

AMERICAN CARPENTER AND BUILDER



THE WORLD'S GREATEST BUILDING PAPER

We Are Proud of Builders Like This

Fairbury, Nebr.

Editor, American Carpenter and Builder:

Enclosed please find \$4.00 to pay for the American Carpenter and Builder for myself and Walter Whittaker of Reynolds, Nebr. I am a "charter member" of the American Carpenter and Builder family, and have read with pleasure and profit every copy from the first issue, and have done all I could to induce others to take the paper. I have been reading building papers for thirty years, but have never seen anything to compare with the American Carpenter and Builder.

I am sending you a photo of a house I just finished for a farmer in Thayer County, Nebr. This is my own design. I built two houses after the same plan this year. This house has 10 rooms, besides bathroom, pantry, and halls, also has a closet for each bed room. This house has a good water supply and is lighted by acetylene gas; satisfactory heating system:



In the rural districts where the help of the Architect is almost out of the question, the carpenter is often called on to help with the design of the building as well as to execute the same. And here is where we appreciate the help we find in the American Carpenter and Builder and the Radford Books.

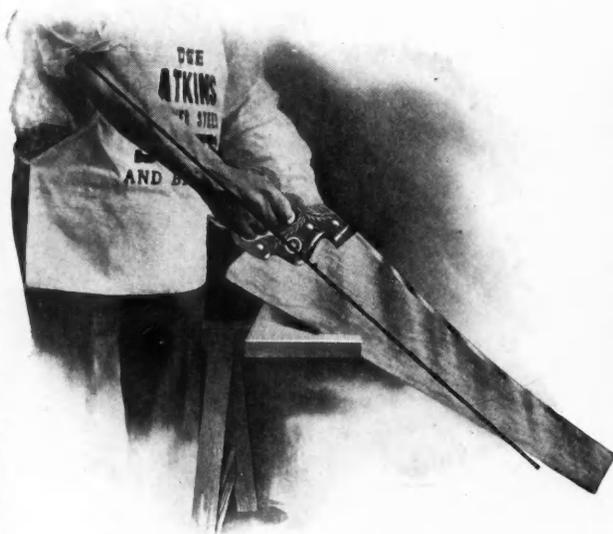
Now I desire to answer one question by W. E. Ware, in regard to how to remedy a twisted door. My remedy would be, consign it to the scrap pile and put a straight door in its place. I would also like to say to the carpenter who hangs and trims a door each hour, and the one who lays 500 to 700 shingles per hour, that they will do well to read carefully and even commit to memory what OUR FAMILY PAPER teaches about quality first of all things, especially in construction of buildings.

Wishing the worlds greatest building paper continued prosperity, I am, Sincerely yours, J. W. VAN NESS.

They Are the REAL Builders of the Nation
AND NEARLY 40,000 OF THEM NOW READ THE "AMERICAN CARPENTER AND BUILDER"

Two Famous Silver Steel Saws

We want to call particular attention to the two Saws shown in the pictures below. Both blades are of SILVER STEEL—both are Taper Ground—both are genuine ATKINS SILVER STEEL SAWS—BUT the handles are constructed on entirely different principles.



No. 53—Genuine Perfection Handle.



No. 51—Old Style Handle.

“Pay Your Money and Take Your Choice”

ATKINS NO. 53.

The picture to the left shows ATKINS NO. 53 SILVER STEEL SAW equipped with ATKINS Genuine Perfection Handle and illustrates plainly why this type of handle is easiest on the saw arm. While it may feel strange to the beginner—a few days use will demonstrate that the Perfection Handle is the most **scientifically** constructed and much easier on the saw arm than any other style.

Note the line running through the saw arm straight through the blade to the cutting edge. See how every ounce of power is directed to the point of contact. Observe the wrist and saw arm, how easy and natural the blade drops into its work without pressure.

ATKINS NO. 51.

If you are under the impression that all ATKINS SAWS are made with the Perfection Handle, we wish to particularly call your attention to the saw shown to the right. This handle is similar to the old straight-across handle that you may have been using heretofore. Note the saw arm in this case and see that the pressure back of the saw arm is **not** directed on the cutting teeth, but rather to the back of the saw. Notice this wrist and see how it is necessary to push downward in order to secure proper contact. But even with this old style handle, the No. 51 is superior to any other, because the blade is made of genuine SILVER STEEL (our own exclusive formula) and is Taper Ground, which enables it to run free and easy, even in wet lumber with but little set.

If you do not wish to try the Perfection Handle, then try the No. 51. Either of these saws or any of our other popular numbers may be purchased through your regular dealer, who should order for you from his wholesale house in case he does not carry them in stock. If he will not order for you, let us know and we will see that you are taken care of. Be sure to see that our name, E. C. ATKINS & COMPANY, and the words “SILVER STEEL” are on the blade. None other are genuine.

OUR FREE OFFER

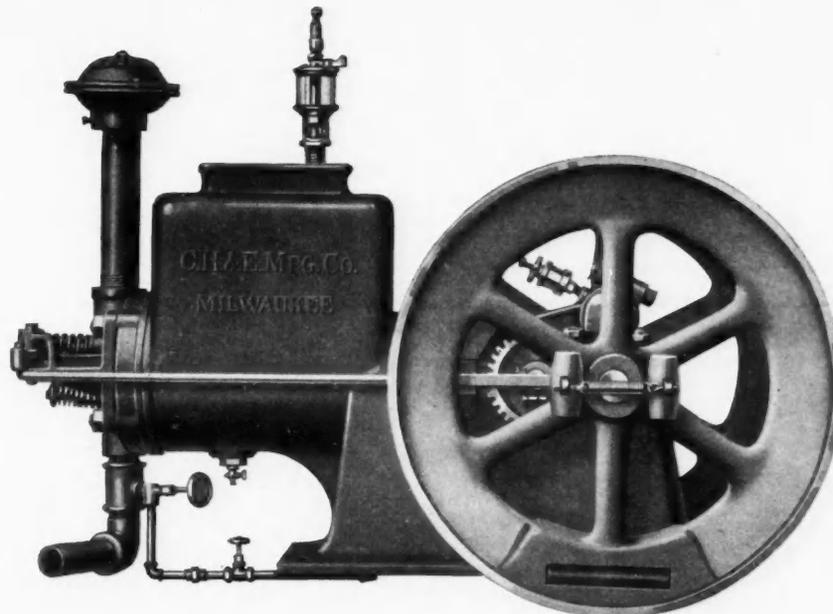
We are securing the names of high class mechanics who appreciate fine tools and if you will send us ten cents in stamps to pay postage, we will mail you one of our fine carpenter's nail aprons, Saw Sense Book, Time Book, and a great deal of useful information on the purchase and care of saws. Write to-day and learn “Who's Who” in the saw world.

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

THE REAL---

Sensation

of 1912 The very latest and newest triumph in a Combination Portable Woodworker. We are not showing you an illustration of this new **Portable Saw Rig**, because if we did, all of our imitators would immediately copy it. We are, however, showing you the 4 horse power 4-cycle water hopper cooled engine (our own manufacture) which we install in this new outfit.



The C. H. & E. No. 3 Portable Saw Rig

10" Rip Saw
10" Cross-cut Saw
Emery Wheels
Adjustable Gauges

6" Adjustable Dado Head
Moulder (8 prs. knives)
Boring Machine (3 bits)
Jig Saw (3 Blades)

4" Jointer
10" Sander
Trucks
Saw Guard

You do not want to forget that we are Pioneers in the manufacturer of Portable Saw Rigs. We make them in four sizes — 3, 4, 5 and 6 Horse Power Gasoline Engine or Motor Drive.

— Write for our attractive descriptive folder —

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

Contractors' Equipment

322 Mineral Street

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MILWAUKEE, WIS.

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.**



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.

A \$25.00 FLOOR SCRAPER

Guaranteed to do perfect work.
Simple of construction.
Easy to operate.
Leaves a smooth finish.
Shipped on 5 days free trial, freight charges prepaid.

PRICE
\$25.00

The
Fox
Floor
Scraper

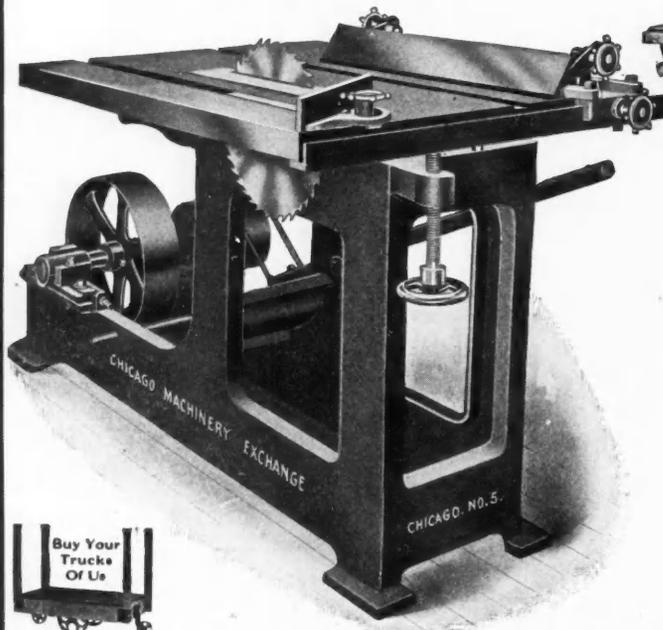


FOX SUPPLY CO.
1 East Main Street
BROOKLYN WIS.

Get Our Special Offer

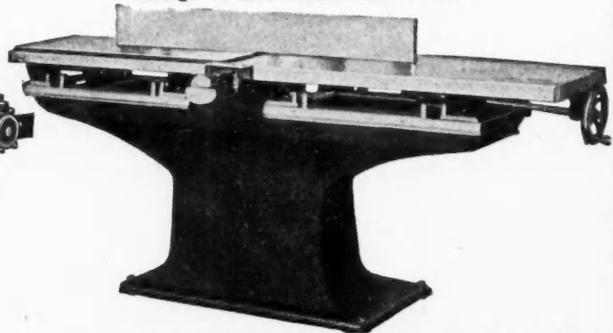
To Contractors and Builders
FOR APRIL

Chicago No. 5 Combination Saw Table



Used for Cutting Off, Riping, Mitering, Grooving, Boring, Tenoning, Etc.

Chicago 12-Inch Jointer and Planer



Used for Planing, Jointing, Shaping, Matching, Rabbeting, Grooving, Chamfering, Beading and Making Mouldings.

Read What Contractors Think of Our Machines

Charleston, Ill.

July 13th, 1911.

Chicago Machinery Exchange, Chicago.

Dear Sirs:

Your saw table which I bought of you last fall is a complete success, the best I ever saw for the money, and I worked in a good mill for ten years. You can refer anybody to me in regard to your saw table No. 5.

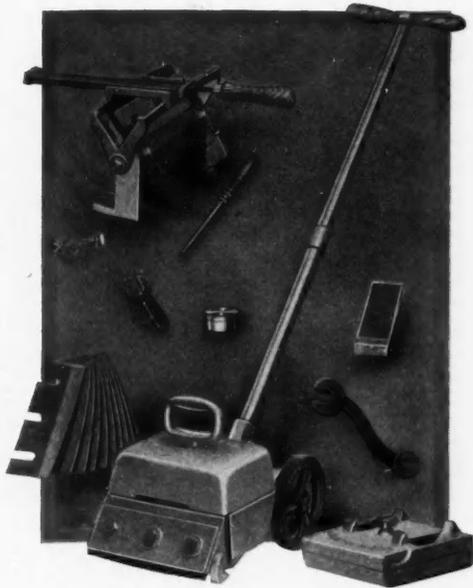
Yours, CLARENCE B. MUCHMORE

Send for our Free Special Catalogue to-day. We issue a catalogue of machines especially adapted to Contractor's and Builder's use.

CHICAGO MACHINERY EXCHANGE, 1219-1227 W. Washington Blvd., CHICAGO, ILL.

When Writing Advertisers Please Mention the American Carpenter and Builder.

EVERY SHAVING MEANS A SAVING OF 75% When the



Acme Floor Scraping Outfit

is on the job—because one man with this outfit can do the work of four men using hand scrapers and do it better.

Thousands of contractors have proven this on their own work. Are you willing to be convinced? If you are, let me send the Acme Floor Scraping Outfit to you on one week's free trial and after you have worked with it and then are not entirely satisfied, just send it back to me at my expense.

No strings to this offer whatever. Just a straight business proposition based on the principle of permitting you to try before you buy. Write me for booklet and further particulars today.

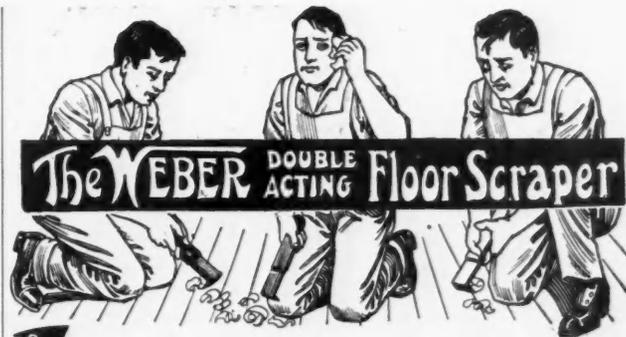


Acme Handy Mitre Gauge

is one of those little tools that is a great time saver. It fits in the pocket where it is always ready for immediate use. The dollar that you pay for this mitre gauge is the best investment that you ever made. If your dealer can't supply you, I can. Guaranteed absolutely accurate.

I have a circular that gives full particulars. Write for it today.

JOSEPH MIOTKE
247 Lake Street : : Milwaukee, Wis.



Saves 3 Men's Wages

Scrapes twelve "squares" a day where one man will scrape but three. Gives you four times the work at the same wages—or saves just three men's wages on every job.

It does far better work, too, than can ever be done by hand. Scrapes forward or backward any way of grain. Very easy to handle. Has all latest improvements, including an A-1 Sharpening Device.

Try It Free

Send for it now. If its work is not satisfactory after five days trial, return it at our expense.

John F. Weber
Pres.
Weber Mfg. Co.
670 71st Ave.
WEST ALLIS,
WIS.



DON'T BUY A FLOOR SCRAPER of any kind until you have tested the LITTLE GIANT

at our expense. Sold only on its merits. Shipped to you prepaid for a free trial. If not satisfactory in every particular, return it to us, at our expense.

Easy to operate. Will scrape your floors rapidly, perfectly and economically.

Ask for special price on the **LITTLE GIANT**



The Thor Electric Home Laundry Machine

permanently solves the laundry problem in the home. More than 34,000 now in use. Sizes, designs and prices to meet every requirement. Free trial. Easy payments.

Write for full particulars.

Hurley Machine Company
1008 Flatiron Building NEW YORK
37 So. Clinton St. CHICAGO

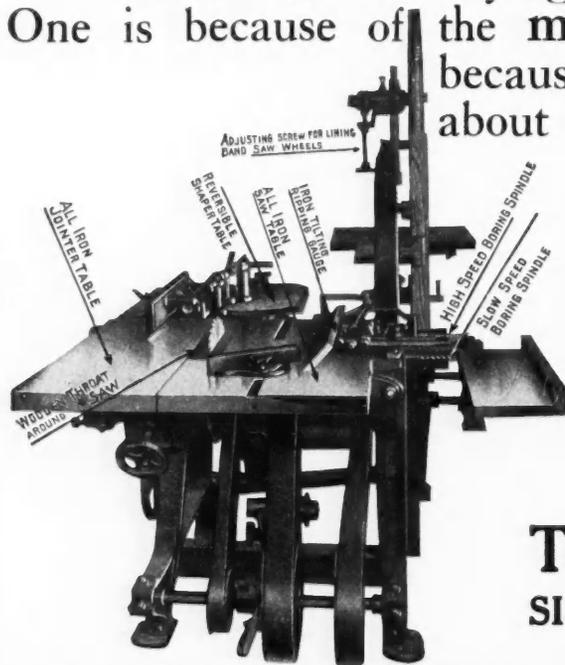
1200 FAMOUS

in use today at
The Original and Reliable -

Twelve hundred carpenters, contractors and builders have adopted the FAMOUS way of getting out millwork—they have stopped paying out money to local planing mills, or installing a number of machines—and let the FAMOUS Universal Woodworker do the work.

Twelve hundred in use—and never one “kick”. Can you wish for better proof of FAMOUS efficiency and superiority?

You are safe in buying a FAMOUS for two reasons! One is because of the machine itself—the other is because of what actual users say about it.



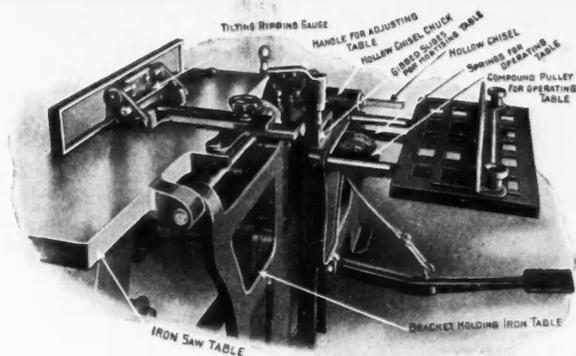
The FAMOUS is the largest in sales, largest in experience, and largest in demand.

