer made by the Knickerbocker Company of Jackson, Mich. An illustration of this machine is presented herewith. This machine requires only a 4 horse power gasoline engine, yet its capacity is sufficient to keep 25 masons supplied.

The mixing mechanism of the Coltrin mixer is a cylinder or basket with spiral blades revolving in a circular trough.

The unmixed mortar is shoveled in at the front end and these revolving spiral blades whip it into a smooth, even paste. The spiral form of the cylinder blades works the mass gradually towards the discharging end. When the gate is opened the thoroughly mixed mortar flows out into the laborer's hod.



Coltrin Mortar Mixer

The brick layers find that machine mixed mortar is much easier to use, permitting faster work; for it comes to them in proper shape to be spread at once on the brick without having to be reworked with the trowel.

No builder who has any large work to handle where a number of masons are employed can afford to do without a mortar mixer. Our readers should look into this proposition. The Knickerbocker Company, Jackson, Mich., will send full particulars on request.



Where to Buy Master Slide Rules

The American Patent Sales Co., 417-A Fifth Ave., New York City, is now the sole distributor for the Dahl Mfg. Co., manufacturers of the Master slide rule. All inquiries hereafter regarding this rule should be addressed to the American Patent Sales Co.

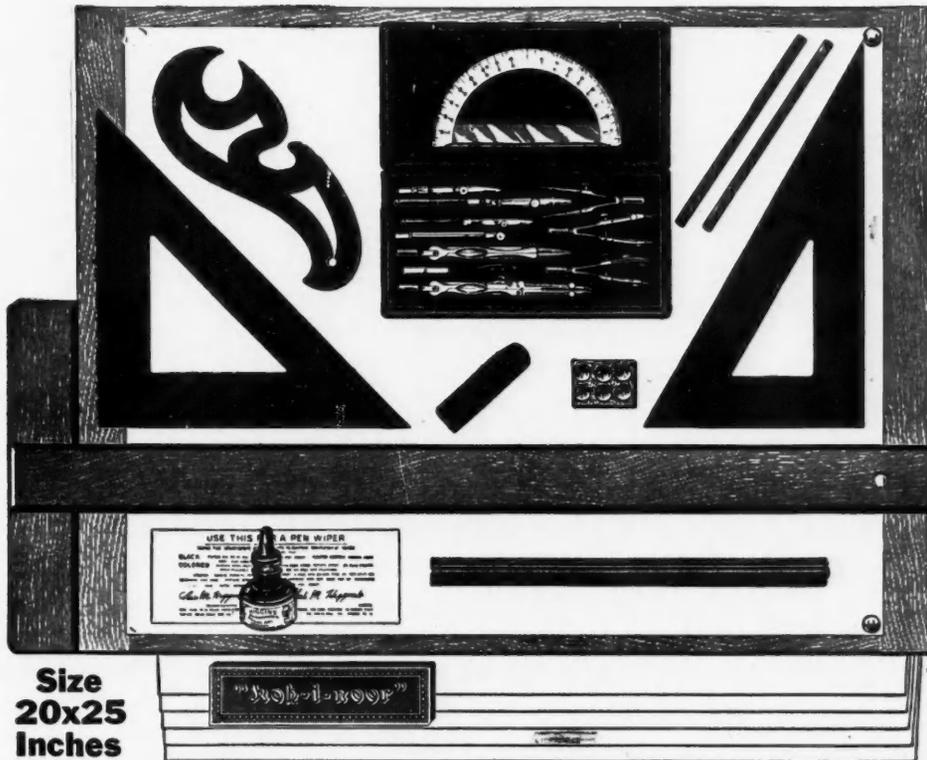
The Master slide rule is particularly intended for taking inside measurements for doors, windows, etc., and carpenters, builders, contractors, and architects will find it a great labor saver. This rule is illustrated herewith. One side of the



Showing the Master Slide Rule

rule is marked for inside measuring, and the reverse side is marked the same as the standard rule. This rule is made in various lengths from 2 to 6 feet. Particulars and a good proposition for agents can be secured by addressing the American Patent Sales Co., 417-A Fifth Ave., New York City.

FREE \$15⁰⁰ Drawing Outfit



Size
20x25
Inches

For You
TO
Draw
More
Money
Right
Away

Draw \$125 to \$175 Per Month

Chief Draftsman Will Instruct You Personally

A most wonderful opportunity for a limited and selected number of ambitious men! For over twenty years I have been doing the highest paying expert drafting work. I am Chief Draftsman of a large and well known company. Daily I see the urgent demand for practical, trained draftsmen and I apply my practical method for ambitious men whom I train personally. Each month the demand for practical trained draftsmen is growing.



I Guarantee

To instruct you until competent and placed in a position at a regular salary paying from \$125.00 to \$175.00 a month.



Get This Valuable Book FREE! If You Write to Me AT ONCE

As Chief Draftsman of a big engineering firm I know exactly the quality and quantity of practical training, knowledge and actual up-to-date experience (not school knowledge) you must have in order to obtain a good position and advance to highest salary. This is NOT a regular correspondence school course. I deal individually with each student and give you individual practical working plans (just as your ability and advancement requires) which fit your particular needs. Men who expect to be Superintendents, Mechanics, Engineers—must know practical Drafting as I teach it. What I want is the right kind of men. Don't bother about expense.

You Can Earn Big Money At Once While Learning At Home

Yes, my friend, \$5.00 to \$10.00 per day. I will pay you for your work that you can do for me, even while learning right at your home if you write to me at once.

Mail Free Coupon NOW

I will send my book to those who write at once absolutely free—also full particulars about my offer to a few ambitious men who want to make from \$2,500 to \$5,000 a year. No obligations on you whatever in sending this coupon.

ADDRESS
Chief Draftsman
Division 2662
Engineer's Equipment Co., [Inc.]
Chicago - Illinois

FREE COUPON

Chief Draftsman, Div. 2662
Engineer's Equipment Co., Chicago, Ill.

Without any obligation on me whatsoever, please mail your book, "Successful Draftsmanship," and full particulars of your liberal personal instruction offer to a few students. It is understood that I am obligated in no way whatever.

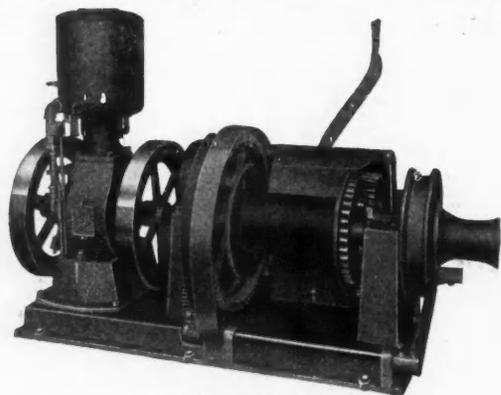
Name.....
Address.....

When Writing Advertisers Please Mention the American Carpenter and Builder.

The Ideal Contractors' Hoist

Everybody knows of Mr. R. E. Olds of Lansing, Mich., the pioneer in the automobile business,—the originator of that old time famous car, the Oldsmobile. As a designer and manufacturer of autos and of gasoline engines, R. E. Olds holds a unique place.

It appears that Mr. Olds' gas engines are just as good for



Power Hoist for Builders

driving contractors' equipment as for running automobiles. The Original Gas Engine Company of which Mr. Olds is President, has specialized in the designing of gasoline engine operated contractors' hoists. The illustration herewith shows one of these.

This contractors' hoist is simple in design and easy to operate. It is equipped with drum, sheave and nigger head. The drum and sheave can be operated in either direction independent of each other, by a single lever. A strong, substantial foot band brake that will hold the load in place

is within easy reach of the operator, so there is no chance of confusion in case of emergency.

In designing this hoist, careful study was made of all the work a contractor requires of a hoist. The manufacturers are confident that this is a simple, substantial outfit that will meet all the requirements of the average contractor.

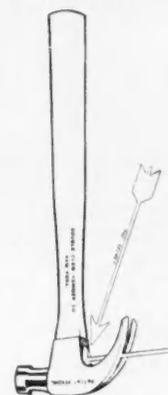
The hoists are equipped with three sizes of engines—5, 6 and 9 horse power.

Those of our readers who are interested in a good power contractors' hoist should write the Original Gas Engine Company at Lansing, Mich., for all particulars.



One-Armed Man Can Use This Hammer

All of us at times, and the carpenter very frequently, have had to hold on with the left hand while starting a nail with the right; an exceedingly difficult feat in any way we could devise with the old style hammer. There is now a hammer to be had costing no more than any real good hammer, namely the "Hynaler," with which the nail can be conveniently started in at a point impossible to reach in any other way—high up, low down or far across. This high class hammer is made by the Double Claw Hammer Co., of 453 Broadway, Brooklyn, N. Y. It has a chisel grip claw with so powerful a hold on the nail that you can take hold of the plain part of the nail and pull the head clear through the wood, and very tough steel.



"Hynaler"

It is oil tempered

Quality Is
Economy

"American Enterprise finds Business Profit
in Appealing to the Pride of the Common
Folk.

—Arnold Bennett.

It was a great surprise to the English novelist to find low-price apartments *beautifully* fitted and trimmed and *finished*—not as a benevolence but as a business policy.

Murphy Architectural Varnishes long ago demonstrated the Renting and Selling Value of this Appeal to pride: and then, as one of the largest builders remarked, "With Murphy goods you *don't need to refinish* every time a tenant leaves or a buyer fails of payment. The finish is *there*, ready for the next occupant."

The Varnish
That Lasts
Longest

Murphy Varnish Company

FRANKLIN MURPHY, President
Associated with Dougall Varnish Company, Limited, Montreal, Canada

NEWARK,
N. J.
CHICAGO,
ILL.

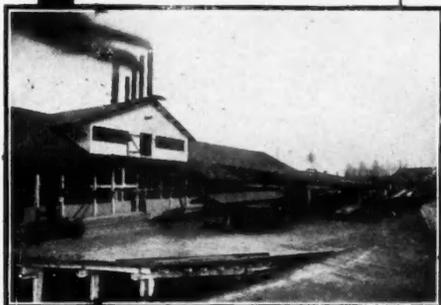
When Writing Advertisers Please Mention the American Carpenter and Builder.



Save 40% to 60% On Lumber and millwork



From our forests



To our mills



Miles and miles of lumber piles awaiting your orders

Just note the lowness of these mill prices

2x4, 12, 14, 16 ft., No. 1 Common fir sized, per M.	\$12.50
2x6, 12, 14, 16	12.00
2x8, 12, 14, 16	12.00
2x10, 12, 14, 16	13.00
2x12, 12, 14, 16	13.50
1x6, No. 1 Common fir SIS	11.00
1x6, No. 2 Common fir SIS	9.00
1x4, No. 2 Clear and Better slash grain flooring, per M.	23.00
1x4, 1st Clear vertical grain fir flooring	31.00
5-8x4, No. 2 Clear and Better fir ceiling	19.00
1-2x6, "A" Clear red cedar bevel siding	24.50
1x6, No. 2 Clear and Better fir drop siding	20.00
1x4 1-4 Clear Bull Nose casing, per foot	1 1-2c
1x7 1-4 " " " base	2 1-2c
2-8x6-8-1 3-8-5 Cross Panel Fir Door	\$1.50

Shingles—straight car load prices

5-2 16-inch Clear red cedar shingles, per M	\$2.30
6-2 16-inch Extra *A* red cedar shingles, er M	1.80

Underbid your competitors
Get more business
Make more profit—Furnish better materials
Buy direct from the mill

Stop paying hold-up prices for lumber and millwork that keeps getting poorer and poorer in quality, as good timber grows scarcer.

Stop paying 5 profits

Here's the reason why lumber and millwork are so outrageously high. They come from mills controlled by the combine. Mill cost is too high, to begin with. From mill to you five middlemen—wholesaler, jobber, commission man, salesman and local dealer—all add a fat profit—and it's all included in the price you pay.

We stop this hold-up game by selling you direct at

Prices lower than local dealers can buy for

You pay just one profit—that profit is based on a cost of production amazingly low. Here are the facts. Judge for yourself.

We own forests and mills We carry huge stocks

We are a million dollar corporation, with 45 years lumbering experience. We own billions and billions of feet of standing timber in the famous Puget Sound territory. In our tract are fir, spruce, cedar, hemlock and western soft pine, in an almost inexhaustible supply.

We do our own cutting, logging and hauling. Our six great mills are producing each day 20 to 30 carloads of highest quality lumber: sash, doors, shingles and general millwork. You get all the benefits of this great cost-reducing organization. We sell you direct.

Immediate shipments from stock Rapid transportation to you

We carry immense stocks. Miles and miles of lumber piles and

warehouses full of millwork of all kinds await your orders. All shipments are made within 24 to 48 hours. 7 great transcontinental railroads maintain fast freight schedules from Seattle. Our shipments reach all points west of the Mississippi within two weeks. By looking ahead just a few days you save 40% to 60%.

Quality and satisfaction Guaranteed

You know the quality of "Puget Sound" lumber. How it is free from large knots and sap. How it comes straight, doing away with waste and working over. We back every shipment with the guarantee that it will grade better than trust and combine standard. It is sure to make a big hit with your customers. Money promptly refunded unless satisfied.

One Estimate will convince you

Send us your material lists for the jobs on which you are now figuring and get our prices. Our mill cost is so low and our carload rates so favorable that we can lay down materials at your station at a lower cost than anyone else, local or otherwise. Don't miss this chance to increase your profits. If you haven't any material lists to send right now, at least send for catalog and price list.

Hewitt-Lea-Funck Company

623 First Ave., Seattle, Wash.

Kindly send me your catalog and list of prices on lumber and building supplies, laid down at my station.

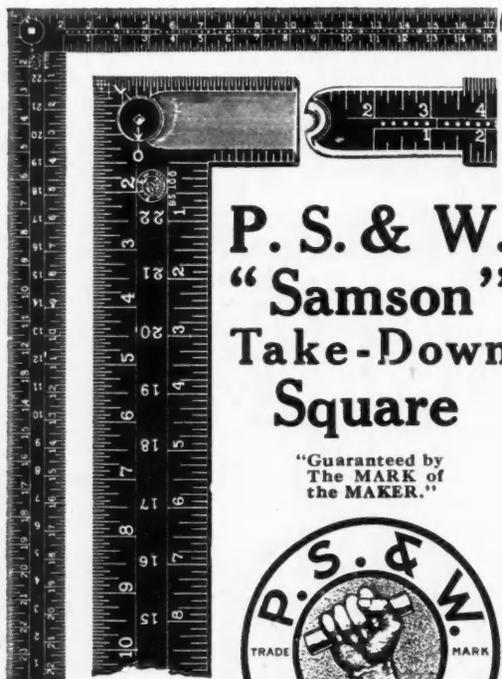
Name _____ Business _____

Address _____

When Writing Advertisers Please Mention the American Carpenter and Builder.



Mail the Coupon today for Catalog and Price List



**P. S. & W.
"Samson"
Take-Down
Square**

"Guaranteed by
The MARK of
the MAKER."



IT IS strong and accurate, easy to take apart, and when locked you'd never know it wasn't one solid piece.

The long tongue and groove are milled and machined to such an accurate fit that though they slide easily together, the square is always absolutely true.

That long shoulder carrying the groove gives extra strength, and the locking device is the simplest one made, and can be operated by a nail or the shank of any tool that will fit into the slot.

The P. S. & W. Take-Down is made either with rafter-tables or ordinary markings.

It is only one of many top-notchers in the very large and complete line of P. S. & W. guaranteed steel squares.

P. S. & W. CARPENTER'S TOOLS

These include the finest and most complete lines of braces and bits, chisels and gouges, draw-knives, piers, and other tools for carpenters.

You'll find them all listed in our "Mechanics' Handy List," which shows over 200 tools for Carpenters, Machinists, Electricians and Tinsmiths. The book is handy pocket size and has over 30 pages of valuable shop tables and useful information. *Sent free at your request.*

THE PECK, STOW & WILCOX CO.

Manufacturers of the Largest Line of Mechanics' Hand Tools Offered by Any Maker

Southington, Conn. New York, N. Y. Cleveland, Ohio.

Address, 22 Murray St., New York City



The P. S. & W. Sampson Take-Down Square is packed in a neat, water-proof canvas case, as shown above.

The Lightning Slate Dresser

The machine illustrated, for punching and trimming slate is practically indispensable to men engaged in the Slate Roofing business because it does the work of ten men and better than by hand; adjustable to any size or shape; cuts and punches at the same operation; countersinks the hole; cuts round or straight and spoils no slate. The punches make a hole apparently drilled and countersunk. There is no



Machine for Trimming and Punching Slate

scaling off whatever, where in hand punching, there are large pieces scaled off which greatly weaken the slate and often cause the nail head to pull through. Will punch slate to gauge for lath or iron framed roofs. Any intelligent boy with experience necessary to properly select slate can punch and cut to the most difficult patterns, from 10 to 20 times faster than an experienced slater can by hand. The Lightning Slate Dresser is made of iron and steel, is very strong and durable, convenient to handle. This machine is sold by The Auld & Conger Co., of Cleveland, Ohio, manufacturers of roofing slate who will send full particulars upon application.



"Charles Buck Tools"

It is a delight to the lover of fine edge tools to look through the new catalog of the Charles Buck Edge Tool Company of Millbury, Mass.

This catalog has just come to hand. It is devoted largely to their line of chisels.

Our readers will find much that will interest them in this catalog which will be sent to any asking for it.

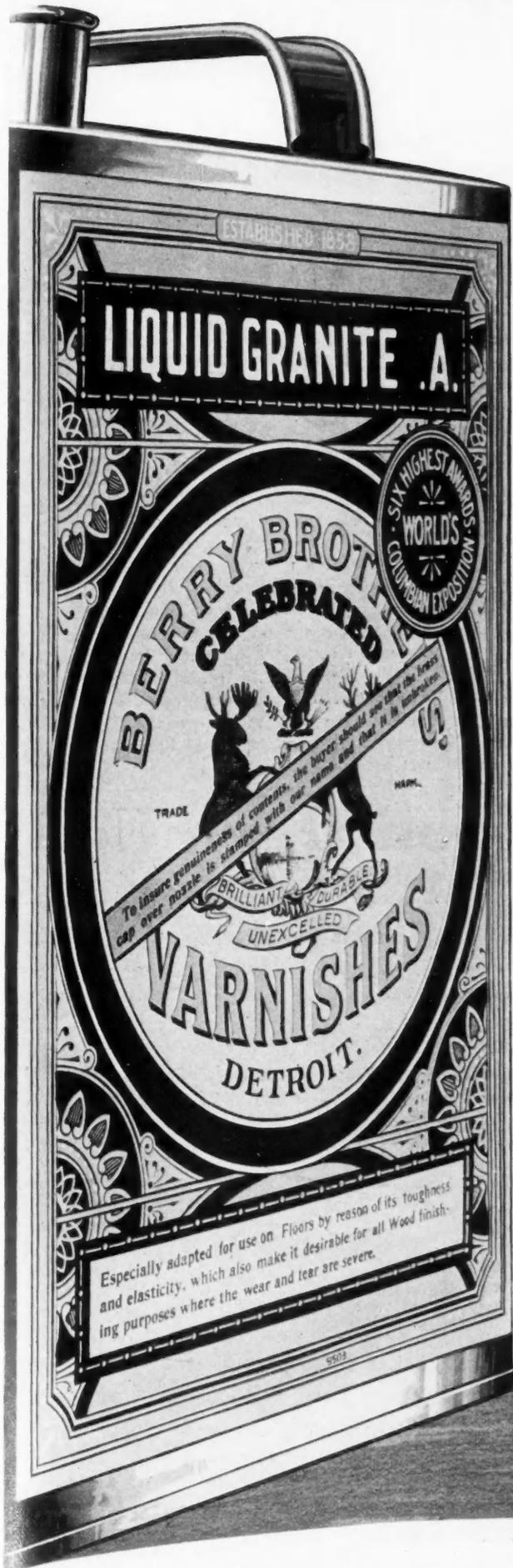
As an example of the worthwhile information contained in this catalog we take the liberty of extracting the following:

A Few Points on Sharpening to Users of Wood Working Tools

"The best edge on wood working tools is a medium edge. The coarse edge is found on knives and the fine edge is used mostly on surgical instruments. The most satisfactory way to obtain this edge is with two stones or a combination coarse and fine stone. Always sharpen against the edge. This results in less wire edge. Remember,—straight strokes sharpen more quickly and most satisfactorily. Rotary movements change the angle at which the tool is held, and hence the edge will not be true.

"A dull tool shows its dullness by a thin, bright line along the edge and the tool is not sharp until this thin, bright line has disappeared.

When Writing Advertisers Please Mention the American Carpenter and Builder.



When Your Work is Finished See that it is Well "Finished"

If you can help it, don't let your customers use poor varnish on your good work.

Use your efforts to see that the finishing measures up to your own high standard of workmanship.

There is no job on which the customer cannot afford to use *good* varnish—the Berry Brothers kind. Yet the market is so full of inferior varnishes that the temptation is strong to use "cheap" goods that produce a poor appearance and give poor service.

Send for a free copy of "Natural Woods and How to Finish Them." It will help you help your customers.

BERRY BROTHERS
DETROIT

"Best results from grinding and sharpening may be obtained if the bevel be made concave like a razor, and then sharpened like a razor to a wedge shape at the edge. The bevel can be made concave by grinding on a regular grind stone. Do not allow this wedge shape at the edge to become too obtuse before regrinding. Each sharpening causes the wedge to become more obtuse and finally, as stated, it is necessary to regrind to restore the acute wedge-like angle.

"The bevel on a chisel or gouge should vary according to whether the tool is to be used on soft or hard wood. Men working on hard wood should use a more obtuse bevel for strength than that which is used in working on soft wood. On a paring or firmer chisel, the acute bevel is correct, but on a mortising, framing or deck chisel the bevel must be more obtuse as there is need for strength.

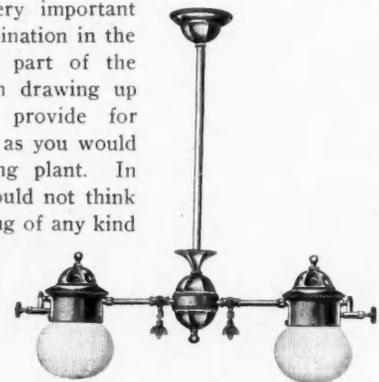
"Bevel on gouges must follow the curve of the tool. As the tool is passed back and forth over the stone it should be given a rocking motion following the sweep of the tool. To finish and take off the fine wire edge which forms on the inside of the gouge, hold the gouge firmly against the bench and rub lightly with a round edge oilstone slip. Be sure to hold the slip flat against the inside of the groove. Inside bevel on gouges are sharpened by holding the gouge against the bench and rubbing against the bevel.

"Do not condemn the cutting qualities of a new tool until you have ground it more than once, as invariably you will find a perfect edge on the second if not on the first time grinding.

"Plane irons will not leave marks of the plane on the wood if they are ground to fit the tool in which they are used. Single iron jack plane should have the edge rounded. Regular jack planes slightly rounded. For smoothing and panel working planes the edge should be straight but the corner rounded. On all other planes the edge is straight."

Economical Illumination

No doubt many contractors are somewhat familiar with and have seen stores, churches, halls, etc., illuminated by means of Hydro Carbon Gas Lighting Systems; and some have taken up this very important subject of modern illumination in the homes, making this a part of the general requisites when drawing up specifications. These provide for this necessity the same as you would arrange for the heating plant. In the larger cities one would not think of constructing a building of any kind without providing for illumination; and it is expected that the contractor be up on these subjects and be able to enlighten the householder.



Hydro Carbon Gas Lighting Fixture

It has been demonstrated that illuminating by Hydro Carbon Gas is economical. There are several methods and devices for producing same, which would consume considerable space to explain here. The manufacturers, moreover, are glad to furnish literature that covers this subject in a comprehensive manner. The live wire contractor who is willing to keep up with the times should get in touch with makers and familiarize himself by sending for this information. It is educational and means increasing the income of the contractor. The C. B. Yale Mfg. Co., 20-30 So. Clinton St., Chicago, are one of the pioneer manufacturers of Hydro Carbon Lighting devices and have made this a specialty. They will be glad to further enlighten and send their literature on this important subject for the asking.

Spring Trade Will Soon Open Up

Now is the time for every carpenter to become posted on quality and prices of materials that he will need.

THINK

Of the amount of remodeling work that you will have.
Of all the new work that is coming up.
Of the summer cottages that will be built in your neighborhood.

Then think of BESTWALL. Write for sample and descriptive circular. Trade prices to carpenters.

LEARN

About the only satisfactory wall board.
About the wall board that will not warp or buckle.
About the wall board that is fire proof.
About the wall board that will make a rigid wall.

We cannot tell you all about it here because this space costs too much money. We advertise in your trade paper to get you to write for full particulars.

We put our advertising money into your trade paper because all carpenters should know about Bestwall and this should be the surest and cheapest way to get your attention.

We don't advertise broadcast because it costs too much money and would have to be added to the cost of the material and would have to be added to the price to you.

We want to give you big value for your money—the best material at the lowest price for which it can be manufactured.

ARE WE RIGHT?

SEND FOR PRICE AND SAMPLE. MAKE US PROVE OUR CLAIMS.

ACT AT ONCE—TODAY

BESTWALL MANUFACTURING COMPANY

1247 First National Bank Building, CHICAGO

Warehouses: Cleveland, O.; St. Louis, Mo.; Kansas City, Mo.; Lincoln, Neb.; Louisville, Ky.; Stuttgart, Ark.

When Writing Advertisers Please Mention the American Carpenter and Builder.

“ Demand ”

Wausau

Sandpaper—



And Be Sure You Get It Because It Does the Best Work

WAUSAU
Works Easily,
Surely, Safely
and Quickly.

Use it Carpenters
and Builders.

YOU know there's a big difference in sandpaper, emery cloth and garnet paper. **Watch out** and always be certain of getting and using nothing but **WAUSAU** papers—you'll get the best made.

The **WAUSAU** abrasive line of papers and cloths are economical in the long run as they last longer.

WAUSAU papers and cloths are made in sheets and rolls. Insist upon **WAUSAU** when you are buying.

A
Carpenter's
Pencil and
Book of Samples
for Your Dealer's
Name

Use this coupon and send us your dealer's name and address—we will then send you a handy carpenter's pencil and a book of **WAUSAU** abrasive paper and cloth samples **FREE**.

Just mail us in your dealer's name and get pencil and samples. Clip and send the coupon NOW.

Wausau Sandpaper Co.
WAUSAU, WISCONSIN



SEND YOUR DEALER'S NAME AND GET THIS CARPENTER'S PENCIL AND BOOK OF SAMPLES — FREE

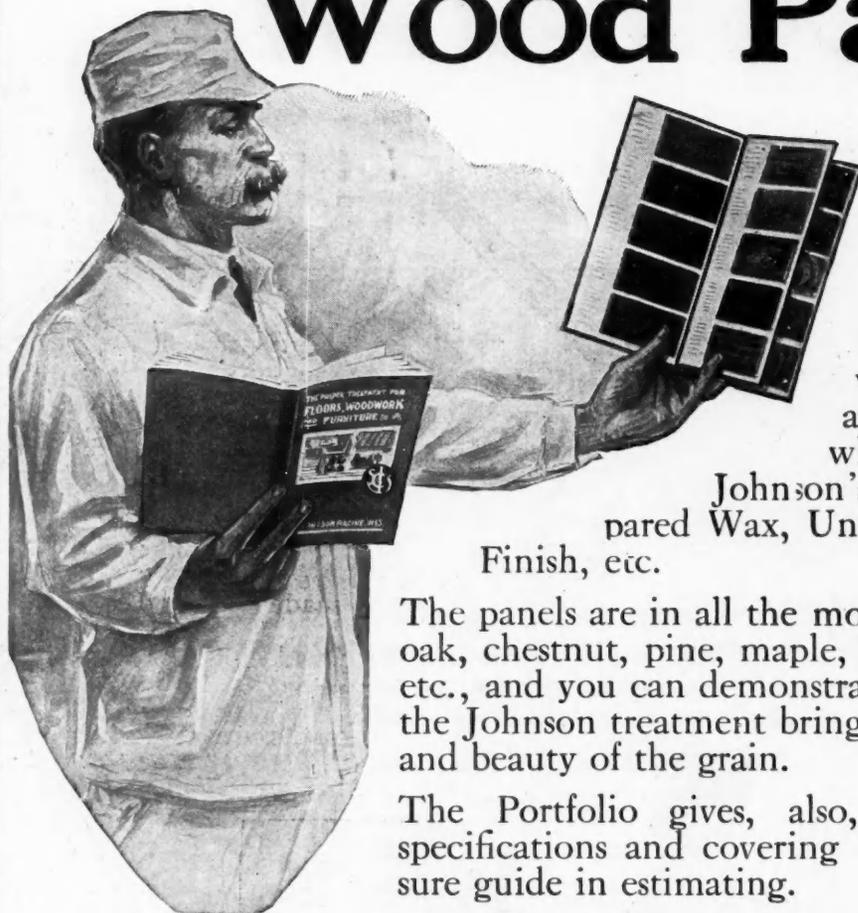
Wausau Sandpaper Co.,
Wausau, Wis.
Gentlemen:—My dealer's name and address is

For this send me **FREE** the carpenter's pencil and book of sandpaper samples you offer.

Name.....
Address.....
City or Town.....

When Writing Advertisers Please Mention the American Carpenter and Builder.

Let Us Send You This Wood Panels



This Portfolio (cost to us, \$1.00) will help you to get trade because you can show your clients *exactly* how their Woodwork, Floors, etc., are going to look when finished with

Johnson's Wood Dye, Prepared Wax, Under-Lac, Flat Wood Finish, etc.

The panels are in all the most popular woods—oak, chestnut, pine, maple, birch, cypress, gum, etc., and you can demonstrate how wonderfully the Johnson treatment brings out the high lights and beauty of the grain.

The Portfolio gives, also, full instructions, specifications and covering capacities and is a sure guide in estimating.

Johnson's Wood Dye

In Seventeen Shades

No. 126 Light Oak

No. 123 Dark Oak

No. 125 Mission Oak

No. 140 Early English

No. 110 Bog Oak

No. 128 Light Mahogany

No. 127 Extra Dark Mahogany

No. 129 Dark Mahogany

No. 130 Weathered Oak

No. 131 Brown Weathered

No. 132 Green Weathered

No. 121 Moss Green

No. 122 Forest Green

No. 172 Flemish Oak

No. 178 Brown Flemish

No. 120 Fumed Oak

No. 180 Silver Gray

This is a real *dye*, not a stain. It penetrates deeply into the wood, never raising the grain. It merely adds to its original beauty and natural charm.

Architects, painters, contractors and home-owners are enthusiastic over this Dye—it surpasses anything in beauty of result and ease of handling.

\$1.00 Portfolio of and Book FREE

The 1913 Edition of our new book, "The Proper Treatment for Floors, Woodwork and Furniture" will be of much use to you in your work; it will help you to make good suggestions to your clients—it contains many excellent and practical hints for new interiors and for refinishing and improving old ones. In short, to get modern and artistic effects you need this Book. Get it today.

Here are a few of the suggestions it contains: *How to finish new floors and re-finish old ones; how to finish woodwork and furniture; how to finish linoleum; how to clean and finish kitchen and bathroom floors.*



Johnson's Prepared Wax

—is a complete finish and polish for all floors, woodwork and furniture. It is easy to use and imparts a velvety, protecting finish, artistic and lasting in results.

The beauty and permanency of work done with Johnson's Wood Finishes makes friends for you; it means that every job is so well done that every piece of work is a good advertisement for you.

Be sure to get the \$1.00 Portfolio and 25 cent Book. If your dealer is not supplied send us the coupon—today.

S. C. Johnson & Son, Racine, Wis.
"The Wood Finishing Authorities"

Value \$1.25—Free

S. C. Johnson & Son
RACINE, WIS.

Please send me, Free, your \$1.00 Portfolio of Wood Panels with specifications and instructions, also your 25c 1913 Book—both free.

Name.....

Address.....

My Dealer's Name is

His Address.....

—ACB 2

When Writing Advertisers Please Mention the American Carpenter and Builder.



Two Door Value *for* One Door's Price

\$5.25

You wouldn't have separate screen and storm doors as a gift, in your own home—not after you had seen a STANDARD Combination Door. For this patented duplex door has a substantial screen section, *two-thirds the full height of the door frame*—and in two minutes, without tools, even a woman can remove that screen and replace it with the tight-fitting, wind-and-dust-excluding sash section, beautifully glazed and finished.

One must look very carefully indeed to detect the difference between high-priced storm doors and the

Standard Combination Storm and Screen Door

The preference of buyer, tenant and owner for the STANDARD is beyond dispute. They, like yourself, have only to examine it to demand it instead of the usual two doors.

And the STANDARD (although it costs only \$5.25 complete for both sections and the door proper) is a fine job of wood-working, good enough for any man's house.

Every STANDARD is made of kiln-dried, first quality lumber; is 1½ inches thick, with 5-inch stiles; and the stiles and rails are mortised and tenoned as snugly as any handmade job you ever saw. STANDARD Doors won't sag, and will do credit to any carpenter or builder who installs them. The glass is of heavy, good, clear quality; screens are of pearl or galvanized close mesh wire and are full two-thirds depth, as is the storm-sash section.

STANDARD door sections go into place in a jiffy, and **WON'T RATTLE** nor leak wind nor dust!

Ask for a showing of patterns, and prices on Y. Pine, Cypress, White Spruce, Oak, Ash or Birch—we offer STANDARD Doors in all these woods.

**The Combination Door
Company**
105 Ruggles Street
Fond du Lac
Wisconsin

**You
Can
Be Sure
That Your
Order Will
Be Filled.**

Machine-Mixed Mortar

The Eureka Machine Company have created a considerable demand among building and mason contractors for a specially designed machine for mixing mortar and re-tempering plaster. While this demand has heretofore been confined principally to the large building contractors, it has been noted more recently that the smaller builders have commenced to use the machine with good results.

The increased use of the machine has no doubt been quickened by the scarcity of labor and the difficulty of getting reliable help. In time the mortar mixer will be regarded an essential part of every builders equipment. The "shovel and hoe" method must eventually make way for the more advanced ideas.

It has been proven that the "Eureka" mortar mixer effects a saving of about 50 per cent in material and labor required to prepare the mixture. A better quality of mortar is insured, and the masons work to better advantage, resulting in an increased amount of work. One man, with the machine, will mix enough mortar for 15 to 20 masons. On very large jobs, where the maximum capacity of the machine is wanted, 3 men will operate it and supply 50 masons.

There has been some question as to the number of bricklayers required before the mixer can be used profitably over hand mixing. The Eureka Machine Company do not claim that very much can be gained where less than 6 masons are employed, except in better-mixed mortar. But any brick contractor using 6 men or more will find the advanced method far superior to the old way, in advantages and profits.



Rice Hotel, Houston, Texas, in Course of Building

The accompanying view shows the Eureka mortar mixer on the new Rice Hotel Building at Houston, Texas. The machine can be seen on the right, placed close to the building for convenience in operating. The contractors—the Westlake Construction Company, of St. Louis—have three of these machines, two of which have been in use constantly for the past year on the twenty or more buildings comprising the Cincinnati Hospital. On November 5 1912, Mr. Rinehart,

When Writing Advertisers Please Mention the American Carpenter and Builder.

Vitralite

THE LONG-LIFE WHITE ENAMEL



PARTICULAR women clients, or clients' wives and daughters are delighted with Vitralite — its pure, porcelain-like, white finish appeals to their dainty feminine nature. Its non-porous coating — dirt-proof and water-proof, guarantees a perfect surface for years. Write for

Vitralite Panels and Booklet, Gratis

See Pratt & Lambert Specifications, 1912 Sweet's Index, pages 1668-1669 before specifying wood finishes.

Pratt & Lambert-Inc. 110 Tonawanda St., Buffalo, N. Y.

"61" FLOOR VARNISH
PRATT & LAMBERT VARNISHES
AMERICAN FACTORIES: NEW YORK, BUFFALO, CHICAGO, BRIDGEBURG, CANADA. ESTABLISHED 64 YEARS. FOREIGN FACTORIES: LONDON, PARIS, HAMBURG.

When Writing Advertisers Please Mention the American Carpenter and Builder.

Secretary and Treasurer of the Westlake Construction Company, wrote as follows: "We consider a mortar mixer practically indispensable for our work. We find that the masons do more work owing to the mortar working to better advantage, and the resulting mortar is stronger, using the same proportion, than if mixed by hand. The three machines bought from your company have given us entire satisfaction."

All contractors engaged in masonry or brick work will do well to write the Eureka Machine Company, Lansing, Michigan, for further particulars. They have an efficient organization and capable staff of engineers who are constantly in touch with field conditions, and invite correspondence. Their catalog No. 30 shows mortar mixing equipment as well as various types and sizes of concrete mixers.



Aggies Elect New Officers

At the sixth annual convention of the American Society of Agricultural Engineers, held in Chicago, Dec. 26-28, the following officers for the ensuing year were elected:

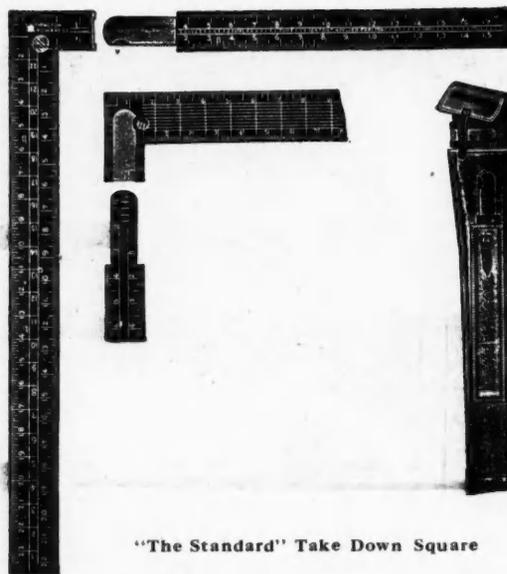
President, L. W. Chase, Lincoln, Nebraska; First Vice President, E. A. Pumley, La Porte, Indiana; Second Vice President, J. A. King, Chicago, Illinois; Secretary, I. W. Dickerson, Urbana, Illinois; Treasurer, J. L. Mowry, St. Paul, Minnesota; Councilor, J. B. Davidson, Ames, Iowa.

The meetings this year were well attended and most enjoyable.



"The Standard" Take Down Square

The Southington Hardware Company's new take down square is illustrated herewith. Although this is a take down square you will see that the heel is solid and the tongue has an extra long sliding fit, insuring great strength, accuracy and preventing wear. The locking cam is easily turned with screw driver, coin or any flat tool, yet it locks the tongue



"The Standard" Take Down Square

firmly in place. With this take down square there are no springs to break or get out of order. Each square is packed in a scabbard, occupying a space of only 24 by 4 inches.

"The Standard" steel square is provided with all the markings and tables to make steel square framing easy. There is an octagon (eight square) scale, a brace measure, directions for taking Essex board measure on Steel squares, length of common rafter, length of hip or valley rafters per foot run, common difference in length of jacks for both 20 and 24 inch centers, side cut of jacks, and of hip or valley rafters, etc.

These squares come in oxidized blue with yellow markings, polished steel, and nickel plated. The Southington Hardware Co., Southington, Conn., will send full particulars.

Attention Mill Men!

We are making a specialty of built-up work for interior trim, panelled and flush wainscoting, veneered casings, base-boards, etc., in both plain and figured woods.

*Can build up to 7' x 16'.
Send in your specifications; we would like to quote you.*



The F. Eggers Veneer Seating Co., TWO RIVERS, WISCONSIN

When Writing Advertisers Please Mention the American Carpenter and Builder.



*When planning a home, a
business structure, an office
building, a church or theatre*

Start Right!



That means to start

With Arkansas Soft Pine

☐ The best short leaf pine for *framing, sheathing, flooring, siding, ceiling* and *interior* and *exterior trim*.

It is available and suitable for these uses

☐ It is employed in increasingly large quantities for *Interior Trim* because it possesses greater adaptability, takes more kinds of paint and stain treatment, and with it the builder can secure more varied and pleasing effects, than with any other kind of wood seeking favor.

☐ Use *Arkansas Soft Pine* and your structure will be *enduring, pleasing* and, inside and outside, *will reflect* the *individuality* of those who plan and those who carry out the plans.

☐ Send for a copy of our beautiful and instructive book on how to trim the home. It will be mailed you by any of the companies.

WISCONSIN-ARKANSAS LUMBER
COMPANY, Malvern, Arkansas

ARKANSAS LUMBER COMPANY,
Warren, Arkansas

EAGLE LUMBER COMPANY,
Eagle Mills, Arkansas

COTTON BELT LUMBER COMPANY,
Bearden, Arkansas

EDGAR LUMBER COMPANY,
Wesson, Arkansas

FORDYCE LUMBER COMPANY,
Fordyce, Arkansas

CROSSETT LUMBER COMPANY,
Crossett, Arkansas

FREEMAN-SMITH LUMBER
COMPANY, Millville, Arkansas

GATES LUMBER COMPANY,
Wilmar, Arkansas

SOUTHERN LUMBER COMPANY,
Warren, Arkansas

STOUT LUMBER COMPANY,
Thornton, Arkansas



When Writing Advertisers Please Mention the American Carpenter and Builder.

Builders, Build a Reputation!

A reputation for being up to date and more enterprising than competitors is a good thing for a builder to have. People discuss a builder about the same way they discuss doctors. Every house he puts up shelters boosters for him, or "knockers."

The builder-contractor who will study advertised construction specialties will find that he can please patrons in two ways. He can post himself so as to supply their desires for certain things they have seen advertised, or he can suggest products to them which are novel, beautiful or convenient, thus earning their good-will.

Good Housekeeping Magazine advertises a large number of construction specialties and guarantees every one of them. This magazine is the trusted friend and indispensable guide to more than 300,000 women heads of households. With them, what Good Housekeeping says "goes"—a fact which can be verified by talking to any of them. And pretty often, it is the woman who has the final say as to who builds the new home.

Here are some of the products advertised in Good Housekeeping Magazine, all being positively guaranteed by it:

Standard Sanitary Plumbing Fixtures	Glidden's Green Label Varnishes, White Enamels, Endurance Wood Stains, Waterproof Flat Wall Finishes and Cement Coatings.
Monarch Metal Weather Strip	United States Radiators and Boilers
Sherwin-Williams Paints and Varnishes	Sargent's Builders Hardware
Maxwell's Lakeside Rug Border	Siwelco Noiseless Closet Utility Wall Board
Tyler's Domestic Hot Water Generator	Sanitas Wall Covering
Wild's Parquet Inlaid Linoleum	Beaver Board
Elastica Floor Finish and Kleartone Stains	Pratt & Lambert "61" Floor Varnish
McCray Refrigerators	Vitralite White Enamel
Minneapolis Heat Regulator	Alabastine Wall Tints
Macbeth-Evan's Glass Shades and Globes	Alabasco Flat Wall Paint
Southern Cypress Valspar	Congoleum
Imperial Sanitary Flooring	Mellotone Wall Finish, High Standard Liquid Paint, Oil Stains (Lowe Brothers)
Brenlin Window Shades	

Give The Public What It Wants It Wants Advertised Goods

The magazine publishes GOOD STOREKEEPING, a quarterly devoted to this question of cashing in on the wide demand for advertised products. A copy of it, and a copy of Good Housekeeping Magazine, will be sent free on request to any contractor or builder. Address Dealers' Service Department, Good Housekeeping Magazine, 381-D, Fourth Avenue, New York.

Post Up on Sand Paper

It is the seemingly little things that make perfection. This is true in cabinet making and carpentry work, the same as in other skilled trades.

Take the matter of sand papering for instance. This is a detail, and an important one too, of the finishing of every piece of wood work, whether hard wood floor, standing wood trim, interior wood panelling, etc., or in the cabinet shop, the finishing of every piece of wood work.

The expert finisher—while careful in the selection of his stains, shellacs, and varnishes—knows that in reality the appearance of the finish depends more than half on how the piece is smoothed up and sand papered before the stain is applied.

There is a right way and a wrong way to use sand paper and more important than that, there are right and wrong sorts of sand paper to use. Even when the right brand is selected, there is a chance to go wrong on the best number to use—that is whether fine or coarse, or medium fine or medium coarse.

The Wausau Sand Paper Company appreciate this situation and their long experience makes any suggestions from them well worth listening to. These people have just issued a new illustrated catalog and price list on their line of Wausau garnet and flint papers. They will send this information together with some samples of their papers to anyone of our readers interested in good sand papering. These may be had through your local hardware dealer, or write direct to the Wausau Sand Paper Company, Wausau, Wisc.



Lumber Direct from the Producer

There was a great sensation last spring when the announcement was made that Hewitt-Lea-Funck Company, one of the biggest and oldest firms engaged in the lumber business in the Northwest had cast aside all custom and tradition and would henceforth sell to the consumer direct.

Foreseeing that their move would doubtless precipitate a war between themselves and firms working under an agreement—otherwise known as the lumber combine—the Hewitt-



Bucking Huge Logs Into Short Lengths to be Handled by Donkey Engine

Lea-Funck Company had purchased immense lumber holdings in Washington, Oregon, California and British Columbia.

In these tremendous tracts are billions upon billions of feet of timber—fir, cedar, hemlock, spruce and western soft pine.

Some of the finest timber in the country is comprised in this tract. You can get an idea of the size of some of the giant firs from the accompanying picture. Notice how small the man is in proportion to the massive log on which he is working.

When Writing Advertisers Please Mention the American Carpenter and Builder.



Birch or Mahogany?



These engravings are from careful photographs of two pieces of wood under identical conditions. One is imported Mahogany, the other plain Wisconsin RED BIRCH. Can you tell which is which? and if you can, which do you like best?

We like BIRCH best because it is a versatile, durable, wear-resisting wood whose peculiar charm gives increasing satisfaction with every year of use. BIRCH costs only one-third as much as Mahogany, and less than any other high-grade, hard wood. Remember this when you plan a house.

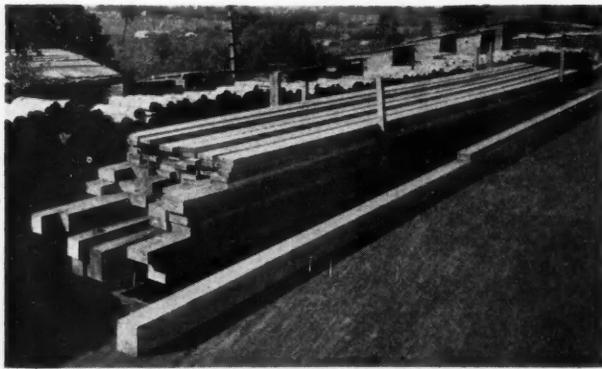
WRITE for a sample of the wood and our illustrated BIRCH BOOK "C," which shows how BIRCH is used in modern homes, apartments and office buildings.



The Northern Hemlock & Hardwood Manufacturers Ass'n.
WAUSAU, WISCONSIN



When Writing Advertisers Please Mention the American Carpenter and Builder.



Large Timbers Requiring Two Flat Cars for Loading.

The Hewitt-Lea-Funk Company produce every bit of the lumber and millwork which they distribute.

In their huge timber holdings, gangs of men are constantly at work cutting down trees. Their logs are carried on their own logging railroads, on their own rails, by their own engines—and drawn to their own mills where they are cut into the finest quality of sawn timber or made into millwork.

20 to 30 cars of materials are turned out each day in the six great mills of the Hewitt-Lea-Funk Company.

In their lumber piles and storage houses are kept a tremendous stock of lumber and millwork at all times. It is very frequent that an order will be received for several carloads of special timbers which require all sizes manufactured.

An order of this kind would demoralize the ordinary mill. To saw the necessary timber would take weeks. These difficult shipments are always gotten out by Hewitt-Lea-Funk

within three to five days. Under ordinary conditions the Hewitt-Lea-Funk Company get shipments out in from 24 to 48 hours.

Much capital has been made by the lumber combine acting through their local agents, regarding the distance of the Hewitt-Lea-Funk Company from many of the points of the territory they cover. When the promptness of shipment is considered, the actual time of delivery is often in favor of the Washington concern. In fact, delivery is almost never a real issue.

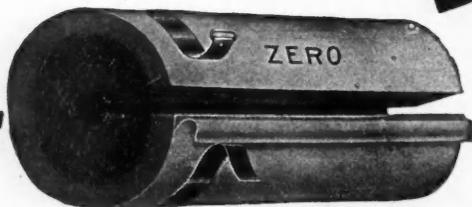
Seattle has seven great railways, all maintain fast freight schedule. Shipments of timber from Seattle go through to points west of the Mississippi well inside of two weeks. There are very few people who cannot plan ahead two weeks, especially when large saving of money is involved.

The stand of fir from which the logging men of the Hewitt-Lea-Funk Company are now cutting, is a class of timber particularly fitted for the manufacture of large and long timbers. You'll see some of these timbers illustrated in the picture. You will quickly appreciate the size of the timber when we tell you that they are being photographed on two flat cars, each 40 feet long.

The timbers shown, range in size from 5 by 8 to 10 by 10 and 75 to 85 feet in length. Large logs suitable for conversion into extra large and long timbers are always kept on hand by the Hewitt-Lea-Funk Company.

They make a specialty of heavy joists for school, church and public buildings and hold themselves in readiness to execute these special orders without delay.

The Hewitt-Lea-Funk Company issue a large lumber price-list that is sent free of charge to contractors and builders. They will be glad to send you their list if you write them telling them the nature of your business. Address them at 623 First Avenue, Seattle, Wash.



Perfect Pipe Protection in the Coldest Weather

The freezing of pipes conveying water, gas, chemicals, etc., can be avoided by insulating them with J-M Zero Sectional Pipe Covering. It is a combination of hair and wool insulating felts specially designed for the protection of such pipes.

J-M ZERO PIPE COVERING

is made in sections 3 feet long, to fit all standard pipes. It is easy and economical to apply and lasts indefinitely.

When exposed to extreme conditions of cold, two thicknesses should be used—one section over another, breaking all joints—and the surface coated with J-M Waterproof Cement.

Ask nearest Branch for Sample and Booklet

H. W. JOHNS-MANVILLE CO.

Manufacturers of Asbestos
and Magnesia Products

ASBESTOS

Asbestos Roofings, Packings,
Electrical Supplies, Etc.

Albany
Baltimore
Boston
Buffalo

Chicago
Cincinnati
Cleveland
Dallas

Detroit
Indianapolis
Kansas City
Los Angeles

Louisville
Milwaukee
Minneapolis
New Orleans

New York
Omaha
Philadelphia
Pittsburgh

San Francisco
Seattle
St. Louis
Syracuse

For Canada:—THE CANADIAN H. W. JOHNS-MANVILLE CO., LIMITED.
Toronto, Montreal, Winnipeg, Vancouver,

1499

When Writing Advertisers Please Mention the American Carpenter and Builder.

Mr. Contractor, Builder:---

The Houses YOU have Built!

*Are you proud to point them out?
Or are you ashamed of them?*

That depends largely upon the *wood* you use. You know that constant repair bills and depreciation will kill any good contractor's *Reputation*—and thereby his *Business*. *Cypress* "makes good" for you because it is *the one best wood for the owner*.

Cypress Resists Rot and Competition

Besides, *folks want it*—our advertising has seen to that.

Can you conceive of any reason why you shouldn't let them have it?

Can you imagine any excuse for laboriously arguing them out of it—and possibly antagonizing them? Why not recommend what will fall right in line with what our advertising has taught them? *They know they need CYPRESS. You (or your competitor) know it!* And your (or your competitor's) *pocket-book knows it*. Nuff Sed! We are "friends to our friends." *Go to it and boost CYPRESS.*

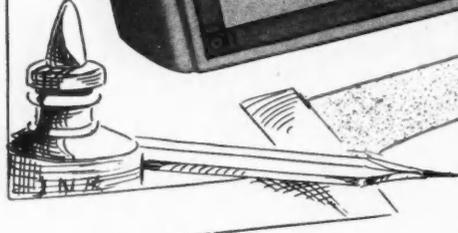
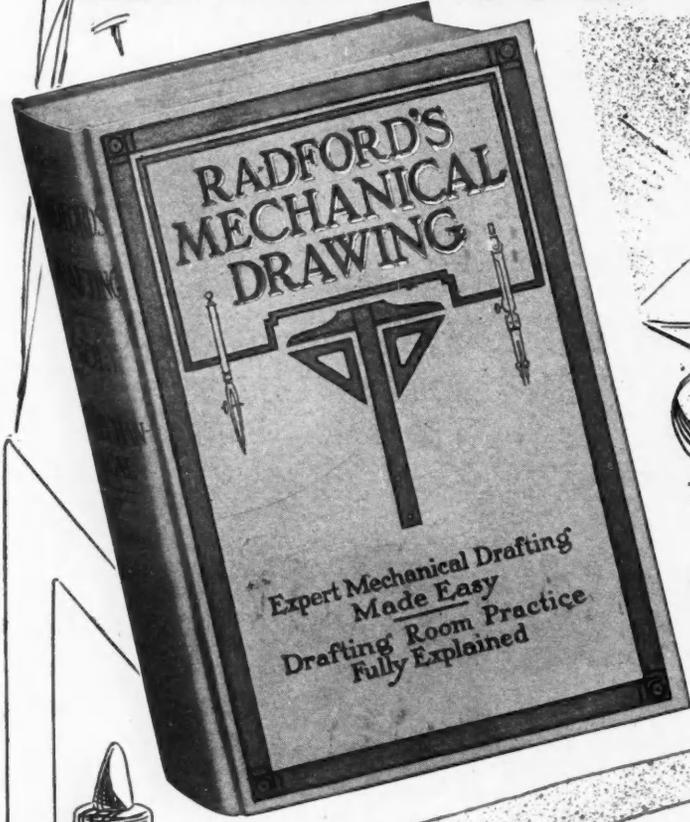
Write our Builders' Helps Department and ask us how we can help you.

Southern Cypress Manufacturers' Association

Hibernia Bank Building :: :: NEW ORLEANS, LA.

Ask your Lumberman if he sells CYPRESS—if not, ask him *why NOT*.

Learn To Be a Draftsman



Don't depend on another man's brains. Develop your own ideas. Learn how to train your hands so that the creations of your mind can be made lasting.

Every contractor, builder and carpenter should know not only how to read plans, but also how to make them. In these days of modern conveniences and new ideas in building the man who can work from his own designs has a tremendous advantage.

DEVELOP THE IDEA—CLINCH THE CONTRACT

To be able to present complete floor plans and details to a possible home builder, to lay out your customer's hazy ideas and suggestions into a tastefully arranged and accurately figured sketch, goes a long ways toward clinching a contract.

Books for All-Around Builders

These two books, "MECHANICAL DRAWING" and "ARCHITECTURAL DRAWING," have been prepared, written, illustrated and arranged for the kind of men who are readers of the American Carpenter and Builder—earnest, ambitious, alert contractors and builders and car-

penters—men who are not satisfied with doing only one thing well, but are anxious to learn all that there is to know about their work and to be able to do any part exactly as it should be done.

Mechanical Drawing and Its Aim

Mechanical drafting or drawing is the process of representing on paper by means of one or more figures, the shape and size of an object, and the relation of its different parts one to another. It is the medium of communication between the designer or architect and the mechanic or builder. The architect plans a building; his ideas are represented on paper by suitable mechanical drawings of the structure, and these drawings are turned over to the contractor or builder to show the shape, dimensions and details required.

Easy Steps to Future Success

By means of these two books, the contractor, builder or carpenter can advance by easy steps from the first principles of drafting room practice to the complete work of an architect's office, including drawing to scale, tracing, detailing, lettering, rendering, designing, etc. He can combine the work of the architect and builder. He will learn not only how to plan the structure, but how to lay out the work, specify the materials and finish, make the contracts, and take complete charge.



Model Set of Plans FREE With Each Order

With each order for the two volumes of "RADFORD'S DRAWING" we will include a set of Model Architectural Plans. These consist of twelve architect's drawings of a modern ten-room residence, giving complete elevations and details throughout, and showing the installations of heating, lighting, plumbing, wiring and all other fixtures, conveniences and utilities. It is a complete set of plans, has been built from and is absolutely correct in every particular. It will be sent FREE with every order.

Sent Free with Every Set of These Two Books

When Writing Advertisers Please Mention the American Carpenter and Builder.

an

We know
penter and
ranged to
books will
are going
We ha
our reader
is in combi
There will
friends, an

Ta
Mechanics
ments and
ments—Dra
Geometrical
(Orthograph
jection—Gro
Direction of
Planes of
Non-Develop
Plane and
Solids—Visi
Prism, Pyra
—Of Curved
lems in Dra
oping Mou
Projection—
metrics of
Working
man—Detail
Sketches—R
Notes—Con
Tracing—Di
sions—Fini
ventional
Drawings—
—Working
Drafting—S
—Reading

Each Book
Radfor
supplement
residences.
Radfor
and a supp
frame resi
Each h
has a beau
These
for home s

Learn to Draw Your Own Plans



We know the readers of the American Carpenter and Builder will want these books, so we have arranged to take the entire first edition for them. These books will not be for sale until after our folks have been supplied. We are going to take care of our own people first.

We have not even set a price on these books. Just now we are going to let our readers have them at less than first cost to us. The only way they can be obtained is in combination with a new subscription or renewal to the American Carpenter and Builder. There will be a tremendous demand for these books from our contractor-builder-carpenter friends, and we know the first edition will not last long. So get your orders to us early.

Table of Contents—Volume I

Mechanical Drafting—The Draftsman's Outfit—Instruments and Materials—Testing Instruments—Use of Instruments—Drawing to Scale—Pencil and Inking—Geometrical Constructions—Approximations—Projection (Orthographic, Oblique, Isometric, etc.)—Planes of Projection—Ground Line—Quadrants—Plans and Elevations—Direction of Oblique Lines; Slope—Profile Plane—Auxiliary Planes of Projection—Intersection and Development—Non-Developable Figures—Intersection of Planes—Of Plane and Curved Surface—Of Plane and Cylinder—Of Solids—Visibility of Lines of Intersection—Development of Prism, Pyramid, etc.—Intersection of Cylinder and Prism—Of Curved Surfaces—Approximate Developments—Problems in Drafting for Construction (Finding Miter, Developing Mouldings, etc.)—Pictorial Drawing—Perspective Projection—Isometric Drawing—Non-Isometric Lines—Isometrics of Cylinders, Cones, etc.—Oblique Projection.

Working Drawings—Qualifications of the Draftsman—Detail Drawings—Assembly Drawings—Preliminary Sketches—Requirements of Good Drawings—Explanatory Notes—Conventional Lines—Shade Lines—Blue-Prints—Tracing—Dimensioning—Extension Lines—Over-all Dimensions—Finished Surfaces—Sections—Cross-Hatching—Conventional Representations of Materials—Lettering of Drawings—Spacing—Drawings for Building Construction—Working Plans (Basement, First Floor, etc.)—Structural Drafting—Solid and Built-Up Members—Rivets and Bolts—Reading Drawings.

Table of Contents—Volume II

Architectural Drafting—General Requirements—Negotiating with Owner—Scale of Drawings—Changes in Plans—Preliminary Sketches—Perspective Sketches—Competition Drawings—Working Drawings (General and Detail)—Scale and Full-Sized Drawings—The Plan—Layout of Rooms, etc.—The Elevation—Use of the Orders—Characteristics of Types of Buildings (Residence, Library, Schoolhouse, Office Building, Warehouse, etc.)—Colonial Architecture—General Composition—Treatment of Elevations—Location of Openings—Scale Details—The Section—Full-Sizing—Reproducing Drawings (Blue-Printing, White-Printing, Hectograph Process, etc.)—Tracing Cloth—Architectural Forms—Conventional Symbols (Drain and Sewer Pipe, Lighting, Heating, etc.)—Sizes of Furniture—Materials of Construction—Shades and Shadows—Direction of Light—Shadows of Points, Lines, etc.—Details of Construction—Cornice—Floors—Lath and Plaster—Flashing and Counter-Flashing—Doors—Porches—Fireplaces—Stairs—Windows, etc.

Sketching; Pen and Ink Rendering; Wash Drawings—Principles of Sketching—Pencils and Paper—Method—Laying Out a Drawing—Rendering (in Pencil, in Ink, in Water-Color)—Wash Drawings.

Orders of Architecture; Architectural Lettering—Tuscan, Doric, Ionic, Corinthian, and Composite Orders—Entablature, Column, Pedestal—Architrave, Frieze, Cornice—Column Details—Units of Measurement—Classic Mouldings—Forms and Proportions of Letters—Spacing—Titles and Inscriptions—Types of Letters for Various Uses.

Each Book Contains a Supplement of Perspective Views and Floor Plans of Forty Modern Homes

Radford's "Mechanical Drawing" is a book of 272 pages, with 165 illustrations, and a supplement showing perspective views and floor plans of 41 brick, cement and frame residences.

Radford's "Architectural Drawing" is a book of 304 pages, with 147 illustrations and a supplement showing perspective views and floor plans of 41 brick, cement and frame residences.

Each book is printed on high-grade paper, bound in cloth, is 6x9 inches, and has a beautiful illuminated cover.

These are Mr. Radford's latest and best works. They are practical books for home study and are designed for practical men.

Enclosed find \$4.00 for 1 year's subscription to American Carpenter and Builder, and the two new drafting books, "Mechanical Drawing" and "Architectural Drawing," and send them to below address. It is agreed that if these books are not satisfactory in every way that you will refund the above amount immediately on the return of the books, you to prepay all express charges.

A. C. B. 2-13

American Carpenter and Builder

178 W. Jackson, Chicago.

Name.....

Address..... State.....

When Writing Advertisers Please Mention the American Carpenter and Builder.

KisselKar Trucks and Delivery Wagons exhibited at the New York and Chicago Shows.



A KisselKar Truck used with great success in Escanaba, Mich., for the haulage of building material.

Quicker, cleaner cheaper, better

Motor haulage is a modern method—a quicker, cleaner, cheaper and better way.

Icy pavements and rut-ridden roads have no terrors and hold no risks for a trusty and tireless truck.

KisselKar Trucks offer a service **unlimited in hours, energy and reliability.**

They are always ready to start and to keep going, and they demand no hay on Sundays and holidays.

Buy a mechanically perfect, staunchly built, tried and proved truck from a concern whose responsibility makes effective its guarantees—buy a KisselKar.

KISSELKAR TRUCKS

1500 lb.—1—2—3—4—5—Tons

Rigidly tested steel in all frames—every vital chassis unit Chrome Vanadium treated—heaviest axle forgings—underrated capacities—four speeds—driver's comforts—Kissel long stroke motor—cone leather faced clutch—bodies built to suit.

Inestimable added value acquired in the purchase of a KisselKar Truck is SERVICE. Interest in our product, **after as well as before the sale**, has prompted the establishment of the most completely equipped service stations in America. These stations are in every principal city for the sole purpose of taking mechanical care off the owner's hands and seeing to it that maximum duty and reliability are yielded.

Write for catalog.

Kissel Motor Car Co., 546 Kissel Ave., Hartford, Wis.

Boston New York Chicago Milwaukee
Kansas City Los Angeles Minneapolis
St. Paul Dallas

**KisselKar Service Stations
and Agencies at over 200 leading
points throughout United States**

"The Big-an-Little" for Contractors

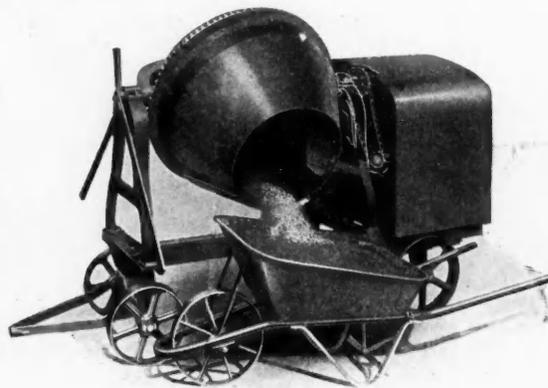
Not long ago, one of the AMERICAN CARPENTER AND BUILDER representatives was on a little business trip down the State and stopped over for a couple of hours in a bustling little city of perhaps 5,000 inhabitants.

As always, he was anxious to get in touch with the builders there and find out how things are going with them, so he sallied forth. Not very far from the station he ran onto something interesting.

The foundation work on a two-story store and office block was just being started and as he came up, he saw the workmen gathered around a new piece of machinery that was just being unloaded and made ready for business. It wasn't a very big machine and a good many of the men, by their talk, seemed skeptical that it could make good. Our representative saw at once it was a new type of portable concrete mixer. It bore the name plate, "The Big-an-Little" Concrete Mixer, The Jaeger Machine Company, Columbus, Ohio.

And it did look like a small machine, though not so small as some. But it seemed to be built on a good principle. Our representative stood by to see what it would do.

The work in hand was a fair-sized job, a building perhaps a 100 ft. front by 35 ft. deep. The forms were in place for concrete foundation walls and an extra large gang of laborers were on hand. Evidently it was a rush proposition to



2½ H. P. Batch Mixer with Record of "A Mix a Minute."

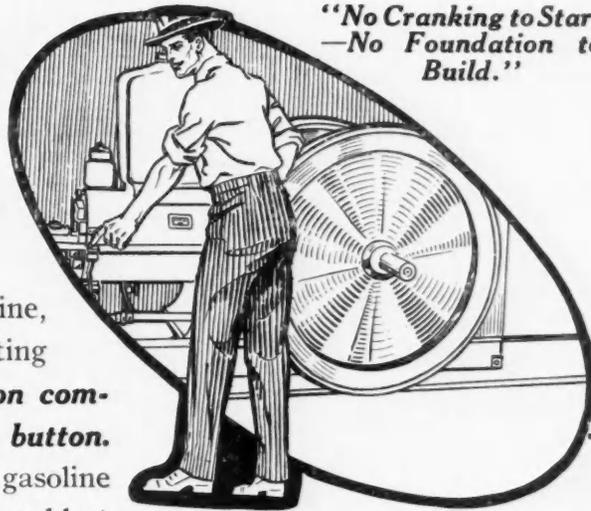
get the concrete placed while the out-of-season warm spell lasted.

Well, they started the engine, a gasoline 2½ horse power motor. There were two men to shovel the sand and gravel into the hopper and the rest of the gang manned the wheelbarrows. And did it mix? Well, you should have seen it! It hadn't been turning more than a minute, before the mixing was perfect; then flop went the operating lever; the hopper turned over, discharging direct into a waiting wheelbarrow, and then filling a second one. A mix a minute, and two wheelbarrow loads to each mix was what this big little machine did right along.

The skeptics in the gang were shut right up and kept pretty quiet. In fact they were kept so busy hustling the wheelbarrows and getting the concrete into the forms, that they didn't have any time to comment on the new mixer.

Our representative later looked up the manufacturers of this concrete mixer, the Jaeger Machine Co., Columbus, Ohio, and he found that after years of experience in building all sizes of batch mixers, these people have learned that what building contractors generally want is a medium sized mixer, not a little mixer and not a big one. Therefore they designed this "Big-an-Little" concrete mixer. The illustration shows the principle on which this machine is built. It is very

You Contractors And Carpenters



**"No Cranking to Start
—No Foundation to
Build."**

—who can and should use a gasoline engine, write us for facts about the Electric Starting Woodpecker Gasoline Engine. **Starts on compression from the simple touch of a button.** Finest labor saver ever built into a gasoline engine—makes engine starting as easy in coldest January as in hottest July.

Power always ready on instant's notice. Highest quality construction throughout. Don't buy any engine before getting all facts—Write us at once

Electric - Starting WOODPECKER

—the gasoline engine that has more sensational improvements than you've ever believed possible.

Note its Big features—self priming fuel mixer that makes easy cold-weather starting.

—the carburetor that permits using kerosene fuel,

—the self contained power plant that relieves you of all possible mechanical trouble, or time-consuming delays in starting the engine after being moved,

—steel girder sub base that makes foundation needless.

—the speed regulator which permits adjusting speed to the load while the engine is running.

—the frost-proof cylinder that can't freeze. Has over 50 big points of perfection like these.

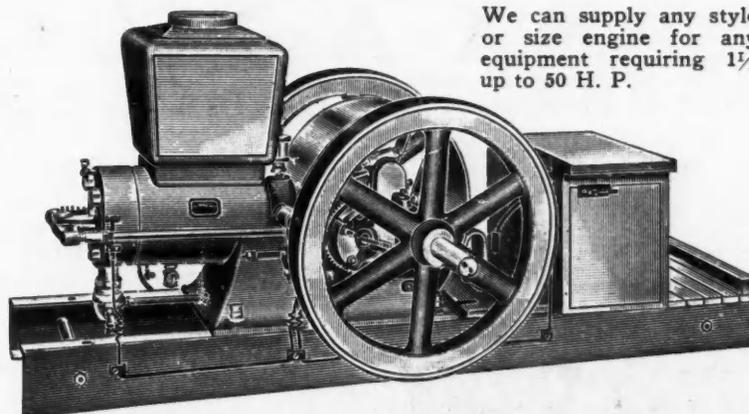
Develops big surplus over rated horse power, has perfect balance—and operates on minimum fuel consumption.

Best construction that is possible to store in a gasoline engine, yet sells at a reasonable price.

Get all facts at once. Ask for catalog. Put your postal or letter in the mail to us **Now.**

THE MIDDLETOWN MACHINE COMPANY

241 First Street, MIDDLETOWN, OHIO



We can supply any style or size engine for any equipment requiring 1½ up to 50 H. P.

When Writing Advertisers Please Mention the American Carpenter and Builder.

simple; has no complicated parts or mechanism to give trouble. It is loaded from one side and discharged from the other. The mixer drum never stops revolving, which makes it an economical mixer to operate. The capacity is just about what the average builder wants.

Saving over hand mixing is great, amounting to about 50 cents per yard; which will soon save the cost of the mixer. The quality of machine mixed concrete is well known to be far superior to hand mix.

If you have no mixer, a "Big-an-Little" will give you prestige over other builders who have none, or if you already have a large mixer, this "Big-an-Little" will serve your purpose in many places where you can't afford to place the large machine. The price is exceedingly low, bringing this machine fully equipped within the reach of all.

Contractors and builders should look into this. The Jaeger Machine Co., Columbus, Ohio, will send full particulars on request.



Opportunity in Drafting

Someone has said that "dreams are but slumbering ambitions that opportunity will some day arouse."

But why should we dream on, waiting for opportunity to pass our way? She will come a thousand times more often and a thousand times more quickly if we will but watch for her and encourage her coming.

If we could but realize the dreams of youth! There would be bankers, doctors, lawyers and capitalists by the score. No one should ever want for anything. Luxury would ever be at our command.

But with the coming of manhood and its attendant trials, dreams of childhood faded and the cold, hard struggle for a livelihood stunted ambition.

But do not go on day after day with no glowing future to look forward to.

To the man in the contracting business, drafting is a profession easily learned and highly remunerative. It is not necessary to spend long years in an office or in a school learning drafting. You can learn it by mail in your own home during your spare time.

Mr. F. W. Dobe, Chief Draftsman of the Engineer's Equipment Company, Chicago, is now instructing men in this line.

He understands just exactly the kind of training which is necessary. He knows the kind of work which is demanded and is giving instruction that will enable you to do that kind of work. The success which Mr. Dobe has had in teaching drafting, by mail, is well known.

To the man in the contracting business, drafting is a very valuable asset. It is the man who knows how, who is paid the big money these days. A man can just "follow instructions"

At the present time Mr. Dobe can teach a few more men "day after day and year after year and if he does not create, his success is going to be mediocre.

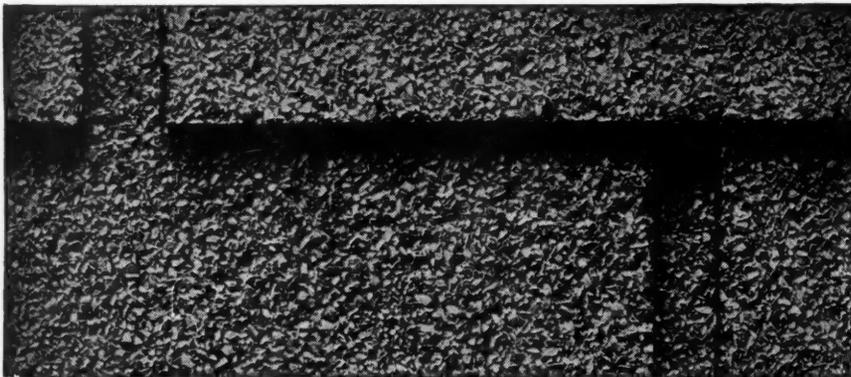
drafting. Men in the building and contracting business should investigate his offer at once.

A special proposition to men who wish to start earning money as soon as they enroll. It is especially liberal and during this age of "high cost of living" is going to appeal to a great many.



Mid West Cement Show

The Nebraska Cement Users Association will hold their Show this year at Omaha, February 4-8. The large Omaha Auditorium has been secured for this event. A large exhibition of concrete machinery is expected. President Peter Palmer of the Nebraska Cement Users Association has arranged a very fine program for the Convention which will be held in connection with this show, meetings being in Convention Hall, Hotel Rome, February 5, 6 and 7.



This Cut Shows the surface of Flex-a-tile Shingles—Beautiful, Convenient, Durable.

Here's a solid Asphalt Shingle, with a Chipped Slate Surface that is a wonder—

It is beautifully colored—The Natural Color of the Slate—Deep red or greenish gray—And it is as durable as Tiling.

FLEX-A-TILE ASPHALT SHINGLES

Are not only very beautiful and durable—but are easy to lay—and adapt themselves to any style of construction—They are practically fire proof and are thorough protection against most severe weather conditions—

Flex-A-Tile comes in both shingle and roll form.

Write Today for a Free Sample and the Book.

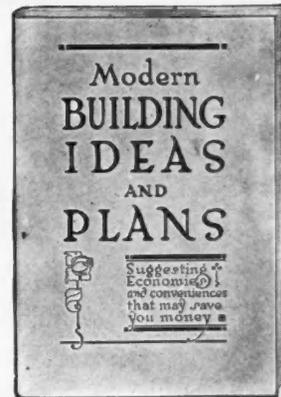
The Heppes Company

-

1010 Forty Fifth St.
CHICAGO, ILL.

When Writing Advertisers Please Mention the American Carpenter and Builder.

**We give this book
away free to help YOU!**



We will give, absolutely without cost, to anyone requesting it of their dealer, a copy of this big book which will make it easy for you to please your customers. It will enable them to tell you just what they want—no confusion or last minute changes. It is a book that suggests many conveniences, economies and shows illustrations of various types of buildings.

It also tells the secret of how to have a satisfactory, durable roof—namely, to use

***Certain-teed* Roofing** in Rolls and Shingles

(Quality *Cert*-ified—Durability *Guaran-teed*)

When you recommend the use of ***Certain-teed*** Roofing, you know the owner will have a dependable roof—one that will last, not for one year, but for over fifteen. There's never the slightest doubt about the wearing qualities of ***Certain-teed*** Roofing—we guarantee it for fifteen years.

On the back of every roll of ***Certain-teed*** Roofing, and crate of shingles, you'll find our label of quality which means you are buying a sure roofing—one which has the Quality Certified and Durability Guaranteed—it is for your protection—look for it.

A Certain-teed roof for every building

There is a kind of ***Certain-teed*** Roofing that is particularly adapted for every type of building. It comes in red, green and slate gray shingles for bungalows, residences, summer houses and garages—in rolls for general use—and when laid in accordance with the "General's" specification is rapidly replacing the old style coal tar and gravel roofings on big factories, warehouses, apartment buildings and skyscrapers.



General Roofing
The World's largest
manufacturer of
Roofings and Building
Papers

Used everywhere—sold everywhere

We would like to present you a copy of this \$1.00 book. You can get a free copy at the place you buy your building supplies—you'll find it a great help in more ways than one. Get a copy today.

***Certain-teed* Roofing is sold at reasonable prices by dealers everywhere—no exclusive agents.**

General Roofing Mfg. Company

E. St. Louis, Ill. York, Pa. Marseilles, Ill. Minneapolis San Francisco
Winnipeg, Canada London, England Hamburg, Germany

When Writing Advertisers Please Mention the American Carpenter and Builder.

"AMERICAN" CONTRACTORS' PORTABLE WOOD-WORKER



A saw bench—a planer and moulder—a boring machine—are good things for any contractor to have. But when bought separately they cost a lot of money—more than most contractors want to spend.

But in the "American" Contractor's Portable Variety Wood-worker you get them all, combined in one self-contained machine. And each is a unit, independent of the others.

We call it the "three-man" "American" because three men can work at these three machines at one time, without getting in one another's way. You can see them doing it in the picture.

There's no lost time—no idle men—no waiting for a chance to plane while another man is sawing—no waiting to bore while a joint is being matched.

You can keep all your men busy all the time with an "American" Wood-worker—and every man can take advantage of machine work on his particular job.

Ripping, cross-cutting, mitering—cutting dados—gaining, grooving, chamfering, rabbetting—joining, planing, matching, moulding—boring, sanding, grinding—you can do them all on the "American," in the least time and at least cost.

And the price is so moderate that no contractor can afford to be without an "American"—particularly when its savings will probably pay for it on the first job.

Don't let another month go by without putting on an "American" Wood-worker to speed up your work and cut down your costs.

American Saw Mill Machinery Co.

82 Main St.
HACKETTSTOWN, N. J.

1655 Hudson Terminal
NEW YORK CITY

NEW CATALOGS RECEIVED

Send for These

1913 National Catalog

The new Builders' Hardware catalog for 1913 of the National Manufacturing Company, Sterling, Ill., is now being distributed. In this edition will be found illustrations and full descriptions of their regular line of builders' hardware and hardware specialties, together with illustrations and descriptions of three new lines placed on the market during the past six months.

These new goods are: No. 135 Beveled Sash Lift, Parliament Butts, and Safety Hasps.

This catalog is a very convenient size, 80 pages, printed on fine enamel paper, and very fully illustrated. An index makes the entire contents easily accessible. A great amount of useful builders' hardware data will be found in this book.

Copies will be mailed to readers of the AMERICAN CARPENTER AND BUILDER on request.

Report on Metal Lath Fire Tests

Reference in these columns has already been made to the fire tests on partitions of various kinds made some time ago in the city of Cleveland. The official report made to Mr. V. D. Allen, City Building Inspector, at Cleveland, by the Committee which he had appointed to conduct these tests is now out.

This seems to be a document of considerable value to the building trade. Copies of it may be secured gratis by addressing Mr. H. B. McMaster, Commissioner, Associated Metal Lath Manufacturers, Youngstown, Ohio.

New Bishop Catalog

We have received from Geo. H. Bishop & Co., Lawrenceburgh, Indiana, their new catalog covering their entire line of hand saws, pruning saws, trowels and kindred goods. They call this catalog their "Blue Book."