Don't forget that “imitation” woodworkers are experiments—which the buyers pay for.

The Sidney Tool Co.
SIDNEY - - - OHIO

Universal Woodworkers

and giving satisfaction
- avoid imitations



When you buy a FAMOUS Universal Woodworker you have a complete planing mill for one investment. You can do practically all your own millwork because the FAMOUS does sixteen different kinds of work.

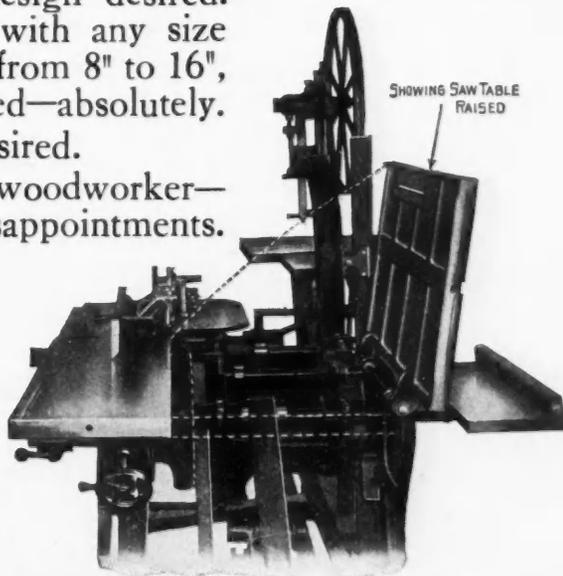
It is compact, easily operated and guaranteed for life. Four men can operate four different attachments

at one time. It is of all-metal construction, with iron saw-table and ripping gauge, and is practically indestructible.

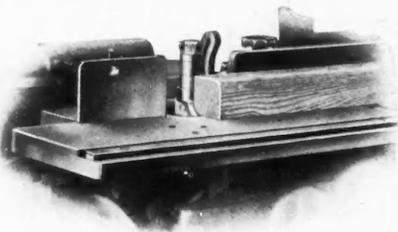
The FAMOUS is furnished in different styles and sizes, and we are prepared to furnish any particular design desired. For instance, we can supply them with any size band-saws from 20" to 36", or jointers from 8" to 16", etc. Your every requirement is satisfied—absolutely.

Stationary or Portable types as desired.

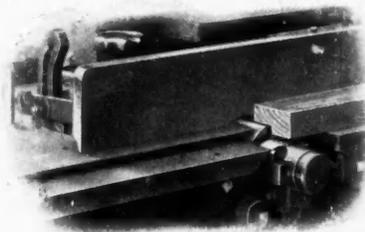
For your business's sake buy a woodworker—and buy a FAMOUS to avoid disappointments. Investigate the matter closely—send for FAMOUS literature and get evidence from FAMOUS users. Mail us a postcard today for complete information—and don't wait any longer!



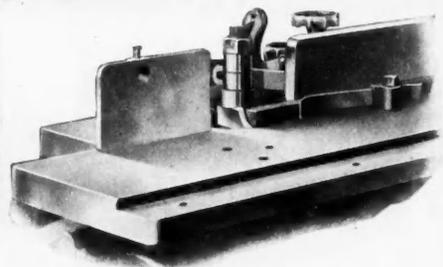
The Sidney Tool Co.
SIDNEY . . . OHIO



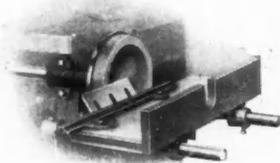
Poles and shafts can easily be rounded on the shaper spindle. This feature will appeal to the wagon and carriage builder. All you need to do this work is the special knives.



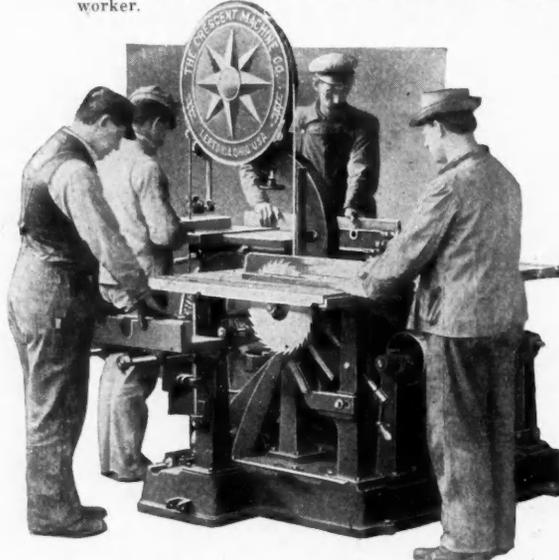
This shows how to do rabbeting on the jointer. You can't do it on every jointer but you can on a CRESCENT. The operation is fully explained in the special circular of the No. 51 Universal wood worker.



It is a very easy matter to work quarter round or moulding on the shaper spindle. The pressure spring holds the work securely up against the fence.



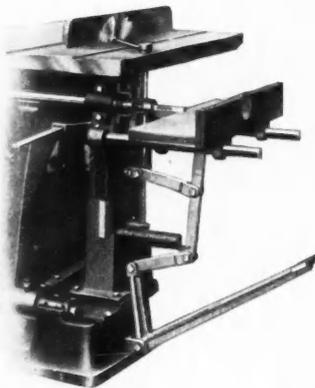
A knife grinder can be furnished as an extra and is very convenient for grinding planer knives.



Four men can work on the No. 51 CRESCENT Universal wood worker without interfering with each other. Each machine may be started and stopped independent of any other and each workman controls his own work.



This is a good view of the disk grinder. The disk is 14 inches in diameter. Table can be raised and lowered to suit the work being done.



This attachment converts the borer into a hollow chisel mortiser, suitable for cutting mortises up to 5/8 inch square.

The No. 51 Crescent Universal Wood Worker

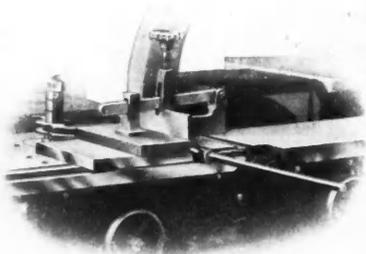
will increase your profits. It will cut down your cost, save delays and enable you to do more work and better work this season than you have ever done before. If you could just see this machine in operation and see how easily it does its work, if we could just get you to understand how convenient the machine is and how well adapted it is for just the kind of work you have to do, we would not have to ask you a second time to place your order. You would buy the machine without urging.

Ask today for our special catalog No. 51. It tells all about this splendid tool. At the same time we will send our 1912 catalog of band saws, saw tables, jointers, shapers, planers, disk grinders, swing saws, planers and matchers, variety wood workers and borers.

THE CRESCENT MACHINE CO., No. 224 Main St. Leetonia, O., U.S.A.



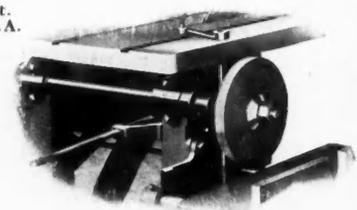
See how the jointer and shaper can be used to straighten one side and one edge of a piece at the same time. Pressure spring holds the work in place. This is a regular feature of the No. 51 CRESCENT Universal Wood Worker.



A tenoner attachment can be furnished at very low price and will soon pay for itself on many kinds of work.

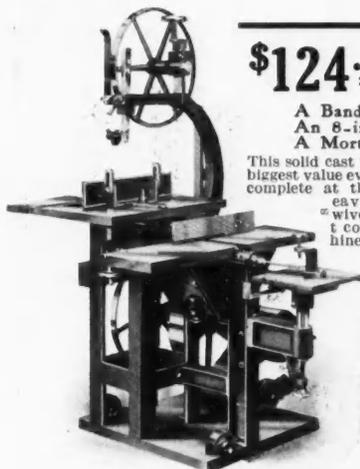


A panel raising attachment can be supplied at a slight additional charge. This is a desirable feature for many classes of work.



An emery wheel may be attached to the borer spindle and is very convenient for grinding tools.

When Writing Advertisers Please Mention the American Carpenter and Builder.



\$124.80 BUYS FOUR MACHINES

A Band Saw A Saw Bench
An 8-inch Jointer and Planer
A Mortiser and Borer

This solid cast iron Universal Woodworker is the biggest value ever offered. We furnish the machine complete at this price including tools, belting, heavy base with wheels, one of which swivels so that a man can move it easily. It consists of four of the principal machines used in a mill, all set up ready for instant use. Why buy a wooden or angle frame machine that must be set up each time you want to use it. Here is a guaranteed superior machine for one-third to one-half the price others ask. It is better value in every way. We guarantee it absolutely and will refund your money if you are not perfectly satisfied.

WRITE TODAY
THE TANNEWITZ WORKS
315 N. Front Street, Grand Rapids, Mich.



Belt Drive

Nine Modern Woodworking Machines in one. Think of it!

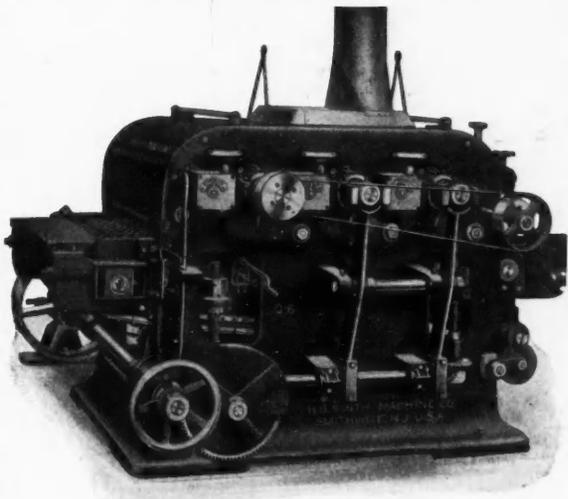
The GRIMM

will complete all your woodworking operations.

Built with belt drive or electric motor; also with gasoline engine for portable use.

Send for Catalogue.
Grimm Manufacturing Company
46 Erie Street
BUFFALO, - N. Y.

SMITH OF SMITHVILLE LEVEL
Woodworking Machinery



For Triple Drum Sander.

ADDRESS

H. B. Smith Machine Co.
SMITHVILLE, N. J., U. S. A.

New York Chicago Atlanta San Francisco

"Diamond" Mortiser

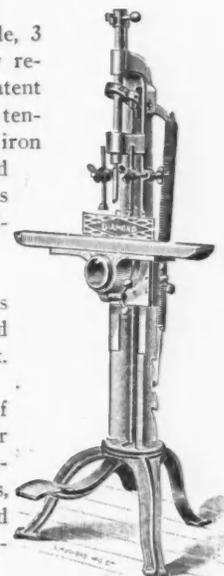
For Foot Power

Will mortise 1/8 to 1 inch wide, 3 inches deep or 6 inches deep by reversing the work and with our patent adjustable tenoning tool will cut tenons 1/8 to 1 inch wide. Has rigid iron column, powerful foot motion and accurate action. The table has horizontal, vertical and angle adjustments.

It takes up but little space, is light and can be easily moved about to accommodate your work.

We make a complete line of Foot, Hand and Light Power Wood Working Machinery suitable for Carpenters, Builders, Cabinet Workers, and other Wood Workers. It will pay you to investigate their merits.

Send for catalog "A."



The Seneca Falls Mfg. Co.

218 Water St., Seneca Falls, N. Y., U. S. A.

(299)

NOTE—Our Special brand Clamps, have notches on the bottom of the bar, instead of on the top.

Per pair, 1 foot	.....	\$2 70
" 1 1/2 feet	.....	2 85
" 2 "	.....	3 00
" 2 1/2 "	.....	3 75
" 3 "	.....	4 00
" 4 "	.....	4 50
" 5 "	.....	5 00
" 6 " heavy	.....	7 50
" 6 "	.....	8 50
" 7 "	.....	9 50
" 8 "	.....	11 00
" 9 "	.....	12 50
" 10 "	.....	14 00

These clamps have steel bars and screws and malleable iron parts.

The New Adjustable and Perfection Clamps are made in the following lengths and sizes:

2 1/2, 3, 4 and 5 foot have 1 1/2 x 1/2 inch bars.

5, 6, 7, 8, 9 and 10 foot have 1 1/2 x 1/2 "

Joiners' Clamps—1, 1 1/2, and 2 foot have hand-wheels for rapid work, 1 1/2 x 3-16 inch bars.

In ordering parts always make sketch, to avoid delay.

Write for Circular Dept. H.

Hargrave's New Adjustable SPECIAL Clamp.



Hargrave's Perfection SPECIAL Clamp.



Hargrave's Joiners' SPECIAL Clamp.

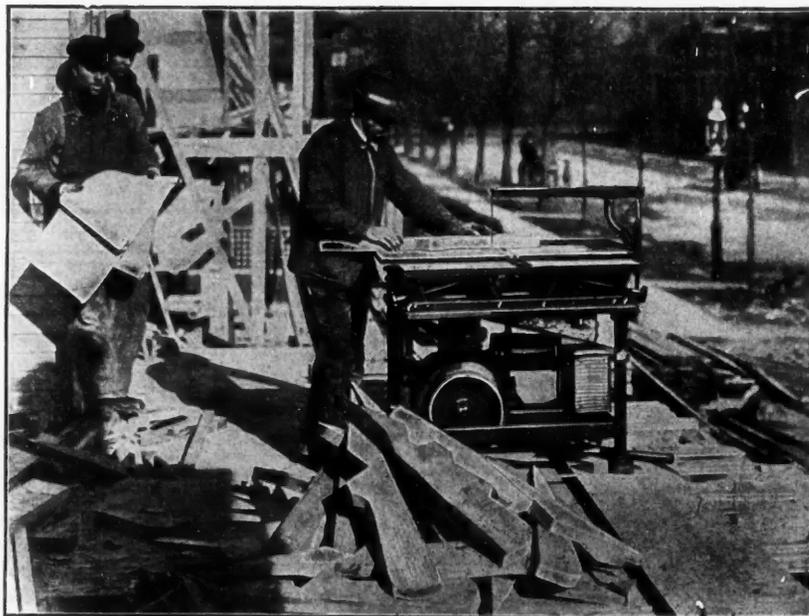


THE CINCINNATI TOOL CO.,

CINCINNATI, O., U. S. A.

When Writing Advertisers Please Mention the American Carpenter and Builder.

ON THE JOB



Cutting 2" Tail Rafters with the Jig Saw

Two minutes ago this machine was cutting bridging.
Look at it now!

That's all the time it takes to remove the cross-cut saw
and put on the jig-saw—or change any of the nine
different attachments.

The engine "runs with eagerness"—reliable, simple, power-
ful—always.

And the man who operates the Efficiency Woodworker
gets out the work needed at the time it is needed.
There are **NO DELAYS** if you have an Efficiency
Woodworker on the job.

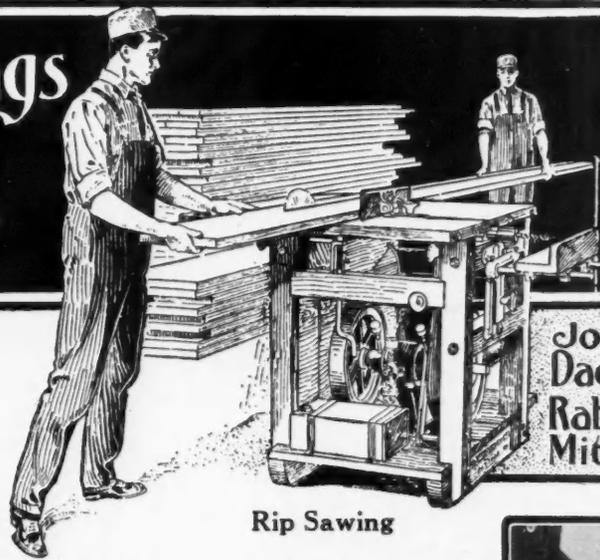
LITTLEFIELD-CLARK COMPANY

20 ILLINOIS STREET, BUFFALO

When Writing Advertisers Please Mention the American Carpenter and Builder.