Geo. H. Bishop & Company are noted for the completeness of their line. They make a special saw for every conceivable use. Glancing through this new book is a revelation to the carpenter. Few realize how minutely the wants of carpenters have been studied and special saws designed to satisfy these wants in the best and most efficient way. This Bishop catalog is arranged in a very satisfactory way and is fully illustrated. It will prove a valuable book from which carpenters and builders may select their tools, where the hardware man does not carry a complete line.

"Rock, Ore and Gravel Handling Machinery"

A new catalog by this name has just been received from the T. L. Smith Company, 1333 Majestic Bldg., Milwaukee, Wis. This is their catalog No. 250. The matter contained in it is of undoubted interest and importance to producers of crushed stone and gravel; and it contains much information which building contractors should possess. There are without doubt a great many crusher users who are unfamiliar with the new form of gyratory crushers having the main shaft stationary. This type of crusher has been fully perfected by the T. L. Smith Company and it is illustrated and described in detail in this catalog. Smith jaw breaker crushers are also shown; likewise rotary screens, bucket elevators and belt elevators.

The T. L. Smith Company will gladly mail this catalog together with special information concerning their hand and power batch concrete mixers, to any of our readers writing them.

When Writing Advertisers Please Mention the American Carpenter and Builder.

89 SOLD At CHICAGO Cement Show

In Competition With All Others Greatest Success — No Intricate Parts



The Sexton Junior Batch Mixer was the sensation of the Chicago Cement Show

\$100⁰⁰

COMPLETE
With ENGINE
With TRUCKS

FRICTION DRIVE

By means of the friction drive many of the break downs common in other mixers are eliminated. Power is transmitted direct to the rollers instead of sprockets or gears of various types surrounding the drums. In addition the friction drive means economy of power.

It Can't Get Out of Order
35 to 50 Cubic Yards a Day

The Sexton Junior Batch Mixer

Has less wearing parts than any other mixer made. We eliminate heavy cumbersome gears and trackers. We maintain a perfect alignment of rollers to machined tracks, which are themselves not only a part of the drum, but are also a method of binding the heads and wearing surface of the drum together.

Specifications

Drum, 32 in. Diameter.
Drum, 29 in. Wide.
Heads, 12 Ga. Steel.
Wearing Surface, 12 Ga. Steel.
Sills, 4x4 in. Oak.
Rollers, 7x2 in. Flanged.
Shafts, 1 3/8-1 1/2 in. Cold Rolled.
Trucks, 36 in. x 7 ft. 0 in.
Rear Wheels, 20 in. Diameter.
Front Wheels, 14 in. Diameter.
Truck Wheels, 3 in. Face.
Capacity per batch, Cement, 1/2 Cu. Ft.
Capacity per batch, Sand, 1 1/2 Cu. Ft.
Capacity per batch, Stone, 2 1/2 Cu. Ft.
Total, Unmixed Batch, 4 1/2 Cu. Ft.
Total, Mixed Batch, 3 Cu. Ft.
Maximum Capacity, 10 Hrs. 35 Cu. Yds.

Equipped with "Sexton, Jr." Engine specially designed for heavy service. Shipping Weight, 700 Lbs.

FULLY GUARANTEED.

Write for Catalog "Z"

Sexton

INCORPORATED

Watkins Building, MILWAUKEE, WIS.

When Writing Advertisers Please Mention the American Carpenter and Builder.

A. C. B. 2-13

Gentlemen: Please send me your catalog describing the above mixer.

State.....

P. O.....

Street.....

Name.....

Satisfactory Book on Concrete Brick and Block Making

It is a pleasure to look through a practical business book like that just received from the Helm Brick Machine Co., 572 Bank Bldg., Traverse City, Michigan,—a book or catalog which shows a real understanding of the present day opportunities in the concrete field and a grasp of the problems there to be met by those who enter this business.

There is nothing fancy about this book and nothing over-artistic—just good straight business and common sense, all planned to tell the man who is looking toward concrete block or brick making what he will want to know before he goes into it.

Quoting from the Foreword; "Our sole aim in preparing this catalog which we now place before you has been to truthfully illustrate and describe our Helm Presses for the manufacture of pressed cement brick and building blocks and the Helm Dry Wall system. Every claim made is backed up by our guarantee and the testimonials of owners of Helm Presses. You will be helped in considering Helm Presses and the Dry Wall building system by the following suggestions.

"The Field For Concrete is made clear to you by pages 1 and 2.

"The Helm Dry Wall Building System is fully illustrated on pages 3 to 8.

"The Helm Products which conform to this Dry Wall building system are illustrated and described on pages 9 to 13.

"The Profits in Dry Wall Products, pages 14 and 15.

"The Essentials in Buying Concrete Machines, pages 16 and 17.

"The Helm Press, Model 5, for Brick and Blocks, pages 18 to 25.

"The Helm Press, Model 8, for Brick and Blocks, pages 26 to 29.

"Hand Mould, Trucks, etc., pages 30 and 31.

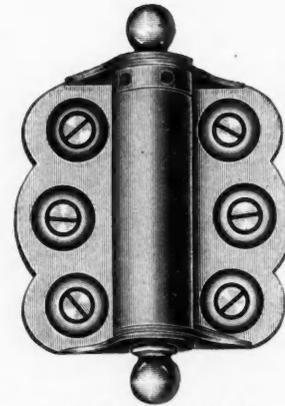
"With Helm Press Operators. Their experiences quoted, fully substantiating and even exceeding our claims for Helm Presses, product and building system on pages 32 to 40."

This book is very fully illustrated and all prices are plainly stated in connection with every piece of equipment shown. This catalog is now being sent out to wideawake men who want to find out about the opportunities in the concrete block and brick business.



A New Adjustable Door Hinge

The Shelby Spring Hinge Co., of Shelby, Ohio, are offering to the trade an adjustable surface screen door hinge. The



Surface Spring Hinge

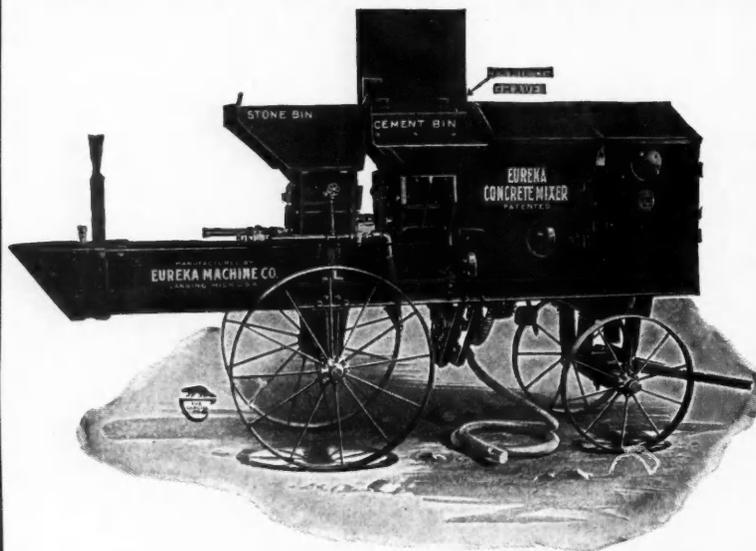
tension of the spring can be easily and quickly adjusted at any time after door is hung, thus assuring to the owner an easy and sure swinging door at all times. While this is a hinge used for hanging fine screen doors, it is also used very extensively for lavatory work, and is in demand the year round. The hinge is elegant in design and is being made from steel, real bronze or brass metal, in finishes to match all builders hardware.

The Shelby Spring Hinge Co., are quoting prices on application and as usual are sending out this hinge under their strongest guarantee.

Eureka Small Job Money Maker



Specially designed for the building contractor. Pays for itself several times every year. Positively guaranteed to be superior to the ordinary mixer in advantages, quality and performance.



Shipped anywhere for your approval. Over 300 Eureka's used in New York City. Ask for Catalog No. 30 and names of Eureka users in your locality.

Eureka Machine Co.
85 Handy Street, Lansing, Mich.

Distributing Points:

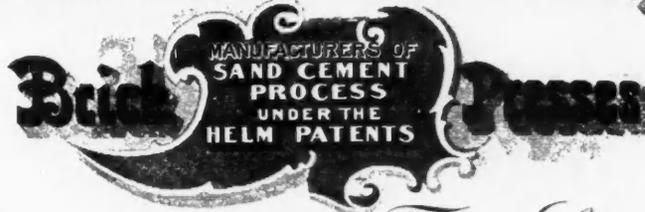
New York	Kansas City
Cincinnati	Jacksonville
Cedar Rapids	St. Louis
Chicago	Peoria
Dallas	Pittsburgh

When Writing Advertisers Please Mention the American Carpenter and Builder.

ALL AGREEMENTS ARE SUBJECT TO DELAYS OCCASIONED BY STRIKES, FIRES, NON-RECEIPT OF MATERIALS OR OTHER CAUSES BEYOND OUR CONTROL.

The Helm Brick Machine Company

FRANK HELM, Est.
E.S. WILLIAMS,
J.A. WATTERWORTH.



LIEBERS CODE.
Cable Address, HELMCO.

ADDRESS ALL COMMUNICATIONS
TO THE COMPANY.

HERE IS SOMETHING WHICH
WILL INTEREST YOU:

Traverse City, Mich. Date -NOW -
While the opportunity
is YOURS.

- "Landed a \$90,000 government contract with Helm pressed brick."
- "Just landed a contract for 400,000 pressed cement brick."
- "Working on a contract for a half million pressed cement brick."
- "Working on a contract for a quarter million pressed cement brick."
- "Made 17,000 pressed blocks in less than a month on one contract."
- "Daily manufacturing profit is \$25. on pressed cement blocks."
- "Six weeks behind on orders for Helm pressed blocks and brick."

There are BIG contracts like these with
their BIG profits ready for you -

We want to show you what has made it possible for others to write in
such BIG terms - and more than that, we want to show you WHY and HOW
it is just as possible for you.

No matter where you are or how little the town,
YOU can land business like this, too -

50 - 6,000 - 3,500 - 5,000 - 1,100 - 3,500 - 50 -

There you have the population of the towns those reports came from -
and consequently YOUR community is YOUR field where you will get
BIG contracts and make BIG profits when you are prepared with -

The Helm DRY WALL building system -
The PRESSED brick and blocks which conform to it - and
The Helm Combination Press -

There are the essentials which enable concrete plant operators to
write us in such glowing terms concerning their success. There is
the secret of your preparation, too, for such big business. Someone
in your community will take advantage of this. It ought to be you.

Let us send you FREE a new book which will
tell you all about it -

It will tell you all about the DRY WALL building system - the best
selling brick and blocks - the Helm presses for hand or power - their
wonderful pressure - their LABOR SAVING and PROFIT MAKING features.

Merely sign and send the coupon NOW - while you think of it.

Yours truly,
HELM BRICK MACHINE CO.

P.S. Just tear off this coupon and mail Name _____

it to the HELM BRICK MACHINE CO.,
572 Bank Bldg., Traverse City, Mich. Address _____

When Writing Advertisers Please Mention the American Carpenter and Builder.

Clow Cast Iron Specialties



A-2187
Ex. Hy. Cesspool, Long Outlet

Size of top..... In.	12x12	16x16	18x18
Depth..... In.	10	10	10
Size of outlet..... In.	3	4	6
Length of outlet..... In.	10	10	10
Painted, net Each	3.09	3.58	7.15



A-2185
Extra Heavy Cesspool

Size of top..... Inches	16x16
Depth..... Inches	10
Size of outlet..... Inches	4
Painted, net..... Each	2.00



A-1700.
Cleanout Cover and Frame
Size.....Inches 27x27
Size of frame, outside.....Inches 27 1/4 x 27 1/4
Height of frame.....Inches 4
Price, Standard, net.....Each \$ 9.00
Price, Extra Heavy, net.....Each 18.00



A-2015
Grating with Loose Frame
Size, inches 8x8 10x10 13 1/4 x 13 1/4 18x18
Grate only net.....60 .98 1.43 1.80
Grate and frame, net......83 1.28 1.88 2.25



A-2020
Grating
Size, inches..... 9x9 13 1/4 x 13 1/4
Price, each, net..... .75 \$1.13



A-1945
Concave, diam. 19 in., net, each \$3.38
Convex, diam. 22 1/2 in., net, each 3.75



A-1950
Cast-Iron Grating
Diameter..... inch net
Diameter.....14 \$1.88
Diameter.....16 2.06
Diameter.....18 2.25
Diameter.....20 2.43
Diameter.....21 3/4 2.81
Diameter.....23 3.19
Diameter.....28 3.56
Diameter.....30 3.94



A-1955
Cast Iron Bar Strainer
Diameter . 4 5 6 7 8 9 10
Net, each. .07 .09 .11 .18 .23 .28 .37



A-1710.
Cleanout Cover and Frame
Opening, diam., In. 18 24 34
Top, Outside, diam., In. 22 28 38
Price, net, ea \$4.13 \$6.00 \$9.00



A-2200
Air Brick with Sliding Ventilator
Size.....Inches 8 1/2 x 5 17 x 2 1/2 17 x 5
Price, net...Each 2.59 2.59 5.17



A-1720.
Cleanout Cover and Frame
Opening, diameter, inches... 18
Top, outside diam., inches... 22
Base, outside diam., inches... 28
Price, net, each..... \$4.88



A-2201.
Air Brick
Size.....Inches 8 1/2 x 5 17 x 2 1/2 17 x 5
Price, net...Each 2.20 2.20 4.40

Send For Catalogue 39

James B. Clow & Sons CHICAGO, ILL.

When Writing Advertisers Please Mention the American Carpenter and Builder.

A Vanadium Steel Hammer

A good thoroughly reliable hammer is mighty hard to get. When you do get one that will stand up to lots of hard work and not fail under it, you treasure it as a friend.

The obvious necessity of providing something extra good for the high grade mechanic led the Van Doren Mfg. Co., to experiment with vanadium steel as promising the best results, and after considerable experiment they produced the No. 21 1/2 "Vandor" vanadium tool steel and is temporarily offered by the trade.



Van Doren Warranted Hammer

This tool is drop forged from vanadium tool steel and is tempered in oil. The handle is strictly second growth hickory hand shaved pattern. The hammer head is finished with reinforced claw, hexagon neck, round face. Weight one pound.

It is warranted and will be replaced, if at any time it should prove defective. The bite in the claw is perfect and enables you to draw anything from a headless brad to a spike.

In our advertising columns you will find a special introductory offer made by the manufacturers. It is easy for you to get one of these hammers and try it out for yourself.

The Van Doren Mfg. Co., at Chicago Heights, Ill., issue literature on the making of these hammers which will prove interesting reading for any carpenter and will be sent free on request.



Edwards Salesmen Banqueted

Over fifty traveling salesmen, heads of departments of The Edwards Manufacturing Co., Cincinnati, Ohio, were entertained Saturday evening, December 28th, at a private banquet at the Business Men's Club, E. W. Edwards as toastmaster, was the principal host of the evening. Nothing was spared in the decorations and in the menu served. The assembly was the annual gathering of the principal salesmen of the company, and as Mr. Edwards expressed it, it was "simply a getting together meeting." For the last several days the salesmen have been in the city going through the plans and the detail work of the company.

Following the serving of an elaborate menu, the following responded to various toasts. H. W. Edwards, Cincinnati; G. D. Myers, Cincinnati; James F. Agnew, Dallas, Texas; W. H. Daycock, New York; T. Reed Chunn, Jacksonville, Fla.; A. T. Spornhauer, Indianapolis; J. H. Edwards, Decatur, Ala.; W. G. Templeton, Cincinnati; R. W. Blanton, Cincinnati; A. E. Watson, Cincinnati. Following is a list of guests: E. W. Edwards, H. W. Edwards, G. R. Edwards, W. A. Edwards, G. D. Myers, O. S. Larkby, Ernest Haines, Harry Woodward, Norwood Jones, Cliff Gotthardt, Walter Gausman, M. R. Ribas, L. R. Hildreth, Jas. Kinsella, J. M. Reynolds, Edw. Pestrup, J. H. Blanton, Gus P. Doll, W. E. Larkby, Harry Smith, Frank Wernsing, Geo. Kohler, Oscar Kline, W. H. Daycock, J. F. Agnew, Guy Burrell, A. T. Spornhauer, H. W. McClure, J. H. Edwards, Robt. Blanton, T. Reed Chunn, A. E. Watson, Chas. Leist, Wm. Metz, D. H. Kline, B. Trimp, T. McGovern, T. McCabe, F. Wilfret, J. Wilkens, B. Hayes, D. Richardson, J. Robertson, L. A. Hildreth, J. Tracey, R. McGhee, S. B. Brown, W. G. Templeton, E. Jones, of Jones and Orupp, Architects, Wichita Falls, Texas, was the guest of the evening.

GOING TO BUILD?

See These Bargains From Our FREE NEW CATALOG

WHETHER you expect to build or make repairs, now or later, by all means send for our magnificent new Catalog of Millwork and Building Material. It is the biggest, best and most complete book of the kind ever published. 3000 superb illustrations and 8000 dollar saving prices on up-to-the-minute building material of every kind, for every purpose are shown on its 176 pages. Why pay dealer's prices when you can buy bright, new stock at wholesale? Everything in lumber, flooring, doors, windows, mouldings, porchwork, building paper, hardware, tinwork, roofing—everything in building supplies direct to you, the user. Quality, safe delivery and satisfaction absolutely guaranteed. Write for the book today. It's free.



Plans of Modern Homes, another valuable book shows splendid views and floor plans of 50 beautiful modern houses and barns ranging in price from \$360 to \$6,000. Do not figure another bill or plan another house until you get these two valuable books.

H. B. Munger, President



FOR \$969 we will furnish complete all lumber, millwork, hardware, paint—everything except masonry and labor to build this 8-room house, and include plans free. Design A101.

Economy Rubber Roofing
1 Ply, 35 Lbs. \$1.10
Guaranteed 5 Years
2 Ply, 45 Lbs. \$1.35
Guaranteed 7 Years
3 Ply, 55 Lbs. \$1.60
Guaranteed 10 Years
Rolls Contain 108 Sq. Ft.

100 ft. of Quarter Round, Dealer's Price \$1.00—our price only 30c
Glazed Windows of all kinds ready for quick shipment.
2 light 68 up
4 light 77 up
12 light 83 up

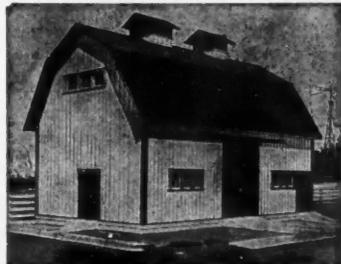


Porch Post
CLEAR FIR
4 x 4
8 Feet
55c



\$24.50
Buy This \$40.00
MANTEL

Equipped with Grate Complete
Don't buy a mantel until you examine the many beautiful designs in our free catalog. You will find just what you want at the price you want to pay.



FOR \$629 we will furnish complete all lumber, framing, timber, plank flooring, roofing, hardware, sash, doors, paint—everything except masonry and labor to build this barn and include plans free. Design A14.



Porch Spindles
1 light Stall Sash 34c
4 light Barn Sash 47c



Wearwell Paint
Perfect guaranteed house paint—\$1.20 per gal. in 5 gal. kits. We have all kinds of paint at wholesale prices.

All kinds of building hardware. You can't beat our goods or our wholesale prices.

Fir Porch Newel
4 x 4
4 Feet
33c

Save Money Buy Direct

CLEAR LATTICE
30c Per 100 ft.

PLAIN OAK FLOORING

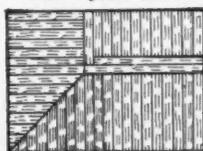


5c Per Sq. Ft.
Only \$21.86
For These Stairs Complete, Dealer's Price \$65.00

You Save \$43.14



Fancy Flooring
12c Square Foot



Tin Shingles
For leaky roofs can't be beat—5x7. Per 100 7x10 inches—\$1.54 per 100.

Doors of all Kinds



Glass Doors \$1.80 Up
Panel Door 98c Up



FREE
These 2 Valuable Books

DON'T DELAY
2c CORNER BLOCKS

CHICAGO MILLWORK SUPPLY CO.
AMERICA'S GREATEST SASH AND DOOR HOUSE

1422 W. 37TH STREET, CHICAGO

WRITE YOUR NAME HERE AND SEND IT IN TODAY FOR OUR 2 BOOKS

DATE

Chicago Millwork Supply Co.,
1422 W. 37th Street,
Chicago, Ill.

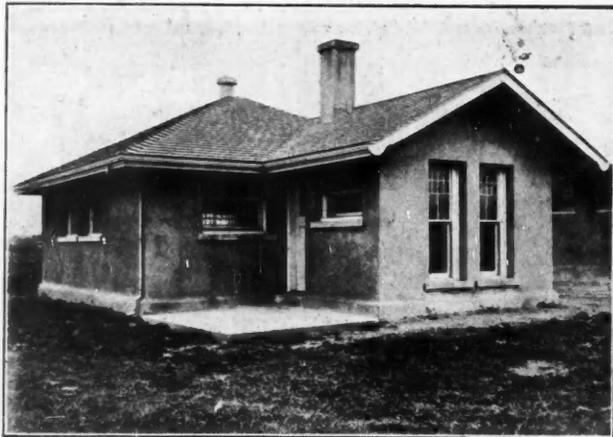
Gentlemen—Please send your FREE Books listed below, to—

Name.....

Address.....

CATALOG—No. 43, of Building Materials
PLAN BOOK—No. 53, House and Barn Plans

When Writing Advertisers Please Mention the American Carpenter and Builder.



Sanitary Concrete Creamery and Cow Stable Owned by Mrs. T. K. Gibbs, Middletown, R. I.
Van Guilder Hollow-Wall System of Construction.

Sanitary Farm Buildings

The cuts herewith illustrate one of the very latest achievements in the construction of substantial, artistic, and sanitary farm buildings. This cow-stable and creamery have recently been erected on the estate of Mrs. T. K. Gibbs, at Bethshan in the Woods, Middletown, near Newport, R. I., Mr. Robert Frame, C. E., architect, and Mr. B. T. White, 9 Whitehall Street, Newport, R. I., builder.

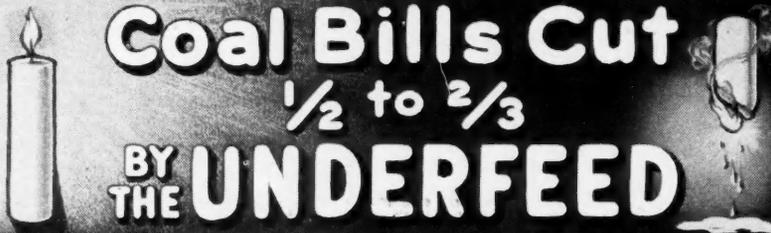
The walls of these buildings were erected with the Van Guilder Hollow-Wall Machine, and consist of two monolithic concrete walls each 4 in. thick, with a continuous air-space between them $2\frac{1}{2}$ in. wide. This construction produces literally one building within another, which do not touch each other at any point; and the result is a structure absolutely free from dampness and frost, that will endure for ages,

needing no repairs to its walls.

Farm cattle housed under such conditions will keep in better condition, eat less food, and produce more and better milk than under the ordinary conditions in which they must spend part of their energy and the heat elements of their food in combating the cold and dampness characteristic of ordinary barns.

In these modern days of scientific research, farmers should realize that the economic production of milk in winter depends largely on the comfort of the stock, and that nothing will conduce to this so much as a dry, frost-proof stable.

This cow-stable and creamery are equipped with every modern convenience for the dairy business. The inside walls are covered with a plaster made with white Portland cement, giving the best possible conditions of light and cleanliness.



Coal Bills Cut

$\frac{1}{2}$ to $\frac{2}{3}$

BY THE UNDERFEED

Four Reasons Why

UNDERFEED PRINCIPLE
TOPFEED PRINCIPLE

COAL in the Underfeed is fed from below and, like a candle, burns from the top down. Four big savings result—of interest to every wide-awake carpenter and builder. Write for Free Underfeed Furnace or Boiler Book, which explains everything. The Underfeed does MORE than cut coal bills $\frac{1}{2}$ to $\frac{2}{3}$; it produces in coldest weather, more heat, cleaner heat and more even heat than other heaters, and requires least attention in feeding, regulating and cleaning. Underfeed Heating Systems—warm air furnace or hot water and steam boilers—ADD to the RENTING or SELLING value of any building. February magazines and periodicals will lay before millions of readers the

Four Big Savings

Saving No. I—Burns Cheaper Coal

Cheaper grades of hard or soft coal—costing from \$1.50 to \$4 less per ton than more expensive grades—are pumped up into the firepot underneath the fire and burn perfectly, from the top down. The Underfeed produces more clean, even heat per ton from cheaper grades of coal than topfeeds from most expensive grades.

Saving No. II—Complete Combustion

Smoke and gases (25 to 40 per cent heat value in coal) pass up through the fire, are consumed and converted into useful heat: whereas in topfeed heaters, smoke and gases go to waste—up the chimney. Combustion being perfect in the Underfeed, no clinkers form and very few ashes.

Saving No. III—All Heat Utilized

Live coals in the Underfeed are on top—nearest the most effective radiating surfaces; whereas in topfeed heaters live coals are smothered by fresh coal, which forms a blanket between the fire and heating surfaces, checking the heat.

Saving No. IV—Self-Cleaning Feature

Since the Underfeed consumes smoke, there is no soot. The fire-glow is upon clean metal responsive to heat; whereas in topfeeds the "fire-shine" is upon deadened heating surfaces, coated with soot and grime-insulation. Topfeeds require frequent, troublesome cleaning; Underfeeds are self-cleaning.

THE PECK Williamson

Underfeed FURNACES BOILERS

Adapted for ALL Buildings

Underfeed heaters are adapted for large or small homes, apartment houses, halls, churches, schools, etc. Installed in unit or battery form.

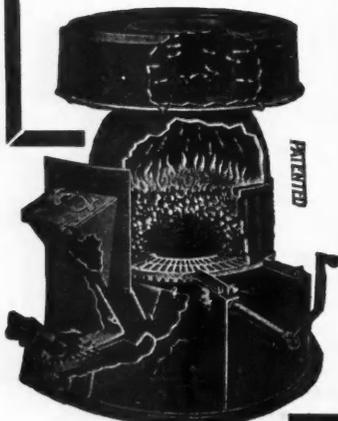
Send us your building plans and we will furnish FREE engineering plans, actual cost of installation and tell you where you can get your Underfeed.

Write TODAY, Mr. Carpenter and Mr. Builder, for FREE Booklets.

The PECK-WILLIAMSON CO.

436 Fifth Street

CINCINNATI, OHIO.



When Writing Advertisers Please Mention the American Carpenter and Builder.

The Best Heating Boiler For Home or Building

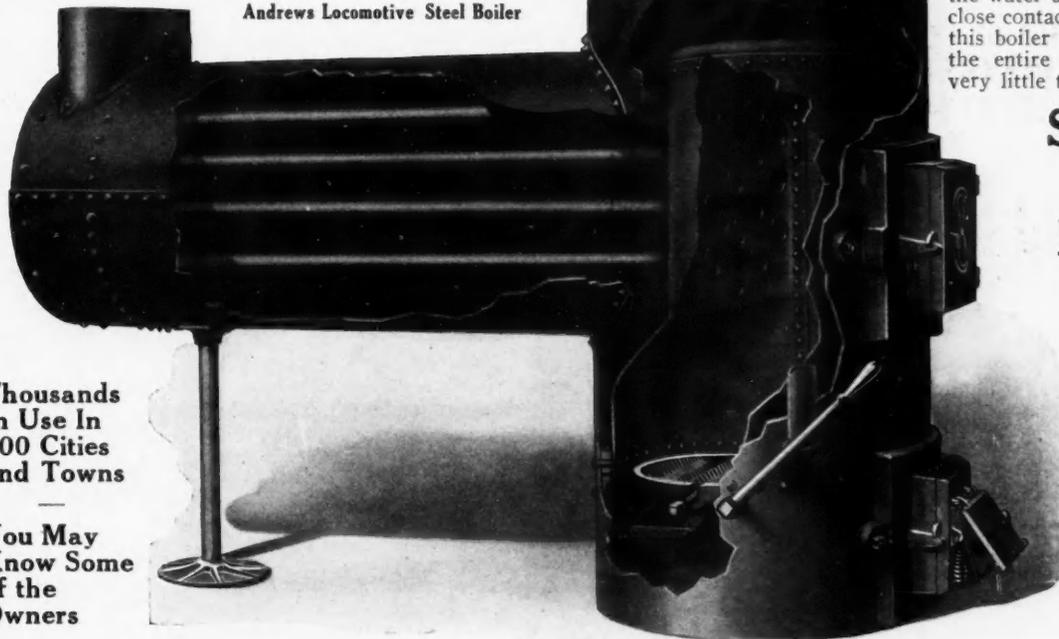
Made of Steel Plate Like Large Power Boilers

This feature alone is worth your serious consideration. It makes a boiler that will last as long as your house and give good service continually. The joints are all thoroughly riveted by power machinery and can never leak. The flues are large and give excellent draft which enables the burning of any grade of fuel. The firepot is large as is also the combustion chamber, thus avoiding any difficulty from gases.

Has Largest Fire Travel and Heats Quickest on Least Fuel

The water jacket extends down on each side of the firepot and this heating surface, together with that afforded by the many flues on the horizontal part, afford almost twice the heating surface obtained in any other boiler of equal rating. Then, too, the thinness of the steel plate brings the water and heat in close contact, enabling this boiler to heat up the entire system in very little time.

Andrews Locomotive Steel Boiler



Thousands
In Use In
700 Cities
and Towns

You May
Know Some
of the
Owners

Saves
 $\frac{1}{3}$
Fuel

Burns Any Grade of Fuel and Less Of It

The grate is of the latest rocking and dumping pattern and will handle, efficiently, any grade of fuel. On account of the good draft and immense fire travel it takes less forcing than other boilers in obtain the necessary water temperature which produces proper circulation. You will be surprised at the small fire it takes to heat up a system thoroughly.

Can Be Thoroughly Cleaned in Five Minutes

The flues are easily accessible from the end of the horizontal section, and with the flue cleaner furnished with each boiler, they can be thoroughly cleaned in five minutes. This operation is so simple that a ten-year-old boy can easily do the work without even getting his hands "dirty." No other part of the boiler need ever be cleaned, except, of course, the ash pit, which is of good size and easily reached by the lower clean-out door.

Most Durable Boiler Made

Steel will not crack like cast iron nor is there any danger from flaws like sand holes or poor castings. The boiler is made all in one piece and there are no joints to spring a leak, due to careless work on the part of the man setting it up, as is the case with boilers made in sections.

Big 72-Page Heating Book FREE. Write Today

This big book should be in the hands of every one interested in building or in any form of heating. It gives definite practical suggestions and facts which make plain the real values of the various forms of heating and shows how fuel can be saved by the Andrews Boilers. It lists thousands of satisfied owners. In it are also described the other Andrews Lines, such as Sewage Disposal without sewer Air Pressure Water Supply, Gasoline Gas Systems, Thermostats, etc. Write today for this book and please give two names of parties who are also interested in heating.

Andrews Heating Co. 1314 Heating Building
Minneapolis Minnesota

When Writing Advertisers Please Mention the American Carpenter and Builder.

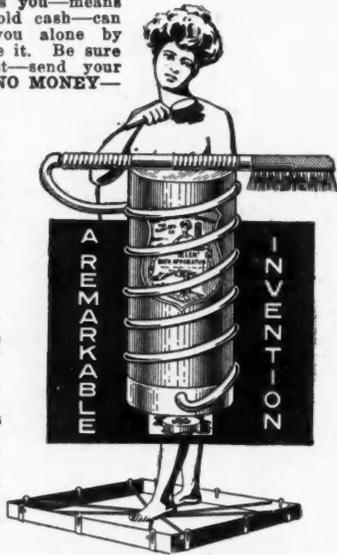
YOU CAN GET

\$500 — 1st Month
\$1000 — 2nd Month
\$1500 — 3rd Month
\$5000 **ALTOGETHER**

Reader, this offer says you—means you—this money—the cold cash—can be yours. You and you alone by waiting too long can lose it. Be sure you hear from you first—send your name and address—but **NO MONEY**—this very minute.

YOU MAY BE IN-EXPERIENCED OR EMPLOYED OR WITHOUT CAPITAL

—but don't worry—don't find excuses—we can and will fix it for you to get this money. You don't have to wait a month—not even a week—payments can start the first day—and continue daily up to \$500 first month, \$5000 for you altogether. For years we have been quietly picking men from all walks of life, ministers, clerks, farmers, preachers, doctors, lawyers, teachers and so on—enabling them with our co-operation and **\$50,000.00** appropriation to get what we here offer and can do for you—\$500 first month, \$5000 altogether. Some of these men you may know—possibly have envied without understanding the reason of their prosperity.



INVESTIGATE AND BE AMAZED Demand absolute proof—accept no other kind. Either we have the best thing that ever happened or we're colossal liars. Ask Schleicher, minister, whether it's true that he received

\$195 TWELVE HOURS AFTER APPOINTMENT

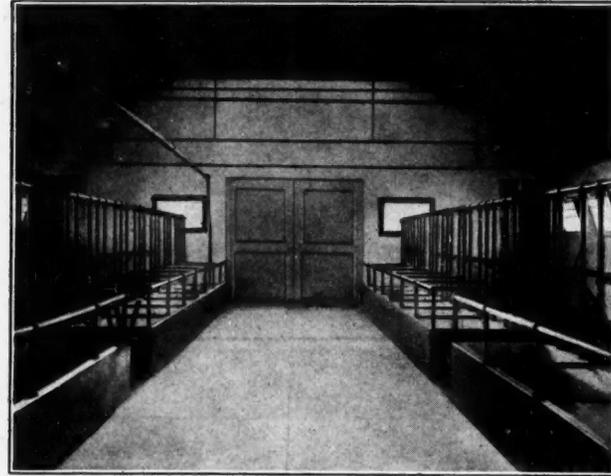
Langley, liveryman, \$115 first day; Rasp, carpenter, \$1685 in 73 days; Beem, solicitor, \$164.24 weekly for 12 weeks; Korstad, farmer, \$2212 in a few weeks; Zimmerman, farmer, \$3856 in 30 days; Stoneman, photographer, \$3841 in 60 days; Juell, clerk, \$6800; Hart, farmer, \$5000; Wilson, cashier, \$3000 in 30 days. Let us refer you to these men, to the U. S. government, to banks, business houses, noted people at home and abroad. Heed this caution from Chas. Starr, of Mich., who writes: "Sorry this field is closed. Should have acted sooner but was skeptical. Your local man's great success has set everybody talking and proves I was a chump. Wonderful what a man can do with a real opportunity." Then read this from Lodewick who acted quickly; "Lucky I answered ad. It's great. Money coming fast." Which will you be, Starr, a victim of "neglected opportunities" or Lodewick, the "early worm." To escape Starr's fate, send your postal this very minute—

SPEND ONE CENT TO MAKE THOUSANDS

Ever hear of Allen's Wonderful Bath Apparatus? If not, listen. Gives every home that long-desired blessing, a modern bathroom with hot and cold running water facilities for only \$6.50. No plumbing—no water works—self heating. Only ten minutes to install. Gives cleansing plus friction, massage and shower baths in any room. Equivalent to any \$200 bathroom. Over 200,000 delighted users. Used by U. S. government.

More remarkable than this invention is our startling plan of universal distribution through special representatives who become virtually profit sharing partners in a business that's immense—exciting—fascinating—dignified—and above all, has enabled them, will enable you to get \$500 first month, \$5000 altogether. Asking to be shown doesn't obligate you one bit. Investigate today by all means.

ALLEN MFG. CO. 3618 ALLEN BLDG., Toledo, Ohio



Interior of Concrete Cow-Stable, Built by Van Guilder Hollow-Wall Machine

Frost-proof stables and silos would increase the winter production of milk enormously. Particulars for building them by the Van Guilder System, which is inexpensive, may be had by addressing Van Guilder Hollow Wall Co., 720 Chamber of Commerce Bldg., Rochester, N. Y.

New Kind of Tiling

The ideal wall covering for kitchens, bathrooms—or any other rooms where absolute cleanliness and sanitation are essential—has come to be tiling, either porcelain or ceramic tiling; and now a third sort is offered—"No-Co-Do" steel tiling.

Porcelain or ceramic tiling—"real" tiling as it is popularly called—is the best known kind of tiling, and when well made and erected is truly a work of art. Like all works of art, however, it costs a neat sum. Its use has therefore been restricted, although its superior advantages have become widely recognized. "No-Co-Do" tiling is the new and better kind of metal tiling. It resembles very closely the real thing, yet is quite inexpensive. The cost is only about one-third as much as for porcelain or ceramic tiling.

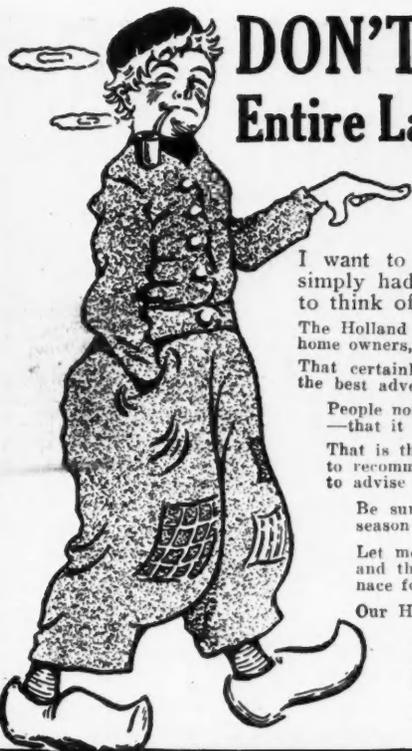
"No-Co-Do" tiling looks exactly like real tiling because the joint effect is produced by stamping in the lines deep and clear. With this metal tiling no striping is used, because none is needed. After being stamped, each sheet is dipped, by hand, in a tank of specially prepared white rust-proof paint, so that each sheet is fully covered on both sides and all edges. This is a very important point. When desired, the factory also applies a fine white baked enamel as an additional finish over this. This makes a harder and more durable finish than the air-drying enamel.

"No-Co-Do" tiling is made in sheets 2 by 8 feet, 2 by 6, 2 by 4, 2 by 2, and 1 by 4. Being light in weight, a flexible sheet can be easily cut with tinner's shears to fit exactly any corner, curve or niche.

In putting this steel tiling in place the sheets are applied direct to any kind of a wall—plaster or brick—by first sheathing the surface with ½ inch boards. Over old wood wainscoting the sheets are applied direct, transforming same into an up-to-date tile surface.

"No-Co-Do" tiling is one of the products of the Northrop, Coburn and Dodge Company, 29 Cherry St., New York City. They have prepared a very interesting little catalog concerning this new product, which illustrates the several designs in which this tiling comes. Carpenters and builders will, of course, want to find out all about this proposition. The manufacturers will gladly mail this catalog and furnish any special information that is wanted.

When Writing Advertisers Please Mention the American Carpenter and Builder.



DON'T FORGET---We Sold Our Entire Last Years' Output Before August

To be certain of getting Holland Furnaces this Year You should get in touch with Us NOW

I want to remind you once more that we were so busy last season we simply had to telegraph all our salesmen and agents early last Fall not to think of taking any more orders.

The Holland Furnace—installed with the aid of Holland service—was in big demand by home owners, home builders, contracting builders and carpenters everywhere.

That certainly is the best recommendation we could have and to tell you about it is the best advertising we could possibly do.

People now-a-days are not buying a furnace unless they know surely—know positive'y—that it will give them the best of service at all times.