IT'S a whole planing mill in itself. Saws your hardest lumber (rip or cross-cut) as true and clean as a die—bores—jig-saws—does all the things shown here and more, too—at a fuel cost of only 2 cents an hour. Two men can load it into a light wagon and take it right out onto the job. Once there you can skid it anywhere—upstairs or down. in profits for even the *smallest carpenter*. The



Jointing
Dadoing
Rabbeting
Mitering

Rip Sawing

Costs very little and soon makes that up



EVEREADY SAW RIG

"Guaranteed for Life"

has frame, table and skids of selected rock maple, air and kiln seasoned—positively guaranteed to remain true. Contains a fine 4-h.p. gasoline engine of latest improved type. Any of your men can easily operate it. Just a whirl of the wheel and the work's under way. And it's *actually*

guaranteed for life. You needn't worry a bit about what will happen to it after the guarantee period. There is no guarantee period—we are back of it once and always. Our one idea is to satisfy you and keep you satisfied. Your recommendation is our best boost. With each rig, you get

ALL THESE ATTACHMENTS ABSOLUTELY FREE



Jointer Head—This works on exactly the same principle as an up-to-date planer. Produces a smooth, even job, with no deep cut as the material leaves the jointer head. 2½ inches in size.

Boring Attachment—A high-class attachment. Guaranteed absolutely accurate. Extra long boxes insure easy long-running qualities on the guides. Bits, standard size.

Jig Saw—Not a cheap one, but the best 12-inch jig we can make. All joints reinforced with steel, equipped with brass bushings. Once use it and you won't part with it.

Sander—The best one yet—a great time and money saver over old methods in change and economy of paper. Our methods of holding paper will not blister as do many others. 10 inches in diameter.

Saw Gauge and Mitre Device—Saw gauge of best gray iron, 18 inches long, adjustable to any bevel. Mitre device adjustable to any angle and can be used as a cross-cut gauge.

Dado Head—Our own special design. Does smooth, even work with or across the grain. Makes window frames, dados, etc.

Emery Wheel—A 6-inch wheel made for grinding tools is also furnished with this rig.

TRY THE "EVEREADY" SIX DAYS FREE

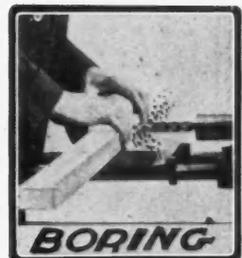
Then--If You Can Get Along Without It, Return It at Our Expense

The trial won't cost you a cent if you can't find *paying* use for the rig. You've always wanted a good rig for your shop. Here's a safe chance to get the right one. Spring is a fine time to break it in because everybody will be after screen doors and windows and the hundred other little spring jobs that are always in a rush, and pay well if gotten out in a rush. *Send for free trial offer, prices and detailed description of the rig and all its free attachments.*

Oshkosh Mfg. Co. - 316 S. Main St., Oshkosh, Wis.

Successor to OSHKOSH LOGGING TOOL CO.

When Writing Advertisers Please Mention the American Carpenter and Builder.



You Should Have This

THREE-MAN

“AMERICAN”

Contractors' Portable

VARIETY

WOOD-WORKER



A saw bench—a planer and moulder—and 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” Contractors’ 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 dadoes, gaining, grooving, chamfering, rabbitting, 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.

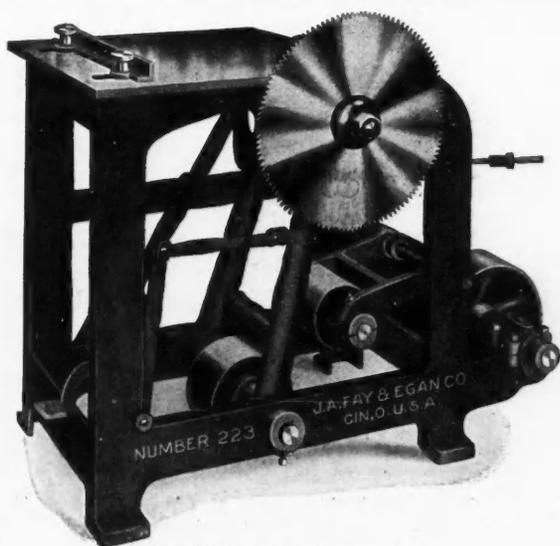
Don’t let another month go by without putting on an “American” Wood-worker to speed up your work and cut down your costs.

AMERICAN SAW MILL MACHINERY CO.

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BUILDERS OF
SAW MILLS AND SAW MILL MACHINERY

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No. 223 Inverted Swing Saw.

An invaluable tool in any woodworking shop. Simple in construction—runs easily—uses little power—takes up small space, and cannot be equalled for rapid cut-off work.

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Executive Office and Works:
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World's Oldest and Largest Mfrs. of Woodworking Mchys.

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Office Buildings, Stores, Schools, Churches, Public Buildings

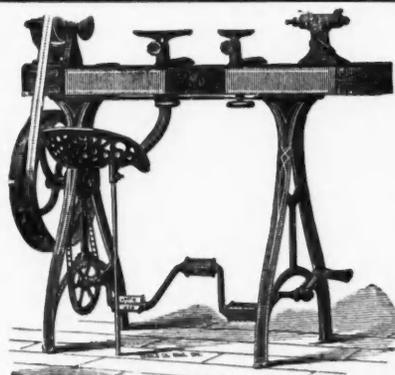
In the finishing of all buildings the question of sanitary, durable, economical and attractive wall coverings is most important. In large contracts it is customary to have efficiency tests of the various materials. In every such test

JOHNSTON'S DULL KOTE PAINT

leads them all. But that is only natural when you realize that DULL KOTE is the Best Sanitary paint that contains no white lead or other poisonous substance, does not rub, flake or peel off, is hard and elastic, and that can be cleaned with soap and water like tile. In appearance it has that soft beautiful look of undressed kid, without a trace of brush marks or laps.

These are the qualities that make it so popular in the home—the same qualities are desirable in public buildings and business houses. Get our 24-color card and list of buildings using DULL KOTE. For sale by dealers everywhere, or by

The R. F. Johnston Paint Co.
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Our No. 3 Wood Turning Lathe can be speeded from 1,000 to 2,000 revolutions a minute with perfect ease. Stopped at will of operator.

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The Same Man by Using
The American Sash Trimmer

can increase his output on fitting fancy sash 300 to 500 Per Cent which we have proven to over 1,000 customers.

If you are a maker of diamond light or fancy sash you cannot afford to be without one of these machines, as it not only makes every joint a perfect one, requiring no fixing up to make it look well, but does it at a great reduction in time.

We are willing to place one of these machines in your factory, subject to your full test and approval.

Will you give us the opportunity?

THE HEALD MACHINE COMPANY

4 New Bond Street,
WORCESTER, MASS.

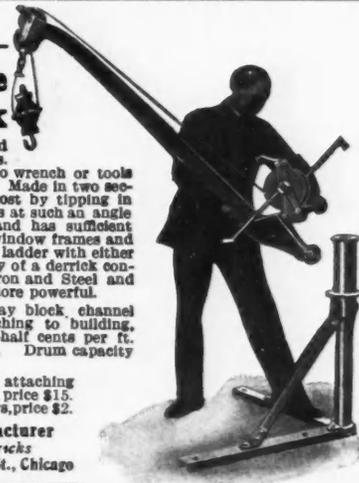
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Tested at factory, is hoisted and swung a complete circle 1900 lbs. Shipped ready to operate. No wrench or tools required to set derrick on job. Made in two sections. Beam section connects post by tipping in a vertical position and projects at such an angle to clear side wall of building and has sufficient height to hoist wheel-barrows, window frames and timbers. One man can climb a ladder with either section. Consider the durability of a derrick constructed entirely of malleable Iron and Steel and that of Wood, more compact, more powerful.

Derrick complete with three way block channel steel brackets, bolts for attaching to building, price \$40.00, and four and one-half cents per ft. for crucible steel cable attached. Drum capacity 300 ft.

Special platform and chains for attaching derrick to gondola railroad cars, price \$15. Chains for hoisting wheel-barrows, price \$2.

JOHN L. TAYLOR, Manufacturer
Taylor Portable Steel Derricks
Phone Monroe 3966 1034 W. Lake St., Chicago



"It Works Like a Plane"

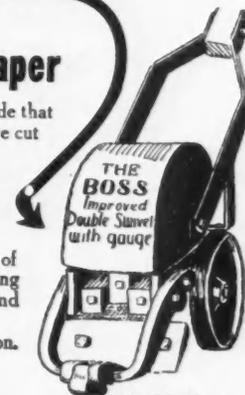
The Boss Floor Scraper

The "Boss" is the only Floor Scraper made that will plane a floor without leaving a square cut where knife first starts cutting. Why? Because the "Boss" is made with a gauge on front, to which is attached a pear-shaped wheel which raises when machine is pulled and lets the knife down gradually. The "Boss" can be set for any thickness of shaving, it also can be set for any shearing cut right or left up or down to suit the kind of Lumber.

It is guaranteed to give absolute satisfaction.

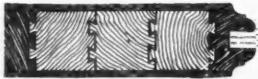
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Main Office: DWIGHT, ILL.



Mfld. also in Canada.

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“From the Paine Paine Kore-

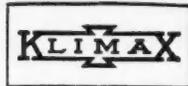
“The TRAIL of the KORELOCK TREE to FINISHED PRODUCT”

*This Guarantees Selected Material,
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More than two-thirds of the Reach the User through the

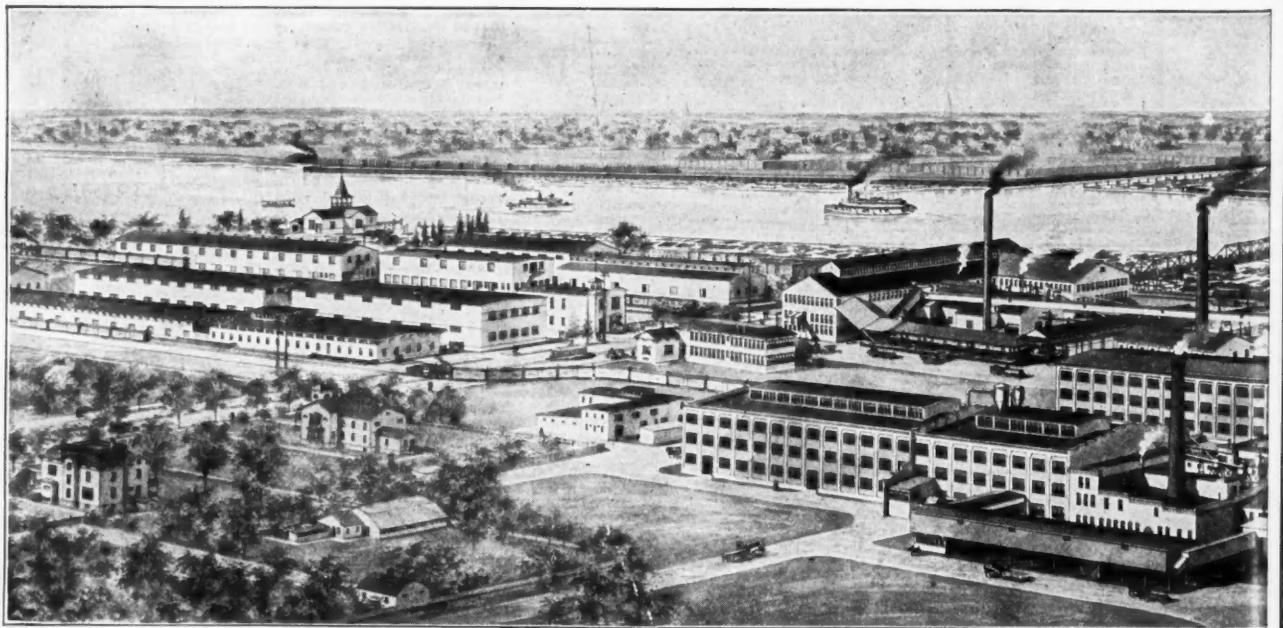
*We invite correspondence from Contractors
We respectfully remind you that the only
promptly is to apply for same at once.*

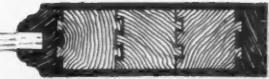
We Manufacture Everything Known



“ORIGINATORS OF THE STANDARD

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Forest to the lock Doors."



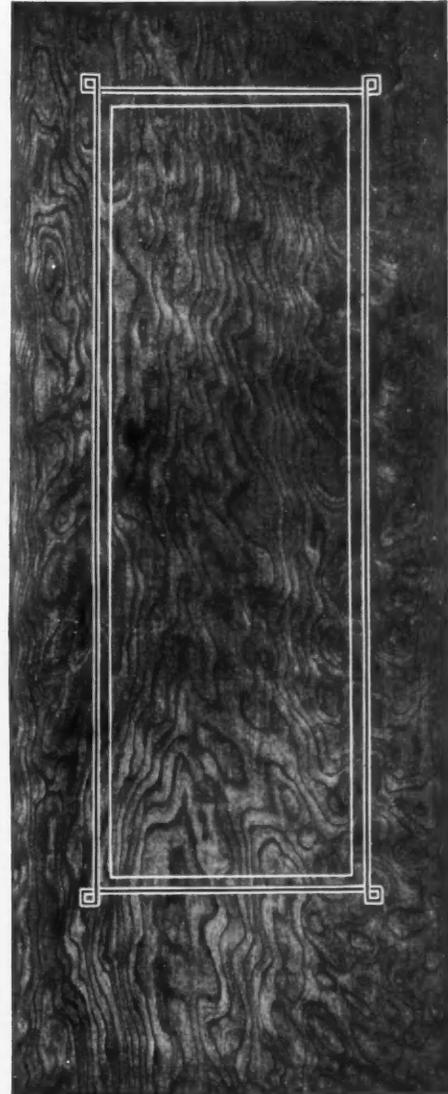
DOOR" leads straight "FROM
without leaving PAINE Ownership.

*Detailed Inspection, Scrupulous
Consistent with Quality and our Guarantee.*

World's Standard Veneered Doors PAINE PLANT Shown Below.

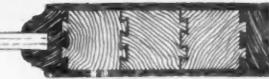
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way to secure our New CATALOG "A"
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in Millwork—in Every Kind of Wood



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WISCONSIN U. S. A.



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“45” Seven Tools in One

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- 3.—Dado Plane.
- 4.—Plow Plane.
- 5.—Matching Plane.
- 6.—Sash Plane.
- 7.—Superior Slitting Plane.

Extra cutters may be used to advantage by substituting specially formed detachable bottoms.

Send for catalog giving complete description.

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NEW BRITAIN, CONN. U.S.A.

STANDARD THE WORLD OVER

Strike

Lift

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**WHICH CLASS
ARE YOU
IN?**

Start

Out

BOTH MEN ARE STARTING TO DRIVE A NAIL

The Double Claw Hammer has all the good features of the old kind, and a lot more besides. It will do many times more for you. It costs us three times as much to make, but it is well worth while. Ask your dealer, or send us \$1.50 and we will send it prepaid. Shall we send you a 16, or 21 oz. head?

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Starrett

Universal Scraper

Eight sharp cutting edges. Instantly adjusted by ball joint connection. Blade may be instantly set at any angle. Neatest and best scraper made.

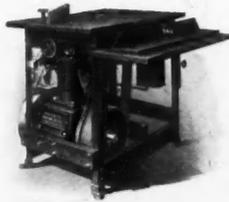
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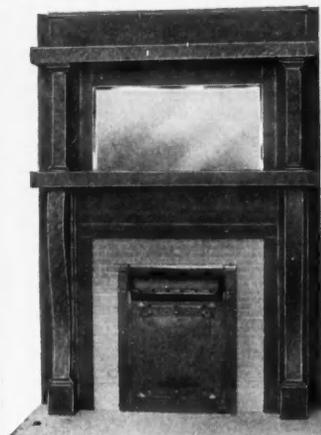
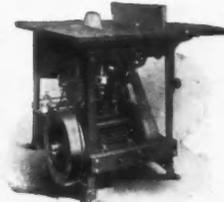
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9 Machines in 1
6 H. P. ENGINE
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\$28.60

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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.

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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.

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Lever Lock Mortiser**

Chisels the opening for Locks

Actual Use of Tool $\frac{1}{2}$ Minute
Over 6000 Mortisers Sold



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"I was surprised, I did not think it would do the work so quick. This is the best I ever saw."

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Our patent double edge, side cutting chisel can cut more wood, four times more rapidly and 100% less exertion than any boring bit.

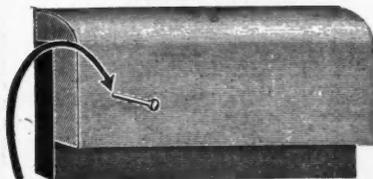
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to be as we represent, and will send on trial to any reliable contractor and builder. We will return all money paid if it does not cut an opening in a door for a mortise lock in two minutes.

We also make a Butt Mortiser and Rule Gauge which cuts out the seats for butt hinges in soft or hard doors, jambs, and similar work which we will send you postpaid for **75 cents**.

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FELT WEATHER STRIP**
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BOTH MOULDING AND FELT.**

Specify The

**W. J. Dennis
Clincher Felt
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**If You Want
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Manufactured only by

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Results of about 10 years experience in concrete work. Tested by Experienced Concrete Men. Used extensively.

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We have assisted many concrete users. Give us the opportunity of assisting you. Write us for prices and other information.

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is the best that we can make after forty years' effort. It is guaranteed by the Samson Cordage Works to be free from imperfections of braid or finish, and it will last longer than any other device for hanging windows.

Our trade mark on the label is Samson and the Lion in any color. The Spots in any color are our trade mark on the cord, used by us for eighteen years to show, after the label is removed, who guarantees the quality of the cord. You recognize either of these marks by the design, not the color. Don't be misled by imitations.

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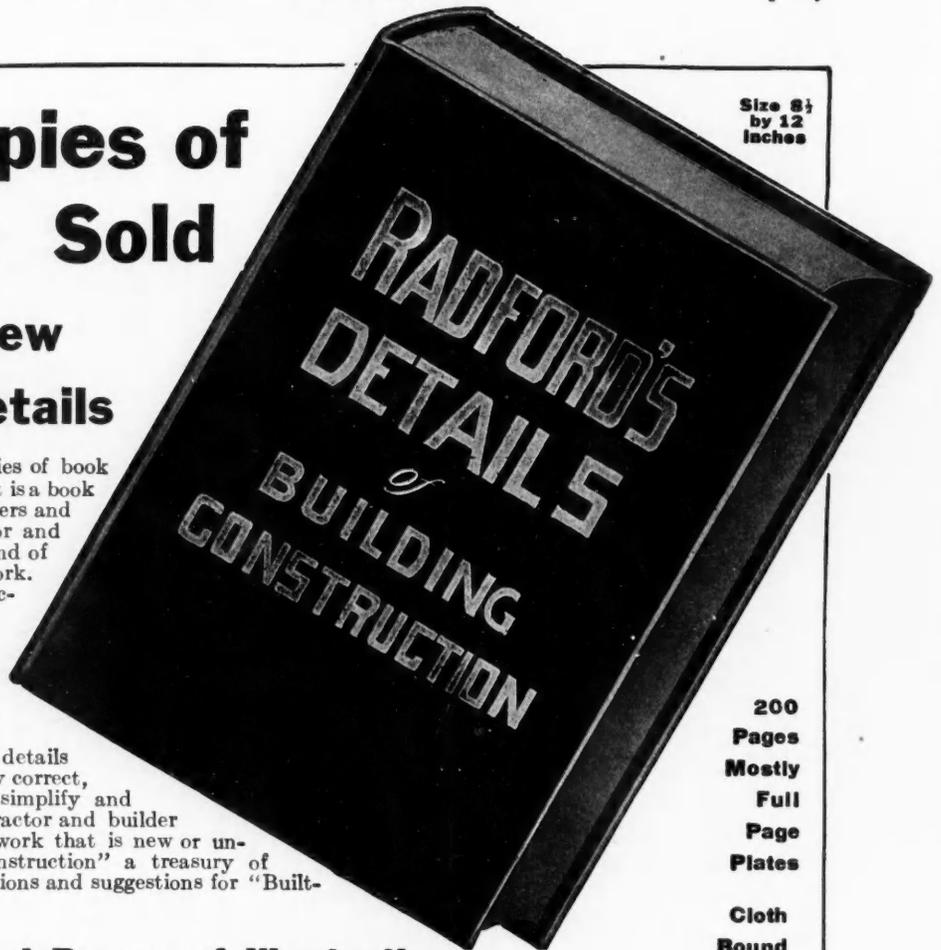
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CAMPBELL'S GUARANTEED WINTER CHASER FURNACE

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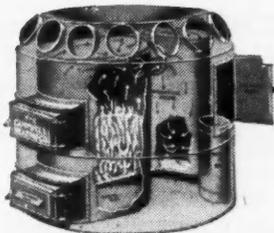
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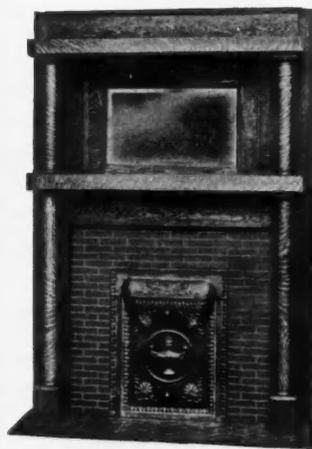
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Individual Motor Drive with ROTHMOTORS will Save Money.



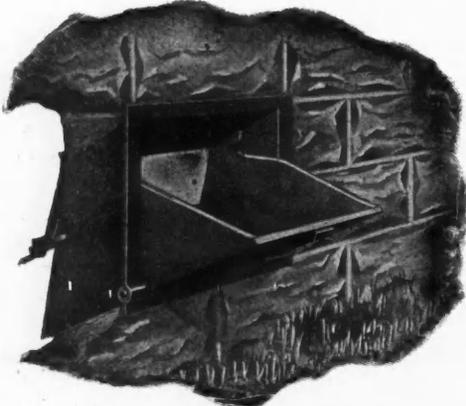
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NO MORE DAMAGED CASINGS OR SASH**

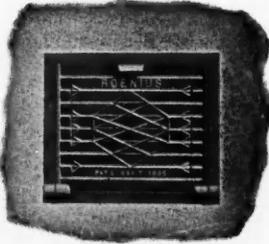
Roenius Chutes are equally desirable for houses of low or high cost.

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Safe from outside tampering or entrance and weather-proof. Are easily opened and locked.

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Our Elevators are noted for their EASY RUNNING and SERVICE-ABLE QUALITIES. They are practically self-contained, and can be erected by any carpenter in a few hours. We furnish plans for erecting.

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HARTMANN - SANDERS COMPANY
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The best columns for porches, pergolas or interior use.



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THE BEST IN AMERICA

ARE MADE BY

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All Material Guaranteed

Return at our expense anything not strictly up to grade or exactly as represented.

E. J. PEARY

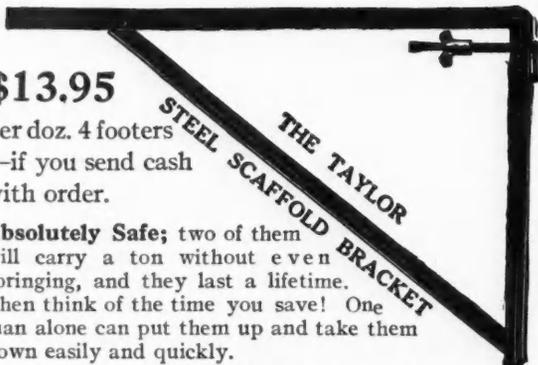
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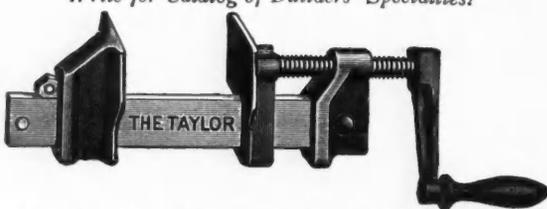
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Absolutely Safe; two of them will carry a ton without even springing, and they last a lifetime. Then think of the time you save! One man alone can put them up and take them down easily and quickly.

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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.

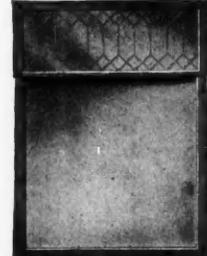
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OOTTAGE WINDOW
1 1/2 in. Thick.
Glazed Clear.....**\$3.75**
With Leaded Top.... **4.50**



FRONT DOOR
2-8 x 6-8 1 1/2 in. thick. Glazed
\$3.67

SURROUNDED
By Extraordinary Bargains which are only a few of the many Money savers shown in our new Catalog of High Grade Sash, Doors, Frames, Blinds, Mouldings, Inside Trim, Grilles, Colonnades, Stair and Porch Work, Mantels, Grates, Tiling, Art Glass, Roofing and Building Papers, Wall Boards, Hardware, Paints, Hardwood and Parquetry Flooring, Rolling Partitions, Screens, Steel Ceilings, Gutters, Shingles, etc.

Write Today for Free Copy.
The Huber Builders Material Co.
45-49 Vine St., Cincinnati, O.



BASE
Yellow Pine
1 3/4 x 7 1/2 in.
\$2.77
per 100 lin. ft.



CLEAT
Yellow Pine
1/2 x 1 1/2 in.
35c
per 100 lin. ft.



Front Door Set
Antique Copper
\$1.60 Inside
Door Set, 49c



CASING—Yellow Pine
4 1/2 in.
\$1.89 per 100 lin. ft.



Quarter Round
Yellow Pine,
1/2 in., **30c**
per 100 lin. ft.

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. 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, oily, 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.

Dumb Waiters

Dumb Waiters and Hand Power Elevators are seldom used in some communities, and when it is considered what some Dumb Waiters are you do not wonder.

In other communities almost every house has a Dumb Waiter, every new house in fact. In Poughkeepsie, N. Y., more Dumb Waiters are used than in any other city of its size. The Sedgwick Dumb Waiters are manufactured in Poughkeepsie.

Send to the Sedgwick Machine Works, 132 Liberty St., New York, for catalogue, and you will see why Hand Power Elevators and Dumb Waiters are so popular where best known.

THE FOLDING DRAW KNIFE

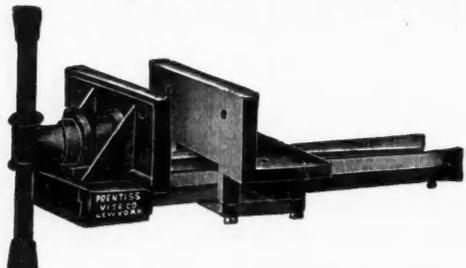
It's the Draw Knife that's the seller
Right up to the Draw Knife law;
It's the workman's prize and treasure,
And the Draw Knife that will draw.



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.

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.

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**Carpenters, Builders,
Cabinet Makers and
Every Kind
of Mechanic!**

Do Not Forget
That the

**Master
Slide Rule**

This illustration shows the Master Slide Rule in use for inside measurements. The Master Slide Rule shows exact dimensions without figuring or calculations as indicated with pencil. No guess work.

is the only practical rule in the world for inside measuring of doors, windows, etc. Will become absolutely indispensable after once using it. For speedy operation no other rule can compete with the MASTER SLIDE RULE. Can be extended and closed instantly. When opened, is kept in place by strong steel springs and cannot get out of order. One side of rule is marked for inside measurement. Reverse side of rule is the same as any ordinary rule, but is particularly valuable for quick measurement of ceilings and walls, etc. Made in lengths from 2 to 6 ft.

Ask your hardware dealer, or write us for particulars and price list. Send name of hardware dealer. Agents wanted.

Send 15c per lineal ft. for 4, 5 or 6 ft. rule, which will be sent you prepaid. Remittance by money order or cash preferred.

Dahl Manufacturing Co.
Childs Building, 1 East 42nd St.
NEW YORK



Showing lower slide extended 2 1/2 inches — making distance between extreme ends 10 1/2 inches.

**ONE CENT
INVESTED NOW WILL NET YOU
HUNDREDS OF DOLLARS**

Invest one cent in a postal card. Send it to us asking for one of our little books telling you how to get the lengths and cuts of Common, Hip, Valley and Jack Rafters for seventeen different pitches roof.



Our rafter framing rule stamped on our squares will enable you to do more work, faster work, better work, therefore, obtain better wages.

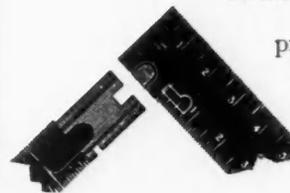
It's a big step toward being the contractor instead of the laborer.

We manufacture the only practical **Take-Down Square**, guaranteed to remain true.

Don't be a jack-knife carpenter.

Send today for this little book.

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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 Schlueter Rapid Floor Surfer**

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 Schlueter 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.**

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CONCRETE



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

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 :: :: MUSKOGON, MICH.

Don't Ask the Dealer for Sash Cord. Ask for

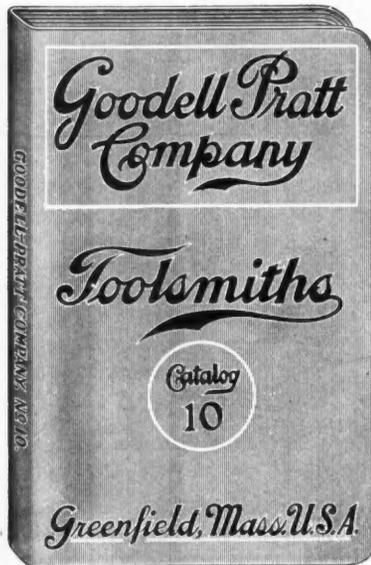
“SILVER LAKE”

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.

KNOW ALL THE LATEST TOOLS



BE UP-TO-DATE

You can't do the best work unless you have the best and latest tools to work with.

New devices are continually being introduced which save labor and time. We have gained quite a reputation for producing new labor saving devices so you should be sure and have our latest catalog.

If you have not looked over our 10TH EDITION send for it at once, it replaces all earlier editions.

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Toolsmiths

Greenfield, Mass., U. S. A.

A Slate Roof

will last forever if you can hold it in place.

But galvanized nails won't hold it, for they rust out.

Copper Clad steel nails drive like galvanized and last like slate.

They hold the roof in place.



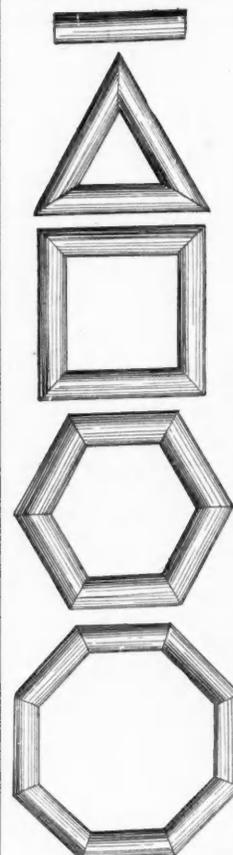
TRADE MARK
WELD CLAD

**Duplex
Metals Company**

Main Office and Works
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Western sales office
PEOPLES GAS BUILDING, CHICAGO, ILL.

P. S.—Ask your dealer.



MITRES CUT WITH THE
RED DEVIL by an amateur

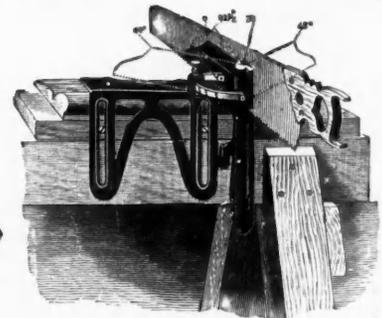
The Improved Red-Devil Mitre Box

(Improved Feb. 1912)

What it will do with ANY Saw ANY Place.

SEE THESE MITRES? All absolutely perfect — cuts and accurate joints.

THE RED DEVIL MITRE BOX WILL CUT ANY ANGLE.



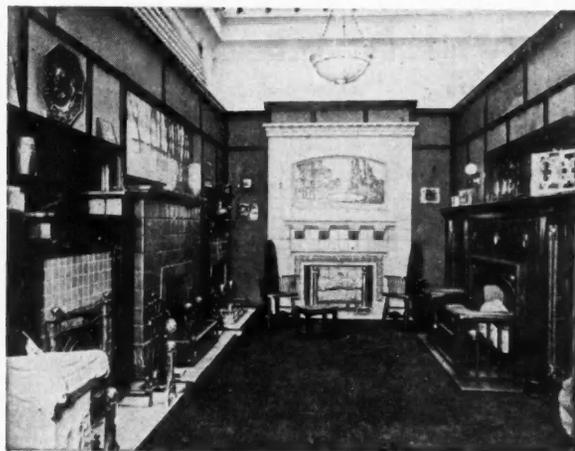
ITS ALL METAL. IT WEIGHS 2 LBS. There is no other just as good and you can easily prove it by accepting our

Special Offer On return of this "Ad" and \$2.00 one of these Mitre Boxes will be shipped to any reader of "Carpenter and Builder." Offer good for 30 days from date of issue.

Smith & Hemenway Co.
Manufacturers
Chambers Street NEW YORK, U. S. A.

Red Devil Tools are the Best on Earth

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Another view of our down town exhibit rooms

Fire Places in Tile, Brick and Wood

— ALSO —

Grilles, Colonnades and Consoles

Send for our large new
Catalogue now ready.
Mailed free. Tiles for—
"Anywhere and Every-
where."

CHAS. F. LORENZEN & COMPANY

General Office and Show Rooms: 701-709 N. Sangamon Street, CHICAGO

Down Town Office and Tile Display—Room 128 Reaper Block, Cor. Clark and Washington Streets



CUSTOM MADE Fly Screens

Our work is far superior to the usual output of local mills and has a style and finish not obtainable from those who do not make a specialty of fine screens.
Our screens are made from kiln dried lumber and have waterproof coped joints and the frames are weather proofed before finishing coats are applied.
Best grades of Wire Cloth, enameled, galvanized, genuine bronze, fastened by the most approved method.
The new "Ironwood" screen is the cheapest good custom made screen yet produced. Intending purchasers may have free, by mail, samples of woods, finishes, wire cloth and a copy of catalogue. Agencies in nearly all large cities. Agents wanted in smaller cities.
Special terms to contractors and builders.