That is the only sort of a furnace you—as a progressive, reliable builder—can afford to recommend. Taking chances with a furnace may cost you heavily; so I just want to advise you now—**DON'T TAKE CHANCES WITH ANY FURNACE.**

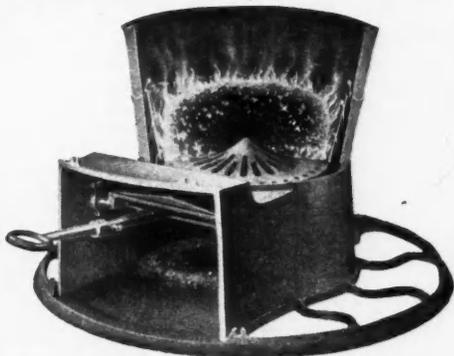
Be sure you know in every particular the furnace you decide to install in your season's work.

Let me tell you a few things about our Holland furnace—and Holland service—and then you will know just why the Holland is the safe, sure, satisfactory furnace for you to install.

Our Holland furnace is designed and built upon practical, common sense, heating principles. It burns all the fuel—from the side and over the top—the natural and right way. It cuts coal bills in half because it burns everything combustible. It is likewise clean and is practically repair proof. The Holland fire-pot is the most thoroughly efficient fire-pot placed in any furnace. Also our Holland Cone Grate—our Holland One Piece All Cast Iron Radiator are features of quality and service.

HOLLAND Furnaces and Service

This is the Holland Air Admitting Fire-Pot



Now about installing a Holland—with our Holland service. You can easily install any Holland furnace—and do as neat and thorough a job as any tinner could. Our Holland service is particularly intended to help you in solving your furnace questions. You send us the floor plans—(with instructions as to which rooms are to be heated)—of any residence or building you are putting up. Our expert heating engineers will submit to you detailed plans and specifications, prices, etc., covering the entire heating equipment. This service is FREE to you.

Drop us a line to-day and we will send you our complete catalog, detailed particulars, etc.

You want to be sure and get all this information before you decide upon the furnace equipment you intend to install.

Holland Furnace Company
HOLLAND :: :: MICHIGAN



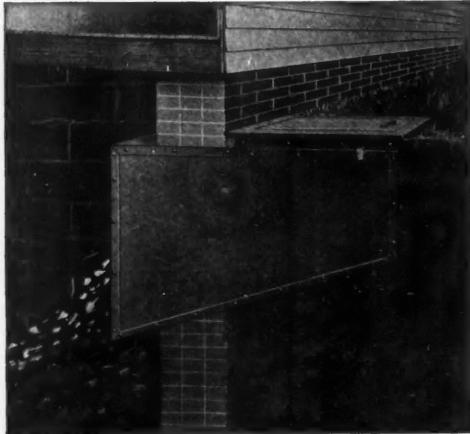
When Writing Advertisers Please Mention the American Carpenter and Builder.

Majestic Grade Line Chute

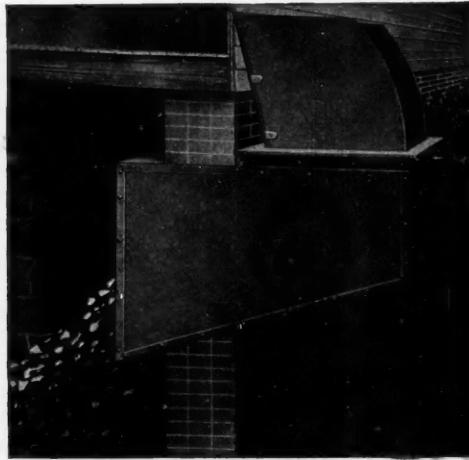
Modern architecture which provides for a very low foundation, and in some cases no foundation at all projecting above the grade line is responsible for the introduction of this new type of coal chute, now being made by the Majestic Furnace and Foundry Co., Huntington, Ind.

The accompanying illustrations show how this chute is installed in the wall and how it is used:

This chute can also be used to very good advantage in a



New Style Fuel Chute, Closed



New Style Fuel Chute, Open

store building where the floor is on the same level as the side walk. The door and frame are made of very heavy cast iron and will withstand driving over by wagon or team without danger of breaking. The door is provided with suitable fastening and cannot be unlocked except from the inside. The sides that form the hopper to receive the coal

are made of heavy steel. The body that projects through the wall is made of heavy steel plate and angle iron. All parts are thoroughly painted.

The Majestic Furnace and Foundry Company, Huntington, Ind., have issued a very attractive catalog illustrating and describing their entire line of coal chutes, cast iron cellar window frames, cast iron porch column bases, etc. They will be glad to send this catalog to any of our readers who wish a copy.



Louisiana Architects Elect Officers

The Louisiana chapter of the American Institute of Architects recently elected the following officers: President, Charles A. Favrot; vice-president, S. S. Labouisse; secretary, M. H. Goldstein; treasurer, L. C. Weiss.

Every Roofer Knows



40 POUNDS COATING
A.S. & T. P. CO.



32 POUNDS COATING

The weather resisting qualities of *Copper*. When copper is properly combined with high grade Open Hearth Steel, a superior roofing plate is the result. All of our

ROOFING TIN

including the accompanying brands, is now made from **Copper Bearing Open Hearth Steel**. Long service tests have convinced us that this is the highest quality and **MOST DURABLE ROOFING TIN** on the market. The weight of coating is stamped on each plate—important to both buyer and user.

Our Pocket Reference Book giving data and information relative to our Terne Plates, Apollo Best Bloom Galvanized Sheets, Formed Roofing and Siding Products, etc., will be sent to any builder, contractor or roofer on request. Send for a copy today,—also our book "Better Buildings."

American Sheet and Tin Plate Company
General Offices: Frick Building, Pittsburgh, Pa.

DISTRICT SALES OFFICES:

Chicago Cincinnati Denver Detroit New Orleans New York Philadelphia Pittsburgh St. Louis
Export Representatives: UNITED STATES STEEL PRODUCTS COMPANY, New York City
Pacific Coast Representatives: UNITED STATES STEEL PRODUCTS COMPANY, San Francisco, Los Angeles Portland, Seattle

When Writing Advertisers Please Mention the American Carpenter and Builder.

"The Shingle With The Taper"

This is the only Asphalt Shingle that is tapered—It clings close to the roof—Cannot warp or curl—Is almost everlasting.

Winthrop Asphalt Shingles

Have an exposed surface of fine chipped slate in natural colors of red and green—They are very light—practically fire proof—and externally artistic in appearance.

*Let us send you
a free sample*

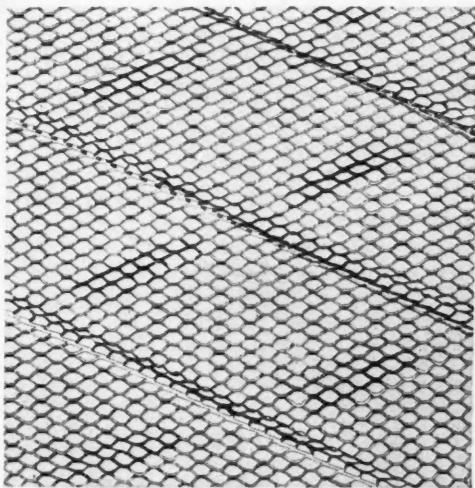
**WINTHROP ASPHALT SHINGLE
COMPANY**

8 Sixty-First Street
ARGO :: ILL



Solved!

The "U" Shaped Rib of



KNO-FUR

Expanded
Metal Lath

**Does Away with
Furring Strips without
Weakening the Plaster**

KNO-FUR EXPANDED METAL LATH makes furring strips unnecessary.

KNO-FUR'S "U" shaped rib imbeds itself in the plaster with equal ease on single side or solid partitions.

KNO-FUR'S mesh work ribs are small trusses of similar construction to the bridge truss. This gives extreme rigidity and permits of wide spacing.

KNO-FUR is acid resisting, coated with highest grade carbon paint, and cut from U. S. Standard gauge sheets, the thickest gauge standard used.

KNO-FUR EXPANDED METAL LATH is the practical result of a big idea.

Send for Booklet 37 for details.

Important:—We can ship you any one of our products within 24 hours of receipt of your order. Does this mean increased efficiency for you?

NORTH WESTERN EXPANDED METAL COMPANY

Largest Exclusive Manufacturers of Expanded Metal Lath in the World
903 Old Colony Building, CHICAGO, ILL.

When Writing Advertisers Please Mention the American Carpenter and Builder.



WHY CORTRIGHT METAL SHINGLES STAY TIGHT
See How They Interlock

That's a feature which appeals to every customer, for the finest sifting snow or driving rain cannot possibly penetrate these joints—they're storm-proof—fireproof—last as long as the building, and never need repairs, as is proved by roofs which we put on over a quarter of a century ago.

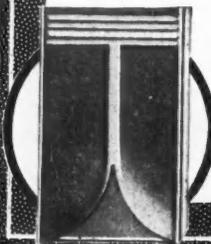
Now if you have been worrying about what was going to take the place of wood shingles, the solution seems in sight, doesn't it?

Hundreds of Contractors and Builders all over the country tell us that a man can lay

Cortright Metal Shingles

in less time, and they look a great deal better than the wood shingles, and give better satisfaction all around.

We have a book entitled "Concerning That Roof" that we would like to send you, if you will just send us your name—or if you prefer simply clip, sign and return the attached coupon.



Do one of the two things right now.

Cortright Metal Roofing Co.

Philadelphia and Chicago

----- Clip, sign and return this coupon, NOW -----

Cortright Metal Roofing Co., Philadelphia

Gentlemen: You may send us your Special Contractors and Builders proposition.

Name

Street Address

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

A.C.B. 2-13

When Writing Advertisers Please Mention the American Carpenter and Builder.

White Was Pioneer in Truck Industry

In all the comment on the amazing strides of the motor truck industry little is said of the pioneer work done by The White Company of Cleveland, O., yet this company built and sold the first commercial vehicle that went into legitimate business service and some features of the design of that original White truck are today regarded as good engineering practice for motor trucks.

While the earliest efforts of The White Company were devoted to the building of steam cars and trucks, the designs then adopted included so many features common to the gasoline motor trucks that were later perfected by The White Company that the early evolutions were of great value in determining the life and efficiency of some very important details of design.

Exhaustive experimental work with motor trucks was conducted by The White Company during the long period when public interest was confined almost entirely to passenger cars and it was not until trucks appeared on the streets in impressive numbers that the public realized what this pioneer company had accomplished.

In the meantime, however, The White Company quietly progressed and enlarged this commercial end of the business until today it is perhaps the largest producer of motor trucks in the world, building a line of vehicles ranging from 1,500 pounds capacity for light delivery work to trucks of five tons capacity, fitted with standard and special bodies, some having power dumping devices, power winches, power derricks, etc.

In the heavy types, The White Company employs steel wheels, which have countless advantages over those made of wood, and it is interesting to note that the present steel equipment is the result of long experience with steel wheels that were used on pioneer White trucks.

There can be no denial of the value of lessons learned from the earliest periods of motor truck development. The best of wheels, bearings, axles, springs, frames and other parts were dictated by nothing else than the experience gained with the early types of trucks.

Many Eastern people recall the New York to Boston endurance run in 1902 in which there were entered two White commercial vehicles of the light delivery type—the first and only power wagons of any kind to be entered in a public test up to that time. Many of these cars had been sold and were giving what was then regarded as efficient service. However, while they were doing their work the company was developing still another type, a heavy duty steam truck which, as time proved, embodied features that are still regarded with favor and incorporated in many trucks, though in less scientific manner.

In more ways than it is possible to cite, the company has benefited by knowing absolutely the soundness of designs proved out in pioneer work and in long experience. During that long period many companies have jumped into the field and many have fallen out of it. New trucks made their appearance almost over night and new companies offered conditions impossible of fulfillment. It is particularly gratifying to The White Company that its policy and its product should be so highly economical to business firms large and small.



Two Hustlers Advanced

Mr. William A. Willson, for the past four years assistant advertising manager of the International Correspondence Schools, Scranton, Pa., has resigned that position to become sales and advertising manager for the International Poultry Sales Co., Brown's Mills, N. J. He will be succeeded by R. K. Moore, who has been with the International School for the past 2 years.

Sand's Plumbs and Levels

Thirty years ago Mr. J. Sand started his life work as a bricklayer. He found it necessary in the course of his work to use an instrument that would be more useful than the old fashioned plumb stick with bob. So he made up his mind to make for his own use a level that would also serve



One Style Fitted with 4 Plumbs and 2 Levels

the purpose for a plumb. He succeeded in producing a most excellent tool and it became so popular that his friends induced him to make a few for them, and this was the beginning of J. Sand & Sons, manufacturers of plumbs and levels.

The constantly increasing demand of friends and fellow craftsmen for this plumb and level finally forced Mr. J. Sand to put up a small shop to supply the demand. Soon outgrow-



A Level with 3 Plumbs and Top Level 262 Upper Plumbs Work Together Giving Better Sight

ing the small shop, and his sons to assist him, he put up a factory with modern machinery and equipment.

Gradually J. Sand & Sons invented and perfected different styles of plumbs and levels, till today the variety is so complete that Sand's levels are the standard the world over and in demand by all the craft in need of good tools.

Their success is due to the fact that they have 30 years'

experience as practical mechanics and 17 years as manufacturers. They know what wood to choose—old air dried lumber, and they have it. It is left in their factory for a long time before being made into finished work. Wood that is merely kiln dried and then made into a finished level will never "Stand Up"—the changes of weather, dampness and rough usage to which every plumb and level is subjected to will effect it and make it useless.

The spirit glasses used in Sand's levels are their own idea. They have a slight crown, are very accurate and have a quick responsive bubble. They are set in a manner to give the least amount of trouble and great efficiency. The wire center marks are very distinct. All spirit glasses are covered by heavy plate glass protecting them, also making those parts dust, dirt and water proof—in fact Sand's levels have all the features essential to a high grade tool.

The reputation of every bricklayer, mason, carpenter, etc., depends upon the class of work he produces. The selection of tools is an important matter. The natural trend of the mind of a good mechanic is to select the very best tools he can get, and this same painstaking care will tell in the class of work he produces. A cheap tool is dear at any price. It does not look well, will not wear well and prevents the execution of skilled workmanship.

The Sand's plumbs and levels are made with the idea of producing a tool of high quality; a tool that will look right, last a long time and give the user satisfaction. They have a nice illustrated catalog describing these plumbs and levels which they will send on request. Address J. Sand & Sons, 1023-25 Rivard St., Detroit, Mich.

Grand Rapids Hard Wall Plasters

will give permanent satisfaction in all plastering work. You can always depend upon that—and we always guarantee G. R. P. Quality Hard Wall Plasters.

Grand Rapids Plaster Co.'s Hard Wall Plasters please both owner and renter because they give service, need no repairing—you keep all the profits in your pocket. That's why it pays you to use G. R. P. Quality Hard Wall Plasters instead of heavy, cracky, lime mortar.

Climax Wood Mortar

is being extensively used. It is a wood fiber plaster made of pure gypsum rock. It is the best plaster made. The fiber adds about one-third to the bulk of the plaster making it cover a greater area with less weight and maximum solidity and tensile strength. It is absolutely fireproof. It's density prevents vermin. It is not affected by water. It is durable, flexible and pliable. It is plastic and very easy to spread—any plasterer can apply it. It is adhesive and permanent. It does not contain one particle of sand.

We will send you FREE a set of books that will explain hard wall plastering to you in detail, also tell you in particular concerning Climax Wood Mortar, Hercules Wall Plaster, Superior Wood Fiber Plaster, Gypsum Wall Plaster and Sackett Plaster board. With this set we also send you our room measurement booklet; from it you can tell at a glance the number of square yards in a room. Get these books and the name of your nearest dealer.

Hercules Wall Plaster

is a gypsum-rock-hair-fiber plaster—we do not sand at the factory. It makes a wall that is dense, durable, hard, tough and economical. It is absolutely fireproof. It dries quickly after applying. It spreads better and with less waste than any other wall plaster. We use only high grade hair in its manufacture. It contains no chemicals, acids or any vegetable matter.



"Remember the
TRADE MARK"

GRAND RAPIDS
PLASTER COMPANY
GRAND RAPIDS, MICHIGAN

GRAND RAPIDS PLASTER COMPANY

Grand Rapids

Michigan

N. B. We solicit inquiries from Michigan, Ohio, Indiana, Illinois, Wisconsin, Kentucky, Tennessee, West Virginia, and Pittsburgh districts, Pa., only. Freight rates will not permit shipment to other territory.

When Writing Advertisers Please Mention the American Carpenter and Builder.



YOU can do away entirely with the muss and dirt of lathing and plastering—you can cut out all the delay in waiting for plaster to dry—and you can have better, more durable walls and ceilings if you use

UTILITY WALL BOARD

Also—you save money — you save time and labor—and you get a much more satisfactory job—

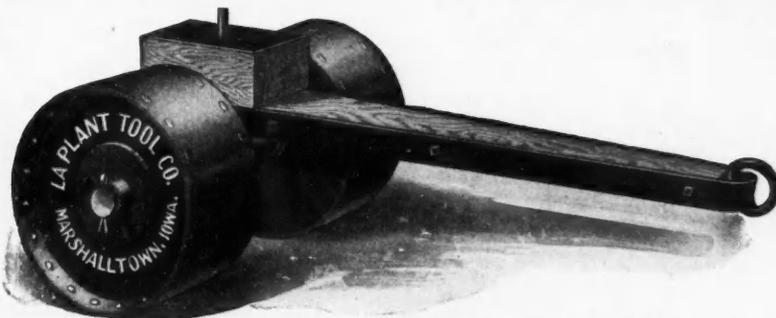
Utility Wall Board is a tough fibre board—thoroughly moisture proof—It is put on right over the studding—or over old plaster if you wish—It will not warp or crack—It is fire resisting and as durable as the house itself.

Utility Wall Board is made in all lengths and in any width up to four feet. It is very easy to put on and is immediately ready for papering or decorating in any way desired.

We want to send a free sample to every carpenter and builder and house owner in the country—write for yours.

THE HEPPE'S COMPANY

4503 Fillmore Street
Chicago, Illinois



THE LA PLANT HEAVY HOUSE MOVING TRUCKS

When you get a job with an old building on the lot—move it with the La Plant Trucks to another place—instead of wrecking it. There is more profit in it for you.

La Plant Heavy House Moving Trucks are made of steel—on scientific lines—are interchangeable so they can be worked singly, in pairs or in fours.

Write for catalogue O and see how easy it is to wheel a building a mile in a day—and how little the cost is for La Plant outfit compared with the profit to be made in moving houses instead of wrecking them.

LA PLANT TOOL CO.

1100 E. Nevada St.

Marshalltown, Iowa

When Writing Advertisers Please Mention the American Carpenter and Builder.

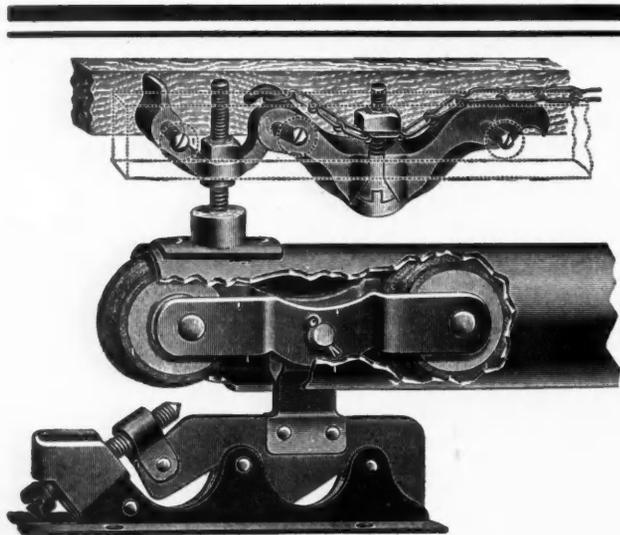


Fig. 404

Perfectly Hung Doors

Depend Entirely on the Hangers

Cannon Ball Hangers insure *permanent* satisfaction. Both hanger and track easily adjustable with an ordinary screwdriver, and both are instantly accessible from the center of the door opening, allowing either end of track to be raised or lowered as desired.

The CANNON BALL House Door Hanger

Specially formed wheels with roller bearings—wide tread—leather covered. Frictionless, noiseless, practically indestructible. Steel hanger and plate for attaching to door.

Track of 14-gauge steel $2\frac{1}{4}$ -inch inside diameter, slotted $\frac{1}{4}$ inch on under side.

Furnished complete with 2-piece hardwood header.

Write today for catalog and folder giving full particulars.

Hunt, Helm, Ferris & Co.
6592 Hunt St. Harvard, Illinois

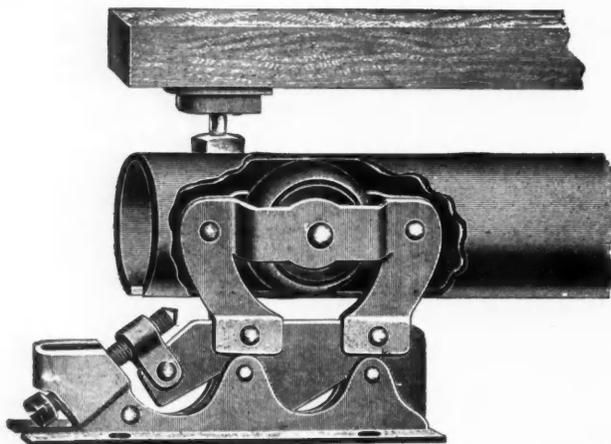


Fig. 468

62

Facts About Arkansas Soft Pine

Within the last few years lumber manufacturers have awakened to the necessity of supplying wood users with accurate, detailed information about their products. Architects and contractors are scanning very closely the kinds of materials now offered them and are eager to acquire useful data regarding woods and their uses.

Government reports are reliable but almost wholly inaccessible to the ordinary lumber user, who has neither the time nor the inclination to dig into a mass of reports for a particular fact, especially as he scarcely is aware of the nature of the fact for which he is searching.

Foremost among those producers of lumber who are supplying the public with reliable information respecting the purposes for which their lumber is suited are the producers of Arkansas Soft Pine, the wonderful utility pine of the south. This is a variety of shortleaf pine, firm in texture, of medium weight, of beautiful color and varied figure. The wood works smoothly in power or hand machines and is produced in sizes and grades that make it an ideal building lumber.

Carpenters hail Arkansas Soft Pine as a welcome relief from the hard, splintery kinds of lumber so frequently tendered for use. While qualities suitable for all building purposes are produced, attention now is being centered in the use of this wood for interior trim.

A recent addition to the reliable lumber literature of the country is the work on Arkansas Soft Pine Interior Trim, published on behalf of the lumber makers to whom reference has been made. It gives the reader some conception of the merits of the wood for trim, a glimpse of its wide range of usefulness for such purposes, and also for general structural uses.

Recently one of the best manufacturers of interior trim in the Chicago district was asked regarding the use of Arkansas Soft Pine. After commending the wood for the ease and economy with which it could be worked, he stated that fully 35 per cent of all the trim manufactured by this company was of Arkansas Soft Pine, and added:

"We are considered high price people and naturally we do not make a great deal of the millwork for the cheaper classes of buildings. Arkansas Soft Pine is going into all classes of building, not because it is cheap but because it is good.

"In many cases the entire house is trimmed with this wood, finished in natural color or tinted to suit the taste of the owner. In other cases the pine is used for the hidden work, for drawer sides, bottoms and ends which receive the brunt of the wear. We have made everything but the front of a cabinet of Arkansas Soft Pine because we know it will stand up under the work and we have made the entire cabinet of this wood."

Arkansas Soft Pine is desirable not only from the standpoint of beauty and durability but because it is lower in price than any other wood available for interior trim. It has an excellent figure and can be given any finish the user may elect to employ.

A card addressed to any of the manufacturers of Arkansas Soft Pine, whose advertisement appears in this issue, will bring a copy of the Interior Trim book, which should be in the hands of every contractor, carpenter and architect. It is beautifully illustrated and contains a wealth of practical advice on how to trim the home.



Oshkosh Mfg. Co. Open Chicago Office

On February 1st, the Oshkosh Mfg. Co., of Oshkosh, Wis., opened an office in Chicago at 1452 Monadnock Block, with Mr. A. M. Anderson as district manager.

When Writing Advertisers Please Mention the American Carpenter and Builder.

MAJESTIC

FOUNDATION
COAL CHUTE



Protects the building just where most needed — above the opening.

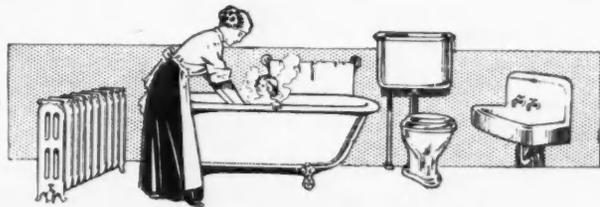
The heavy steel hopper catches all the coal.



When not in use, the hopper lies in the bottom of the chute body. The door locks automatically either open or closed. Strictly burglar-proof. With 1/2-inch wire glass or steel panel in door.

Write for circular and address of nearest dealer.

MAJESTIC FURNACE CO. ‡
995 to 1001 Sixth Avenue Huntington, Indiana



How to Install Your Own Plumbing and Heating Systems

Builders, contractors and home owners—my big new book tells you how to install modern heating plant or your own water system. New Money-saving method. Steam or hot water heating plants. You can easily install one of my modern heating plants from the complete simplified plans and instructions furnished to you free. The saving is enormous. Write today for my great free book.



How to Save on all Material

My method for saving on all materials is a revelation even to the most experienced contractors and builders. Get this free book and see for yourself. My amazing low price will prove to you my method is a blessing to every builder and home owner.

GIBBONS NEW METHOD

Every home, even the smallest cottage, can now have running water or a heating plant. Write for it today.

Book Free

My new book gives you greater buying power than your local dealer. Thousands of things illustrated and priced. Gasoline engines, hydraulic rams, pumps, pipes, valves, electric lighting plants, acetylene lighting plants, all accessories. Everything guaranteed. Send your name and get it post-paid free. Send today.



M. J. GIBBONS Dept. 2416 Dayton, Ohio

YALE
INDEPENDENT
GAS PLANT
MAKES ITS OWN
GAS



GASOLINE
LIGHTING SYSTEMS
FOR EVERY
NEED

Modern Illumination

Mr. Contractor: You are interested in modern illumination and so is the householder; we have a proposition that is interesting and profitable. Here is an opportunity for you to make more money and which will be helpful to you in your business. Let us tell you more about it. No obligation. Our literature is free for the asking. Write today.

C. B. YALE MFG. CO., 20 to 30 S. Clinton St., Chicago, Ill.

LET US GIVE YOU THIS TRANSPARENT CELLULOID TRIANGLE

It is 4 inch size, 30°+60° angles. Lowest retail price, 25 cents. Absolutely essential to everyone who draws. We make this offer to introduce our new catalogue showing

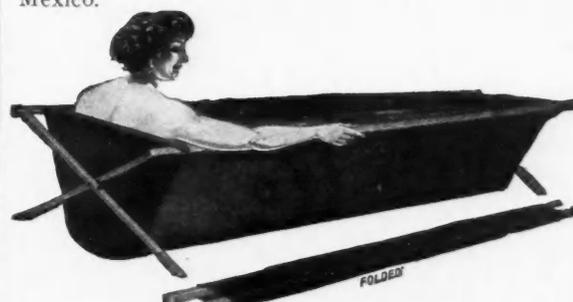
SPAULDING'S NEW CARRYING CASES AND COMPLETE OUTFITS

for carpenters, builders, designers, architects, engineers and students—compact, durable and convenient. Spaulding's Carrying Cases are made light and strong. They provide well arranged compartments, including space for drawing board and T square. Handled like a suit case; unique, practical, inexpensive. Outfits include all necessary equipment. If you draw, send us five 2-cents stamps today to pay postage and get the free triangle and the catalogue.

SPAULDING PRINT PAPER CO., 48 Federal Street, Boston

AGENTS \$45 to \$80 a Week

Thousands of dollars paid to agents already in the field. Will Gunkel of Ohio, got \$240 worth of orders first week. A. Bernider, of Kansas, made \$30 in four hours; made 8 calls, took 6 orders. Weil, of Mo., made \$10 in one hour. Hamilton, of Wyoming, made \$60 first two days. We want good agents in every county in the United States, Canada and Mexico.



New Invention. Just out. Nothing like it. Folding Bath Tub. Gives to every home a complete bath room in any part of the house—without expense. Biggest, quickest, surest money-maker of the century for agents. Territory being rapidly assigned. Send your application today.

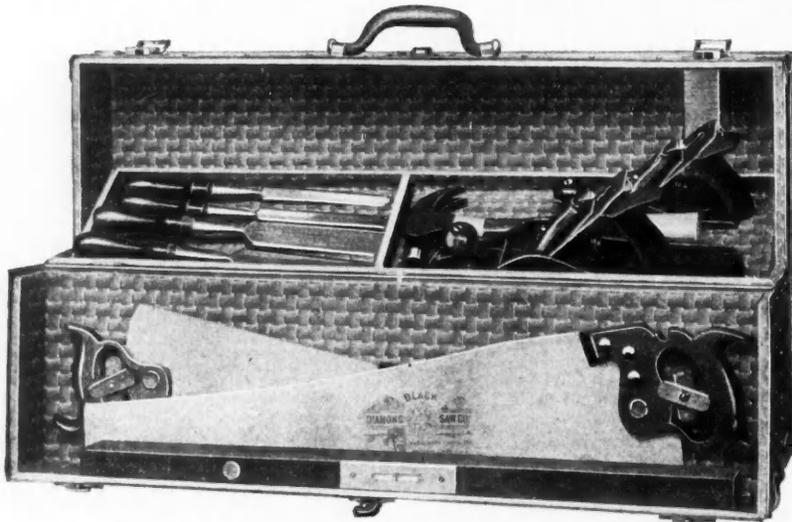
100% Profit. We back you with our capital and experience. We give you complete instructions, assistance and co-operation. No charge for territory. Don't delay. Send your name at once. Write plainly and give name of your County. Complete particulars FREE. Write today.

Robinson Mfg. Co., 211 South 15th Street TOLEDO, OHIO

When Writing Advertisers Please Mention the American Carpenter and Builder.

Carpenter's Fibre Tool Case

The necessary thing in a tool case is to have it strong and durable and yet as light as possible. A recent development of interest along this line is the fibre tool trunks and



Strong, Light Fibre Case for Carpenter's Tools, made by the Wm. Lorenz Trunk Works

cases made by the Wm. Lorenz Trunk Works, 107-109 Second Street, South, Minneapolis, Minn.

A popular size of carpenter's tool case is illustrated herewith. Note how nicely the tools fit into it. This tool case is made of three-ply bass wood covered with vulcanized fibre. It is warranted to outwear any other material. It will not rust

or tear and, as already mentioned, is very light in weight. This case is designed like a suit-case which makes it easy to carry to and from work. The corners are heavily reinforced with brass and it has a securely riveted leather handle (guaranteed not to come off) and a good strong tumbler lock, impossible to pick.

The Wm. Lorenz Trunk Works are making a special proposition to our readers at this time. Write them at once for illustrated catalog and full particulars.



Myers 1913 Poster Calendar

We always know that the New Year has started and started right when we receive the F. E. Myers & Bro. poster calendar—a style of calendar that they have been putting out for over thirty years, making changes from year to year in the style of heading and in the addition of new goods but holding to the same general style.

We are told that this 1913 poster calendar has been distributed to over 40,000 dealers handling Myers pumps, hay unloading tools, door hangers, etc., in this and foreign countries. These dealers use this calendar for ready reference, selling and ordering goods direct from it.

F. E. Myers & Bro. have their main offices and plant at Ashland, Ohio. Their catalog is a very complete reference guide which builders will find very useful to refer to.

Shingles Made From Two Indestructible Rocks



CRUDE ASBESTOS Fireproof—Indestructible

Asbestos has been exposed to the action of the elements for centuries without the slightest deterioration.

PORTLAND CEMENT Fireproof—Indestructible

Portland Cement was used by the Romans about 2000 years ago in structures which are still extant.

J-M Transite Asbestos Shingles

are practically indestructible because made of these indestructible minerals. They are moulded into one solid, compact, homogeneous mass under tremendous hydraulic pressure from a composition of Asbestos and Portland Cement.

J-M Transite Asbestos Shingles never rot, warp, crack, split, curl or decay.

According to engineering authorities the more severe the weather conditions the harder and stronger these shingles become, because such conditions tend to hasten the setting or crystallizing of the cement or binding material.

Supplied in sizes and shapes to meet all requirements, in colors of slate, natural gray and Indian red.

Our latest booklet, "The Roof Everlasting," will be forwarded upon request. Also ask for our proposition to dealers.

H. W. JOHNS-MANVILLE CO.

Albany
Baltimore
Boston
Buffalo

Chicago
Cincinnati
Cleveland
Dallas

Detroit
Indianapolis
Kansas City
Los Angeles

Louisville
Milwaukee
Minneapolis
New Orleans

New York
Omaha
Philadelphia
Pittsburgh

San Francisco
Seattle
St. Louis
Syracuse

Toronto

For Canada:—THE CANADIAN H. W. JOHNS-MANVILLE CO., LIMITED.

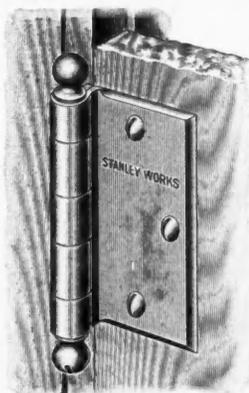
Montreal

Winnipeg

1559

Vancouver

When Writing Advertisers Please Mention the American Carpenter and Builder.



Stanley's Ornamental Surface Butts No. 165

Save Time and Labor and Please The Owner

The Ornamental leaf screws on the surface of the door, saving half the time of mortising. The slotted ball tip can be unscrewed and the pin reversed so that the butt can be used on either right or left hand doors.

The handsome, dignified, **Beveled Edge** design harmonizes with the popular designs of hardware. Made in all finishes.

Write for booklet "A" describing this and many other lines of "Stanley" Quality Hardware.



The Stanley Works
New Britain, Conn.



No. KP112
Price \$0.80



**Correct in
Balance
and
Hang**

The moment you grip this hammer you know you will land square and true, and work all day without tiring, because

KEEN KUTTER

hammers have the correct balance and hang, and give best results. Handles are held in place with the Simmons' patented wedge—can't come off. Heads made of crucible steel—will not chip or break. The trade mark is your guarantee of quality. And money back if not satisfied.

"The Recollection of Quality Remains Long After the Price is Forgotten."

Trade Mark Registered. —E. C. SIMMONS.

If not at your dealer's, write us.

SIMMONS HARDWARE CO., Inc.

St. Louis New York Philadelphia

Toledo Minneapolis Sioux City Wichita



No. 24 21-inch Aluminum Reversible All-around



No. 30 30-inch Aluminum. Works Either End or Edge

**Use Sand's Plumbs and
Levels—Nothing About
Them to Get Out of Order**

Sand's plumbs and levels are made right in every detail. They are made by men with 25 years' experience in the building line. Men who know just what is necessary in good plumbs and levels.

The Sand's new model aluminum levels are the handiest and most useful levels made. They are strong, light and durable.

Sand's levels are always accurate. Both the new model aluminum and our famous wood levels always give the best of service. There are over 75,000 of our wood levels in daily use.

The aluminum levels are made of the highest quality tested metal.

The wood levels from very old, selected, seasoned White Pine.

In all our levels the spirit glasses are covered by plate glass protecting them from dust, dirt or moisture. The only levels so made. All vials are wired, showing up bubble accurately and readily.



No. 3024. Plumb and Level, 24-in. Works either end or side up.

The Sand's line is the largest line of levels made. Plain, brass-bound and aluminum. We can make anything to your order.

The Sand's levels are for sale by all good hardware dealers. Get them from your dealer or write us for detailed particulars, catalog, prices, etc.

Insist that the name SAND'S be upon your levels—look out for cheap imitations.



No. 3. Plumb and Level. Made in 72-inch lengths. Plain and brass lined. Works either end up. The only level of that length made. Fine for contractors and carpenters for door and window jamb work.

J. SAND & SONS 1023-25 Rivard Street Detroit, Michigan

When Writing Advertisers Please Mention the American Carpenter and Builder.

A Free Book of Money Saving Ideas For Dairy Barn Builders



You will be interested in reading "Helpful Hints to Dairy Barn Builders." It tells many of the things learned by W. D. James—America's foremost dairy barn designer. It will help you make more money.

It tells about the new plank frame construction, the famous King system of ventilation, perfect lighting, proper width and arrangement. It tells about stable floors, site, size, appearance, design, drainage and equipment. And it shows four floor plans of barns that have attracted widespread attention.

You can obtain a copy of this valuable, helpful book FREE. Merely answer these few questions and the book will come by return mail. For whom do you expect to build or remodel dairy barns? (Give name and addresses.) When? For how many cows? Address

James Manufacturing Company
8675 Cane St., FT. ATKINSON, WIS.

Special Offer Of Blue Prints

Mr. James wants to make you a special offer of complete working blue prints of modern dairy barns of different sizes and types. Also ask how to secure free help from our agricultural department. Write today.



SIMONDS SAWS

In addition to Hand Saws we make all sizes of Cut-off and Rip Circular Saws, and Band Saws. Write for price on the saw you want in your shop.

SIMONDS' MFG. COMPANY

Fitchburg, Mass.

Chicago
New York

New Orleans
Montreal

San Francisco
Portland

A Mixer as Good as the "Eveready" Saw Rig

The readers of the AMERICAN CARPENTER AND BUILDER who are familiar with the Oshkosh Manufacturing Company's "Eveready" saw rigs will be glad to learn that these people are now manufacturing a line of concrete mixers. The record that their power woodworker has made among wide-awake builders and contractors will make them favorably inclined towards any other labor saving equipment the Oshkosh Manufacturing Company may put out.

We have had the opportunity of examining these concrete mixers at the Chicago Cement Show just closed. The are machines meant for business,—well designed and strongly built.

Experience in any manufacturing enterprise means a great deal. The Oshkosh Manufacturing Company is especially fortunate in the experience they have at their command through the men connected with this company. The President, Mr. Elmer Leach, has been for more than twenty-five years a manufacturer of saw mill and woodworking machinery. Mr. Geo. F. Halverson, Sales Manager, is a well known figure in the concrete mixer world. He has been associated with some of the largest designers and manufacturers of concrete machinery in the past and the Oshkosh Manufacturing Company may well be congratulated on having such a thoroughly experienced mixer man in their organization. The Mechanical Engineer is Mr. Frederick Bruner, a man who has been responsible for the design of several other prominent concrete mixers and who seems in this Oshkosh machine to have been able to utilize and combine the good points of them all. Mr. E. C. Leach is Treasurer of the Company and is in charge of the manufacturing end of the business.

Thus in the designing and building of the Oshkosh Manufacturing Company's line of concrete mixers and accessory equipment it is evident that they have men who are not only thoroughly experienced in concrete but also thoroughly experienced in the machinery building business. With these experts they have been able to design and build a mixer line that will not only mix and discharge concrete in a quick and satisfactory way, but also combines strength and durability together with the saving of operating power.

The illustration herewith shows their gasoline driven outfit with gasoline engine housed, automatic water tank, and power charging hopper in receiving position. This machine is built in all sizes—ranging from 5 cubic feet of material per batch up to 60 cubic feet. Mixers are equipped with steam, gasoline, or electric power as desired. One strong point of this line is that all parts have been standardized so that it is easy to change a machine from steam to gasoline engine or to make any other changes desired.