A. J. PHILLIPS & CO., FENTON, MICH.
28 YEARS' EXPERIENCE 3 1-2 ACRES FLOOR SPACE

Time Saved is Money Earned



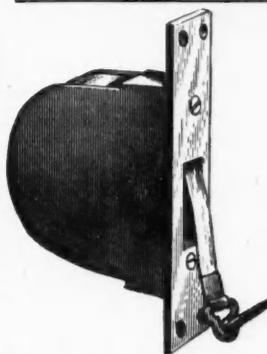
Use
"STERLING"
Builder's Levels
And Save Both

The Contractor who prides himself on the Accuracy of his work will tell you that the "STERLING" Transits and Levels are without an equal and will satisfy the most particular.
There is a reason why.

Write today for
ILLUSTRATED
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PRICES and SHIP-
PING TERMS

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CALDWELL SASH BALANCE



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

Makes sashes work perfectly.

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

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

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"Last a Lifetime and Give Satisfaction To the End"



BUTT CHISEL

TRADE MARK



The celebrated Barton Planes and Edge Tools for carpenters and all other woodworkers are unequaled 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 BACH
ROCHESTER, N. Y.**

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GEO. H. BISHOP & CO., Lawrenceburg, Indiana, U.S. A.
 Makers of
Fine Hand Made Hand Saws
 The Purest of Quality Our
"GREYHOUND" Hand Saw




IN introducing our "GREYHOUND" brand of Saws to the trade, we have departed from our usual custom in naming instead of numbering the saw. This saw will be known as our "GREYHOUND" and will be the only Bishop Brand of saw known by name.

We have had a Chemist experimenting for years to originate a purity of steel with a fine grain and tough body that would stand up under such a fearless warranty as we place on our "GREYHOUND" brand of saws. We now have it. We know its worth as well as its value. As workers of steel we understand it. We had to name it and we have christened it Bishop's Refined "GREYHOUND" Steel, associating our trade mark with its name. We have in this "GREYHOUND" Saw blade a purity of steel that is tough, tempers accurately and even—together with the special way it is made—enables us to guarantee that this "GREYHOUND" brand of Saws will cut faster and run easier in all kinds of wood, hold its sharpness and set longer than any other makes of good Saws in the world. We Refund the Money if 30 days' trial does not prove our guarantee. Our pride is quality with an honest opportunity for the purchaser to judge. Each Saw is tagged with our warranty on it. No expense has been spared to make this Saw the most perfect in the world. We invite correspondence with anyone who has our "GREYHOUND" brand of saws in use.

Made in both straight and skew back. Packed One in a Box.

In workmanship this saw possesses all the skilled mechanical features known to the art of saw making. The hang of the blade has been carefully studied and adjusted, to suit the fancy of the most critical.

If this saw cannot be found in the Hardware Store and they will not order it for you, write to us. Price for 26 in. saw, \$3.00 delivered. We make anything in Carpenters' Saws.

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 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

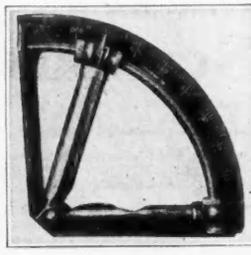
Never warps, shrinks nor swells. Dust and vermin proof, easily cleaned.

Should be in Every Bath Room

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



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



\$1.00 BY MAIL ONLY
Positively the Best Level Made

Guaranteed to Pay for Itself on First Job

KEEP 30 DAYS

RETURN IF NOT SATISFACTORY

J. D. WEAVER
 JACKSONVILLE, ILLINOIS



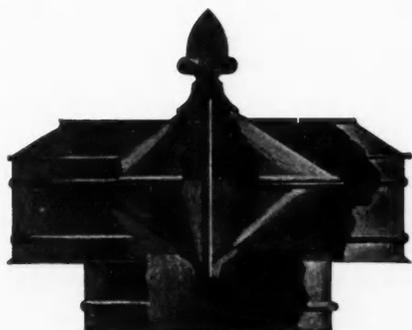
Send us two or more names of persons who are interested in or want to buy Hot Water Heating Plants and we will send you this scale. Back inches are divided into 6, 10, 12, 16, 20 and 40 parts. Also free catalog on request. Mention this paper.

Andrews Heating Co., 1288 Heating Bldg., Minneapolis, Minn.

ROOF SLATES
BLACKBOARDS

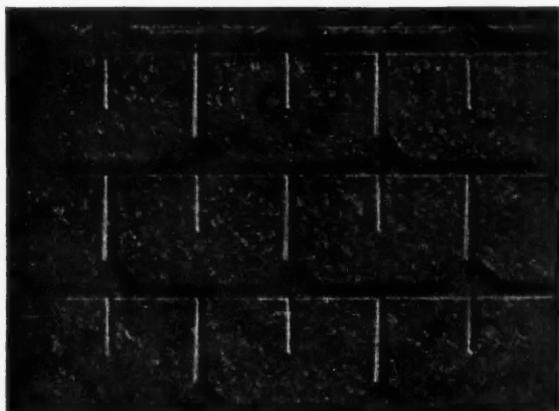
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 38 Park Row, New York
Quarry Operators
 BLACK, GREEN, PURPLE, RED

Booklet, Samples and Prices on Application
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**"XL" Skylights, Cornices,
Ventilators and Special
Sheet Metal Work**

Stock designs or made to order
from Plans and Specifications.
We Solicit Your Inquiries.



Metal Shingles in Two Styles

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The Canton Art Metal Co.
"Quality Products"
CANTON, OHIO

New York Branch
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206 S. 3rd St.

The WEBER Double Folding Scaffold Bracket

**Eliminates
Extra Row of
Scaffolds---**

Two rows do the work of three rows of common brackets. Especially fine for frame, cement block and brick veneer buildings. Very light and very strong. Satisfaction or money back. Write for prices and full description.



JOHN F. WEBER, Pres.

Weber Mfg. Co., 670 71st Ave., WEST ALLIS, WIS.

**HARDWOOD
PANELLING
AT 1-4 USUAL COST**

FILMWOOD

Oak, Mahogany, Walnut
A Real Wood Veneer
Mounted on Paper

Enables paper hanger to make panel work, wainscots, dados, entire walls. No need to call in carpenter. Finer grain effects than thick lumber. Good for fireproof construction. Stained, filled or polished same as thick wood.

Send for Circular B.

We also make Magic and Bull Dog Wall Size and "Cott-a-lap" Sunproof Burlap.

The Cott-a-lap Co.

Chicago Office:
108 W. Lake St.

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Somerville, N. J.

**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.

Here, Mr. Contractor---Read

What a Minnesota Contracting Firm Say about the Baby Grand Mixer



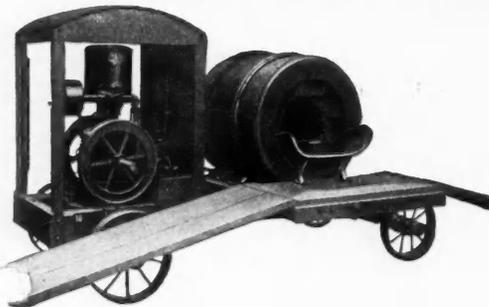
HAVREBERG & ELVERUM, Contractors and Builders
Jackson, Minnesota, March 8, 1912
HALL-HOLMES MFG. COMPANY, Jackson, Mich.
Gentlemen:—The "Baby Grand" mixer we bought last year, we have used on different kinds of work and are very well satisfied with it. We find it is very accurate in proportioning and 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 mistake 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-Homes Manufacturing Co., 428 Oak St., Jackson, Mich.

"THE STANDARD" Low Charging Concrete Mixer



In addition to our regular low charging mixers, we also have special designs for peculiar requirements, such as:
"THE STANDARD" Low Charging Mixer with Folding Platform. (Shown in illustration, Platform raised for moving.)
"THE STANDARD" Low Charging Mixer with belt drive.
"THE STANDARD" Low Charging Mixer with cart charging arrangement.
"THE STANDARD" Low Charging Mixer with discharging trough for street work.
"THE STANDARD" Low Charging Mixer with hoist for mixed concrete.

The Eclipse Stone or Block Machine

THE PERFECT BRICK MACHINE.
"THE STANDARD" HOISTS AND ELEVATORS.
GAS AND GASOLINE ENGINES.
STEAM ENGINES AND BOILERS.
Ask for Catalogue No. 144.
The information in this catalogue will be of value to you.

The Standard Scale and Supply Co.

CHICAGO, 1345-47 Wabash Ave. PITTSBURGH 243-245 Water St.
PHILADELPHIA, 35 S. Fourth St. NEW YORK, 136 W. Broadway

THE NORTHFIELD MIXER
MORTAR PLASTER CONCRETE

NORTHFIELD IRON COMPANY
NORTHFIELD, MINN.

Conservative Capacity
Ninety Cubic Yards Per Day

Saves you 60 to 90 cents on every yard. Pays for itself several times each season. Gives you the edge on your competitor. New principle. Most thorough mixer ever produced. Is not a man-killer. Two men operate it easily and do not work as hard as the shovelers. Pump engine will run it. *Simple, Light, Handy, Substantial.*

Sold on trial
Satisfaction Guaranteed. Write direct to factory for Catalogue, Price and Terms.

Northfield Iron Company
402 Water St., Northfield, Minn.

A FREE BOOK

On Concrete Machinery

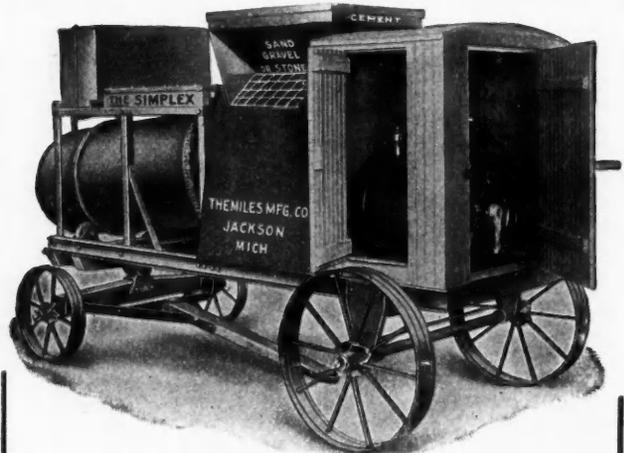
**BUILDING BLOCKS
BRICK
PORCHES
CHIMNEYS
DRAIN TILE
SEWER PIPE
SILO BLOCKS
AND OTHERS**

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



THE SIMPLEX IMPROVED MIXER 1912 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, Chise Stone, Gable Stone, Hollow or Solid Stone.
The Contractor's Friend, Simple, Strong and Rapid. Lowest in price.

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MONEY MAKING CONCRETE

Mr. Block-Maker

Wet Process is Right.
Face down is Right.
Three blocks at a time is Right.
Triple Tying 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 sill machine. It has every adjustment that any other machine has and many that no other machine has.

PRICE—Machine and Outfit, \$75.00

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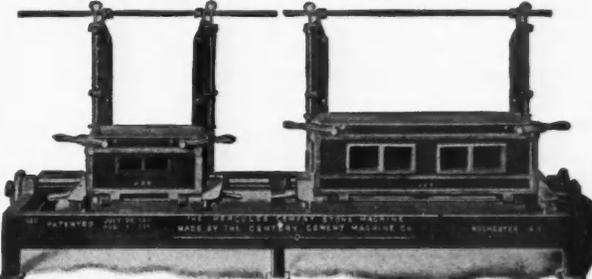
THE PETTYJOHN COMPANY

634 No. 6th St., TERRE HAUTE, IND.

WHY THE Hercules Concrete Block Machine

is the **BEST** for YOU to buy

The man who is about to take up the manufacture of concrete blocks, should exercise the greatest care in selecting a block machine. The biggest mistake to make is to buy a small machine that will always remain a small machine. Why not buy a machine large enough for your immediate needs and capable of being expanded to make more and larger blocks as your business expands.



You can buy a HERCULES equipped to make whatever size of block you need when you start. Parts for other sizes are added as you require them. Your machine is a plant in itself. When you expand you don't have to throw away old equipment—you merely add at small cost to what you have.

There are many other important points connected with Hercules Machines that you ought to know.

We have just issued a little book full of information. Send for it today.

CENTURY CEMENT MACHINE CO.

290-300 St. Paul St. ROCHESTER, N. Y.



Excelsior Dumb Waiters

The only Knock-Down Dumb-Waiter ever offered, shipped complete to a nail, with explicit directions for erecting, for **\$18.50**

Up-to-Date in Every Particular

Hardwood Car, Self Retaining Machine, Adjustable Weight, Guides, Ropes, Timbers and Hardware. Ropes joined by coupling. No Splicing. Will fit any ordinary opening up to 24" x 30"

Send for Printed Matter

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74 Emerson Place - - Brooklyn, N. Y.



The Myers New-Way Adjustable Tandem Door Hanger

Is adjustable to and from buildings and permits the door to be raised or lowered as desired. This is a very important feature in cold weather when the ground is frozen and heaved up. It is absolutely dust proof and can be adjusted to keep out all snow and rain. Owing to its construction it will carry a heavier load than any other style tubular track. Another very important feature is its flexibility which permits the door to pass over uneven surfaces.

Write us for information and catalog.

F. E. MYERS & BRO.

ASHLAND, - - - OHIO



TRUS-CON Joist Hangers

Made in all sizes and styles, for use with brick or concrete block walls or with wooden or steel beams

Avoid cutting away and weakening of timbers and walls—save labor, time and money.

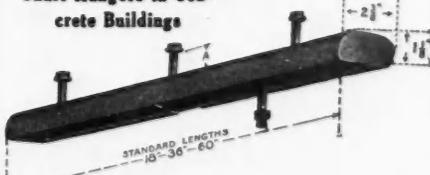
Trus-Con Joist Hangers are made from open hearth steel plates, and are proven by actual test to be the strongest on the market. Note the bulb-shaped reinforcement at upper angle.

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.

Trus-Con Pressed Steel Inserts for Supporting Shaft Hangers in Concrete Buildings



Trus-Con Pressed Steel Inserts are imbedded in the concrete during construction, saving expensive drilling after completion of the work. The long slots allow a wide variation in position. Special washers prevent bolts from turning in the slots. Write for details and prices.

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A NEW METAL TILE

ABSOLUTELY WATER TIGHT—PERFECT FITTING
OF THE WELL KNOWN

KANNEBERG QUALITY

Best Roofing in the World. Also Various Artistic
Designs in Metal Ceiling

Catalog Ec for Metal Tile, Catalog Dc for Ceiling

Kanneberg Roofing & Ceiling Co.
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ART WINDOWS

Designs and Estimates on Application
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Beveled Plate, Metal Sash, Memorial
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Work Our Specialty

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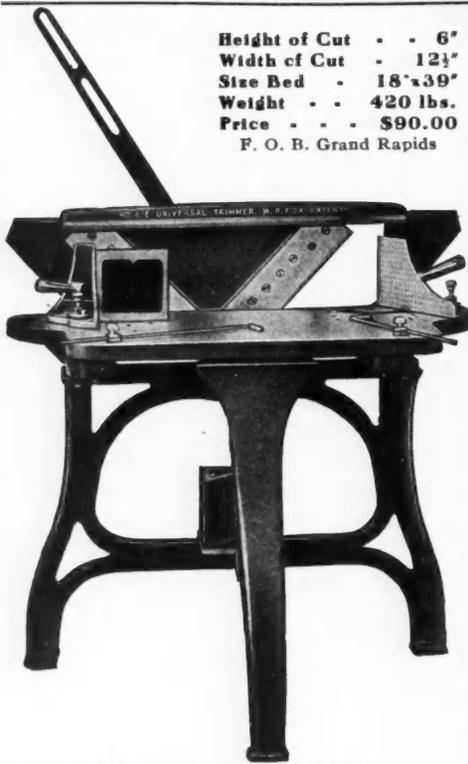
The Flanagan & Biedenweg Co.

Office, Studio and Salesroom,
312 to 318 W. Illinois St., near Franklin
CHICAGO, ILL.

Tel. North 218



TRADE **FOX** MARK



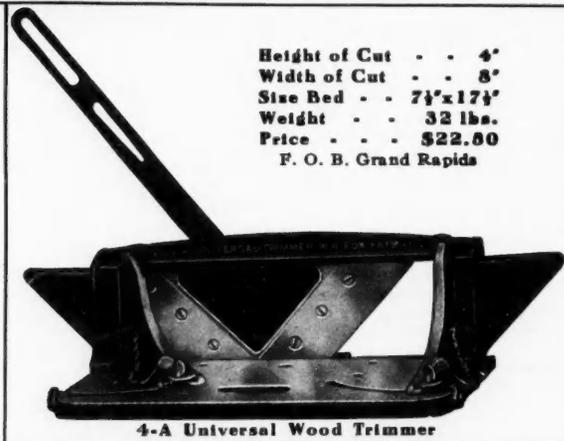
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Width of Cut . . . 12 1/2"
Size Bed . . . 18"x39"
Weight . . . 420 lbs.
Price . . . \$90.00
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6-E Universal Wood Trimmer

**Bench and
Floor Type**

'Universal
Wood
Trimmers

To Meet Every
Demand



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Weight . . . 32 lbs.
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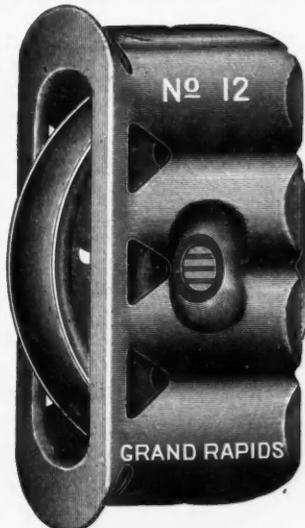
Have You Seen the "YANKEE" Line?

There are 35 Styles and 75 Sizes each a Labor Saver. Our New Yankee Tool Book tells about them. A postal brings it.

Your Hardware Dealer Sells the "Yankee"

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PHILADELPHIA, PA.





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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.

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Also for grooving, gaining, rabbeting, tenoning, etc. Send for prices and catalog.

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This Machine Cuts..... (Parallel with Table)

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Also manufacturer of Black, Galvanized and Painted Roofings, Eave Trough, Hangers and Conductor Pipes, Tin Plate, Cornices, Ridge Roll, Pumps, etc.

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You can easily make your Building Material with a Sterling

You need a Sterling Combination Cement Brick and Block Machine. It will make and save money for you. You can make more brick or blocks in a day, with less labor and cost, than can be made by any other machine.



The Sterling Machine has the advantage in that it will not only make standard size brick, but will also make almost any size block that you may want.

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Our machines are made in a large modern factory and we sell them to you at a very reasonable price. Our price means a big saving of money to you.

Endorsed by U. S. Trade Reports
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Sterling Machinery Co.
LA CROSSE, WISCONSIN

PEERLESS Cement Brick Machine

Big money is being made in the production of **Cement Brick**. Thousands of carpenter-contractors have already entered this field. Equip yourself NOW with THE **PEERLESS**—the original hand power brick machine with automatic Tampers.

Makes Brick Face-down and delivers them Face-up. One man operation.

Large variety of face plates with machine.

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*Quality
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The Disston Brand SAWS, TOOLS
and FILES, by their efficiency and
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cost and become profit earners.

Established 1840

HENRY DISSTON & SONS

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**Save Space With a
Bessler Movable Stairway**



Stairway When Not In Use.

**Adds Value to House! Reduces Fire Risks! Secures
Good Ventilation! Strong and Durable! Easy to Operate!**

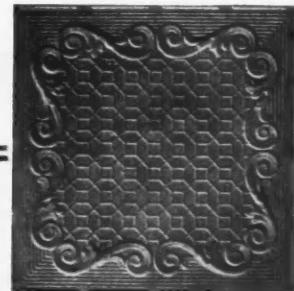
We Allow Contractors a Commission.

Write for descriptive circular and price list to

The Bessler Movable Stairway Co., Akron Ohio

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**Metal Ceiling
Specialists**



Metal ceilings are growing in favor
daily. They are especially attractive—
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and comparatively low in cost. You
will no doubt install several this sea-
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what we can do for you in this line.

Our designs are up-to-date and
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Steel especially prepared for ceiling use.

You most certainly want to let us figure with you before you buy any material.
We are large manufacturers of everything in sheet metal building material
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Materials and accessories.

Let us send you our very interesting Metal Ceiling catalogue. Mention what other metal
lines you're interested in and we'll send you our general descriptive booklet. It will be to
your interest to know us and keep in touch with us.
INDIANAPOLIS CORRUGATING CO. Indianapolis, Indiana

1853



1912

BUCK BROS.

Fine Beveled Edge
Shank and Socket

Chisels



Butt Chisels

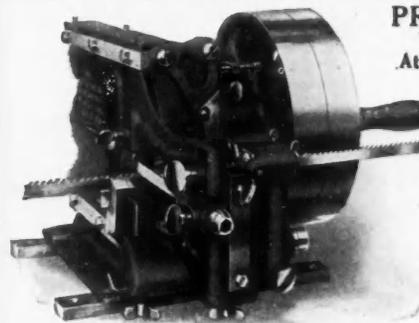
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PRICE \$50.00

**Without Setting
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The cut herewith
represents the only
Automatic Band Saw
Filer, Setter and
Jointer on the mar-
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during one and the
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personal attention
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our expense. Manu-
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FOLEY MFG. CO., 1230-32 E. 3rd St., Cleveland, O.

Manufacturers of all kinds of Saw and Machine Knife Fitting Tools.

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Isn't This Roof Attractive?

At last there is a really artistic roof that resists fire and is within the reach of the average man's pocket book.

NEPONSET PROSLATE ROOFING

is a modification of the long-life roofing materials that we have been making for years, combined with a permanent colored surface. It is durable, fire resisting and moderate in price. Easily laid in laps 18 inches wide. Special fasteners make the roof an air-tight blanket without a single nail hole exposed to the weather.

NEPONSET Proslate is more attractive than stained shingles. Made in Red and Green colors.

Write for our special proposition to carpenters and builders. You make a profit on the material and on the job.

Get behind this up-to-date roofing NOW.

Branch Offices:
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Columbus, Ohio

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Established 1795

Canadian Plant, Hamilton, Ontario

Branch Offices:
Chicago, Ill.
Portland, Ore.
San Francisco, Cal.

When Writing Advertisers Please Mention the American Carpenter and Builder.

Short Talks With Our Subscribers.

Good Things on Every Page

WE think you will like the table of contents published here in the front of the book. Anyhow, to tell you the truth, it has finally been crowded out of its old position on the next to the last page.

This is the best place for it anyway; don't you think so?

We want you to look over this list of Good Things for Builders. You can't afford to miss a single one of these articles in this month's AMERICAN CARPENTER AND BUILDER.

You probably won't agree with everything that's said in some of them; but we will be friends just the same. If you disagree, write and tell us about it, as a personal favor. Or, if you agree, write that, too.

Don't Overlook the Best Part

Did you ever stop to think of the money there may be for you in some certain one of the advertising pages of the AMERICAN CARPENTER AND BUILDER?

"Look at a proposition to see how you can use it—not how you can get along without it. Lack of enthusiasm over an idea is not always a mark of wisdom, it is often only laziness."

This is sound business sense. It is a policy that has led many a man to grasp the opportunity of his lifetime.

LET'S get into the habit, all of us, of going right through every copy of "The World's Greatest Building Paper," page by page, advertising and all, to see just what there is in it that we can use—I can use—you can use.

INVESTIGATE THE DIFFERENT PROPOSITIONS, WRITE FOR CATALOGS, GET POSTED.

The builder's field is wide, his influence great. Your advice and counsel are sought on many subjects. The AMERICAN CARPENTER AND BUILDER is doing its best to keep you in touch with all that is best and newest in the building world.

Get acquainted with our advertisers, you will find them true blue—good friends to know.

Let Us Help You

If there is ever anything you need, as a builder, which you do not find advertised in the AMERICAN CARPENTER AND BUILDER, won't you please write and tell us about it? With your help we want to make the AMERICAN CARPENTER AND BUILDER a complete directory of reliable concerns, manufacturing and selling goods of every kind whatsoever needed and used by the "carpenter and builder."

Business Conditions Sound—Prospects Rosy

ALTHOUGH the largest number of the AMERICAN CARPENTER AND BUILDER, and the largest of any building paper ever before issued, this May number is in no way *special*. The large amount of advertising this month is a criterion of sound business conditions in the business world. Business will be good this season, but more than that, this great and varied advertising section this month testifies to the high regard in which the READERS of the AMERICAN CARPENTER AND BUILDER are held by the responsible manufacturers of this country.

Don't Miss the June Number

You will look over this number, and most of you will say "Fine." But that puts it up pretty strong to the editors (doesn't it?) to produce a better magazine next month!

We can do it, too.

There is one feature in particular we have for you in June that all builders will be interested in—a New Department that will increase the earnings of every man who will use it. This Department will make its first appearance in the June number. Watch for it.

Fraternally yours,—EDITOR AMERICAN CARPENTER AND BUILDER.

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CHICAGO
MARK**

A SUGGESTION

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

Chicago "Triplex" Spring Butts



offer this advantage to you. The appearance, durability and finish of this article are unsurpassed, and in consideration of prices that are conservative in respect to value, the up-to-date builder cannot afford to risk his reputation with goods that are unsatisfactory.

Send for Catalogue C 26. It 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



**THE
BOMMER
SPRING
HINGE**

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.

**EVERY
CARPENTER**

appreciates the necessity of having his Saw sharp and in perfect condition.

Morrill's is the only Saw Set that will set a saw properly.

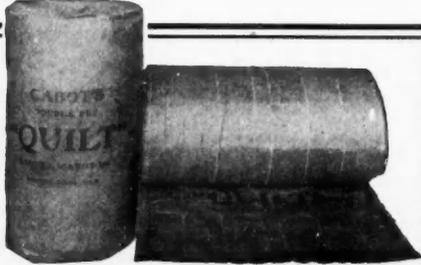
Our booklet No. 9 "Saw Points" tells how to take care of Saws. Sent free on request.

**MORRILL'S
SAW SET
AND
BENCH STOP**

CHAS. MORRILL
275 BROADWAY NEW YORK

**The
Warmest
Sheathing**

**Wind and
Frost Proof**

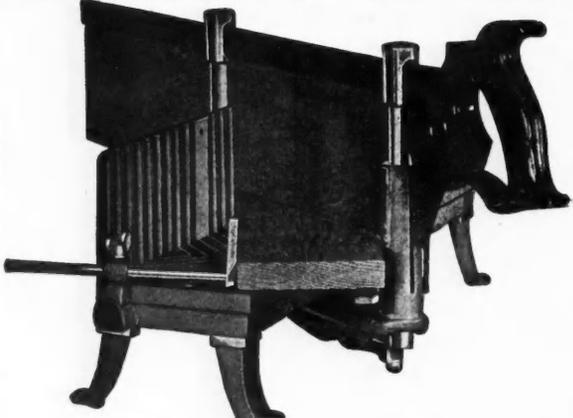


Not a mere felt or paper, but a matted lining that keeps out the cold as a bird's feathers do. 28 to 40 times warmer than common papers, and warmer and cheaper than black plaster. Costs less than 1c a foot. Keeps houses warm in winter and cool in summer. Has no equal as a sound-deadener for floors and partitions.

Send for sample and catalogue—free—of **CABOT'S "QUILT"**

SAMUEL CABOT, Inc., Sole Manufacturers, Boston, Mass.
350 Dearborn Ave., Chicago 1133 Broadway, N. Y.

Cabot's Shingle Stains, Waterproof Cement Stains, Waterproof Brick Stains, Conservo Wood Preservative.



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Because:

- It is absolutely accurate.
- It is so convenient to use.
- It is built to last.
- It has an unusually large capacity.
- The price is right.

Let us send you our illustrated circular.

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MAY 6 1912

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<i>The</i> 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 May 25 to avoid missing the June number. Use P. O. or Express Money Order if possible, but bills or 2-cent stamps may be sent at our risk.	<i>The</i> World's Greatest Building Paper
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American Carpenter and Builder

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E. B. WOLFROM, EASTERN REPRESENTATIVE

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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.

EVERY job is a torture to the bungler and a training to the capable doer.

THE way to do fast work is first to do good work slowly and gradually increase the speed.

We Can't Build for the Next Century

IF the contemplated activity of the lumber producers towards bringing back the products of the forest to their old established place as popular building materials, serves only to expose the fallacy of the "build for your grandchildren" idea, it will have been worth the effort.

It is the fashion of our European (and our "fire-proof") critics to deplore the transient character of our building. Our frame buildings are constructed just

for the generation; our brick and stone merely for a century. And even these we raze wantonly to make place for more ambitious, but little less transitory structures. It is true that we must use the most economical and easiest adapted material at hand and of these wood is shortest-lived. We do build for the present rather than for the future, and happily so.

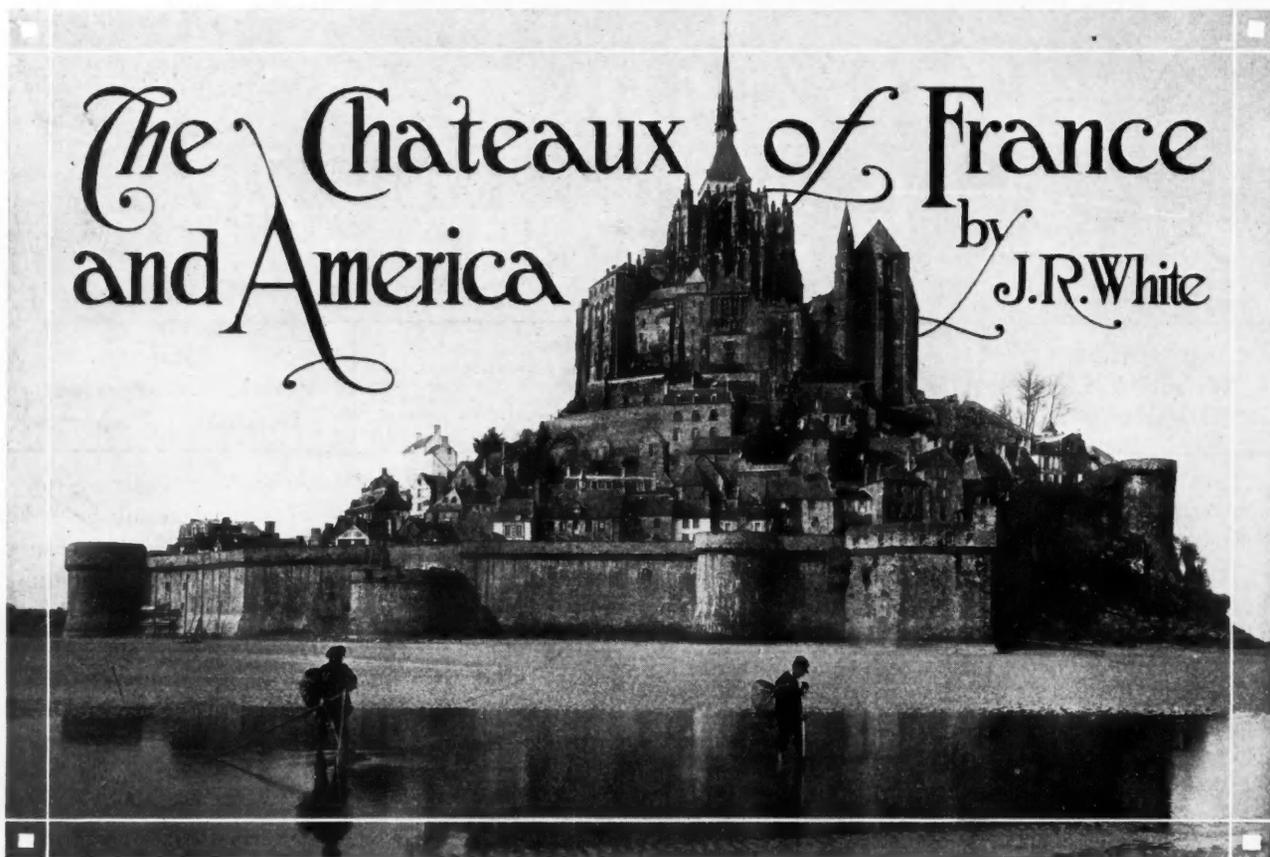
Precisely this is what ails Europe, its enduring structures. If Europe is content to live in the musty, uncomfortable, inconvenient, obsolete homes and business houses of the past it may do so, but we have learned the lesson of progress, have learned that what was good enough for our grandfathers is not good enough for us, and that which serves us will be obsolete in a hundred years or less. Why should we impose an imperishable inconvenience upon our descendants?

The past has yielded us sufficient in the way of unhygienic, ill-lighted, ill-heated, ill-drained, ill-arranged monuments.

There is no need to decry the purely monumental features of past building. But the very cathedrals and towers, castles and aqueducts of European history are interesting because they are obsolete and useless for any present purpose from Notre Dame to St. Paul's, from the tomb of Cheops to the Alhambra in Grenada.