The Oshkosh mixer is a mixer with quadruple mixing motion. This quadruple motion is the result of the design of the Oshkosh drum, as the material is rolled over or folded with the rounded corner of the drum heads. It is then forced towards the vortex by the shape of the transverse blades. The mixing projections in the drum then give it the four-way mix, which means turning, pouring, kneading, and flowing of the batch while it is being mixed. This absolutely insures a perfect mix.

A strong point of this mixer is its simplicity. It is built with very few parts, consequently breakdowns are few and repairing bills very small. The frame of this mixer is constructed of channel steel with five heavy semi-steel cross beams riveted to the channels. The drum is made of semi-steel and has a thickness of not less than one-half inch at any point. The drum is rotated on large self-oiling rollers and is rotated by direct chain drive. By use of the chain

When Writing Advertisers Please Mention the American Carpenter and Builder.



Nailing Beaver Board to studding of a new room

Putting Beaver Board over old, cracked plaster walls

Be a Beaver Board Salesman

Suppose a customer asks you tomorrow to tell him all about Beaver Board; can you do it?

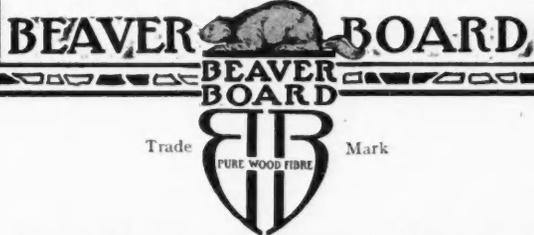
Do you know its 41 great advantages? Do you know how rapidly it is displacing lath, plaster and wall-paper for the walls and ceilings of every type of new or remodeled building?

An accurate knowledge of Beaver Board means money to the carpenter, builder and contractor.

Drop us a line and we will tell you the facts and how to cash in on them.

The Beaver Companies

United States: 179 Beaver Road, Buffalo, N. Y.
 Canada: 379 Wall Street, Beaverdale, Ottawa.
 Great Britain: 4 Southampton Row, London, W. C.



An Improvement—Not a Substitute —On Lath and Plaster



Every Plastergon Job You Do Multiplies Itself.

The distinctly artistic appearance of a Plastergon job—its obvious superiority over lath and plaster—immediately starts people talking about you.

Plastergon broadens your field of work. You use it in every type of new and remodeled building—not residences alone.

Every Panel is Guaranteed

Don't risk your reputation as a builder by using board likely to show defects after installation. You take no chances with Plastergon—every panel is guaranteed to be perfect before shipping.

PLASTERGON WALL-BOARD Our Service Department can help you get Plastergon jobs. Drop us a line today—doesn't obligate you a bit.

PLASTERGON WALLBOARD CO.

Dept. A Tonawanda, N. Y.

HERE

is a Wall Board that is really practical because its **surfaces** have been waterproofed to prevent buckling.

BIRD & SONS

NEPONSET WALL BOARD

For Walls and Ceilings

is just the thing for finishing off cottages camps, etc. It is also being used very largely for partitions, walls, and ceilings in factories.

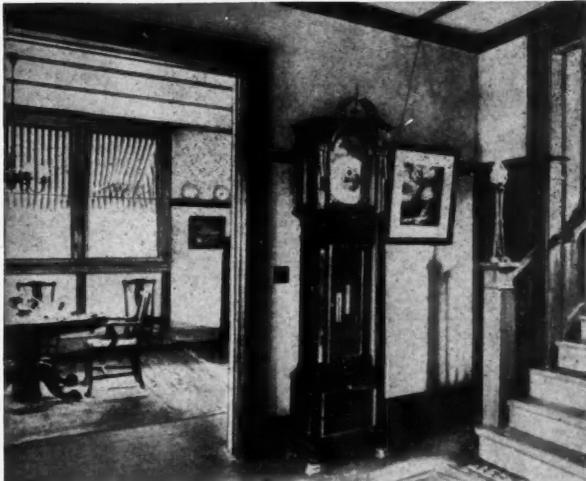
For Sample and Information address:

F. W. BIRD & SON

22 River Street EAST WALPOLE, MASS.

Established 1795
 Canadian Plant, Hamilton, Ontario

BRANCH OFFICES
 Washington, D. C. Columbus, Ohio
 Chicago, Ill. Portland, Ore. San Francisco, Ca



Your Customer will be delighted with

Roberds Ideal Wall Board

It makes such a beautiful interior finish at such a reasonable cost. It can be painted, papered or tinted and lasts forever. It never gets shabby, never cracks, peels, chips or warps and is proof against vermin, heat, cold, fire and moisture.

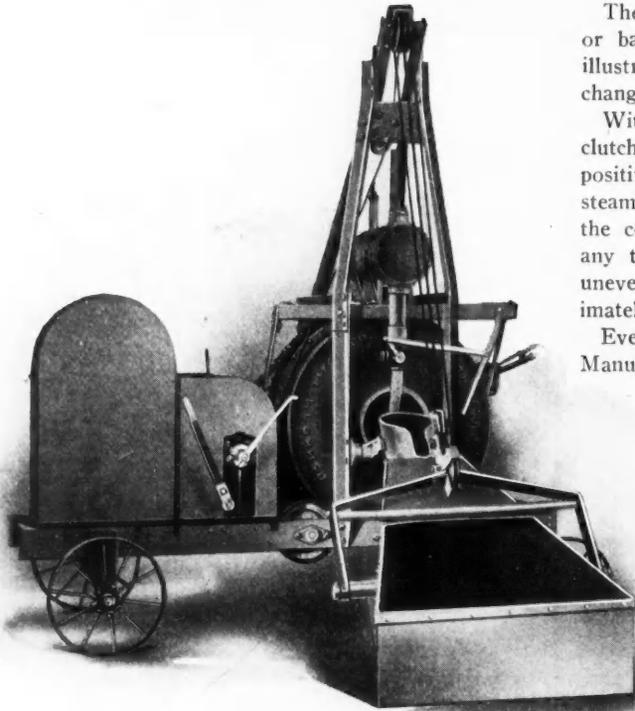
Roberds Ideal Wall Board comes in sheets all ready to be nailed to the studding. Your cheapest man can apply it without previous experience. No muss, no confusion, no delay and no disappointment.

Our special proposition to carpenters and builders is unusually attractive. Write for it today and we will send you full particulars, samples, prices, catalog and testimonials from other contractors.

The Roberds Mfg. Company

100 Railroad Street :: MARION, INDIANA

When Writing Advertisers Please Mention the American Carpenter and Builder.



Oshkosh Concrete Mixer

drive they not only simplified the driving mechanism and increased its efficiency, but have done away entirely with cast gears which so often cut out and cause the contractor annoyance and loss of time and money getting them replaced.

The Oshkosh concrete mixer is equipped with standard or batch hopper or with power charger as shown in this illustration. These features of the equipment are interchangeable.

With gasoline engine equipment a multiple disc friction clutch is used. This allows an easy smooth starting, and is a positive holding clutch, easily operated and adjusted. The steam equipped mixer uses a horizontal engine, so keeping the center of gravity of the machine low; which prevents any tendency to topple over while being transported over uneven ground. It is a slow speed engine running approximately 110 revolutions per minute.

Every part of the Oshkosh mixer is made by the Oshkosh Manufacturing Company in their newly enlarged plant at Oshkosh, Wis. They guarantee the machine absolutely both as a whole and in every part. AMERICAN CARPENTER AND BUILDER readers, at least many of them, are familiar with the "Eveready" saw rig and know the kind of equipment these people produce. They have a well illustrated circular giving complete specifications of these mixers which they will send on request.

In their exhibit at the Chicago Cement Show we looked over also their contractors' power operated trench pump. If interested in power pumps write them for full particulars. ❖

Indianapolis Agency Moves

The Russel M. Seeds Company, the well known Indianapolis Advertising Agency, moved their offices on January 1st to more commodious quarters in the Central Union Telephone Building at New York and Meridian Streets, Indianapolis. They occupy Rooms 402-417.

PETE SAYS:—WISE CARPENTER THAT HE IS—

I WANTED a handy little sharpening stone to touch up my gouges, bits, chisels, and to do other little sharpening jobs. I found just what I wanted in

**THE
CARBORUNDUM SLIP STONE**

There ought to be one on every carpenter's bench—it cuts so quickly—so easily that it takes the burr off the edge in a jiffy—leaves it keen and smooth. The little stone holds its shape—doesn't fill,—and it's mighty handy in a dozen-and-one ways.—Pete also uses a Carborundum Round Combination Bench Stone.—*Do You?*

AT YOUR HARDWARE DEALER,
OR DIRECT

THE CARBORUNDUM COMPANY

NIAGARA FALLS, N. Y.

NEW YORK

CHICAGO
CLEVELAND

BOSTON
MILWAUKEE

PHILADELPHIA
GRAND RAPIDS

PITTSBURGH
LONDON, ENG.

CINCINNATI



When Writing Advertisers Please Mention the American Carpenter and Builder.



STAMPED STEEL TILING

Just the thing for
Bathrooms, Kitchens, Restaurants,
Butcher Shops, etc.

AND ITS RIGHT IN YOUR LINE

Real tile frequently becomes loose and falls off. This cannot. The studding or plaster is first sheathed with narrow, dry boards and the metal put on with small nails.

SIX PATTERNS

Furnished with Baked White Enamel finish—or simply prime painted Metal trim Cap Base, Corners, etc., supplied or you can use wood trim.

NORTHROP, COBURN & DODGE CO.]

29 Cherry Street, New York



**Is an Improvement Over
Lath and Plaster**

IT'S stronger, more durable; keeps a house warmer in winter, cooler in summer; resists fire much longer. It has a smooth surface which lends itself readily to any desired scheme of decoration, whether with paint, kalsomine or wall paper—with or without panels.

It is cheaper in the long run—lasts longer, never needs repairing—holds wall paper longer.

The cross-section view below reveals the unique construction that gives Compo-Board its desirable features. The core or "backbone" is a layer of kiln-dried wood slats; on each side of this is a layer of air-tight cement, then on the outside layers of specially prepared paper—the whole pressed under intense heat into a straight, stiff sheet 1/4 inch thick.

A Paying Proposition for Contractors, Builders and Architects

Compo-Board saves 15 to 30 days in completing the house—no waiting for plaster to dry, no muss to clean up. Pleases your client. Many contractors get jobs at highest bids on account of using Compo-Board.

Write for a sample of Compo-Board and interesting booklets.

Northwestern Compo-Board Co.

5777 Lyndale Avenue North :: Minneapolis, Minn.

The Secret of Efficiency



A great writer recently said "EFFICIENCY means getting a higher percentage of RESULT." Our metal ceilings will get you the result all right. We certainly have the artistic designs. We have the good, honest quality of work.

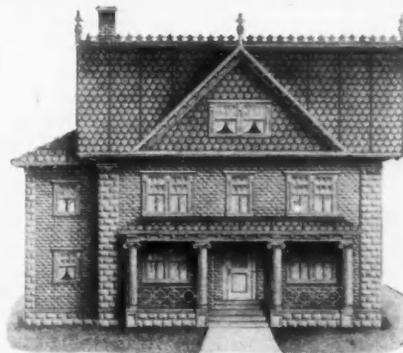
When you hear our price you will say "I don't see how they do it."

Just write us a nice letter and ask us for our proposition to agents.

We can increase your percentage of result—which means EFFICIENCY.

BROOKLYN METAL CEILING CO.

288 Greene Avenue - BROOKLYN, N. Y.



SHEET METAL BUILDING MATERIAL

- Roofing
- Siding
- Gutter
- Spouting
- Shingles
- Skylights
- Cornice
- Ventilators
- Metal Ceilings
- Metal Lath
- Store Fronts
- Everything



"JUSTRIGHT" ROOFING

That Simple Roof That Don't Leak

A catalogue containing the largest variety of Sheet Metal Products in the world will be mailed free by addressing

The Moeschl-Edwards Corrugating Co.,
Covington, Ky.

**Saves you
work
and makes
money**



**30 DAYS
FREE TRIAL
No money needed**

**Artificial Diamond Wheels make it easy
to keep tools keen**

Keen tools make work easier, and enable you to do more work. DIMO-GRIT, the new artificial diamond sharpening substance on the wheels of Luther Shop Tool Grinders puts the keenest edge on dullest tools in a few minutes. No hard work. Wheels turn 2500 revolutions per minute. No water cooling—no need of hard pressure. DIMO-GRIT peels steel off in tiny shavings. No danger of drawing temper. 25 times faster than the grindstone, 10 times more efficient than emery. Wheels guaranteed five years; will not glaze or wear lopsided. Put this tool grinder in your shop on 30 days' free trial, and you will be amazed at the saving of work and increase in shop production, which means more money.

**LUTHER SHOP
TOOL GRINDER**

All metal; shaft drive, dust-proof bearings. Runs as easy as sewing machine. Extra attachments convert it into jig and rip saws, drill, lathe, etc. Foot and engine power.

Write today for free book and pick outfit for 30 days' free trial. No money needed. If you don't want it after 30 days' free trial, send it back at my expense. Write today.

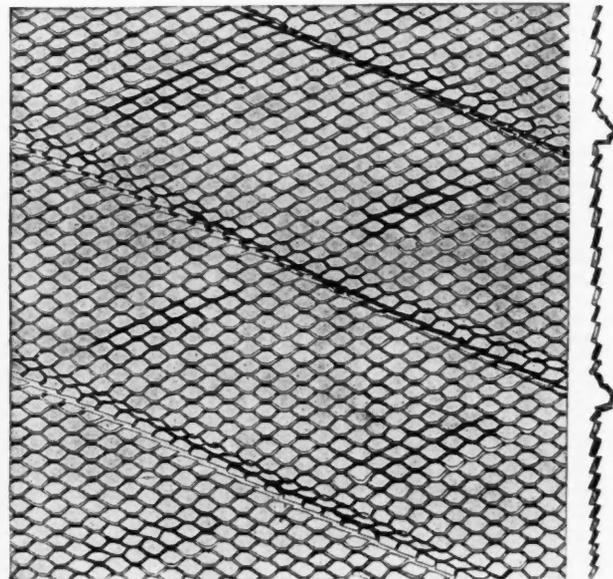
LUTHER GRINDER MFG. CO., 1705 Michigan St., MILWAUKEE, WIS

The Development of Metal Lath

The first record of a patent granted for metal lath shows the date of 1839. This was a rather crude material consisting of a punched or perforated sheet of steel resembling a grater. No improvements were produced until after the Civil War. All the various laths designed at that time were merely variations of the punched or perforated sheet idea or some system which merely substituted a strip of steel for the customary wooden lath. Metal lath did not become a practical material until the invention of expanded metal in 1885.

The record of any material is an evolution and this has been true of expanded metal. The first expanded metal lath was very crude compared with the material produced at the present time. The original machines were slow in operation and produced a lath that did not secure the full value of the strength of the steel. It would be absolutely impossible to produce enough metal lath to supply the present demands had it not been for the perfection of new and more rapid processes of manufacture, such as are now employed in the factories of the largest exclusive metal lath manufacturers.

One of the most annoying features of plaster when applied to lath, has been the fact that after a short time the entire surface would be very badly disfigured by cracks and streaks showing the location of every lath and wood support. These cracks are due to the expansion and contraction of the wood lath which is caused by the lath absorbing moisture and then drying out. The streaks can sometimes be avoided by

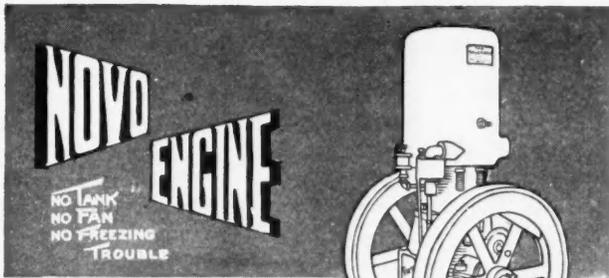


Face View and Cross Section of "Kno-Fur" Lath

putting on a greater thickness of plaster, but this merely delays the ultimate discoloration, caused by the lath absorbing the moisture from the mortar in contact with it. This leaves alternate wet and dry strips. The wet ones absorbed dust from the atmosphere thus causing the streaks on the plaster. The use of metal lath removed these difficulties, but it was found necessary to use a metal furring strip over wood supports in order to secure a perfect "key" at that point.

The next logical step in the development of metal lath was to combine the furring strips with the lath so as to form an integral material. The first attempt along this line resulted in a product having expanded metal meshes between solid V or U shaped ribs of steel. It was found that the great disadvantage to this was the fact that these ribs would cover only on one side excepting where it was possible to

When Writing Advertisers Please Mention the American Carpenter and Builder.

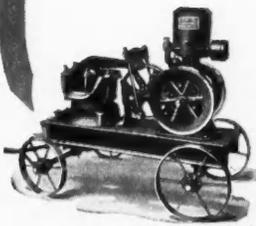


**Contractors Will Find
The Novo Engine Their
Best Source of Power**

"The Engine for Every Purpose"

for running concrete mixers, trench pumps, centrifugal pumps and all similar machines. Its extreme simplicity together with its reliability adapts it particularly to this work because it can be run by unskilled labor and with cheap fuel. This at once reduces the cost of your power.

The Novo is entirely self-contained, the lightest engine for power developed, and is guaranteed against damage from freezing. Made in 10 sizes—1 to 15 H. P.



Send for Novo Catalog
and you'll see that the Novo will best fill your needs. Our catalog also describes Novo Hoisting and Pumping Outfits, including the Novo Centrifugal Pumping Outfit.

NOVO ENGINE CO.
Clarence E. Bement,
Secy. and Genl. Mgr.
236 Willow Street
Lansing Michigan



**Is the Only
Solid Center Auger Bit—
[Made in Every Size and Style]**

FOR the home, the factory or the shop the IRWIN Auger Bit is one that will give you *absolutely* satisfactory service—for *every* purpose. Every Irwin Bit is guaranteed—price refunded if not satisfactory. Ask your dealer for the Irwin—accept no other.

The Irwin Auger Bit Co.
Largest in the World
Station B18 Wilmington, Ohio



**Effective Weatherproofing
for
SLIDING DOORS**

Necessitates the specification and use of

**Schouler's Patent Weather
Strip and Guide**

Made of metal. Will not wear out. Simple to apply and an absolute protection against wind, rain, snow and dust.

Easy sliding insured. Send for catalog and further information.

Schouler Cement Construction Co.
147 Frelinghuysen Ave. NEWARK, N. J.

"A Mix A Minute"

**Just the Mixer You Have
Been Waiting For**

One sixth yard per batch.
Two wheelbarrow loads.
Daily capacity up to 50
yards.

- A Mixer that mixes.
- A Mixer where you see what's going on.
- A Mixer that mixes all kinds of material.
- A Mixer that runs easy and takes little power.
- A Mixer that is easily loaded and unloaded.
- A Mixer that is easily cleaned.
- A Mixer that is strong and durable.
- A Mixer that will save you money.
- A Mixer that you buy at the right price.

Carpenters and Builders
this Big and Little batch mixer was built especially for you. Write today for "Biganlite" particulars and prices that will surprise you.



THE JAEGER MACHINE CO., 216 West Rich St., Columbus, Ohio

When Writing Advertisers Please Mention the American Carpenter and Builder.

back-plaster. The problem was then to produce a self-furring lath which would possess all of the advantages of the ribbed material and yet have the ribs so constructed that the reverse side would be completely imbedded in the plaster.

After considerable experimenting and practical trials in actual building work a lath which will fill all of these requirements has been perfected by the North Western Expanded Metal Company, 903 Old Colony Bldg., Chicago, and is now being placed on the market under the name of "Kno-fur" expanded metal lath.

The ribs of the "Kno-fur" have the same meshes as the fabric between them, and are $\frac{1}{2}$ inch deep. These ribs run obliquely across the sheet at intervals of 12 inches and are arranged so that they coincide with the strands of the fabric. This results in each U-shaped rib forming a truss similar to the trusses used in roof or bridge construction, making when imbedded in the plaster a stronger rib than the solid ribs used previously. The sheets of "Kno-fur" are 22 inches by 96 inches and the ribs are so formed that they mesh and automatically limit the amount of lap possible to use when applying the lath.

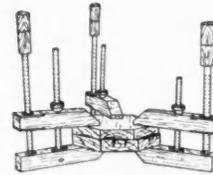
Experiments under actual building conditions have developed some very interesting data in regard to this material, which, the manufacturers predict, will cause it to become the most popular style of metal lath on the market. In

construction solid partitions it was found that "Kno-fur" could be successfully used with channels spaced 32 inches on centers. The plasterer was able to apply the mortar as easily as though the supports had been spaced the customary 12 or 16 inches. In back plastering the decreased number of channels was found to be a great advantage. On ceiling work with the supports spaced 12 inches on centers there was no difficulty from sagging when applying the plaster.



Ducharme Universal Clamps

The illustration shows how work is held by the Ducharme patent Universal clamps. A feature of these clamps is that the inner screw is provided with knurled nut which is easily adjusted with the thumb or finger up or down the amount you want the clamp open. Then by taking the clamp by the handle and giving it a swinging motion by the wrist the jaws swing around easily, opening or closing them. This operation is done very quickly.



An advantage of this clamp seems to be that it can be used in many positions where the handles of the old style clamp would be in the way. These new clamps are manufactured by the Ducharme Machine Co., 389 Riverside Ave., Medford, Mass. They are worth investigating.



Dimensions—9 in. long, $1\frac{1}{4}$ in. deep, $\frac{3}{8}$ in. thick in center, tapering ends, made of rosewood highly polished, tips top and bottom inlaid with brass. Accurately tested bottles well protected.

Adjustable Torpedo Level and Plumb, No. 601

A strictly high grade tool in workmanship, finish and accuracy. Its shape makes it convenient to slip into vest or any pocket as a lead pencil.

If your hardware dealer cannot supply you, write us and send us his name. Manufactured by

THE SOUTHINGTON HARDWARE CO.
Southington, Conn., U. S. A.

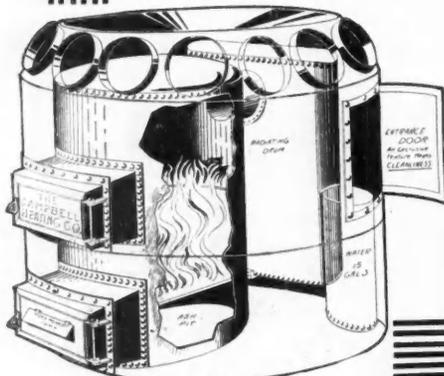
Warm Up Your Business

Heat is one of the biggest factors in successful building, and the secret of heating—plenty of warmth at low cost, is the problem solved by Campbell's Winter-Chaser.

This furnace is built like a steam boiler, tight—can't leak smoke and gas—gives abundance of moist, clean heat with wonderful economy in coal.

CAMPBELL'S WINTER CHASER FURNACE

saves money because it is **built right**. Slow, steady combustion is assured. You can recommend Campbell's for your clients or install one in your own home with the certainty of satisfaction **for years to come**. Campbell's Furnace is of the thickest steel used in any furnace in the country—a big asset in any building.



Write For 1913 Selling Plans

You will be interested in our proposition. You should know all about the Campbell, the only jacket furnace made with a large air-chamber and an entrance door for cleaning purposes.

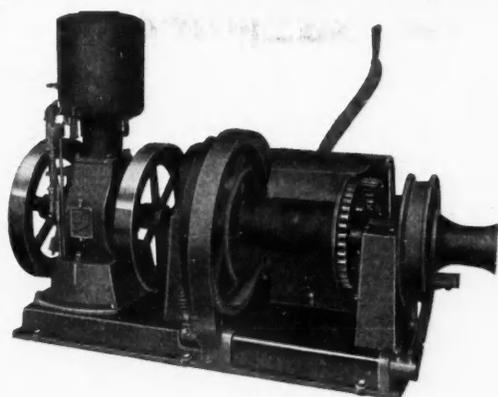
The purchaser of a Campbell Furnace gets the benefit of our expert engineering service in his plans of installation. This is a big item of Campbell success. Write for booklet "Twice-a-Day," and our 1913 Selling Plans.

CAMPBELL HEATING COMPANY

1221 Walnut St., Des Moines, Iowa

When Writing Advertisers Please Mention the American Carpenter and Builder.

The Ideal Contractors Hoist



The first cost of the Ideal gasoline contractors hoist is much less than steam, and when equipped with our 5 H. P. Original Air Cooled Engine or our 6 and 9 H. P. Ideal Engine, is as reliable, and very much cheaper to operate. The design is simple, the material and workmanship the best. Let us send you our catalog of hoists, engines, etc.

The Original Gas Engine Co.

R. E. Olds, Pres.

630 Kalamazoo St. E.

LANSING, MICH.

FOR 40 ACRES FREE Our Very Best FARM LAND TO YOU

Would you be willing to tell your friends about our Land Opening, and do us a slight service? For particulars address J. B. CLARK, LAND COMMISSIONER, LIVE OAK, PERRY & GULF R. R. CO., Box 508, LIVE OAK, FLORIDA.

Parkhill's New Universal Pitch Gauge

marks more Roof-framing in less time than any other tool or method. More pitches. More framing for each pitch. All given by other tools, also both bevels on plancher, fascia, sheathing, and purline; hip backing; octagon and irregular hips and jacks; hopper bevels, etc.

Gauge and Directions are so simple, easy and exact that even unskilled framers can mark all cuts, lengths, etc.—22—for any one pitch—in 5 minutes. Other tools use over 1000 figures—the Universal has 15 only. Fits any square. Unexcelled as stair and brace gauge. Prepaid for \$1.50. Money back if returned. Agents wanted. JOHN PARKHILL, Rochester, Minnesota

WHY NOT

Write Galloway Today?



WHAT about? E-N-G-I-N-E-S!! You need a Galloway 5 H. P. right this minute, but you needn't sell your cheapest horse to buy one, for I will not only save you \$115.50 on the price but will trust you for it besides. Who will do as much for you as Galloway?

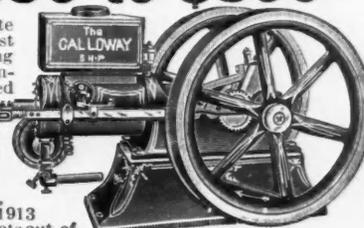
WHY should you buy an engine from any one but me? My factories are greatest—my engines best by actual test—prices lowest for quality—free trial and payment terms most liberal. You know me. For years you have read about me in this paper. You know how my business has grown from a "shoe-string" up to the world's most colossal factory-to-farm success. You know the \$25,000 Spot Cash Bond that guarantees every Galloway engine. Now I want you to know Galloway's startling new 1913—

\$5,000 Challenge

The sensational defy that Galloway casts in the teeth of every engine competitor—a REAL challenge backed by REAL money that takes the wind out of every hostile sail. Write me for this \$5,000 Challenge. It's mighty good reading!

Save \$50 to \$300

Why should you hesitate when you can get the best engine made at a saving of \$50 to \$300? I guarantee you this saving backed by the Galloway \$25,000 Satisfaction Bond. You simply can't take any chances when you deal with me. A penny postal brings my splendid big Engine Book in 4 colors, and amazing Special 1913 Offer that knocks the spots out of anything you ever heard of. Mail that letter or postal today, SURE!



WILLIAM GALLOWAY, President

William Galloway Company, 1145 Galloway Station, Waterloo, Ia.

We carry stocks of engines in Chicago, Kansas City, Council Bluffs, Minneapolis, Winnipeg

Axtell Weather Strips

ONLY practical and storm proof device for bottom of doors and swinging windows. In lacquered steel and polished brass. Over a million in daily use.

E. I. CHURCH & CO.,

WEST HANOVER, MASS



Gives Perfect Wear For Years



CON-SER-TEX canvass roofing is a specially woven cotton fabric scientifically treated by chemical processes to preserve the fibre from mildew germs.

It is particularly adaptable for porch roofing purposes and for piazza flooring. It can be used for general roofing and will give excellent service and wear.

CON-SER-TEX is easily put on—it is not expensive. Looks well and gives a very neat appearance and finish. Carpenters and builders, you can use CON-SER-TEX in a great deal of your work—and we guarantee that it will give satisfaction.

Write us for detailed particulars, prices and instructions as to just how to apply it.

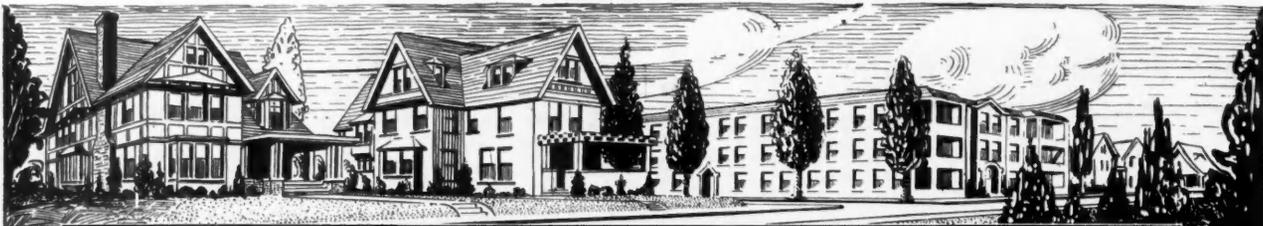
Full information mailed free—and we can show you how and why you can profitably make use of CON-SER-TEX.

William L. Barrell Co., 8 Thomas Street, New York City

85 Water Street, Boston, Mass.

169 Jackson Boulevard, Chicago, Ill.

When Writing Advertisers Please Mention the American Carpenter and Builder.



Use Discrimination in the Selection of Door Hangers

In the planning or building of a residence or an apartment house a Door Hanger seems a mere trifle worthy of but a little consideration. *But*, the trouble caused by a poorly built hanger, or the satisfaction rendered by a properly constructed hanger is by no means a trifle.

For your own sake for the sake of those for whom you plan or build, inspect the No. 221 R-W House Door Hanger. Take time and examine *every part*. Notice the high quality of material and workmanship employed in its construction. See how the simple, effective adjustments provide for settling and sagging. Be particular to notice how easily and noiselessly this hanger glides over the clincher type hard maple track. Observe, too, that this strongly constructed track can be quickly and easily removed *after* plastering without disturbing or injuring the walls.



Your regular hardware dealer no doubt handles this hanger, but if not, we'll send you samples. If you haven't already got it, you ought to have our No. 10 Catalogue.

Richards-Wilcox

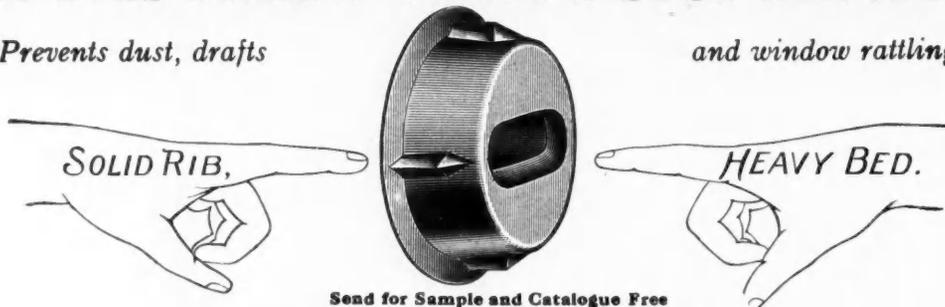
MANUFACTURING CO.
111 Third Street
Aurora, Ill., U. S. A.



THE IVES PATENT WINDOW STOP ADJUSTER

Prevents dust, drafts

and window rattling



Send for Sample and Catalogue Free

1 piece of metal, will not cup, bend or turn in tightening screw.

THE H. B. IVES CO., Sole Mfrs. New Haven, Conn. U. S. A.



CARPENTER MOUSE CHAIN

48 inches long, fitted at one end with patent sash cord fast, at other end with lead weight.

Price 30 Cents Postpaid

FREE

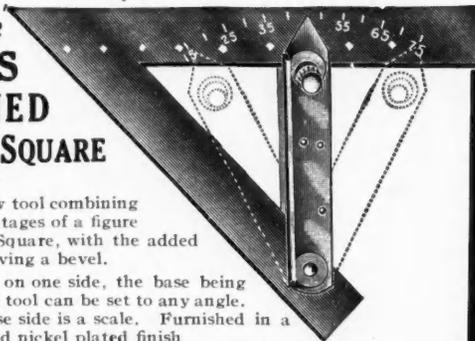
Our No. 5 Builders' Hardware Catalog and Net Price List.

We do not sell to contractors or carpenters in Cook County, Illinois.

REHM HARDWARE COMPANY
1601 Blue Island Avenue
CHICAGO, ILL.



Get The ROLLIS COMBINED BEVEL AND SQUARE



Here is a new tool combining all the advantages of a figure 4 Mitre and Square, with the added feature of having a bevel.

Graduated on one side, the base being movable, the tool can be set to any angle. On the reverse side is a scale. Furnished in a finely polished nickel plated finish.

Ask your dealer about this tool and for one. If he can't supply you, write us direct.

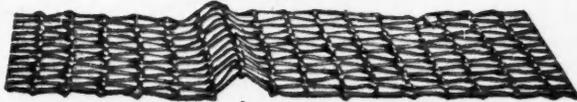
Manufactured by

M. W. ROBINSON - 88 White Street - NEW YORK CITY

When Writing Advertisers Please Mention the American Carpenter and Builder.

GRIMM'S GALVANIZED CORRUGATED WIRE LATHING

"Patent Applied for"

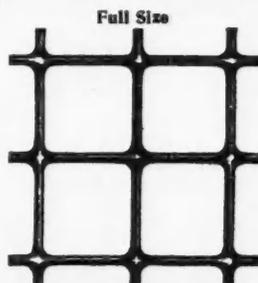


IT'S ALL IN THE V

THIS V-shaped corrugation eliminates furring, keeps plaster clear of wall, thereby securing air space and dry atmosphere. Gives necessary STIFFNESS without added weight, such as is necessary in most forms of stiffened Wire Lathing in which rods or small angles are woven into the fabric for stiffening purposes. Plaster keys so firmly that it WILL NOT CRACK or drop off. This lathing is absolutely NON-CORROBIVE and WILL NOT RUST as it is galvanized after woven, which solders each joint and covers the entire surface of the wire with spelter (zinc) and COSTS 50% LESS to install than ordinary lathing. It will be to your interest to send for our Booklet No. 6-A. B. on Wire Lathing if you contemplate building. A post card will bring it to you. SEND FOR IT NOW.



2 1/2 Mesh, No. 20 Wire



2 Mesh, No. 19 Wire

BUFFALO WIRE WORKS CO.

(Formerly Schoeler's Sons)

New York Office, 30 Church St. 316 Terrace, BUFFALO, N. Y.

There is Money for You in Our Iron and Steel Work

Any Architect, Contractor, Builder and Carpenter can represent us locally—and make money.

We are specialists in the manufacturing of a varied line of iron and steel ornamental, architectural and structural work, such as iron stairs, fire escapes, window guards, fencing, grates, shutters, lawn seats, etc., etc.

You can find a big demand for our work in your locality—and you'll build up an independent business for yourself. Give just a small portion of your time to this and you'll profit by it.

Let us tell you in detail about our entire proposition. Write for our complete descriptive matter, etc. If you are now figuring on iron or steel work let us quote you before closing with any one.

THE MACK IRON AND WIRE WORKS COMPANY
SANDUSKY OHIO



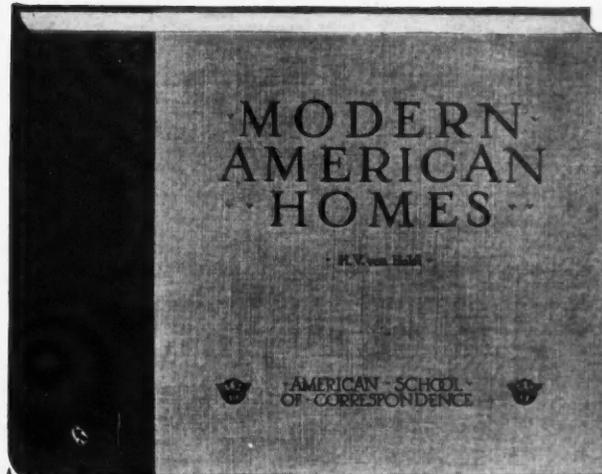
Mr. Builders—If you are lucky enough to read this advertisement, and wise enough to write and tell us what you buy in

IRON, BRASS and BRONZE

we will send you catalog that is attractive enough to go in any man's library. Do you want it?

DOW WIRE & IRON WORKS

Incorporated
Louisville, Kentucky



FREE to Carpenters, Contractors and Builders

This big, new Plan Book, **Modern American Homes**, containing hundreds of valuable suggestions, besides 108 plates with complete plans for every style of house, from the medium priced cottage to the most palatial suburban and city residence; also a large variety of apartment buildings, libraries, churches and institutional buildings, tent houses, garages, boat houses—the best in modern architecture by the greatest American Architects. This book of plans is 9 1/2 x 13 in., printed on special paper and substantially bound.

THE CYCLOPEDIA OF Architecture, Carpentry and Building



consists of ten massive volumes; 4,760 pages, 7x10 in.; 4,000 illustrations, full page plates, building plans, diagrams, etc.; hundreds of valuable tables and formulas; carefully cross-indexed for quick, easy reference.

This work covers everything in the building professions, from the first rough sketch of the architect to the acceptance of the finished structure. It includes wood, stone, steel, and reinforced concrete construction; estimating and contracting; a study of the Greek and Roman Orders; interior finishing and decorating; and modern house lighting and sanitation.

Partial Table of Contents

Mechanical, Freehand, Perspective and Architectural Drawing, Lettering, Pen and Ink Rendering, The Orders, Superintendence, Strength of Materials, Masonry, Reinforced Concrete, Carpentry, Steel Square, Stair-Building, Hardware, Steel Construction, Roof Trusses, Practical Problems, Estimating, Contracts, Specifications, Building Law, Sanitation, Sheet Metal Work, Electric Wiring and Lighting.

We'll Send the Plan Book FREE

With every order for a Cyclopedia we will include the Plan Book, absolutely free of charge and send you the Cyclopedia and the Plan Book, express prepaid, for seven days' free examination. You keep the books a full week—examine them thoroughly at your leisure—and if they don't meet with your expectations they may be returned at our expense. Remember—the complete set, Cyclopedia and Plan Book, are sent free upon receipt of the coupon below and we pay express charges both ways if they are not satisfactory.

Another Free Offer With each set is included a year's Consulting Membership, regular value \$12.00, entitling you to the free advice of a corps of Expert Architects. This will give practical help in handling building problems which are too specific to be taken up in the Cyclopedia. This service alone is worth more than the first cost of the books.

American School of Correspondence, Chicago, U. S. A.

FREE PLAN BOOK COUPON

American School of Correspondence, Chicago, U. S. A.

Please send Free Plan Book, also Cyclopedia of Architecture, Carpentry and Building for seven days' examination. I will send \$2.00 within seven days and \$2.00 a month until I have paid \$24.80 for Cyclopedia (Plan Book included free), or notify you and hold books subject to your order. Title not to pass until fully paid. A.C.&B. 2-13

NAME
ADDRESS
OCCUPATION
EMPLOYER

When Writing Advertisers Please Mention the American Carpenter and Builder.

ASHBY'S
Designs of Schools and Libraries

display a composition of utility, durability and good, pure architecture without any "gingerbread."

No buildings are too large or too small for our personal and prompt attention.

We develop your own ideas into a practical set of plans and specifications which can be executed to the smallest details into a building that can be built within your means and to your entire satisfaction.