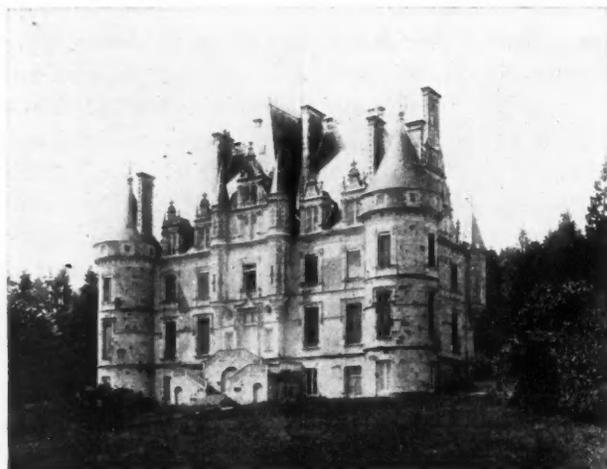
For that matter, where are the proud achievements of past nations of builders? Babylon's hanging gardens, aqueducts and palaces are covered with the ruins of ten successive capitals. Thebes holds up its cyclopean pillars to the desert air. Nineveh, Assur, Tyre, Nippur, Sardis, Alexandria, Pergamus, Miletus and Troy—where are they and their mighty works? These capitals of man's bygone glory attest the futility of trying to build for all time. The ruins of stately Corinth, of gilded Ephesus and of beautiful Argos are now as wasted bones in the hands of the archeologists. Gone are the glories of Athens and the grandeur of Rome, gone the temple of Carthage and the Oriental splendors of Constantinople; vanished the stately pleasure dome of Kublai Khan and the silken delights of Bagdad.

Let us build the best we know how, conscious that those who come after will build better than we know how to build for them.



Gothic Chateau of Mont St. Michel in Brittany

THE term "chateau" is used to describe everything, ancient and modern, in the way of a pretentious French home. There are really three distinct classes in France at the present time. The most interesting, perhaps, are the splendid gloomy ruins, nine or ten centuries old, that served as castles and fortresses during the relentless wars of feudal times. The greater number of these are too dark and damp, too utterly fallen to decay, to tempt the rich American, who wants comfort as well as the halo of historical association, to buy them and attempt to restore them to the semblance of a comfortable, livable home.



Chateau of the French Renaissance

It is just as well for the picturesqueness of France that such magnificent ruins as those of the ancient chateau of the Duchesse Anne at Dinan for instance, have not been molested. There are many of these splendid piles of stone that have slowly fallen to ruin under the assaults of the relentless warfare of the middle ages, and the no less deadly hand of time. Today their crumbling towers and dungeons reveal not only the wonderful skill and endurance of mason and builder, but the fierceness and cruelty of the nobility of mediaeval times. It is from these stern fortresses that builders gain sometimes suggestions for our barracks and arsenals, but they have little in common with the modern American chateau.

The second type of chateau, also, is too elaborate to serve effectually as a model for a modern dwelling. Huge, fantastic Gothic structures gradually displaced the Norman structures of the eleventh and twelfth centuries. Church and chateau alike fell under the influence of this, the most magnificent and aspiring type of architecture. On many a hill top in France and along the Rhine are the ruins of these lordly castles; here and there they have been preserved by frequent restorations so that the traveler of today may get a good idea of the size and grandeur of these Gothic structures.

One of the most interesting and best preserved examples of church and stronghold combined, is that on Mont St. Michel in Brittany. The buildings that once

belonged to serf and retainer still go creeping up the hillside to those beautiful pinnacles of the church and castle of prelates, who but a few centuries ago had more than princely power on their little island. The former state and power of these old monastic princes is evident today in the numerous banquet halls and chambers, dungeons and cells, of this splendid old Gothic monument.

But this type of building offers few suggestions for imitation in modern building. It is the third type of chateau, the renaissance of the late mediaeval and early modern period, that interests one chiefly from this point of view. Although this later type is far less classic and correct, it is nevertheless, fanciful and pleasing, and has served as a model frequently with good effect, for our more pretentious American homes.

A chateau in Brittany, known as the chateau of the baths of Orne, is a successful design for a country home, as is evident from the Pasadena dwelling of the same style of architecture. There is the same substantial appearance in both, due to the stone masonry and solid towers, and combined with this, a lightness and grace because of the fanciful chimneys, dormer windows and roof line. The elaborate and pretentious renaissance chateau and its American adaptations must have a proper setting or half the effect is lost, and noth-



American Copy of French Renaissance Chateau—Pasadena, Calif.

ing less than several acres will serve, so this type proper is rarely found along the avenues of our larger cities, though many features are borrowed from it by our handsomer town houses for decorative purposes.

The photographs given are not by any means the only types of French chateaux, but they suggest the general characteristics of the three great eras of chateau building in France—the period of the Norman, the Gothic, and the Renaissance.



Dinan, Ancient Chateau of the Duchesse Anne—Norman Period



Home Builders Today Demand Modern Improvements and Household Conveniences

ITEMS OF HOME EQUIPMENT WHICH THE WIDE-AWAKE BUILDER SHOULD KNOW ALL ABOUT

Every home builder to-day wants every sort of modern convenience in his new house; and he is going to have it if he can persuade himself that it will not cost too much. The readers of the "American Carpenter and Builder"—the progressive builders, contractors and architect-builders—are keen for any information to help them keep posted. In this article we aim to discuss all the various classes of "modern improvements" that can be confidently used and recommended by our readers.

THE standards of living are continually growing higher, and the past few years have witnessed great advances in home comforts and conveniences, especially in the small towns and rural districts. The luxuries of yesterday are necessities of today and the average new farm or suburban home is equipped with all of the more important modern improvements that one finds in the city apartment.

Most builders in the smaller towns can remember when their customers demanded little more than a passable plan. Now they expect and insist that the contractor provide every up-to-date appliance. And if the contractor is progressive, he makes it his business to do so, because it facilitates closing contracts

and increases his earnings. With him it is merely a business proposition, for it enables him to deliver a house or other building, more satisfactory to his customer, more creditable to himself—and more profitable.

If more contractors were awake to the fact that by putting into the buildings they handle such devices as save money, add to comfort and make life better worth while, they are serving their own interests as well as those of their customers, more attention would be given to this phase of the business.

A pleased customer is the best advertisement, and customers are sure to be pleased where the home or other building is thoroughly equipped and up-to-date.

Pneumatic Water Supply

Prominent among the money and labor saving devices to which the live builder should give attention, is the individual water supply system. This is the first of all the "modern appliances" to be considered, for the reason that several of the others depend on running water as a necessary prerequisite to their operation. That boon to housewives, hot water on tap; the conveniences of a modern bath room, including sanitary sewage disposal system; all these are possible only where the house is piped with water under pressure. So where there is no "city water" an individual pneumatic pressure water system has to be supplied.

When he is fully alive to the manifold advantages accruing from such installations, no contractor will deliver a house or other building unless provided with the most modern and reliable water supply obtainable.

Many contractors, otherwise well informed, have been too busy to keep close tab on the rapid strides being made in the water supply field. Others have regarded this as outside their province—as something which the owner must, should and would attend to for himself.

As a rule, the contractor has failed to see the profits in the water supply end of his business. He has not realized that he could send a report of the conditions to be met, and requirements to be filled, to responsible manufacturers of water supply goods, and without cost to him, receive complete plans, specifications, and estimates showing both his cost and the cost to his customers, thus clearly outlining his profits.

Water systems are easy to sell in connection with a building contract. They are not to be considered a mere luxury, but a dollars and cents proposition. Ample material is at hand to show the owner why a water system should be installed, and the money making capacity of the investment can easily be proven. No property owner objects to spending money when the expenditure adds more value to his property than the amount expended. But a good water system will not only increase the conveniences and comforts of a home, but will increase the owner's income by saving time and hard work—bettering the health of the entire family—beautifying his gardens and grounds—affording facilities for a profitable vegetable garden, and offering valuable fire protection.

Hot Water "On Tap"

Builders are often asked the following, or something like it:

"Why should I, who am about to build, include a water heater in the plans for my new building?"

This concrete question suggests its own answer, for if a man is about to build a home his all absorbing idea will be to have the building and equipment as near perfect as possible in the matter of comforts and conveniences. Therefore, the plans would not be complete—in fact very incomplete, without some proper and ample arrangement for providing hot water for domestic and lavatory purposes.

He would better omit several other things seemingly indispensable, or, if need be, eliminate ornamentation and artistic effects, rather than sacrifice comfort, health and sanitation, by omitting the hot water supply.

Would he omit the bath tub? Certainly not, but what would the bath tub signify for comfort without hot water to complete the delight and wholesomeness of the bath.

Next to the cooking stove or range in the modern residence, the most necessary and constant requirement is hot water. The range water back is, for the ordinary household, amply large to supply all requirements, but it is now a common occurrence for house owners to abandon the use of the coal range in kitchen during the warm months and if the range is the only means of heating water, this very necessary supply is likewise cut off during the summer.

Up to a few years ago, when hot water was needed during the summer it was a case of "Polly put the kettle on" and then wait until a scanty supply was heated. Later a small gas heater connected right with the range was attached to the boiler and it did fairly well, provided somebody lighted it two or three hours before the hot water was needed.

The great trouble with this lay in the fact that the water was seldom ever hot at the moment it was

wanted; in the waste of fuel necessary to maintain a supply of hot water at all times; and to the fact that the whole kitchen was heated up in order to secure a little hot water.

Now all this is avoided by the installation of one of the "instantaneous" gas water heaters now on the market. Some of these are set up in the kitchen, some right in the bath room. Both the automatic and non-automatic types are manufactured in a variety of sizes sufficient to meet any requirements, from the average small home or apartment to the largest hotel or institution service. The rapidly increasing sales are the best evidence of the popularity of this class of water heater.

There are also many practical and successful basement, coal burning water heaters on the market. For use in residences, apartment buildings and small plants, where it is desirable or necessary to minimize janitor services, a water heater made with a self feeding magazine is found to be satisfactory and efficient.

Experience shows an ordinary family will use from 100 to 120 gallons or more water in 24 hours. The warm water for domestic supply should average 130 to 150 degrees.

Hence a heater should be provided of sufficient capacity to raise the amount of water required per hour, from about 40 degrees in the winter and 60 degrees or more in the summer, to a temperature high enough for lavatory uses.

It is both economical and very good practice to have a storage tank from 50 per cent to 100 per cent greater capacity than the water heater. Thus proportioned, the hot water can be stored or accumulated at times when little water is being used. The heater can be run with a lower and steadier fire.

With a liberal storage tank, sudden or unusual demands for hot water are easily met, and without having to force the heater.

Modern Laundry Equipment

In these days, no up-to-date home or apartment building is considered complete without a laundry dryer. Under the most perfect conditions only about three months of really good drying weather can be secured, and even these are subject to sudden showers which may spoil hours of weary toil in a few moments. The balance of the year the garments, when hung outside, are subjected to the grime smearing elements of smoke and soot, sudden gales of wind which tear the garments, pull them from the line and in many cases dash the entire wash to the ground.

Another disagreeable feature of outside drying during the winter months is the danger to health due to the sudden change from the hot moist air of the

laundry to the cold and windy outdoor atmosphere. The safeguard to the health of those doing the washing insured by the use of a laundry dryer is worth many times the cost, to say nothing of the many other advantages insured by its use. Having the entire operation of washing and ironing concentrated in one place not only saves a great deal of time, but also countless weary steps.

The modern way of drying clothes, however, is by means of a metal laundry clothes dryer, which exactly imitates the work of nature, in that the clothes are dried as fast and bleached as white as though dried in the open air on an ideal June day.

The heat (sun) is supplied by coal, gas, steam or

hot water, while the ventilation (wind) is secured by connecting the dryer with a flue of sufficient "pull" to enable a thorough circulation of the heated air through and about the garments and carry off the vapor arising from the drying clothes.

There is really no expense attached to the use of a metal laundry clothes dryer except the first cost, and even this is returned in time through the savings in money, time, worry and labor effected by its use.

No matter how the clothes are dried, it is always necessary to have a fire for boiling clothes, heating irons, etc. With a laundry dryer, the same fire which heats the water, boils the clothes and heats the flat-irons is also used in the drying and ventilating process. As a fire would be necessary in any event, it really costs nothing to operate the dryer.

A laundry dryer is a real necessity in flat and apartment buildings where no outdoor drying arrangements can be provided. Metal laundry dryers are substantially

constructed, and are made in knock-down form, so that they can be shipped without difficulty and easily erected without soldering.

Set Tubs

But whether the laundry is equipped with dryer or not, the housewife today insists on having set tubs. These are made of slate, enameled iron or soapstone, and are a very great convenience for busy housewives at a comparatively small expense. The several compartments are so arranged as to permit the use of the hot water for washing clothes, the cold water for rinsing them, and the bluing water which most housewives use. Being connected with the water supply of the house, they are quickly and easily filled, and by means of their connection with the drainage system they are quickly and easily emptied, and without labor. They are so shaped as to afford easy adjustment for wringer, and may be had with drain board attached, on which the ironing can be done.

Acetylene Lighting as a Modern Improvement

Up to practically a dozen years ago an individual lighting system for houses was unknown, and those who resided beyond city mains were compelled to use oil lamps, which by no stretch of the term could be considered as comprising a system. A system involves conducting the light-producing agent throughout a building from a central point, making it available for immediate use wherever a light is desired.

When lamps are used the resulting lack of a system involves their conveyance from one room to another as the occupants move about after dark, and if there are additional lamps scattered throughout the building it requires a multiplication of duties to keep them filled, trimmed and in running order.

A system, on the other hand, needs no further attention than to keep the single light-producing plant in running order, no matter whether but one or a hundred lights are derived from that source. To operate such a plant for one month requires but a mere fraction of the time that is necessary to care for a single oil lamp during the same period—probably twenty minutes for the system as against two hours and a half for a single lamp, counting the daily time of refilling, trimming, cleaning and returning a lamp to its customary place as consuming five minutes. When three or four or a half dozen lamps are used the time consumed in their care during a year will amount to a great many hours and days needlessly wasted, to say nothing of the expenditure of labor involved.

The system we particularly refer to is acetylene, the advantages of which will be enlarged on in a later article.

Another advantage of a lighting system as against lighting by portable lamps is that of safety. The system necessitates lights burned through fixtures—

fixed, immovable, which cannot be overturned, making the safety incomparably greater whether there are small children, dogs or cats playing about or not. Not only may lamps be overturned by slight carelessness, but if they are not frequently refilled and gas be allowed to accumulate in the bowl, or if the wicks are not trimmed and become charred, an accident may result which will throw burning oil about the room. Fire insurance companies are aware of the hazard arising from the use of lamps, and their rates are affected. An acetylene lighting system may be equipped with self-igniting burners if desired, doing away with the inconvenience and danger arising from the use of matches.

A lighting system may be extended from the residence to the barn and any number of other buildings, dependent upon the capacity of the plant, thereby increasing the convenience, safety and saving of time and labor.

In the case of acetylene lighting the system permits the use of the gas as a fuel for moderate cooking, being ready for instant use and capable of being instantly extinguished, thus avoiding the necessity of prolonged heated conditions in the kitchen.

We now come to perhaps the chief advantage of a system over the use of lamps, and which is the factor that at one time made the city home at night more attractive than the country home, and that is the superior quality and quantity of illumination. Greater comfort for the occupants when reading, sewing or at study, lessened strain on the nerves of sight and enhanced attractiveness of the interior furnishings were the result. Too much stress cannot be laid on the superior service afforded by the system, for the only object in using lamps or having a gas plant is to secure light—the more the better, providing it is of an agreeable,

sight-preserving quality.

What brought about this advancement in lighting farm, country, suburban and summer homes? Primarily acetylene, the youngest of the world's illuminants, for it was not until its use became commercially practicable that serious attention appears to have been given a system of lighting for individual buildings or buildings in small groups. The development of acetylene lighting was at first sadly hampered by the crude devices for producing the gas at first put on the market, and while faulty apparatus may not yet be entirely eliminated—faulty apparatus being found in practically all lines of invention—there are today generators that are virtually perfect in operation, safety and dependability, and that produce the light in all the surprising brilliancy that has made acetylene justly famous.

What is acetylene?

Acetylene is a gas which will produce the most beautiful light known.

Acetylene is produced in an apparatus known as a generator.

House generators are a little larger than the ordinary stove and are attached to a piping system, the acetylene being used in the same manner as common gas.

The generators are usually of a capacity so that one charge of carbide will supply an ordinary store one week, or a house one month.

All standard generators are required to comply with the most stringent rules made by insurance engineers,

and acetylene, when made in permitted generators, is entirely safe.

No skill is required to operate a generator. The gas is lighted when desired and the burner turned off to extinguish the light. The generator is automatic and takes care of itself except when needing recharging.

Acetylene is used for cooking as well as for lighting.

More than 175,000 acetylene lighting systems are in successful use in the United States today, lighting farm and suburban homes, hotels, churches, stores, schools and every other class of building where the use of lighting is essential.

Architects have not in the past paid the attention they should have in providing plans for the adequate lighting of buildings built outside the limits of electricity and city gas, doubtless because they have allowed prejudice to interfere in their making an investigation as to what could be secured to meet this requirement. This situation is very rapidly changing and architects are now quite generally giving the lighting as much attention as the heating or plumbing.