Ashby's "Designs of Schools and Libraries" will be sent to parties interested in the erection of a school building or library for which plans have not yet been procured.

G. W. ASHBY—ARCHITECT
 11th Floor, Medinah Bldg.
 CHICAGO, ILL.

When Writing Advertisers Please Mention the American Carpenter and Builder.

C. E. JENNINGS & CO.'S
42 MURRAY ST., N. Y., U. S. A.



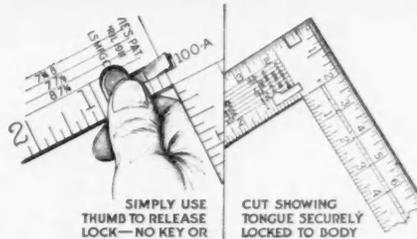
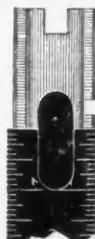
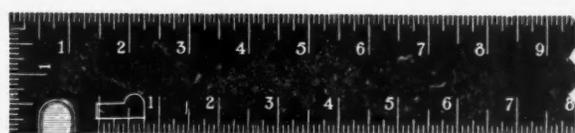
**Carpenters'
New Hand Tool Case No. 340
With Tools**

Patent Applied for
Made of select-
ed hard wood,
handsomely fin-
ished and with
paneled sides.
Furnished with
brass lock, leath-
er handle with
rings for strap to
pass over shoul-
der, metal clasps, metal corners, saw rack for holding
four Saws (the Hand Saws narrow plate), hooks for
Brace and Coping Saw, wood button of Try Square,
partitioned tray for Bits, Chisels and small tools,
space in bottom to hold Planes, Levels, etc.



	Length	Height	Width
Outside dimensions.....	31 1/4 in.	14 in.	6 in.
Inside dimensions.....	30 in.	12 3/4 in.	5 in.
Removable Tray, Inside.....	29 1/4 in.	1 in.	4 1/4 in.

Weight empty, about 14 lbs. Weight with tools, 18 lbs.
This Case is made to take our narrow plate Saws
A7 1/2. The No. 340 contains one A7 1/2 Hand Saw,
26-inch; one A7 1/2 Rip Saw, 26-inch, and one Steel
Square, No. 18B, a beautifully finished (Gun Metal
Finish with Yellow Markings) Square, 18-inch body,
12-inch tongue. It is not made for wide plate Saws
and large Square, but enables the mechanic to carry
a lighter and smaller case than our No. 35, and a
lighter kit of tools. Packed one or more in a crate.



SIMPLY USE
THUMB TO RELEASE
LOCK—NO KEY OR
SCREWDRIVER NEEDED

CUT SHOWING
TONGUE SECURELY
LOCKED TO BODY

Pat. Nov. 7, 1911

**NICHOLLS TAKE-DOWN
SQUARE**

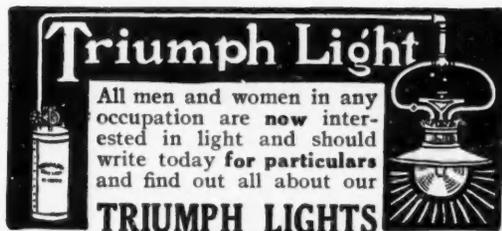
Over Seven Thousand of
These Now in Actual Use
ALL GIVING S ATISFACTION

Is this not proof enough that they will
remain true? Every square guaranteed to
give satisfaction.

Our Rafter Framing Rule stamped on our solid
and take-down squares gives lengths and cuts of
rafters for seventeen different pitches of roof.

SEND FOR OUR LITTLE BOOK ON RAFTER FRAMING
IT'S FREE

NICHOLLS MFG. CO., Ottumwa, Iowa



Triumph Light

All men and women in any
occupation are now inter-
ested in light and should
write today for particulars
and find out all about our

TRIUMPH LIGHTS

System, Stand and Portable Lamps
before you put in lighting plants or lamps of any kind and
avoid regrets. They give 150 to 700 Candle Power Shadowless
Light, that can be turned up and down like gas.

They meet all requirements of Home, Store, Church or business
lighting, in or out doors at less than half the cost of kerosene or Elec-
tricity, simple enough for anyone to install and operate.

Write for A. C. B. catalog, it tells all about them

BRILLIANT GAS LAMP CO., Dept. 20, 182 N. State St., Chicago, Ill.

Straight-grained cedar that cuts
like cheese; smooth, tough leads
that make clean-cut, strong marks
—that's the way Dixon's Carpen-
ter Pencils are described. Send
16c for generous sample lot 183J.

JOSEPH DIXON CRUCIBLE CO.
JERSEY CITY, N. J.



**JUST TRY
ONE ROOM**

If you don't know what
its possibilities are, what
soft beautiful effects can
be produced, how easily it
is cleaned with soap and
water, then try finishing
the walls of just one room
with

**Johnston's
Dull Kote Paint**

We honestly believe it will be a
revelation to you! Think of a room
finished in any combination of tints
or shades you want and those tints pre-
sents a dull soft finish like undressed
kid gloves you wear! Can you imagine a
more desirable wall treatment? Dull Kote
Paint is absolutely sanitary, (unlike wall
papers and kalsomines) and does not crack,
chip or flake.

Get our booklet, "The Problem of the Wall," from
your dealer or

The R. F. Johnston Paint Co.
Pearl and Main Sts., Cincinnati, O.

HOW TO DRAW PLANS

Every young Carpenter and Builder who desires to advance must know how to draw and read a plan so that he will never hesitate about working from a drawing.

Information along this line has always been given in high priced books, but the **INDUSTRIAL BOOK CO. of NEW YORK** have just placed on the market a series of six handy sized volumes in which the subjects of making and reading an architectural working drawing are fully explained and illustrated. The six practical home study manuals form

THE YOUNG ARCHITECT'S LIBRARY

Partial List of CONTENTS

- Different kinds of Drawings
- Working drawings
- Shade lines
- Elevations
- Sections
- Dimensions
- Center lines
- Projection lines
- Reading dimensions
- Checking dimensions
- Scale drawings
- Reading scales
- Detail drawings
- Blue prints
- Mounting blue prints
- Altering blue prints
- Avoiding mistakes
- Plan reading
- Devices and symbols
- Use of drawing instruments
- Slide rules
- Coloring drawings
- Use of pantagraph
- What to study
- Geometrical definitions
- Geometrical drawings
- Arithmetical signs
- Formulas
- Proportion
- Uses of geometry
- Mensuration
- Steel square
- Applications of geometry
- Ornamental drawing
- Mouldings
- Arches
- Turned work
- Tracery
- Pencil drawings
- Doors
- Windows
- Short cuts
- Details of construction
- Outlining
- Erasing

734 ILLUSTRATIONS

Use your spare time studying these books and you will be able to work better and get better pay. To enable every ambitious young man to own a set of these books we have made the

PRICE ONLY \$2.00

Glance at the partial list of contents given in the two side columns. All these subjects are thoroughly described and handsomely illustrated. These books will help you earn more. They cost but a trifle.

Send us \$2 and this library of 6 books will be sent to your address by prepaid express. If you are not more than pleased with the books return them and we will send back your money.

SIGN

THIS COUPON

**INDUSTRIAL BOOK CO.,
178 FULTON ST., NEW YORK**

In accordance with your Special Offer in the American Carpenter and Builder I am enclosing \$2.00, and you may send me by express your **YOUNG ARCHITECT'S LIBRARY**. If upon examination I decide not to keep the books I will return them to you and you are to refund my money without expense or further obligation to me. All transportation charges to be paid by the Industrial Book Co.

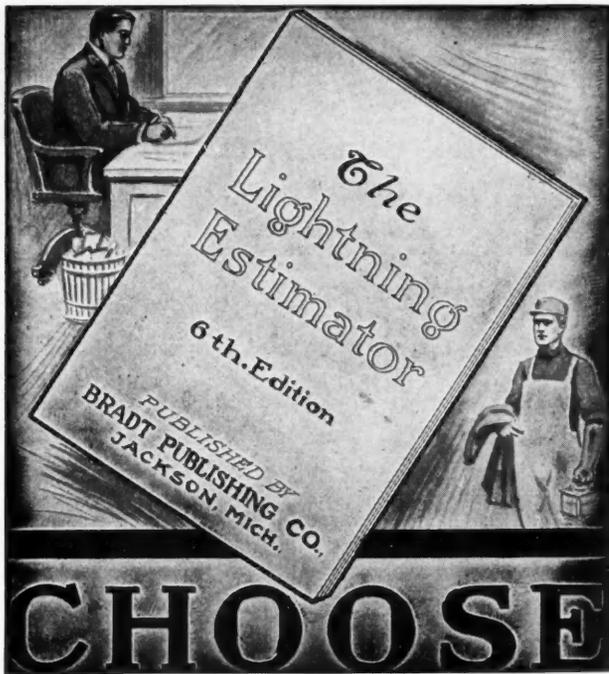
NAME.....
STREET.....
TOWN.....
STATE.....

Partial List of CONTENTS

- Store fronts
- Hints on planning
- Framing plans
- Framing elevations
- Barn plans
- Stair work
- Porches
- Interior trim
- Cornice work
- Cabinet work
- Architecture
- Early history
- Ancient architecture
- Egyptian architecture
- Moorish architecture
- Byzantine architecture
- Hindu architecture
- Chinese architecture
- Mediaeval architecture
- Greek architecture
- Roman architecture
- The five orders
- Ecclesiastical architecture
- Gothic architecture
- Military architecture
- Domestic architecture
- Development of architecture
- Romanesque architecture
- Norman architecture
- Renaissance architecture
- The Parthenon
- The Bastille
- Cathedrals
- Leaning tower of Pisa
- The Colosseum
- Mythology
- Perspective drawing
- Principles of perspective
- Perspective of a drawing
- High lines
- Foreshortening
- Elevations in perspective
- Working perspectives
- Use of perspectives
- Rules for estimating

531 LARGE PAGES

When Writing Advertisers Please Mention the American Carpenter and Builder.



IT'S up to you to be the man at the top instead of the man with the dinner pail.

Don't hesitate to grasp this opportunity to win success, for there's always room at the top for the man who knows how.

The LIGHTNING ESTIMATOR

stops worry, lying awake nights, over or under estimating and guessing—in fact, by showing you how to estimate the cost correctly, it spells the word **\$ucce\$\$** for you. Don't do yourself an injustice by passing up the greatest opportunity ever offered to Carpenter, Contractor or Builder.

The New Sixth Edition of the LIGHTNING ESTIMATOR

will teach you: How much time and material involved in each part of your work; how to figure on unfamiliar work; how to estimate quickly and correctly on a large job; how to estimate on time, material and prices in all parts of the country.

This Book is written by a man who has made good in this profession, and is based on hard, solid facts, secured by the knocks of experience, making it an invaluable guide to one engaged in or those about to enter the building business.

If you are just starting out, here is your chance to get a firm foot hold. If you are an old timer and getting a little behind the times, here's your chance to brighten up and get some new ideas.

This Edition is bound in cloth, profusely illustrated—a feature not found in other books of this kind. The price, \$1.00. Don't delay. Send for it today.

BRADT PUBLISHING CO.

1260 Michigan Avenue

JACKSON, MICH.

*It has the best American record
None other makes so good a roof
or lasts as long*

**MERCHANT'S
OLD METHOD**

*Makes the reason
Merchant's Iron Co.
Philadelphia and Eight Branches*

**Galvanized Iron
Cut Nails**



For shingling, slating, boat and wharf building, fencing, sheathing and all exterior work use **Anchor Brand Iron Cut Galvanized Nails** as they will outlast the best of wood under all climatic and weather conditions.

Write for Prices.

E. & G. Brooke Iron Company
BIRDSBORO, PA.

This Pearson's Automatic SHINGLE NAILER WILL PAY FOR ITSELF ON FIRST JOB

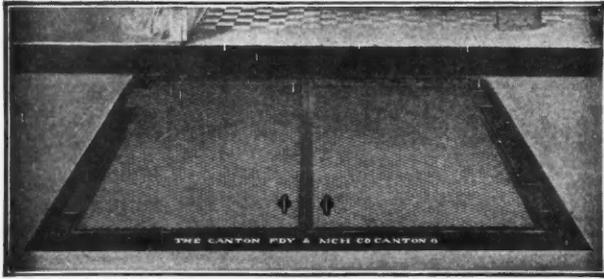


Do your nailing fast—faster than ever before—You can use this Pearson's Nailer on any pitch roof. Wear mittens, gloves, etc. This nailer holds about 600 nails—throw nails in by the handful—then start nailing. Nails easily driven through tin or quite heavy sheet iron. These nailers are made in two sizes—The BLUE Nailer for 3d common No. 14 gauge wire nails. The RED Nailer for 3d galvanized No. 13 gauge 1 1/4 inch wire nails. Get a Nailer through your dealer or direct from us, prepaid for only \$5.00. Money refunded if not as represented.

PEARSON MFG. CO. - ROBBINSDALE, MINN.

When Writing Advertisers Please Mention the American Carpenter and Builder.

SIDEWALK DOORS THAT ARE FLUSH, FIRM AND NEAT



Are a credit to any building and an everlasting advertisement to the Contractor who installs them.

OUR SOLID IRON AND STEEL DOORS

ARE ALWAYS FLUSH, FIRM AND NEAT—No obstructions to stomp your toes. Locked and unlocked from either side. When open, passers-by are protected. Have water-drain to carry water to the curb. Illuminated doors also furnished.

WE ALSO MANUFACTURE

Coal Hole Rings and Covers, Coal Chutes, Cast Iron Conductor Connections, Area Gratings, House Movers Jacks, Cast Iron Columns, Auto Turntable etc.

Write today for Booklet "B-1" illustrating and describing above and many other builders accessories of interest to you.

Made in 45 Sizes
THE CANTON FOUNDRY & MACHINE CO., Canton, Ohio

BOVEE FURNACES at Manufacturer's Price

SAVES 50 PER CENT OF COST; 40 PER CENT OF FUEL
Most Durable, Most Economical Furnace Sold



Has a perfect ventilating system for every part of the building

RESIDENCE HEATING PLANT

Hot air registers in five rooms; cold air return in two rooms; 40-in. Furnace, 20-in. Fire Pot, 28-in. Combustion Chamber, 10,000 cubic feet Heating Capacity.

Special Price, \$65

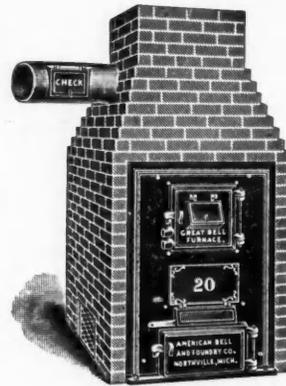
CHURCH AND SCHOOL HEATING PLANT

One large hot air, two cold air registers, 54-in. Furnace, 32-in. Fire Pot, 40-in. Combustion Chamber, 40,000 cubic ft. Heating Capacity.

Special Price, \$95

Horizontal Furnaces with large doors or larger furnaces and more piping at proportionately low prices.

Bovee Grinder & Furnace Works, 50 8th St., Waterloo, Ia.



A HOT AIR FURNACE

For Less than \$50 Complete

For 5 and 8 Room Dwellings

An unheard of Price and a most Remarkable and Indestructible Furnace

No Pipes No Lost Heat

AMERICAN BELL AND FOUNDRY CO.

NORTHVILLE - MICH.

Use KEROSENE Engine Free!

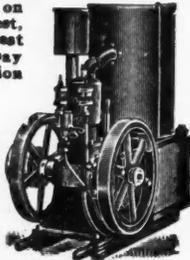
Amazing "DETROIT" Kerosene Engine shipped on 15 days' FREE Trial, proves kerosene cheapest, safest, most powerful fuel. If satisfied, pay lowest price ever given on reliable farm engine; if not, pay nothing. No waste, no evaporation, no explosion from coal oil.

Gasoline Going Up!

Gasoline is 9c to 15c higher than coal oil. Still going up. Two pints of coal oil do work of three pints gasoline.

Amazing "DETROIT"

—only engine running on coal oil successfully: uses alcohol, gasoline and benzine, too. Starts without cranking. Only three moving parts—no cams—no sprockets—no gears—no valves—the utmost in simplicity, power and strength. Mounted on skids. All sizes, 2 to 20 h. p., in stock ready to ship. Engine tested before crating. Cylinders cannot carburelate. Comes all ready to run. Pumps, saws, threshes, churns, separates milk, grinds feed, shells corn, runs home electric light plant. Prices (stripped), \$29.50 up. Sent any place on 15 days' Free Trial. Don't buy an engine till you investigate money-saving, power-saving "DETROIT." Thousands in use. Costs only a postal to find out. If you are first in your neighborhood to write, you get Special Extra-Low Introductory price. Write! (128)



Detroit Engine Works, 495 Bellevue Ave., Detroit, Mich.

A FREE BOOK

On Concrete Machinery

**BUILDING BLOCKS
BRICK
PORCHES
CHIMNEYS
DRAIN TILE
SEWER PIPE
SILO BLOCKS
AND OTHERS**

It isn't exactly a catalogue because it gives you the cost of making concrete Blocks, Bricks, Porches, and Chimneys. It tells all about the profits in making Drain Tile for farmers. The advantage of drainage, etc.

You ought to have this book if you are interested in concrete. Sixty-four pages of illustrations and interesting reading. Send at once, today, a postal will do.



W. E. DUNN MFG. CO., 4132 Fillmore St., Chicago

ARCHITECTS! BUILDERS! CONTRACTORS!



Write at once for the Jahant Specification Hand Book. It contains information of value to you when drawing up plans, erecting, rebuilding and equipping of residences, schools, hotels, churches, apartment houses and business structures.

This book tells what you ought to know about proper heating and ventilation; tells why you ought to specify the Jahant Down-Draft Furnace; explains our co-operative policy of furnishing complete specifications, and blue prints of a made to order Jahant Furnace with complete installation equipment, the kind that you will be proud to include in your plans.

It tells how to estimate on the cost of proper heating equipment; how to reduce your bids and at the same time turn out a better job with a better profit for yourself.

It explains the construction and operation of the Jahant and how it delivers plenty of heat wherever and whenever heat is needed at a saving of one-third to one-half in fuel.

It tells how we back your recommendation of the Jahant Furnace with a legal binding 360 Day Guaranty Bond;—and it contains a lot of other information which you cannot afford to be without.

Write for the book today. It's free.

The JAHANT HEATING CO., 85 Mill St. Akron, Ohio

SPECIFY THE JAHANT DOWN DRAFT FURNACE

Mr. Contractor and Builder

Why not equip the home or other building you are erecting with

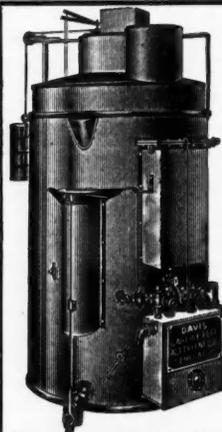
Davis

Acetylene Lighting?

You can greatly increase your income by selling and installing Davis Acetylene Lighting Systems for new buildings and during dull seasons for buildings already erected. No previous experience required and we help you get started.

Write us for cost of equipping a building and for our terms to salesmen.

Architects desire to recommend the best and we, therefore, invite them to carefully investigate what we have to offer.

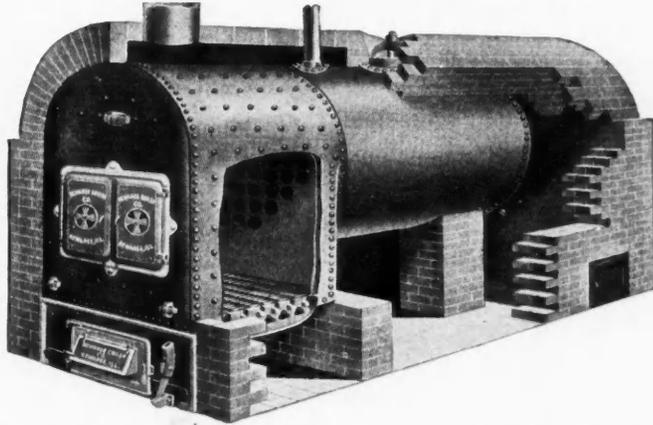


Davis Acetylene Company
90 Crawford St., Elkhart, Ind

When Writing Advertisers Please Mention the American Carpenter and Builder.

KEWANEE Fire-Box Boilers

Have set a high standard for themselves and for all others, for a quarter of a century.



Their unbroken record of Success is easily accounted for by

- The invariably high skilled labor employed,
- The high quality of Mild Steel used,
- The high combustion chamber so essential to a perfect combustion and economy of fuel,
- The long life of the boiler,
- The slight expense for repairs,
- The low water-line,
- The low head room required,
- The fact of being in a single piece,
- The ease of installation,
- The impossibility to crack right when you need it the most.

There is no investment which will produce the dividends that a **KEWANEE** boiler will.

There is no equal for Apartment Buildings, Schools, Theatres, Hotels, Hospitals and Manufacturing Buildings

KEWANEE BOILER COMPANY

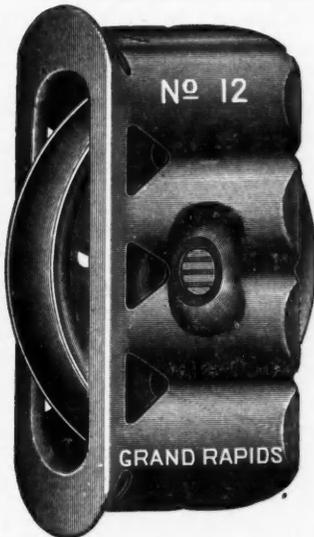
Makes also the only KEWANEE Garbage Burning Water Heaters

Chicago
Salt Lake City

New York
Los Angeles

St. Louis
Toronto, Canada

Kansas City



"GRAND RAPIDS" ALL STEEL SASH PULLEYS

No Nails No Screws
Just Bore 4 Holes

The time saved by the "Grand Rapids" will actually pay for the pulleys.

You can't afford to use old style pulleys.

Write for free samples and prices.



Grand Rapids Hardware Co.
Manufacturers
158 11th Street, GRAND RAPIDS, MICH.

This fastening is more secure than any number of screws or nails could make it. Saves about 16 per cent. too.
SCREWS COST MONEY

BUY FROM THE MAKER



We have made and sold thousands of steel furnaces in Chicago, and we have sold them everywhere, by mail, direct to contractors, builders and house owners, all over the country, from Maine to China. We don't offer them through dealers, for the DIRECT DEAL with the consumer is the most satisfactory to all concerned. It means BETTER SERVICE—because of the direct interest of the maker in each contract—and it means BETTER PRICES, for the middlemen's profits are cut out.

In buying the Hess Furnace, you needn't have faith. You can buy it now, on trial, and test it before January 1st, 1913. We will deliver it at your station, with all

pipes and registers—freight prepaid. Set it up and use it. If you're not pleased; not sure you have big value for the price—send it back to us—we paying return charges—and we won't claim one cent from you.

We don't offer you credit, however, for we require the price to be deposited with your local banker when you receive the goods. He holds it till the test is made, subject to the conditions outlined above, and gives it to you or to us, according to the result of the test. You take no risk, and you will save money.

Our furnace is made of steel, EVERY SEAM WELDED, and therefore permanently gas, dust, and smoke-tight. Made in six sizes, and burns any fuel. There is no furnace, better, at any price.

Our 48-page booklet on furnace heating is free. Ask for one. It will give you a lot of useful information on heating.

Hess Warming & Ventilating Co.
920 Tacoma Bldg. Chicago

We make these beautiful white steel medicine cabinets, cheaper than wood.

When Writing Advertisers Please Mention the American Carpenter and Builder.

Here is a Vacuum Cleaner That Never Clogs



Most any cleaner will clean your building sometimes, but there is only **one** cleaner that will clean it **all** the time, carrying out cigar butts, matches and other things that would completely stop the tools, hose and piping of ordinary systems.

THE **TUEC** STATIONARY Vacuum Cleaner

never clogs because its piping is never less than 2½ inches in diameter and the volume of air passing through it is always ample to carry off anything that can enter the tool. This free and unobstructed air passage through tools, hose and risers reduces to a minimum the friction of operation and enables the TUEC to do the most thorough and efficient work with the least consumption of current.

The simplicity of the TUEC with its enclosed centrifugal fan, direct connected motor and two-point ball bearing, renders it practically proof against break-downs, wear, misadjustment.

TUEC service includes scientific installation and proper location of risers and openings and makes unnecessary the use of long sections of hose.

For old buildings that cannot well be piped and for all buildings in which the present piping is inadequate, we have a special truck machine that can be moved from place to place like a portable, yet it retains all the essential features of the regulation TUEC construction.

The United Electric Co.

30 Hurford Street :: :: CANTON, OHIO

TUEC Companies in Most Large Cities.

ASBESTONE

**GUARANTEED
SANITARY AND DURABLE**

For Floors, Base and Wainscoting Efficient—Permanent—Supremacy

"ASBESTONE" is far cheaper than tile, more easily laid and in many other ways superior. Can be laid over any base, new or old, either wood or cement. Any color or combination of colors can be used. Our book on "ASBESTONE" will be sent free.

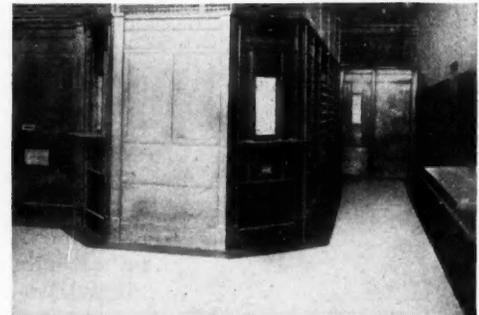
STEEL-BOND FLOORING

Is a high grade product of great durability. Has most of the qualities of Asbestone, but is not as fine grained nor will it take quite as high a polish. It is a superior and moderate priced flooring. Write us about it.

FRANKLYN R. MULLER CO.

312 North May Street

CHICAGO, ILLINOIS



Post Office at Mansfield, Ohio



OAK FLOORING

*Increases the Renting and Selling Values and Attracts
a Better Class of Tenants*

Builders and owners will find it a clinching argument to say "It's floored with OAK FLOORING." It is the biggest single feature to look for in any house or apartment building. It imparts an air of refinement and elegance. It is the modern flooring.

OAK FLOORING ¾ inch thickness by 1½ inch or 2 inch faces can be laid over old floors in old homes or over cheap sub-floors at a very low cost. It is cheaper than carpets or pine flooring. When laid it has all the appearance of heavy flooring.

There is a solid satisfaction and lasting pleasure in the substantial and dignified appearance of OAK FLOORING.

Contractors and carpenters find it very profitable to lay ¾ inch stock over old floors in old homes during dull periods. A little canvassing is all that is necessary to secure jobs. A carpenter or handy man can lay OAK FLOORING successfully.

For durability, OAK is the best. OAK FLOORING laid thirty years ago, after very hard use, is still in good condition.

Write for Booklet

THE OAK FLOORING BUREAU, 901 Hammond Bldg., DETROIT, MICH.

When Writing Advertisers Please Mention the American Carpenter and Builder.

Jack of All Trades Kerosene Engines



More Power **Half the Cost**

Kerosene (Coal Oil) can usually be bought for less than half the price of gasoline and a Jack of All Trades Engine will develop as much power on a gallon of kerosene as on a gallon of gasoline.

Besides their great economy these engines are easy to handle, safe, strong, durable. Always ready for service. Every one guaranteed. Sold at remarkably low prices for high grade engines.

2, 4 and 6 h. p. Horizontal; also 2, 3, 4 and 6 h. p. Vertical. Other types up to 500 h. p.
Write for Catalog No. DT 1409.

Fairbanks, Morse & Co.

Wabash Av. & Eldredge Place CHICAGO, ILL.

Hoists, Diaphragm Trench Pumps, Water Systems, Electric Light Plants, Electric Motors, Windmills, Eclipse Roofing

The Ford Bit is a bit Better Bit

Specifications of the Ford Single lip Bit

Worm—12 single thread, bores 12 turns to the inch. Head—Single extension lip. Spur—made extra high to give extra wear. Material—highest grade crucible steel of special formula. Temper—special process to give uniformity. Finish—highly polished, then dipped in rust proof solution. Forged, not twisted; forging makes grain finer, giving added strength and toughness to steel.

10 Reasons Why

the FORD Single lip Bit is superior to any regular Double lip bit. 1. Bores end grain. 2. Screw draws in on any wood. 3. Bores considerable faster. 4. Bores 40 per cent easier. 5. Cuts out with practically no splintering. 6. Easier to sharpen. 7. Cuts clean the toughest knots. 8. More room for clearance. 9. Warranted not to turn off against knots or across season cracks. 10. Adapted for the roughest as well as the finest, fussiest boring.

May we send circulars and memo book? Free if you address Dept. 1g.

Ford Auger Bit Co.

Holyoke :-- :-- Mass.



The Untrained Man

The Trained Man

Your Future Depends On Yourself

A few years hence, then what? Will you still be an untrained, underpaid laborer, or will you be a specialist in your chosen line of work where you can earn more in one day than the untrained man earns in a week?

Your future depends upon yourself. You must decide now. To hesitate, to put it off, or to be undecided means that you must plod the hard road of disappointment, poverty, and failure. To mark and mail the attached coupon is the first step to promotion and success.

The only way to keep out of the dollar-a-day class is to get the special training that will command the attention and a better salary from the man higher up. The International Correspondence Schools have shown to thousands the way to positions of power and increased salaries. They can do the same for you.

Your future is before you. Are you interested enough in it to learn how the I. C. S. can fit you for a real big job? No matter where you live, how little you earn, or what your previous education has been, the I. C. S. have a way of helping you. For over 21 years the I. C. S. have been helping young men to increase their earnings and to rise to positions that insure a better income.

The 400 or more letters that are sent to us every month reporting increased salaries, prove our ability to help you.

Choose a high-salaried future and

Mark and Mail the Coupon NOW

International Correspondence Schools

Box 910, SCRANTON, PA.

Please explain, without further obligation on my part, how I can qualify for a larger salary and advancement to the position, trade, or profession before which I have marked X.

Architect Arch'l Draftsman Contract'g & Build. Building Inspector Structural Eng. Structural Draftsman Plum. & Heat. Con. Supt. of Plumbing Foreman Steam Fit. Plumbing Inspector Heat. & Vent. Eng.	Estimating Clerk Civil Engineer Surveying Mining Engineering Mechanical Eng. Mechanical Drafts'n Stationary Eng. Electrical Engineer Electric Lighting Electric Railways Concrete Const'r'n	Automobile Runn'g Foreman Machinist Sh.-Met. Pat. Drafts. Textile Manufact'g Bookkeeper Stenographer Advertising Man Window Trimming Commerc'l Illustrat'g Civ. Service Exams. Chemist
--	---	--

Name _____
 St. and No. _____
 City _____ State _____
 Present Occupation _____

When Writing Advertisers Please Mention the American Carpenter and Builder.



**"BERGER'S"
Classik
METAL CEILINGS**

**The Ceiling for the
Big Jobs**

**The Berger Mfg. Co.
Canton, Ohio.**

**For the best service address
nearest branch**

New York Boston Philadelphia
San Francisco St. Louis Minneapolis

We also manufacture Ferro-Lithic and
Multiplex Reinforcing Plates, Metal
Lath, Roofing, Eaves Trough and
Conductor Pipe and Sheet
Metal Building Products
of all kinds.

PHOENIX INSIDE SLIDING BLINDS

WILKES BARRE, PA.

The Phoenix Sliding Blind Co.
Enclosed find my check for blinds. I am pleased with them
and sorry I did not have them put throughout the whole house.
C. W. BURT.

**Comfort!
Economy!**

Convenience! PHOENIX SLIDING BLIND CO.
BRIDGE & CANAL STS. PHOENIX, N. Y.

The lately improved springs and corrugated
steel rods put the "PHOENIX" far in lead of
less improved styles. Write for Catalogue "C"
and free samples, showing construction.

Send For Sample Metal Building Corners



They take the place of corner
boards with lap siding. Give
the mitre-corner effect without
the slow work of cutting bevels.
Corners can't warp open.
Made of galvanized iron, treated
so that paint will stick.

Write for free samples today.

ED. KEES MFG. CO. BEATRICE, NEB. Box 552

Miller's Door Mortiser

TWO MINUTES

Time Will Cut an Opening in a Door For a Mortise Lock

This advertisement has run continuously
for over five years. The only tool of
its kind that has stood the test of time.

Improved and Up to Date

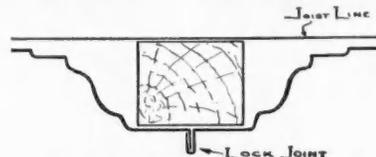


The Greatest Time and Labor Saver

A. W. MILLER MFG. CO.
Riverside, Cal. Cincinnati O.

Our Butt Mortiser and Rule Gauge for 75c Postpaid

METAL CEILING



See that Joint?

The Acme of perfect construction.
Don't nail or slip the joints. Lock them.
Full information in catalogue E.

S. KEIGHLEY METAL CEILING & MFG. CO.
PITTSBURGH, PA.

When Writing Advertisers Please Mention the American Carpenter and Builder.

Free Plan Service

Whenever problems of refrigeration confront you we offer you the assistance of our designing department without cost. Our long experience in serving every kind of refrigerator need, whether for large or small residences, factories, stores or institutions will give you valuable aid. We furnish specifications and blue prints free.

McCray Refrigerators

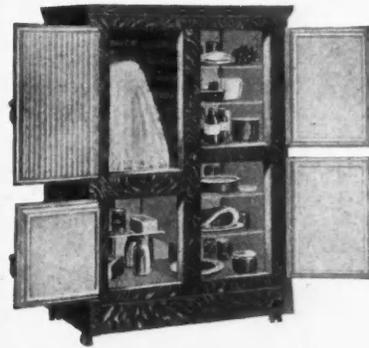
Every McCray is made to fit perfectly into the housewife's plans for convenience. Foods are kept fresh and cool and all odors are carried away down the drain pipe. The linings are easy to clean, being of opal glass, porcelain, enamel or odorless white wood. The arrangement for outside icing is a much appreciated feature. Scientific insulation saves ice and the perfect finish completes a really handsome piece of furniture.

Send rough floor plan and dimensions and we will co-operate with you thoroughly in selecting the proper refrigerator to give the owner the greatest satisfaction—whether the case calls for a stock size or special built in type.

Send for any of the following catalogs:

Built to order for residences.....	No. A.H.	For meat markets.....	No. 60
For groceries.....	69	Regular sizes for residences.....	90
For flower shops.....	73	For hotels, clubs, institutions.....	49

McCray Refrigerator Co. 506 Lake Street, KENDALLVILLE, IND.
New York Branch, 231 West 42nd Street
Chicago Branch, 158 N. Wabash Avenue



McCray Refrigerators are used in the most luxurious residences, clubs and institutions in the world.



Made in all sizes and styles for use with brick or concrete block walls or with wooden or steel beams.

TRUS-CON JOIST HANGERS

Avoid cutting away and weakening of timbers and walls—save labor, time and money.

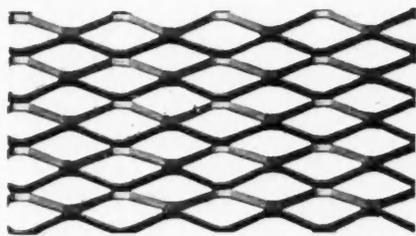
Trus-Con Joist Hangers are made from open hearth steel plates, and are proven by actual test to be the strongest on the market. Note the bulb-shaped reinforcement at upper angle.

We also furnish Post Caps, Post Bases, Wall Plates and Base Plates made in rolled steel, malleable iron, or cast iron.

Write for catalog and prices.

TRUSSED CONCRETE STEEL CO. :: 344 Trussed Concrete Bldg. :: Detroit, Mich.

METAL LATH



Sykes Expanded Cup Lath

FURNISHED WITH EITHER AN

“Anti-Rust” Coating, Painted Black or Galvanized

WE ALSO MANUFACTURE

Sykes Trough Sheet Lath

WRITE US TODAY FOR PRICES AND SAMPLES

The Sykes Metal Lath & Roofing Co.
NILES, OHIO

Be Certain You Get The Hammer With The

Grip



This is the famous ATHA CLAW nail hammer. It is the hammer that will always draw a headless nail—a cement-coated wire nail—from the toughest oak.

This ATHA CLAW nail hammer grips the shank of a nail—and out she comes.

ATHA hammers are balanced properly. They are easily handled.

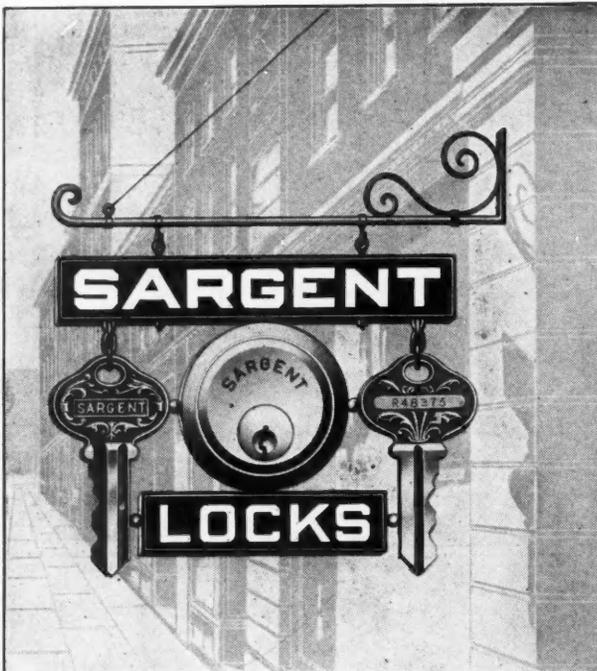
All ATHA hammers are carefully forged at uniform forging heats from high-grade bar steel. They are individually and thoroughly tempered. Handles are made from best obtainable all-white, clear, straight grained, second growth hickory. All hammers are finished with brilliant polish.

Look for the Horseshoe Brand

Carpenters and Builders: Get an ATHA CLAW nail hammer from your hardware dealers—if he cannot supply you, send us 65 cents and we will forward you, prepaid, one number one and a half Bell Face Hammer by parcels post.



The Atha Tool Company
NEWARK, N. J.



SARGENT
LOCKS

The Sign of Quality
SARGENT & COMPANY
New Haven, Conn.
New York Boston Philadelphia Chicago

Carpenters Who "Know" USE

SEBCO

Expansion Bolts

because they absolutely cannot work loose or pull out. Recently a 1/2" diameter bolt by 3 1/2" actually withstood a weight of 8,200 pounds before stripping the threads of the lag screw. Sebco Expansion Bolts are used for fastening fixtures to walls, floors and wherever ordinary screws will not hold. When screw is inserted the shield expands with each turn, making it impossible to pull out. Send for working samples; also catalogue absolutely free.

Star Expansion Bolt Co.
Catalogue Dept. 5R
147-149 Cedar St., New York City
120 West Lake Street
Chicago




Testifying to the Great Growth of a Business

These two volumes tell a graphic story of the enduring merit of DISSTON BRAND goods. They illustrate how, in each succeeding year, the books which hold our records have grown and grown until we see here the strange contrast presented by this little book, weighing five pounds, containing the earliest entries of the DISSTON business for several months, and one of the big books, weighing 38 pounds, required today to register a **single** month's sales.

We can name a long list of hardware jobbers that have been continuously buying from us for more than fifty years. For a lesser number of years they are recorded in ever-increasing numbers, as new firms appear, or others at length stock DISSTON Saws, Tools and Files in response to the demands of their customers.

When we say that the leading concerns in the hardware jobbing trade have been repeating their orders for DISSTON BRAND goods year in and year out for nearly three-quarters of a century, we believe it is the strongest testimonial any firm could have on behalf of its products.

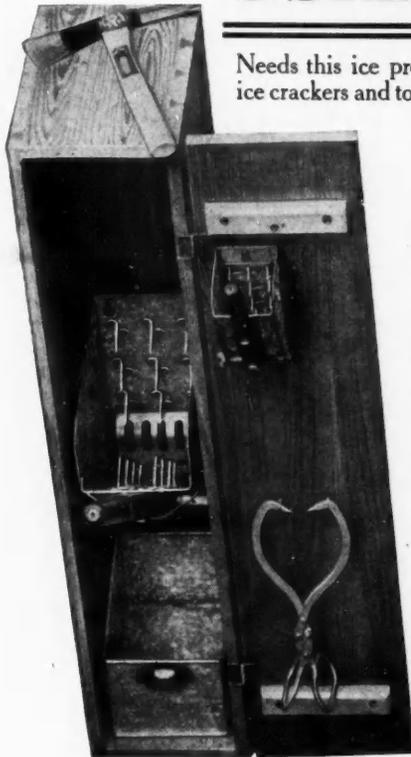


HENRY DISSTON & SONS, Incorporated
Keystone Saw, Tool, Steel & File Works, PHILADELPHIA

Established 1840

When Writing Advertisers Please Mention the American Carpenter and Builder.

Every House Using Ice



Needs this ice preparing cabinet of ice crackers and tools. It is "built in" as part of the kitchen equipment.

Any kind, amount or size of ice secured instantly without muss or waste.

It is being adopted wherever known. Too useful to omit. Too cheap to reject. Its absence will be as notable as its presence.

Write for our circulars and full particulars now.

Miller Manufacturing Company
Plymouth Building
Minneapolis Minn.



Build Your Own Way Up!



EVERY board you saw, every timber you frame, every nail you drive, is building *another man's success!* Why not build your own way up? Get the knowledge that will promote you higher and higher in your trade—that will make you the contractor—the owner—instead of an ordinary workman. All you need is ambition and training.

Our home study courses give you this knowledge in a short time.

Chicago Technical College

Our Short, Complete Home Study Courses in Architecture and Building Construction, Architectural Drafting, House Planning, Estimating, General Contracting, etc.

Thorough courses. Students study plans of buildings actually being constructed. Your work approved by leading Chicago contractors and architects. *Complete outfits free to students.*

Whatever work you are interested in, mark with a cross (X) in the coupon and mail today!

Low tuition. *Study at home in leisure hours.* Remember, the home study work is the same as in our college day and evening classes. We give both resident and correspondence courses. State which you want.

Chicago Technical College

654 Athenaeum Building Chicago, Illinois

Lay the foundation NOW by mailing this coupon

THE CASE YOU WANT TO CARRY YOUR TOOLS IN



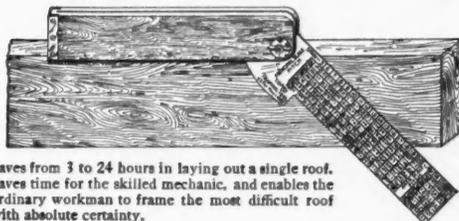
Get one of these cases for your tools. It is convenient and looks good. It is made strong. You'll find it a mighty handy part of your equipment.

Lorenz Fibre Tool Cases are made of 3-ply bass-wood covered with vulcanized fibre which will outwear any other material. Will not rust or tear. Light in weight. Brass corners and trimmings. Carried like a suit case. Compartment for saws, levels, planes, etc. Removable tray for chisels and bits.

Write for prices and FREE Catalog of Lorenz Guaranteed Cases and Tool Trunks.

WM. LORENZ TRUNK WORKS
107-109 Second St. South - Minneapolis Minn.

Topp's Framing Tool



Saves from 3 to 24 hours in laying out a single roof. Saves time for the skilled mechanic, and enables the ordinary workman to frame the most difficult roof with absolute certainty.

A Perfect Tool, and the Only Tool for the Purpose Ever Invented.

Price, \$1.75

IT DOES ALL THIS { It gives angles for any pitch.
It gives lengths for any rafters.
It prevents all mistakes. It is accurate.
It gives cuts for principals, jacks, hips, valleys and cripples.

G. A. TOPP & CO., Indianapolis, Ind. See Tool at Your Hardware Dealer. Circular on request

When Writing Advertisers Please Mention the American Carpenter and Builder.

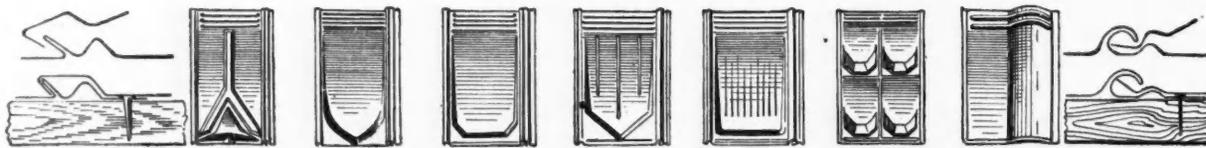
Chicago Technical College, 654 Athenaeum Bldg., Chicago, Ill. Gentlemen: I have marked with a cross (X) the branch or branches I am interested in. Please tell me how I can qualify for a well-paying position.

- | | |
|---|--|
| <input type="checkbox"/> Architectural Drafting | <input type="checkbox"/> General Contracting |
| <input type="checkbox"/> Builders' Course | <input type="checkbox"/> Structural Drafting |
| <input type="checkbox"/> Estimating | <input type="checkbox"/> Structural Design |
| <input type="checkbox"/> Plan Reading | <input type="checkbox"/> Mechanical Drawing |
| <input type="checkbox"/> House Planning | <input type="checkbox"/> Machine Drafting |
| <input type="checkbox"/> Building Superintendence | <input type="checkbox"/> Machine Design |

Name Address

Town State

Resident or Home Study Course



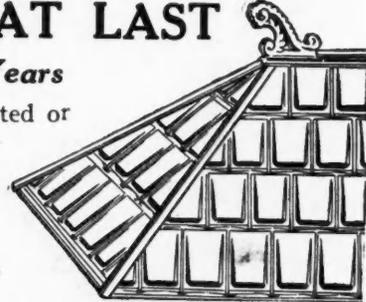
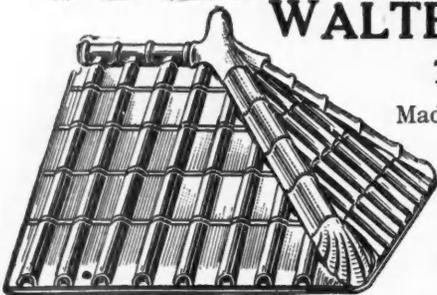
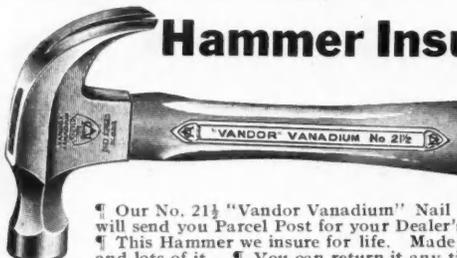
WALTER'S SHINGLES THAT LAST

The Leaders for Twenty-nine Years

Made from I. C. full weight roofing tin, painted or galvanized after stamping. Rust-, storm- and fire-proof. The most complete line of metal shingles and tiles manufactured.

Agents wanted in every community

National Sheet Metal Roofing Co.
JERSEY CITY, N. J.

Hammer Insurance!

SPECIAL

Our No. 21 1/2 "Vandor Vanadium" Nail Hammer!—We will send you Parcel Post for your Dealer's name and \$1. This Hammer we insure for life. Made for hard work and lots of it. You can return it any time if it proves defective and get a new one.

This hammer is warranted to draw anything from a headless brad to a spike.

Drop Forged from the toughest Vanadium Steel. Second growth hand shaved Hickory Handle. Tempered in oil. Easy to work with. Get one to-day. Remember only \$1 and your dealer's name. Mail your order NOW.

Van Doren Manfg. Co., Inc. Chicago Heights, ILL.
(Vanadium Dept.)

FREE PLAN BOOK PACIFIC COAST BUNGALOWS



We will send any builder, contractor, carpenter, architect or prospective home owner our

"BUNGALOW BOOK"

free upon request.

This book contains photographs and miniature floor plans of varied designs and costs. It emphasizes in particular Bungalows covered from "crest to foundation" with

WASHINGTON RED CEDAR SHINGLES

(do not warp, rot or decay).

Remember that you stain a bungalow once in five years while you paint clapboards twice.

RED CEDAR SHINGLE MANUFACTURERS ASSOCIATION
Representing over 200 Mills—Daily capacity over 20 million shingles
480 Arcade Annex SEATTLE, WASH.

MOTOR TRUCKS and Delivery Wagons



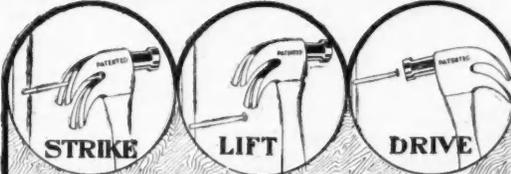
National Automobile Show AT CHICAGO

Under Auspices National Association of Automobile Manufacturers, Inc.
Coliseum and First Regiment Armory FEBRUARY 10-15
The Following Trucks and Wagons Will be Exhibited:

Alco	Driggs-Seabury	Old Reliable	Sternberg	Avery	Locomobile	Saurer
Knox	Natco	Indiana	Dart	Mogul	Reliance	Lansden
Baker	Buffalo Elec.	Brown	Bessemer	Reliable Dayton	Harder	Buick
Mack	Packard	Standard	Walker	Service	Commerce	Adams
Chase	Peerless	Sanford	Stewart	United States	Lippard-Stewart	Mercury
Republic	Kissel	White	La France	I. H. C.	Diamond T	Hupp
Rambler	Pierce-Arrow	General Vehicle	Kentucky	Four-Wheel-Drive	Blair	Modern
Universal	Federal	Autocar	Hewitt	Gramm-Bernstein	Koehler	Ideal
Little Giant	Lauth-Juergens	Pope-Hartford	G. M. C.	Gramm	Best	Krebs
Clark	Selden	Speedwell	Garford	Studebaker	Kelly	Menominee
Smith-Milwaukee	Mais	Schacht	Waverley	Reo	Vellie	

S. A. MILES, Manager - - - - - **Auditorium Hotel, Chicago**

When Writing Advertisers Please Mention the American Carpenter and Builder.



DOUBLE CLAW

MARK THE DIFFERENCE!

\$1

Fine Work Little Effort **Great Effort Bad Work**

START **PULLS THE NAIL OUT STRAIGHT WITHOUT A BLOCK.** **OUT**

Get it of your dealer for \$1 if not, send us \$1 and we will pay "Uncle Sam."

Double Claw Hammer Company,
Brooklyn, N. Y.

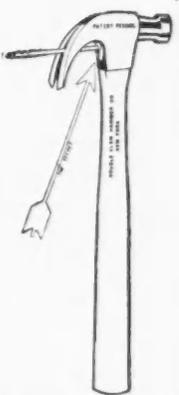
Gentlemen: Yours of Nov. 22 at hand, also hammer received, thanking you very much for your kindness in sending the new pattern hammer which I pronounce one of the best and handiest yet, especially for building staging and when raising, for nailing on braces.

I have shown it to my crew of at least 35 men and they say it is O. K. I may be able to sell some of them.

You can say, using my name, that the Double Claw, as well as the improved Single Claw is O. K., and I would not be without either.

Thanking you again, I remain,
 Yours respectfully,
W. W. HAZEN

Perry, Iowa, Dec. 3, 1912.



75c at nearest store or send it to us and Hammer will go parcels post.

Double Claw Hammer Company, Brooklyn, N. Y. dealer.
 Gentlemen: I am with a Flywater Hammer Company, for enclosed 75 cents send me by parcels post a Flywater.

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

Clip and Send in this Coupon

DOUBLE CLAW HAMMER CO., 453 Broadway, BROOKLYN, N. Y.

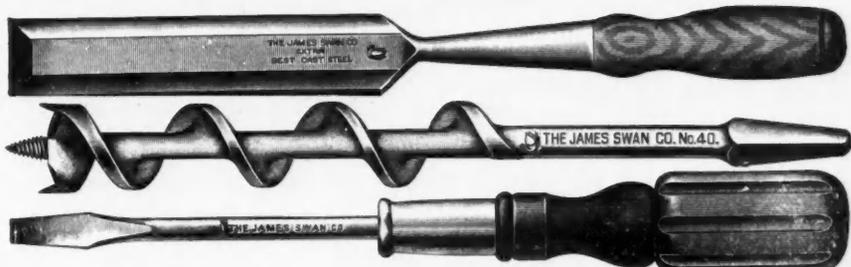
1810 THE JAMES SWAN COMPANY 1912
 SEYMOUR, CONN.
 Manufacturers of

Mechanics' Tools, Augers, Auger Bits, Draw Knives, Chisels, Hollow Augers, Gimlets, Boring Machines, Gouges, Screw Drivers, etc.

Send for Catalogue



Inquiries Solicited



When looking for quality buy goods with the "Swan" trade mark.



When in Detroit
 STOP AT
Hotel Tuller

New and Absolutely Fireproof
 Corner Adams and Park Streets

In the center of the Theatre, Shopping and Business Districts.

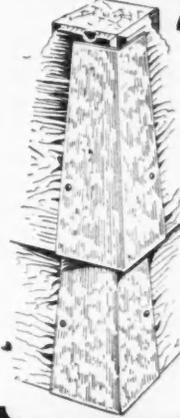
Has large Convention Hall.
 "Grand Roof Garden Cafe."

Music from 6 p. m. to 12 p. m

Every room has private bath. European plan.

Rates, \$1.50 per day and up.

L. W. TULLER, Prop.



Metal Mitre Corners Save You Money and Time and

please your clients, too.

By using my metal mitre building corners you do away with the time using work of cutting and fitting bevels. They will save you money and labor in finishing each corner.

My corners take the place of corner boards. They are made of No. 28 gauge galvanized sheet iron Easy to put on. Last for years. Make a strong neat corner finish. Each piece is painted with a preparation, forming a thin film of gray oxide of zinc, to which paint is guaranteed to stick firmly. I pay the freight. See article page 98, January American Carpenter and Builder.

Write NOW for circulars, prices and samples.
H. G. ROBBINS, Kewanna, Ind.

When Writing Advertisers Please Mention the American Carpenter and Builder.



Best Things in Life Yours for 3 Cents a Day

A million homes with modest incomes have every home-like comfort. They buy these comforts all from us, on open charge account. They pay, if convenient, a little each month. We have no rigid rules. Nor do we have collectors. All goods are sent on 30 days' trial, subject to return.

And by selling direct, and buying whole factory outputs, we save them from 30 to 50 per cent. That we guarantee.

New-Style Credit

Our plan is not like others. We ask no contract or mortgage, no red tape or publicity, no interest, no extra price.

We take your word. Then you pay us by saving 2 or 3 cents a day. Pay as you can. We won't hurry or press you.

Think what comforts you can have at these low prices and these easy terms.

4,782 Bargains We Give 1 Year to Pay

Furniture	Silverware
Carpets—Rugs	China-ware
Linoleums	Sewing Machines
Stoves—Ranges	Kitchen Cabinets
Baby Cabs	Cameras—Guns
Refrigerators	Trunks, etc.

Dollar Book Free

Our mammoth Spring Bargain Book is ready. It pictures 4,782 home things, and many of the pictures are in actual colors. You never saw such an exhibit.

It quotes our prices, tells our plan, shows our order blank. We send it free, though each book mailed costs us just \$1.

Write us for it. Let us prove these things to you. Write us now for fear you may forget it. (361)

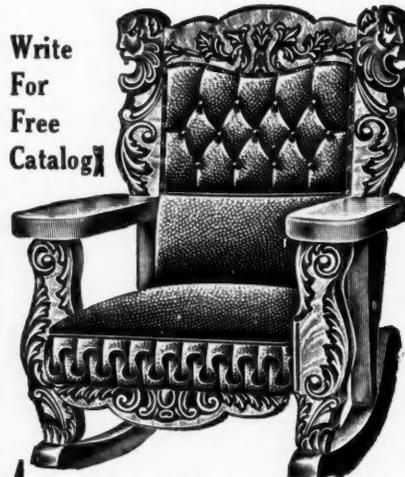
Spiegel, May, Stern & Co.

1464 W. 35th Street, Chicago

The American Carpenter and Builder is a Complete Trade Directory for the Building Industry. It has more advertising than any two other building publications combined.

When Writing Advertisers Please Mention the American Carpenter and Builder.

Write For Free Catalog



Send Only **50c** And We Ship You This Superb **Rocker**

Yes, only 50c and we ship you this magnificent rocker. Only 50c down and then 50c per month—\$3.95 in all for this handsome piece of furniture. Write for free catalog and bargain list today.

You can see for yourself what an elegant rocker this is. It is made in American quarter-sawn oak finish—profusely carved. Upholstered in best grade Boston leather—diamond tufted. Superb spring seat. Order by No. A1264. This rocker is only one of the special bargains we are now giving. Send for this bargain list.

BUY ON CREDIT—EASY PAYMENTS

The great house of Straus and Schram, with a proud quarter century record, endorsed by the greatest bank, will trust you and allow you to buy any article on easiest monthly payments. If you want anything in rockers, chairs, bedsteads, carpets, rugs, curtains, washing machines, crockery, silverware, baby carriages, go-carts, Men's, Women's and Children's apparel, stoves, ranges, or any other article of housefurnishing, don't fail to get our sensational easy terms.

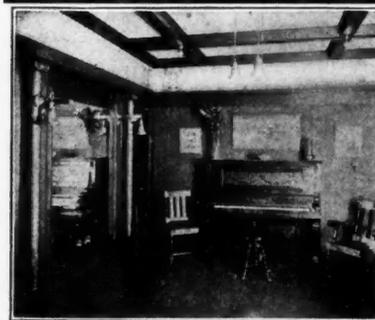
FREE SPECIAL BARGAIN LIST and Money Saving Catalog

Don't wait a minute before sending for our great bargain catalog and special monthly bargain list. Bargains which are positively astounding.

WRITE TODAY—DON'T WAIT

Send a postal or letter—but send right now. Take advantage of these special offers while they last. This month only. So hurry. Just your name and address on postal or letter and we will mail free and postpaid our catalog and bargain list.

STRAUS AND SCHRAM (Inc.)
Dept. 442 35th Street, CHICAGO, ILLINOIS



TWO Rooms
in **ONE**

Utilize every inch of space in building—make 3 rooms equal 5.

Save space for the owner and yet

build an attractive, convenient home for either his use or rental.

PERFECT WALL BEDS have solved the space question. An attractive, richly furnished console or side board conceals bed. Ample ventilation is provided. Entirely sanitary. Space beneath bed easily cleaned—no moving of bed necessary.

Builders investigate **PERFECT WALL BEDS**. Let us explain them to you in detail—show you how and why your clients like them. Write for full **FREE** particulars.

Perfect Wall Bed Co.

430-2 S. Wabash Ave.
CHICAGO ILLINOIS

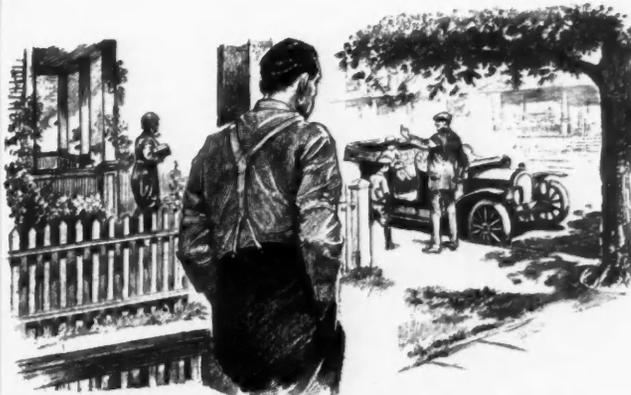


**Buy Through Our Catalog
'and Save Money—
SEND FOR ONE NOW**

We can give you big bargains in high grade sash, doors, frames, blinds, mouldings, inside trim, grilles, colonnades, tiling, roofing and building papers, wall boards, flooring of any kind, screens, steel ceilings, shingles, hardware, etc., etc.

Our catalog lists a complete line of best quality materials at rock bottom prices. We make prompt shipments. Get a copy of our catalog. Write in to-day for one. We can surely save you lots of money on your materials.

The Huber Builders Material Co.
45-49 Vine Street ::: CINCINNATI, OHIO



**Don't envy the trained
man—be one**

No use envying the man who has made good. Don't think he got where he is because he had a "pull." A "pull" doesn't amount to much unless you can deliver the goods, and the best "pull" in the world is **training**.

Just make up your mind today—right now—that you are going to be a **trained man**—that you are going to get the money and hold a good job. You can do it. The **American School of Correspondence** will show you how. This great school, with its sixty-five complete courses in **Engineering, Business and Law**, can soon give you the training necessary to become a successful man—a man who will be envied as you, perhaps, now envy the men above you.

**How the American School Will Give You
the Training You Need**

The **American School of Correspondence** was established fifteen years ago for the benefit of ambitious men and women everywhere. This school makes it possible for you to obtain the education and training you need without leaving home or giving up your work. It will bring a practical college course to you right in your own home.

No matter where you live, the **American School** will train you in any branch of **Engineering, Business and Law**, or prepare you for entrance into any resident college. Remember: no need of your leaving home or giving up your present job.

Write the **American School** now, while the subject of making more money is on your mind. State how far you went in the public schools, what you are doing now, and what you would like to be. Your case will receive special attention.

The **American School** will tell you the best and quickest way to better your condition and get more money. Check the coupon and mail it now. Don't let this matter drag another day. Another year might slip by and find you at the same old job and prospects for a raise very slim.

American School of Correspondence, Chicago, U. S. A.

Your Opportunity Coupon

Check the course you want and mail the coupon now

American School of Correspondence, Chicago, U. S. A.

Please send me your Bulletin and advise me how I can qualify for the position marked "X." A. C. & B. 2-13

- | | |
|-------------------------------|-------------------------|
| ... Architect | ... Lawyer |
| ... Building Contractor | ... Bookkeeper |
| ... Architectural Draftsman | ... Stenographer |
| ... Structural Engineer | ... Private Secretary |
| ... Concrete Engineer | ... Accountant |
| ... Civil Engineer | ... Cost Accountant |
| ... Surveyor | ... Cert'd Public Acc't |
| ... Mechanical Engineer | ... Auditor |
| ... Mechanical Draftsman | ... Business Manager |
| ... Steam Engineer | ... Fire Ins. Inspector |
| ... Stationery Engineer | ... Fire Ins. Adjuster |
| ... Gas Engine Engineer | ... Fire Ins. Expert |
| ... Automobile Mechanician | ... Moving Picture Op'r |
| ... Electrical Engineering | ... Sanitary Engineer |
| ... Elec. Light & Power Supt. | ... Reclamation Eng'r |
| ... Electrical Wireman | ... Textile Boss |
| ... Telephone Expert | ... College Preparatory |

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

**THE DENNIS "CLINCHER"
FELT WEATHER STRIP
(PATENT PENDING)**

Specify The
**W. J. Dennis
Clincher Felt
Weather
Strip**

**If You Want
the Best
Made**

**NOTE—NAIL PASSES THROUGH
BOTH MOULDING AND FELT.**

Manufactured only by
W. J. Dennis & Co. - 2226 W. Lake St., Chicago
Free Sample to any address for your Hardware dealers' name.

\$13.95
per doz. 4 footers
—if you send cash
with order.

**THE TAYLOR
STEEL SCAFFOLD BRACKET**

Absolutely Safe; two of them will carry a ton, and they last a lifetime. Think of the time you save! One man alone can put them up and take them down easily and quickly.

No Side Swing if you purchase our new fixture at 50c extra per dozen brackets: these keep the brackets absolutely rigid.

Write for Catalog of Builders' Specialties!

THE TAYLOR

About clamps—the sliding jaw on each of ours can be moved in an instant **DIRECTLY AGAINST** the work operated on, so that half a turn of the fine specially threaded screw will apply the power.

Think of the time this saves!
The grip is positive, and special grade of steel in the bar more than doubles the strength of the clamp.

Our No. 10 catalogue shows some very interesting price reductions on four of the most wanted styles. It will pay you to write for it at once.

James L. Taylor Mfg. Co.
Poughkeepsie, N. Y., U. S. A.

When Writing Advertisers Please Mention the American Carpenter and Builder.

No. 84

Solid Wood Chisel



This is a **CHARLES BUCK CHISEL** with a steel handle for severe work. Just the thing for the job where you don't want to use your regular chisel. Ask Dept. A for catalog.
CHARLES BUCK EDGE TOOL CO.

MILLBURY, MASS., U. S. A.

CHARLES BUCK TOOLS
 The STANDARD Tools of AMERICA

GENUINE BANGOR

**Roofing Slate
 Structural Slate
 Blackboards**

Large Facilities, Prompt Deliveries

EAST BANGOR CONSOLIDATED SLATE CO.

East Bangor, Pa.

HOT OFF THE PRESS!

Our trade bulletin No. U-1 Containing valuable information for the Architect, Woodworker and Builder. All the information you need regarding wood columns. Free for the asking.



HARTMANN-SANDERS COMPANY

Sole Manufacturers of
KOLL'S PATENT LOCK JOINT COLUMNS
 2155-2187 Elston Avenue, CHICAGO
 Eastern Office: 1123 Broadway, New York City
 The best columns for porches, pergolas or interior use.

Reason It Out!

Individual Motor Drive with **ROTHMOTORS** will Save Money.



Only the machines that are in actual operation consume power. Over 25 other advantages.

Let us act as your engineers. We will save you money.

Roth Bros. & Co.
 1422 W. Adams St., Chicago
 New York: 243 Canal St.

FIFTY-EIGHT YEARS "WOLFF QUALITY"



For every public and private sanitary service, Wolff's goods will prove a highly satisfactory choice. This means a great deal to your business, since by dealing with Wolff, you have immediate command of every kind of

sanitary supply which any ordinary or special problem may require.

We have successfully solved these problems in most of the buildings along the world famous boulevard, Michigan Ave., in Chicago and the goods are giving universal satisfaction.

ESTABLISHED 1855

L. Wolff Manufacturing Co.

PLUMBING GOODS EXCLUSIVELY
 The only complete line made by any one firm

General Offices - - 601-627 W. Lake St.
 Showrooms - - - 111 N. Dearborn St.

CHICAGO

BRANCHES

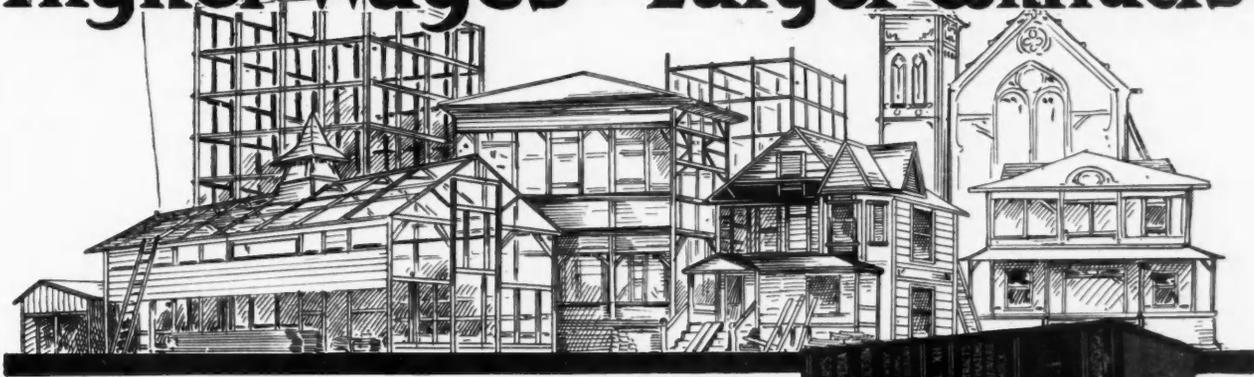
DENVER, COLO.
 TRENTON, N. J.
 OMAHA, NEB.
 MINNEAPOLIS, MINN.
 DALLAS, TEXAS
 ROCHESTER, N. Y.

BRANCH OFFICES

ST. LOUIS, MO.
 WASHINGTON, D. C.
 CLEVELAND, OHIO
 CINCINNATI, OHIO
 SAN FRANCISCO, CAL.
 KANSAS CITY, MO.
 SALT LAKE CITY, UTAH

When Writing Advertisers Please Mention the American Carpenter and Builder.

EASY and SURE Steps to Higher Wages and Larger Contracts



The man who climbs to success is the man who knows how to do things in the best modern way. A bigger share in the

BUILDING OPPORTUNITIES OF TODAY

is surely yours to claim! You can do it without technical training or hard study. To master every detail of your trade or business will be a pleasure instead of a laborious task if you will let us send you for five days' free examination absolutely at our own expense and risk, a set of

RADFORD'S CYCLOPEDIA OF CONSTRUCTION

Carpentry, Building and Architecture

A Practical Uplift to Complete Mastery of Modern Building Methods and Materials

Twelve Massive Vols.—5,000 pages, 3,000 illustrations. Up-to-date, practical, thorough. All in simple English, without higher mathematics. Latest materials and methods. The cream of practical experience of the world's best known builders and contractors. Every detail covered—Carpentry; Framing; Concrete Work; Masonry; Steel Construction; Fire and Waterproofing; Drafting and Design; Heating; Ventilating; Plumbing; Decorating; Contracting; Estimating Cost, etc., etc.

Sent Anywhere on Approval

ORDER ABSOLUTELY AT OUR RISK

No Obligation or Expense to You Unless You Keep the Books
No Follow-Up Agents to Bother You

WHAT OUR FREE TRIAL OFFER INCLUDES:

12 Massive Vols.—Bound in ¾ Morocco leather, with full Persian library covers. A brand new work, costing over \$100,000 to compile and publish, built along new lines especially for the practical builder or contractor. Without magazine, \$1.00 less.

FREE Radford's Portfolio of \$30,000 Prize Building Plans—Over 300 designs of houses, bungalows, outbuildings, apartments, churches, etc. Ranging in cost to suit any purse.

FREE Complete Set of Guaranteed Working Blue-Prints and Specifications for any house design selected from Portfolio—Ordinarily costing \$75 to \$100. We will also include **One Full Year's Subscription to the "American Carpenter and Builder,"** the world's greatest building paper, without extra cost to you.

If you are a Carpenter or Builder, you can do all the ordinary work of the Construction Engineer or Designer without any deep mathematical calculations, thus insuring your title to better recognition, wider responsibilities and higher wages.

If you are a Contractor, your clients will appreciate dealing with a man who is able to give them the latest practical suggestions, and who has back of him the experience and resources of one of the largest architectural firms in the world.

12 MASSIVE VOLUMES

**SENT ON APPROVAL
FOR FIVE DAYS' FREE EXAMINATION**

No Obligation. No Expense. No Risk to You
We Take all the Risk

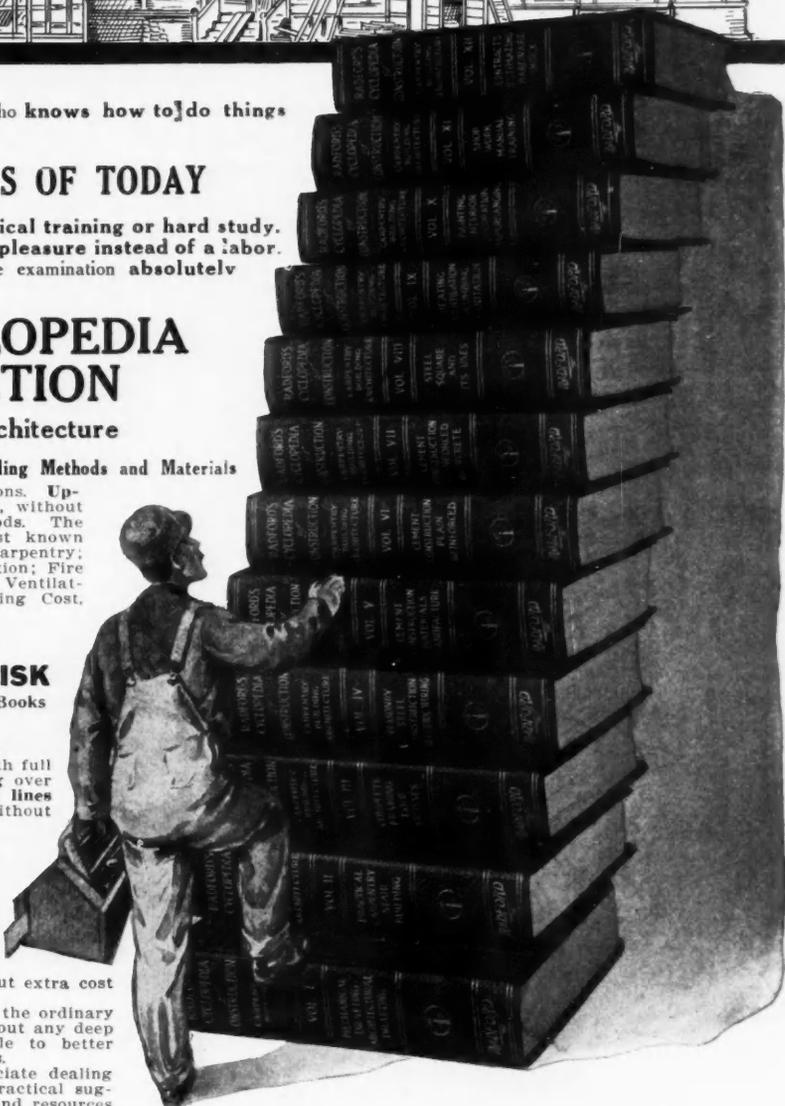
READ THE COUPON

ON NEXT PAGE

RADFORD ARCHITECTURAL COMPANY, Entire 11th Floor, Medinah Bldg., Chicago, Ill.

SIGN AND MAIL COUPON TO-DAY

When Writing Advertisers Please Mention the American Carpenter and Builder.



He Waited Too Long



"If I only had this set of books twenty or thirty years ago, they might have changed my whole life. The knowledge in the big CYCLOPEDIA would have enabled me to increase my earning power, to take on big work, paying big money, and possibly have helped me to make a fortune in the building business."

Hundreds of letters like the above have come to us, breathing between the lines the same pathetic story of regret—showing how hard it is for the untrained man to really get ahead in life. **The opportunity is yours NOW**, and the way is easy. **Don't wait too long. Don't wait at all.** Read the terms of our **NO-RISK, Guarantee Offer** over again, and **sign and mail coupon today.** You risk absolutely nothing, and you will reap the benefit ever afterward.

VERY BRIEF LIST OF CONTENTS

To realize their tremendous scope, you must see the books—you can get the books for five days' examination without cost to you.

A.C.B.
2-13.

**Radford
Architectural
Company**

11th Floor Medinah
Building, Chicago

Please send me, express prepaid, your 12-volume Cyclopaedia of Construction, for five days' free examination, with privilege of return at your expense. I enclose \$1.00 deposit, which you agree to return if I decide not to keep the books after examination. If I keep the books, I will pay \$2.00 a month until the special price, \$23.80 is paid, otherwise I will notify you within five days after receipt of books.

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

Name.....

Town..... State.....

Street.....

Carpentry.
House Framing
Uses of Steel Square
Rafters Cuts
Strength of Timber
Roof Trusses
Stair Building
Drafting and Design
Working Drawings
How to Read Plans
Blue-Printing
Architectural Forms
Architectural Lettering
Construction Contracts
Forms of Contract
Architect and Owner

Specification Writing
Inspection of Work
Cost Estimating
How to Bid with Safety
Timekeeping, Superintendence
Cement Construction
Origin of Portland Cement
Advantages of Concrete
Common and Hydraulic Lime
Cements (Portland, Natural, etc.)
Proportions for Mixing
Aggregates (Sand Gravel, Crushed Stone, etc.)
Mixing by Hand and Machine
Depositing Concrete
Concrete Troubles
Waterproofing Concrete
Concrete Blocks and Brick
Cement Mortar
Stucco and Plaster
Concreting Machinery and Tools
Concrete Mixers

Block Machines
Number of Blocks Required
Brick and Tile Machines
Forms (Wood, Metal)
Cement Houses
Foundations
Floors and Walls
Roofs and Chimneys
Fireproof Construction
Concrete Sidewalks
Ornamental Use of Concrete
Surface Finishes
Art Tile and Mosaics
Terrazzo Floors
Concrete on the Farm
Fence-Posts and Gate-Posts
Sewer and Drain Pipe
Concrete Silos
Reinforced Concrete
Principles of Design
Reinforcing Materials and Systems
Industrial Buildings
Concrete Piles
Sewer and Tunnel Work
Bridges and Viaducts
Culverts, Reservoirs

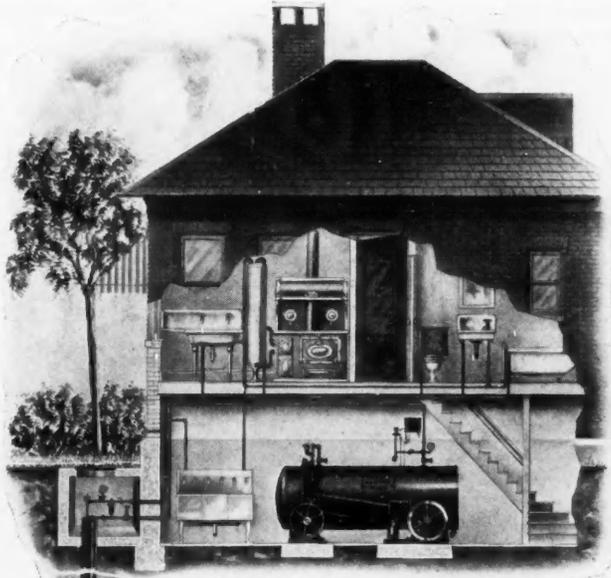
Estimating Concrete Work
Standard Specifications
Masonry Construction
Building Stone
Brick and Brickwork
Mortar for Masonry
Bonds and Joints
Steel Construction
Steel Shapes
Use of Handbook Tables
Allowable Stresses
Rivets, Tie-Rods
Columns, Beams and Girders
Floor and Roof Arches
Roof Trusses and Coverings
Mill Building Construction
Steel Bridges
Heating, Ventilation
Furnaces and Pipes
Plumbing
Sewers and Drains
Electric Wiring
Painting
Paperhanging
Furniture Making
Useful Tables, Rules, etc.

PIN A DOLLAR BILL TO THIS COUPON AND MAIL IT AT OUR RISK TODAY

**12 Big Volumes—Free Premiums—No Risk
SENT FOR ONLY \$1.00**

RADFORD ARCHITECTURAL CO.
Entire 11th Floor, Medinah Bldg., CHICAGO, ILL.

When Writing Advertisers Please Mention the American Carpenter and Builder.



The Perry Water System

Will pull business your way—Help you to close complete building contracts—Satisfy your customers and increase your profits.

The Only System That Stores No Water

and offers all the advantages of a city supply, with added convenience and comforts of rain water service for bath and laundry.

The Perry Water System

is now sold direct through local dealers. Write today for our exclusive agency proposition. Keep up-to-date.

The Perry Principle of getting water "Fresh from the Well," the idea of having both well and cistern water piped through the house without the use of two water storage tanks and a lot of other equipment, the fact that the engine or motor can be located wherever desired, regardless of the distance to, or depth of the well, the simplicity of installation and operation, and the feature of the entire system being frost-proof, have appealed so strongly to farmers and owners of country homes, that a big demand for Perry Water Systems has been created.

We also manufacture Air Compressors, Automatic Controllers for electric motors, Automatic Circuit Breakers for gas and gasoline engines, Automatic Belt Shifters, Reducing Valves and Special Air Valves.

United Pump & Power Co.

495 Old Colony Building

CHICAGO, ILL.

"Last a Lifetime and Give Satisfaction To the End"



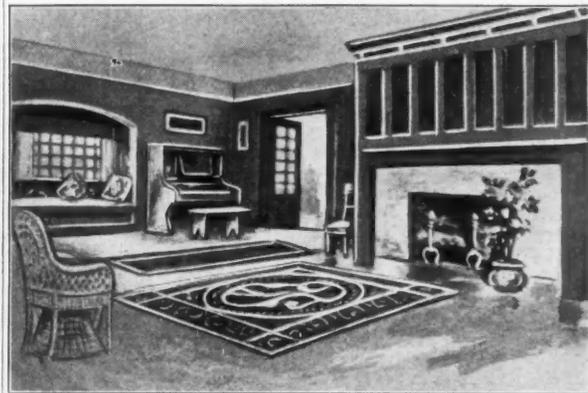
BUTT CHISEL

The celebrated Barton Planes and Edge Tools for carpenters and all other woodworkers are unequalled by any other made for keen, hard, smooth cutting edges. If your hardware dealer does not handle

THE CELEBRATED BARTON TOOLS

Send direct for catalogue and our free story book, True Stories. Be sure to specify "CARPENTER'S CATALOGUE."

MACK & COMPANY, 20 BROWN'S PLACE, ROCHESTER, N. Y.



BEAUTIFUL WOOD FINISHES

Lowe Brothers
Non-fading
OIL STAIN

makes very beautiful wood finishes that are absolutely fadeless—giving a permanent beauty that cannot be obtained with ordinary dyes. Send for color cards.



Over the Non-Fading Oil Stain, use our

INSIDE RUBBING VARNISH

where the finest rubbed flat surface is desired. It flows freely without brush-marks, dries dust-free in four to five hours, and rubs nicely in forty-eight hours to a beautiful finish.

Write for free books and sample cards of "High Standard" products.

THE LOWE BROTHERS COMPANY

457 E. Third Street, Dayton, Ohio
Boston New York Chicago Kansas City
Lowe Brothers Limited, Toronto, Canada

Don't Ask the Dealer for Sash Cord. Ask for

"SILVER LAKE"

and see that he gives it to you. It is impossible to



substitute as our name is stamped on every foot of cord. Silver Lake Sash Cord is the Original Solid Braided Cotton Sash Cord, and has been the standard since 1868. No other is just as good.

THE FOLDING DRAW KNIFE

It's the Draw Knife that's the seller
Right up to the Draw Knife law;
It's the workman's prize and treasure,
And the Draw Knife that will draw.



If your hardware dealer does not keep it, we will send it to your address postage paid. : :

A. J. WILKINSON & CO., 180 to 188 Washington St., BOSTON, MASS.

When Writing Advertisers Please Mention the American Carpenter and Builder.

"Opportunities"

Have you anything to Sell, Barter or Exchange,
Want Help, Agents, or a Situation? Use our

Classified Department

RATES 5 CENTS A WORD. CASH WITH ORDER

No Display Type Allowed in Classified Advertisements

Patents

O. L. PARKER, PATENT ATTORNEY. Formerly member Examining Corps, U. S. Patent Office. 920 G. St., Washington. D. C. Pamphlet of instructions sent upon request.

PERFECT PATENTS obtained for \$25. No misleading offers, but conscientious work. Booklet free. HARRY PATTON, 355 McGill Bldg., Washington, D. C.

PATENTS THAT PROTECT AND PAY—Books free. Highest references; best results. Send sketch or model for free search. Watson E. Coleman, Patent Lawyer, 622 F St., Washington, D. C.

Instruction

DRAFTSMEN'S, BUILDERS' AND FOREMEN'S COURSES—Day, evenings or by mail. MAACK'S ACADEMY OF ARCHITECTURE, 1742 Chouteau Ave., St. Louis, Mo.

For Sale

FOR SALE—Planing and Custom Mill and Real Estate. W. L. MORSE, Mancos, Colo.

FOR SALE—Cement Block Machine, sill and cap mold chimney and pier molds, cap and base mold. H. E. RANTZ, Hope, Kans.

Miscellaneous

CEMENT FINISHING TOOLS, eighteen nickel plate, highest grade made, worth \$14.00; closing out price \$3.00. Catalogue. ERNEST BENNINGHOFEN, Hamilton, Ohio.

SHEET METAL STAMPINGS, Dies, Tools, Experimental and Model Work. Send for catalogue of model supplies. THE PIERCE MODEL WORKS, 3405 Pierce Ave., Chicago, Ill.

FREE—\$1.00 Self-Setting Plane Certificate and Pencil Free. See advertisement on page 14. Self-Setting Planes on trial. GAGE TOOL CO., Vineland, N. J.

ANGLE TRISECTION—Mathematical Achievement—The "Famous Problem" solved. Send \$1.00 and get both methods of trisecting angles, mathematically. Reward of \$20.00 will be paid person successfully asserting methods defective. \$100.00 paid for accurate method of "angle trisection," previously. Angle Trisection, mathematically. Write C. W. TALBOT, Hanford, California.

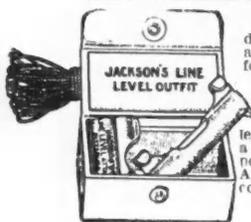
BEST FOR ALL WALLS

TAPESTROLEA

BURLAPS AND CANVASES

Recommended by Architects, Builders, Decorators, Owners.
Illustrated Booklet and Samples on Application.

RICHTER MFG. CO. TENAPLY, N. J.



A UNIQUE TIME SAVER.

The Jackson Aluminum Line Level is a mighty small device that brings about a tremendous saving of both time and labor. It takes the place of the old-fashioned sixteen foot straight edge, yet it can be carried in your vest pocket.

No contractor, builder, carpenter, mason, bricklayer, architect or plasterer, etc. can afford to be without one. Just stretch your line and hang the level on it—It's positively accurate. The complete outfit is put up in a neat leatherette case and consists of the level with a 40-ft. line also a spring clamp for attaching the level to a steel square or pocket rule, thereby serving as a plumb rule or bench level. Ask your hardware dealer or send \$1.00 for the Level outfit complete post paid. Send for our Catalogue of Tools.

JOS. WOODWELL CO., Sole Agents
201-203 Wood St., Pittsburgh, Pa.



THE COLUMBIA

DUMB WAITERS ELEVATORS
CELLAR HOISTS
JUMPER DISAPPEARING DUMB WAITERS
CHAIN HOISTS, CRANES and TROLLEYS
SEND FOR CATALOGUE.

J. G. SPIEDEL, Reading, Pa.

Do Away with
SASH WEIGHTS CORD, PULLEYS, POCKETS, ETC.

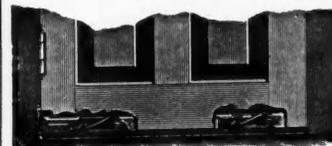
By Using

Automatic Sash Holders

Positive, Durable, Economical, Successful

Write for circular and prices.

AUTOMATIC SASH HOLDER MFG. CO., 52 Church St., New York



VERY BEST

for efficiency and permanency. The Introstile Door Bottom Seals The Cracks. Needed in every building. Representative wanted in every town. Make \$5.00 per day quick money at home. Write

The Introstile & Novelty Co., Marietta, Ohio

THE ZIMMERMAN IRON BASE

is the ONLY BASE having a CENTER BEARING.

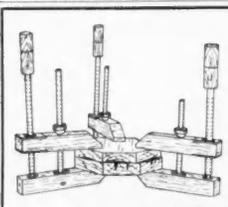
It carries the required weight without allowing the corner supports to sink into the floor and prevents the base of column and floor from rotting.

See "SWEET'S" page 876.

S. CHENEY & SON, MANLIUS, N. Y.



Bottom View Showing Center Bearing



UNIVERSAL CLAMPS

The Illustration shows the superiority of the Ducharme Patent Universal Clamps over the old clamps, as it enables you to set your clamp on the bench while the work being glued is setting. It also has an advantage of using the Clamp in any position where the handles of the old one would not permit you to use, and in this way makes an indispensable device for bench work. For further particulars, please write for Circular C. M. and Price List. Manufactured by

THE DUCHARME MACHINE CO.
389 Riverside Ave., Medford, Mass.



TEN DAYS' FREE TRIAL

allowed on every bicycle we sell. We Ship on approval and trial to anyone in the U. S. and prepay the freight. If you are not satisfied with the bicycle after using it ten days, ship it back and don't pay a cent.

FACTORY PRICE Do not buy a bicycle or a pair of tires from anyone at any price until you receive our best Art Catalog of high grade bicycles and sundries and learn our unheard-of prices and marvelous new special offers.

ONLY COSTS a cent to write a postal and everything will be sent you FREE by return mail. You will get much valuable information. Do Not Wait; write it NOW! TIRES, Coaster-Brake, rear wheels, lamps, parts, and sundries of all kinds at half usual prices.

MEAD CYCLE CO.

Dept. M-122

CHICAGO

When Writing Advertisers Please Mention the American Carpenter and Builder.



The Willis Self-Installing Skylights

From Our Factory Direct to You

and you don't need a soldering outfit to erect them. All Willis Skylights are constructed so they can be erected by any handy man with a hammer and screw driver. Guaranteed absolutely watertight without the use of putty. The ridge and gutter bars cannot sag, buckle or spread.

WILLIS MFG. CO., Galesburg, Ill.

Send for Catalogue No. 6, showing a full line of Sheet Metal Work.

SLATE WE HAVE WHAT YOU WANT

*In Roofing Slate, Slate Blackboards
Structural and Plumbers' Slate*

SATISFACTION GUARANTEED IN QUALITY AND PRICE

ASK FOR DELIVERED PRICES

J. K. HOWER, Station, C., Slatington, Pa.

R. J. KICHLINE, Sales Agent

20 Reasons Why You Should Investigate the SANDOW Kerosene Stationary ENGINE



It runs on kerosene (coal oil), gasoline, alcohol or distillate without change of equipment—starts without cranking—runs in either direction—throttle governed—hopper cooled—speed controlled while running—no cams—no valves—no gears—no sprockets—only three moving parts—portable—light weight—greater power—starts easily at 40 degrees below zero—complete, ready to run—children operate them—5-year ironclad guarantee—15 day money-back trial. Sizes 2 to 20 horsepower.

Send a postal today for free catalog, which shows how Sandow will be useful to you. Our special advertising proposition saves you one-half cost of first engine sold in your county. (164)

Detroit Motor Car Supply Co.
196 Canton Ave. - Detroit, Mich.

Protect Your Valuable Tools

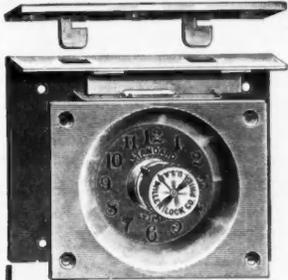
by using

a "STANDARD TIME" Keyless Chest Lock. Operated by knob in 3 seconds. Can be opened in the dark. Locks automatically as lid is closed.

Absolute Security

One cost only. No keys to lose. Fully guaranteed. Sent prepaid on receipt of Express or postal money order. Price \$2.50 each.

State thickness of wood when ordering.



No. 3380 all Brass
Size 4x3 inches

Miller Lock Co. Frankford, Philadelphia, U. S. A.

GUARANTEED MIXED PAINT \$1.15 A GALLON



Direct from the Manufacturer
A Wonderful Paint Offer

If any of your buildings need painting, write at once for our free paint sample offer. We sell the best ready mixed paint in the world at lowest prices ever heard of—55c a gallon for the best Barn Paint, \$1.15 a gallon for the finest House Paint in quantities. We pay the freight charges.

Guaranteed for Ten Years

We furnish full directions how to do any job, and just now we are making a surprisingly liberal offer. Write at once and get this great paint offer, free shade samples, strong testimonials and valuable paint information. Just say "Send me your latest paint offer." Address
Crosby-Frank & Co., 298 Peoria Street, Chicago, Ill.



WOULD YOU

Show this wholly visible typewriter to your friends and let them see wherein it excels any \$100 Typewriter made, if we would send one to you Free of One Cent of Cost for you to keep forever as your own? Then on a postal card, or in a letter to us, simply say: Mail particulars.

Emerson Typewriter Co., Box 538, Woodstock, Ill.

On the Square



every builder should have my little works and be a constant reader of the "Cement World," the leading paper of its kind published.



STEEL SQUARE POCKET BOOK.....\$0.50
FOLDER (in case with pockets)......25
DESIGNING (finely illustrated)......50
CEMENT WORLD..... 1.00

All for \$1.75.

\$2.25

DWIGHT L. STODDARD, Author of "Steel Square Pocket Book," 328 W. Raymond St., Indianapolis, Ind.
Send for other Combination Offers.



Can be used as a

Music Cabinet Book Case or China Cabinet

Measurements:

Width 26 inches
Height 42 inches
Face 11 inches
Veneered Columns

Chicago Grille Works

828-838 Wells Street
CHICAGO :: ILLS.
Special Prices to the Trade.

SHULTZ WINDOW BARS FOR STORE FRONTS

PATENTED

SHULTZ ALL-STEEL BURGLAR PROOF COAL CHUTES

PATENTED

The Newest, Strongest and most Convenient Coal Chute made. Prices also Lowest. No modern residence complete without it. Locks itself when closed up. Can only be opened from inside. Architects, Contractors and Owners are invited to write for descriptive circular.

C. H. SHULTZ, Manufacturer, St. Joseph, Mo., U. S. A.

When Writing Advertisers Please Mention the American Carpenter and Builder.

Slate such as produced by the Genuine Bangor Slate Co., furnish the *only* roof that once put on will last for centuries without repair or attention. Can you ask more of a roof? Or say more?

Our Warranty protects you from inferior and unreliable imitations and substitutions. Ask your roofer to show it to you.

Do you want a roof that has to be "preserved" every few years with paint or coating, to keep it from rotting, when you can get a Genuine Bangor Slate roof that needs no paint or repairs?

A Genuine Bangor Slate Avoids All Roof Troubles:

It won't wear away.
 It won't rust.
 It won't decay.
 It won't crack.
 It won't chip.
 It won't tear.
 It won't warp.
 It won't disintegrate.
 It won't crumble away.
 It won't melt like tar or asphalt roofs.
 It won't burn.
 It won't be affected by acids, gases, or other substances.
 It won't be affected by any climatic changes or conditions.
 It won't require any solder that may melt, or seams that may get out of order.
 It won't rattle like a tin roof.
 It won't need any repairs.
 It won't need any paint to preserve it.
 It won't need any paint to make it look neat, clean, and attractive.
 It won't lose its rich architectural appearance, no matter how long on the building.
 It won't absorb moisture or anything else.
 It won't retain snow or similar loads.
 It won't contract or expand from heat or cold.
 It won't increase the load on your beams by becoming water-soaked.
 It won't shrink.
 It won't retain dampness.
 It won't rot your roof timbers.
 It won't blow off by high winds.
 It won't permit the growth of moss or other decaying matter.
 It won't allow paint or other impurities to get into your cistern water.
 It won't attract electricity like metallic roofs.
 It won't need any excessively strong, hence expensive roof frame, like tile.
 It won't cost as much as any other roofing.

"The economy of a Genuine Bangor Slate Roof is evidenced in the strongest light when a building is torn down. In such a case the slate on it can be used again, being just as good as new. But in buildings with any other roofing the latter is then either absolutely worthless or very much second-hand."

H. J. STEELE, Pres.

J. B. McCORMICK, Treas.

E. R. ARMSTRONG, Secy. and Gen. Mgr

Genuine Bangor Slate Co.

Makers of Slate Products

The Roof That Outlives the Building Without Paint or Repairs

Easton, Pa.,

Dear Mr. Carpenter:

The secret of the carpenter's success lies in the number of satisfied customers, whose recommendation makes the reputation.

Also in their willingness to pay him fair (that is profitable) prices for his workmanship and material.

In both points you will find it to your advantage to consider Genuine Bangor Slate Roofs for your houses.

Look at the panel at the left. Point out to your prospective customers all the roof troubles and expense you will save them by giving them a Genuine Bangor Slate Roof on their house.

You'll have no trouble, then, in getting the contract at a fair price.

We have a special Trade Help Department that has assisted many of our customers in this way; has helped to build up a nice business for them.

Let us prove our claims. Let us send you samples of the business-getting pamphlets we are prepared to furnish you without cost--all bearing your firm imprint on the front cover.

If you write us now, it won't slip your busy mind.

Yours, for mutual benefit,

Genuine Bangor Slate Co.



Trade Help Dept.

P. S. Now is the time to prepare for the opening of the building season.

When Writing Advertisers Please Mention the American Carpenter and Builder.

INDEX TO ADVERTISEMENTS, FEBRUARY, 1913

	Page		Page		Page
Allen Mfg. Co.	124	Gibbons, M. J.	133	Northrop, Coburn & Dodge Co.	139
American Bell & Foundry Co.	150	Gilbert & Bennett Mfg. Co.	92	Northwestern Compo-Board Co.	139
American Floor Surfacing Machine Co.	6	Goodell Mfg. Co.	20	Northwestern Expanded Metal Co.	127
American Patent Sales Co.	17	Goodell Pratt Co.	22	Novo Engine Co.	141
American Pulley Co.	22	Good Housekeeping Magazine.	106	Oak Flooring Bureau	152
American Saw Mill Machinery Co.	116	Gordon VanTine Co.	172	Original Gas Engine Co.	143
American School of Correspondence.	145-161	Grand Rapids Hardware Co.	151	Oshkosh Mfg. Co.	3-4
American Sheet & Tin Plate Co.	126	Grand Rapids Plaster Co.	130	Parker, C. L.	166
American Veneer Co.	7	Grimm Mfg. Co.	13	Parkhill, John	143
Andrews Heating Co.	123	Hall Holmes Mfg. Co.	28	Parks Ball Bearing Machine Co.	12
Arkansas Soft Pine Mfrs. Assn.	105	Hartman Sanders Co.	162	Patton, Harry	166
Art Stone Co.	30	Haven, Walter S.	6	Pearson Mfg. Co.	149
Ashby, Geo. W.	146	Heald Machine Co.	17	Peck, Stow & Wilcox Co.	96
Atha Tool Co.	155	Helm Brick Machine Co.	119	Peck Williamson Co.	122
Atkins & Co., E. C.	2	Heppes Co.	114-131	Peerless Brick Machine Co.	28
Auld & Conger	129	Hess Warming & Ventilating Co.	33-151	Perfect Wall Bed Co.	160
Automatic Sash Holder Mfg. Co.	166	Hewitt-Lea-Funk Co.	95	Pettyjohn Co., The	26
Barnes Co., W. F. & Jno.	8	Holland Furnace Co.	125	Phoenix Sliding Blind Co.	154
Barrell Co., Wm. L.	143	Hoover Suction Sweeper Co.	12	Pierce Model Works, The	166
Beach Mfg. Co.	12	Hower, J. K.	167	Plastergon Wallboard Co.	137
Beaver Co., The	137	Huber Builders Material Co.	161	Porter Machinery Co., C. O.	12
Beckman Co., The L.	19	Hunt, Helm, Ferris & Co.	132	Pratt & Lambert Co.	103
Benninghofen, Ernest A.	166	Hupp Motor Car Co.	129	Prentiss Vise Co.	25
Berger Mfg. Co.	154	Hurley Machine Co.	5	Progressive Mfg. Co.	24
Berry Bros.	97	Huther Bros. Saw Mfg. Co.	20	Radford Architectural Co.	163-164
Bestwall Mfg. Co.	98	Hydraulic Press Brick Co.	34	Rantz, H. E.	166
Bird & Son, F. W.	137	Industrial Book Co.	148	Red Cedar Shingle Mfrs. Assn.	158
Bishop & Co., Geo. H.	24	International Correspondence Schools.	153	Rehm Hardware Co.	144
Blystone Machinery Co.	27	Introstile & Novelty Co.	166	Richards Wilcox Mfg. Co.	144
Bommer Bros.	36	Irwin Auger Bit Co.	141	Richter Mfg. Co.	166
Bovee Grinder & Furnace Co.	150	Ives Co., The H. B.	144	Rixson Co., The Oscar C.	20
Boyle Co., John	30	Jaeger Machine Co.	141	Roberts Mfg. Co.	137
Bradt Publishing Co.	149	Jahant Heating Co.	150	Robbins, H. G.	159
Brilliant Gas Lamp Co.	147	James Mfg. Co.	136	Robinson & Co., M. W.	144
Brooke Iron Co., E. & G.	149	Jennings & Co., C. E.	147	Robinson Mfg. Co.	133
Brooklyn Metal Ceiling Co.	139	Johns Manville Co., H. W.	108-134	Rockford Mitre Box Co.	18
Buck Bros.	23	Johnson, E. J.	24	Roth Bros.	162
Buck Edge Tool Co., Charles	162	Johnson & Sons, S. C.	100-101	Royal Ventilator Co.	14
Buffalo Wire Works Co.	145	Johnston Paint Co., The R. F.	147	Russell Jennings Mfg. Co.	21
Cabot, Samuel	36	Kanneberg Roofing & Ceiling Co.	32	Samson Cordage Works	17
Caldwell Mfg. Co.	25	Karol, B. B.	33	Sand & Sons, J.	135
Campbell Heating Co.	142	Keasbey & Mattison Co.	129	Sargent & Co.	156
Canton Art Metal Co.	31	Kees Mfg. Co., F. D.	154	Sasgen Bros.	14
Canton Foundry & Machine Co.	150	Keighley Metal Ceiling Co., S.	154	Schlueter, M. L.	7
Canton Metal Ceiling Co., The	31	Keplinger, G. J.	6	Schouler Cement Construction Co.	141
Carborundum Co.	138	Kewance Boiler Co.	151	Sedgwick Machine Works	14
Carey Mfg. Co., The Phillip	171	Kissel Motor Car Co.	112	Seneca Falls Mfg. Co.	8
Central Mantel Co.	33	Knickerbocker Co., The	29	Sexton, Inc.	117
C. H. & E. Mfg. Co.	9	Kolesch & Co.	19	Sheldon & Co., E. H.	25
Champion Safety Lock Co.	23	Lane Bros. Co.	23	Shultz, C. H.	167
Cheney & Son, S.	166	Lansing Co.	28	Sidney Elevator Mfg. Co.	14
Chicago Grille Works	167	LaPlant Tool Co.	131	Sidney Tool Co.	10-11
Chicago Machinery Exchange	9	Live Oak, Perry & Gulf R. R.	143	Silver Lake Co.	165
Chicago Millwork Supply Co.	121	Lorenzen & Co., Chas. F.	33	Simmons Hardware Co.	135
Chicago Spring Butt Co.	36	Lorenz Trunk Works, Wm.	157	Simonds Mfg. Co.	136
Chicago Technical College	157	Lowe Bros. Co.	165	Slatington Slate Co.	14
Chief Draftsman	93	Lufkin Rule Co.	20	Smith & Hemenway Co.	18
Church & Co., E. I.	143	Luther Grinder Mfg. Co.	140	Smith Co., The T. L.	27
Cincinnati Fly Screen Co.	7	McCray Refrigerator Co.	155	Southern Cypress Mfrs. Assn.	109
Cincinnati Tool Co.	17	Maacks Academy of Architecture	166	Southington Hardware Co.	142
Clow & Sons, Jas. B.	120	Mack & Co.	165	Spaulding Print Paper Co.	133
Coleman, Watson E.	166	Mack Iron & Wire Works	145	Speidel, J. G.	166
Combination Door Co.	102	Majestic Furnace & Foundry Co.	133	Spiegel, May Stern Co.	160
Cortright Metal Roofing Co.	128	Marsh, H. C.	36	Standard Scale & Supply Co.	27
Crescent Brass & Pin Co.	21	Mastic Wall Board Roofing Mfg. Co.	170	Stanley Rule & Level Co.	23
Crescent Machine Co.	15	Mayhew, H. H.	25	Stanley Works, The	135
Crosby, Frank & Co.	167	Mead Cycle Co.	166	Star Expansion Bolt Co.	156
Davis Acetylene Co.	150	Merchant & Evans Co.	149	Starrett & Co., L. S.	19
Deco Mfg. Co.	31	Miami Cycle & Mfg. Co.	89	Stoddard, D. L.	167
Dennis & Co., W. J.	161	Middletown Machine Co.	113	Straus & Schram	160
Detroit Engine Works	150	Miles Mfg. Co., P. B.	26	Swan Co., Jas.	159
Detroit Motor Car Supply Co.	167	Miller Lock Co.	167	Sykes Metal Lath & Roofing Co.	155
Detroit Show Case Co.	20	Millers Falls Co.	18	Talbot, C. W.	166
Didrickson, H. P.	5	Miller Mfg. Co.	157	Tannewitz Works, The	8
Disston & Sons Co., Henry	156	Miller Mfg. Co., A. W.	154	Taylor Mfg. Co., Jas. L.	161
Dixon Crucible Co., Jos.	147	Milwaukee Corrugating Co.	32	Topp & Co., G. A.	157
Double Claw Hammer Co.	159	Miotke, Jos.	6	Triple A. Machine Co.	7
Dow Wire & Iron Works	145	Moeschl-Edwards Corrugating Co.	139	Trussed Concrete Steel Co.	155
Ducharme Machine Co.	166	Monarch Mfg. Co.	6	Tuller Hotel	159
Dunn & Co., W. E.	150	Montross Metal Shingle Co.	129	United Electric Co.	152
East Bangor Consolidated Slate Co.	162	Moorman & Otten Co.	33	United Machinery Co.	17
Eastern Granite Roofing Co.	129	Morrill, Chas.	36	United Pump & Power Co.	165
Edwards Mfg. Co.	30	Morse, W. L.	166	VanDoren Mfg. Co.	158
Eggers Veneer Seating Co., F.	104	Muller Co., Franklyn R.	152	Van Guilder Hollow Wall Co.	28
Emerson Typewriter Co.	167	Mullins Co., The W. H.	32	Wausau Sand Paper Co.	99
Eureka Machine Co.	118	Murphy Varnish Co.	94	Weber Mfg. Co.	5
Fairbanks, Morse & Co.	153	Myers & Bros. F. E.	14	White Co., David	19
Fay & Egan Co., J. A.	12	National Automobile Show	158	White Co., The	16
Ford Auger Bit Co.	153	National Mfg. Co.	90-91	Wilkinson & Co., A. J.	165
Foulk, Jones & Sons	30	National Sheet Metal Roofing Co.	158	Willis Mfg. Co.	167
Fox Machine Co.	8	Nicholls Mfg. Co.	147	Winthrop Asphalt Shingle Co.	127
Fox Supply Co.	5	North Bros. Mfg. Co.	21	Wolff Mfg. Co., L.	162
Frost & Adams Co.	19	Northern Hemlock & Hardwood Mfrs. Assn.	107	Woodwell Co., Jos.	166
Gage Tool Co.	20-166	Northfield Iron Co.	26	Worcester Mfg. Co.	25
Galloway Co., Wm.	143			Yale Light Co.	133
General Roofing Mfg. Co.	115				
Genuine Bangor Slate Co.	168				

NOTICE TO ADVERTISERS

Forms for the March number of the American Carpenter and Builder will close promptly on February 20. New Copy, changes and orders for omissions of advertisements must reach our business office, 178 West Jackson Boulevard, Chicago, not later than the above date. If new copy is not received by the 20th of the month preceding date of publication the publishers reserve the right to repeat last advertisement on all unexpired contracts. AMERICAN CARPENTER & BUILDER CO.

Carpenters! Builders! This Free Book

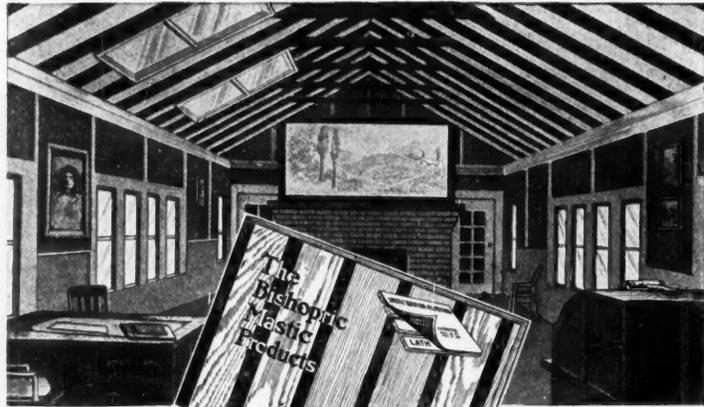
Shows How to Save Half Plastering Cost

Here's a wonderful new book that shows how to save time and a lot of money in building. If you have anything to do with the building of fine homes, bungalows, cottages, garages, schools, churches, public buildings, stores or any sort of building that requires interior finishing, this book will be valuable to you.

It tells you how the Bishopric System for walls and ceilings *cuts plastering cost in half*, and gives a more durable, more beautiful interior.

It shows you how you can *save a month's time on your building job* by using Bishopric Wall Board for walls and ceilings. You can build right through the winter, without the delay, dampness or dirt of plastering.

You can nail Bishopric Board to bare studding and have walls ready for decoration the same day. Takes any kind of decoration. Goes on dry. Edges meet evenly. Use it with or without paneling. Anyone who can drive nails can apply it. Makes an artistic job that delights the owner of building.



**FREE
BOOK**

BISHOPRIC WALL BOARD

Stays Stiff — Can't Warp

This is the *only* wall board *reinforced with lath*. Kiln-dried lath are embedded in toughened Asphalt-Mastic and surfaced with heavy sized fibre-board. It makes walls that are moisture-proof, sound-proof, rat-proof, temperature-proof and fire-resisting. Stays stiff in any climate. Lasts as long as the building.

\$5,000 Anti-Warp Bond

Bishopric Wall Board is guaranteed not to warp, shrink, buckle or pull loose in any climate, winter or summer. Our \$5,000 Anti-Warp Bond protects every purchaser.

Users Delighted

The Mastic Wall Board and Roofing Mfg. Co., Cincinnati, Ohio.

Gentlemen: I am sending another order for Bishopric Board. The other has proved all right and I am highly pleased with it. This order is for eighty sheets of the Bishopric Wall Board. Inclosed find money order for same. Please send as early as possible. (Signed) ALFRED COOMBER, Canandaigua, N. Y.

\$2.50 Per 100 Square Feet

Comes in sheets 4 feet square, ready for use. Prices: \$2.50 for 100 square feet; \$6.40 per crate of 16 sheets, 256 square feet.

Send for "Bishopric" Book and Free Sample

Get this new Bishopric Book. Free Sample of non-warping, fire-resisting Wall Board and complete architectural Blue Print Plans of Model House. Send 6c in stamps to cover cost of mailing. Don't fail to get them. Write today—now.



Free Sample

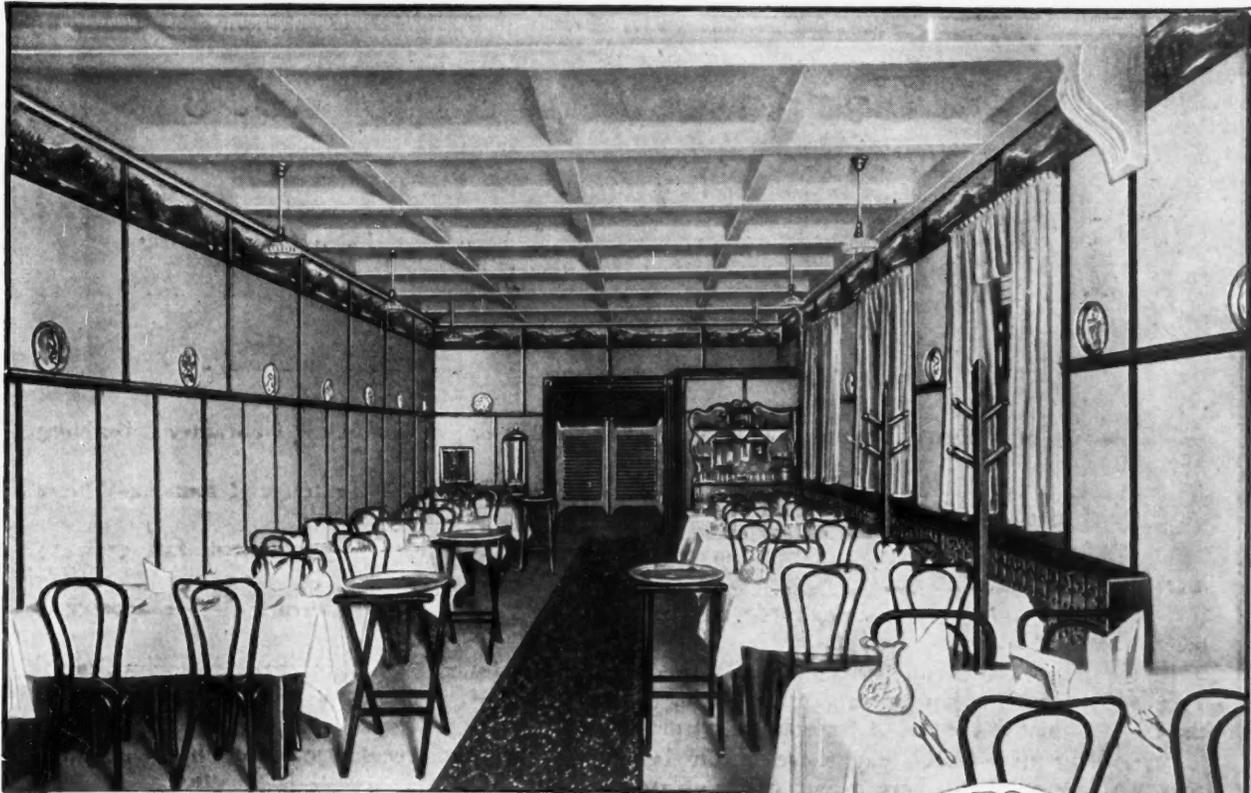


Easy
To Apply

**DEALERS: Write for Great
Exclusive Agency Proposition**

THE MASTIC WALL BOARD AND ROOFING MFG. CO.
452 Este Avenue, Cincinnati, Ohio (100)

When Writing Advertisers Please Mention the American Carpenter and Builder.



**Example is The Best Precept
where Wall Board is Concerned**

that is why we prefer to indicate what CEIL-BOARD will do by showing what it has done.



*A New England Cafe lined with
CEIL-BOARD.*

The above illustration is reproduced from a photograph of the interior of a New England cafe, the walls of which are entirely finished with Ceil-Board. Isn't it cosy and inviting? Note the substantial, solid appearance of the walls; they're just as substantial as they look—just as solid as lath and plaster and infinitely more durable, for they will never crack nor chip, are impervious to damp, inaccessible to vermin, hygienic, sanitary, sound-proof and thoroughly fire-retarding.

The triple-ply construction of Ceil-Board with

its two layers of a special flexible asphalt compound provides the reason.

Then note the artistic simplicity of the decoration—the pleasing arrangement of panelling with the dainty painted frieze. Ceil-Board is adapted to any and every form of wall decoration; it can be painted, papered or hand grained to resemble any wood, always making the utmost of the decorative scheme and always presenting a smooth and even surface. *And Ceil-Board costs no more than ordinary wall board.* Send a card for sample and prices.

THE PHILIP CAREY COMPANY

Makers
of the
Famous

ALLENTOWN, PA.
ATLANTA
BALTIMORE
BIRMINGHAM
BOSTON
BUFFALO
CHARLOTTE
CHATTANOOGA
CHICAGO
CINCINNATI,

GENERAL OFFICES,

CLEVELAND,
DALLAS
DENVER
DETROIT
HARRISBURG
HARTFORD, CONN.
HOUSTON
HAVANA
JACKSONVILLE
KANSAS CITY,

KNOXVILLE
LITTLE ROCK
LOS ANGELES
MEMPHIS
MINNEAPOLIS
MONTREAL
NASHVILLE
NEWARK, N. J.
NEW ORLEANS
NEW YORK

LOCKLAND, CINCINNATI,

OKLAHOMA CITY
PHILADELPHIA
PITTSBURG
PORTLAND
RICHMOND
ROCHESTER
SAGINAW, MICH.
SAN FRANCISCO
SCRANTON
SEATTLE

SPOKANE
ST. LOUIS
SYRACUSE
TOLEDO
TORONTO
WHEELING
WINNIPEG
WASHINGTON
YOUNGSTOWN

*Carey
Flexible Cement
Roofing*



When Writing Advertisers Please Mention the American Carpenter and Builder.

Get Gordon-Van Tine Co.'s **Special Proposition**

to Carpenters and Contractors

Upwards of 10,000 Carpenters and Contractors sell Gordon-Van Tine Guaranteed Building Material.

They have put our qualities, prices and quick shipping facilities to the test and found us "there with the goods."

They have pleased their customers, saved them money and created a permanent, fast growing market for our materials.

We want, wherever possible, to do business with the carpenter and contractor. We appreciate their trade and want more of it.

Hence we have decided to show our appreciation in a substantial way, by making them a Special Proposition which means an important saving on every bill of material and a handsome increase in the bank account at the end of the season's business.

In order that YOU may share in the benefits of this arrangement, it is absolutely essential that we have a record, here in our office, of your acceptance of the Special Proposition.

Write us without delay and by return mail we will place in your hands the full details of this Special Proposition.

How We Are Able to Give This Inducement

We made a careful study of market conditions more than a year ago. Our investigations convinced us that there was to be a general advance of prices on all staple millwork and lumber. We backed our judgment with heavy purchases of raw materials while prices were down to hardpan.

We did this to fortify ourselves and our customers against market rises. The result is that today, on a rising market, we are in a position to sell building material at much less than prevailing prices and can even afford to give our friends, the Carpenters and Contractors, a very nice price concession. A price concession which they, and no one else, can secure from the Gordon-Van Tine Company.

Out Goes Reserve Stock to Make Room for Incoming Millwork

All of our enormous purchase of raw material is being made up into millwork, which is coming though in such immense quantities as to overtax our warehouse. We must quickly market our big Reserve Stock of sash,

doors, mouldings, finish, stair and porch material, flooring, lath and shingles in order to make room for the new millwork.

We figure that this Special Proposition to Carpenters and Contractors, in addition to our low prices quoted in our regular Catalog, will clear the warehouses of the Reserve Stock in short order.

This is the greatest opportunity in America to secure thoroughly seasoned, high grade, guaranteed building material at bargain rates.

Have You Our Latest Catalog? If Not Ask for It Now

This catalog occupies a unique place in the building material trade. It is the connecting link between this great supply depot and nearly 10,000 wide-awake, aggressive and successful Carpenters and Contractors. It distributes annually vast quantities of material and turns back into the pockets of the consumer the combined profits of jobbers, wholesalers and retail dealers, to the tune of a million dollars a year.

Send the coupon or write a letter today for the Special Proposition to Carpenters and Contractors. Send for our catalog—if you haven't one—and some special suggestions on increasing your business.

SPECIAL OFFER COUPON

Gordon-Van Tine Co.,
610 Federal St., Davenport, Ia.
I am interested in your special
proposition to contractors.
Please send full details.

Name.....

Street and No.....

Town.....

State.....

Also send new Spring Edition,
1913, Millwork and Hardware
Catalog.

GORDON-VAN TINE CO.

640 Federal Street :-: DAVENPORT, IOWA