Contractors and builders have also failed to realize that the furnishing of a lighting plant would add to their profit in the contract, but this condition is also changing, and where the architect fails to specify a lighting equipment, they provide the same, and where they take the trouble to secure dependable apparatus, they please their customer and also realize satisfactory compensation for their labor.

Gasoline Installation for Lighting and Cooking

To have his home or place of business brilliantly lighted at a moderate cost, and at the same time be independent of the gas companies and yet not have to resort back to oil lamps, is the offering of the gasoline system lighting people to improve the situation for the modern builder.

The apparatus used for these systems consists usually of an air pump and a carbureter or generator and supply tank combined.

In installing the plant, the air pump is placed in the cellar of the building to be lighted, and the generator under the ground, away from the building.

The air pump is operated by a weight which is wound up to the height of the ceiling, and this weight runs the machine until it gets down to the floor. To wind it up takes only from a half to one minute and a child ten years of age can do it with ease. There is, therefore, no expense for power in operating the plant. All that is to be paid for is the gasoline, making it cost very little for light or gas for a range.

The air is forced from the air pump through a pipe out to the carbureter in the ground, and the gas is generated in this carbureter and from that forced through another pipe that leads to the building and which is used as a gas pipe. In this way there is no

gas in the building, only what is in the pipes leading to the burners, making it absolutely safe.

The machines are perfectly automatic in action, so that when the lights are turned on they start to work, and cease as soon as the lights are turned out. There is no waste of power, as it will stand when lights are not in use, and when lights are turned on the weight will put the air pump into motion until the lights are turned off again.

The machines make gas by the cold air process, no heat or fire of any kind being used to generate, thus making it absolutely free from danger.

The gas is always on tap at any time, precisely the same as city gas, and the gas produced is equal, if not superior, to the best of city gas for either lighting or cooking purposes.

The pipes used in connection with the system are of the ordinary type, such as are used in the introduction of city coal gas.

Some idea of the economy of this system may be had when it is stated that it will produce a light at less than one-third the cost of an equivalent light from kerosene oil, and it does this without any disagreeable odors, smoke or heat, and requires less care for ten or twenty lights than is required by a single

ordinary oil lamp.

When the fact is considered that such a private gas plant can be installed in any home, store, factory, hall, church, hotel or residence in either town or country, and that it furnishes gas for lighting and cooking at a cost very much less than it can be furnished in any other way, it would seem as if the time had come when consumers should cease to pay extortionate prices for comparatively indifferent light and service to gas companies. It will be understood, as a matter

of course, that the greatest value of these private gas plants lies in their adaptability to the lighting of isolated residences, manufacturing plants, country and resort hotels and all buildings that cannot be supplied with gas in any other way. With a gasoline private gas plant, such buildings are really better equipped than those in the large cities that depend upon the gas companies. Furthermore, such a plant constitutes a permanent improvement on the property, and adds substantially to its market value.

Automatic Heat Regulators

No matter how carefully a furnace is run, there are many times when it delivers either too much to too little heat.

Besides causing discomfort and annoyance, these sudden changes bring on colds and other sickness. Both health and comfort require a reasonably uniform temperature.

Without automatic control a considerable part of the coal burned is wasted.

When a brisk fire is started in the morning to warm the house quickly, the drafts are opened wide. Very often they are neglected or forgotten until the house is too hot. Then someone checks the fire and perhaps opens a window. Before long the house is too cold.

An automatic regulator not only keeps the temperature uniform at the degree desired, increasing the comfort and healthfulness of the home, but reduces

and prevents the waste of fuel due to overheating. No more is burned than is actually needed. Some people say that their coal bills are reduced as much as 25 per cent, because of the vigilant watch the automatic regulator keeps over the fire. By preventing overheating as well as sudden heating and cooling, it lessens expense for repairs and lengthens the life of the furnace. It relieves the householder of most of the care of his heater. The drafts require no attention. The fire burns evenly.

There are a number of excellent regulators on the market; some of them for warm air furnaces, some for steam or hot water. Their cost is very moderate; in fact there is no reason why every heating plant should not be equipped with one. Builders may well study up on thermostats and be prepared to recommend them. They are simple both in installation and in working.

Sewage Disposal for Country Homes

The most important part of the country home is the disposal of the sewage from the house and the out house. The one point so often given the least thought—sanitation—should be the first.

The general idea of the home builder is to dispose of the sewage as cheaply as possible. The first thought is to bury the sewage in the ground, out of sight. Then they think they have complied with all the requirements of sanitation. This is the greatest mistake and the most unsanitary.

Almost all sickness is caused by disease germs that are hatched in polluted soil and allowed to seep deeper into the soil, finding their way into the wells or other source of water supply. Or, if buried close to the top of the ground, the air breathed is loaded with typhoid germs. You wonder where the foul smell comes from? It comes from the earth around your own home, where you have been burying sewage for months, only out of your sight. You are drinking the water and breathing the foul air from it (unsanitary). It is true you have saved a few dollars (or you think you have), but when you were burying the sewage you were digging your own grave, endangering your own health and the health of your neighbors.

The cesspool is another general idea of putting the sewage (only) out of sight. It is an unseen death trap. You wonder where the foul smell comes from in the early morning? Out of the earth from the sewage you have been putting out of sight in your own lot.

Give this a moment's thought: your well is 20 to 40 feet deep; your cesspool is 12 feet deep, or your privy vault is 6 feet deep. The water from this goes down into the ground, follows the strata of the earth to your well, and you drink the water, because it is cool and clear. Nevertheless, it is, or may be, alive with typhoid germs. Now, you will put up the argument that you have been drinking this water for some time and never get sick. Why? Because your system is in good condition and you throw off the typhoid germ. Some time your system will not be just right to throw off the poison germ.

Now comes the old idea that impure water purifies itself by seeping 100 feet through the ground. Now, for the reason that everybody thinks it will, we will admit this; but tomorrow the impurities cling to the pores of the earth one foot from the cesspool or privy

vault; next day, two feet from the cesspool is impure water; and in less than four months you are getting impure water and typhoid germs into your well.

These are the reasons why every builder should con-

sider the question of septic sewage disposal. There are several outfits for this purpose on the market; and numerous plans have been offered by which a private septic sewerage system can be built.

Built-in Vacuum Cleaning in Modern Buildings

Only a few years ago vacuum cleaning was an infant industry. The readers of this paper will remember the interest and curiosity which was aroused by the early installations of air cleaning systems in some of the great metropolitan hotels, yet in less than a decade suction cleaning in one form or another has become the accepted and practically the only accepted method of cleaning buildings of every description. No house can really be considered modern and up-to-date which is not piped for vacuum cleaning. And the architects and builders should bear in mind the further fact that no building should be piped with piping less than $2\frac{1}{2}$ inches in diameter.

In a recent issue of *Keith's Magazine* the following statement is made:

"There can be no question but that the low pressure machines are to be the generally accepted type for the future, as they are capable of performing vastly greater service than the high pressure machines with small tools and limited pipe capacity. Moreover they are simple in construction, they require a minimum of power and are economical of up-keep and operation."

The earlier types of vacuum cleaning systems were almost invariably of high pressure design; most of them derived their power from air pumps of the diaphragm pattern, which are necessarily complicated. This same idea was applied to the manufacture of most of the so-called portable cleaning systems. However effective the high pressure systems may be in the creation of vacuum, it has already been demonstrated that this method is not desirable.

In a test conducted in the city of Detroit, Mich., under the auspices of the school board of that city, and by a board of disinterested mechanical engineers of international reputation, the unanimous verdict was in favor of a low pressure, large area system of stationary air cleaning.

One such system consists of a powerful centrifugal fan which can be located in the basement of the building, and which is exceedingly simple, having no complicated valves or diaphragms. A stand-pipe $2\frac{1}{2}$ inches in diameter, connects this machine with the various floors where the hose may be attached at convenient openings. The large area of the tools used in this system is capable of removing an enormous volume of air per minute, carrying with it all the dust and dirt and depositing it in an air-tight receptacle in the basement. The dead air, with its impurities, is exhausted into a flue connected with the chimney.

Piping of this diameter is ample to allow the free passage of articles which would clog the ordinary

pipes, and also to completely change the air in the room that is being cleaned.

It is only a matter of time, and we believe it will be a matter of very limited time, before every new house will be piped for low-pressure vacuum cleaning, as certainly as it will be equipped with stationary plumbing, heating and lighting systems. Thousands of buildings, already occupied, are being equipped with this system of cleaning every year. The only objection which has been advanced against this method of cleaning in the past, especially as applied to buildings of moderate cost, has been its expense. This argument is no longer valid, as the average home can be fully equipped with the most approved system of modern air cleaning at a cost no greater than that required for a good heating plant.



The Price of Flies

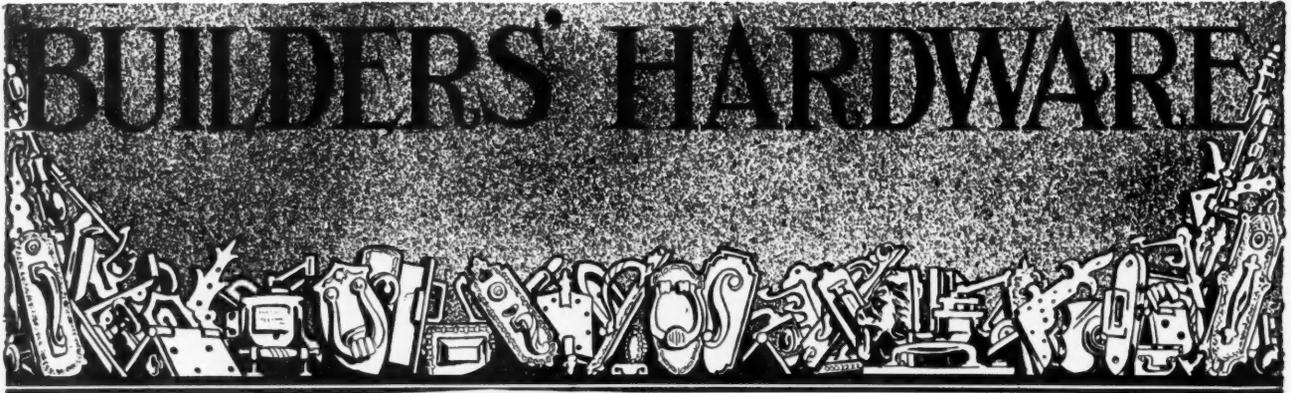
THE Cleveland citizens' committee of fifty-five will pay for dead flies during the two weeks from April 22 to May 6. The market will open at 10 cents a hundred. If the supply is in excess of the committee the price will drop, but the committee has decided that it will not be allowed to go below 10 cents a quart.

By this limitation the artistic fly swatter is guaranteed a profitable market.

In Washington the price of 10 cents a quart was established two years ago, but that was a September price. One female crawling out of a warm corner in the month of April will start a family tree which, without casualties, would have a September membership of three trillions.

The chamber of commerce is to furnish fly traps to go on garbage cans only. The theory is that Cleveland, being an automobile town, its stables are not good hunting grounds. In Chicago, with a Supreme court who thinks flies of no consequence, with no proper manure laws, and with 80,000 horses, a fly hunter's league would make more money trapping in manure boxes. As a further consideration, it may be that, in Cleveland, flies in the house are bad form—something of a disgrace, like lice—something of a reflection on the housewife, like bedbugs—and therefore they trap only at the garbage cans.

"I am glad to see this fly swatting business get organized," writes Dr W. A. Evans in his "How to Keep Well" column in the *Chicago Tribune*. "I hope some philanthropist will rise to thoroughly develop it. I am also glad that, in so far it has gone, it is on business principles. When 10 cents a quart is the September price, 2 cents a hundred in April is about right."



Casement Adjusters

HARDWARE FIXTURES, BOTH STANDARD AND SPECIAL, REQUIRED FOR OUTWARD OPENING CASEMENT WINDOWS

By Our Hardware Expert

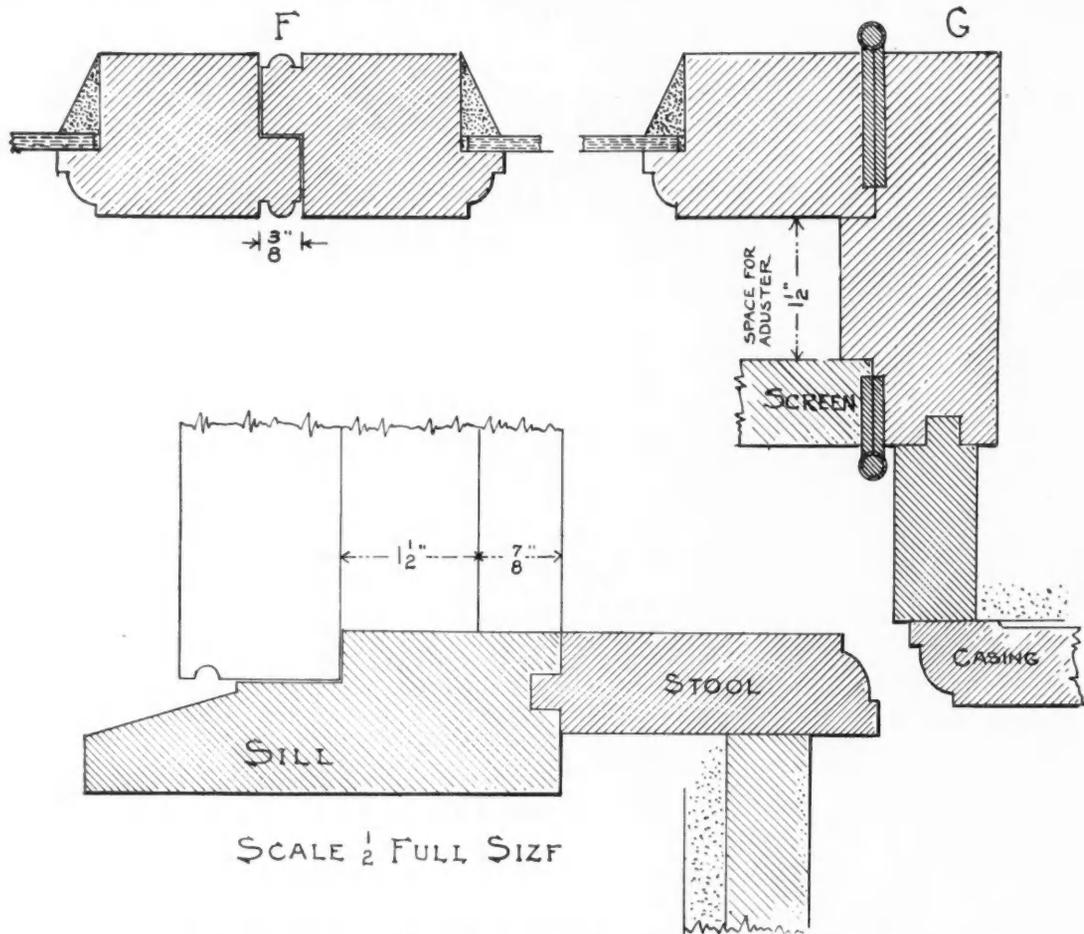
CASEMENT windows opening out are becoming popular because they are more water proof than windows opening in. Everybody nowadays are fresh air fiends, and the open out casements are favored because the draper can devise ingenious methods in the use of heavy fabrics in excluding the light, guarantee greater privacy without shutting off the free access of air.

The Hartshorn shade cannot be used on these casements. When open the wind plays havoc with the

shades, making so much noise as to become a nuisance. Detail No. 12 is now in almost universal use for these windows.

Note: The space of $1\frac{1}{2}$ inches between the sash and the screen must be provided so an adjuster of standard make can be applied to the sill. Three standard adjusters are shown herewith, all of which can be successfully applied to this detail.

The rabbet of $\frac{3}{8}$ inch is required as many times a mortise turnbuckle is desired and this depth of rabbet



DETAIL NO. 12—STANDARD DETAIL FOR OPEN OUT CASEMENT WINDOWS

"F," Section through Meeting Rails of Double Casements, Showing $\frac{3}{8}$ " Rabbet to Fit Standard Mortise Turnbuckle.
 "G," Section through Jamb, Showing $1\frac{1}{2}$ " Space Necessary for Standard Adjusters.

is standard with all manufacturers of hardware.

The reader on close examination of these three types of standard adjusters will notice that they are designed to hold the sash at any angle up to 90 degrees, without interfering with the closing of the screen.

There are other types of standard adjusters which can be applied to good advantage on casements in certain buildings where screens are not used.

We illustrate two standard casement fasts which are in universal use. The fast with the T handle is used on open-in single and double casements, details of which were shown in our April number. The fast with the ring handle is preferred by the lady of the house, because more crushing power is exercised in locking the window and keeping out the cold and the rain.

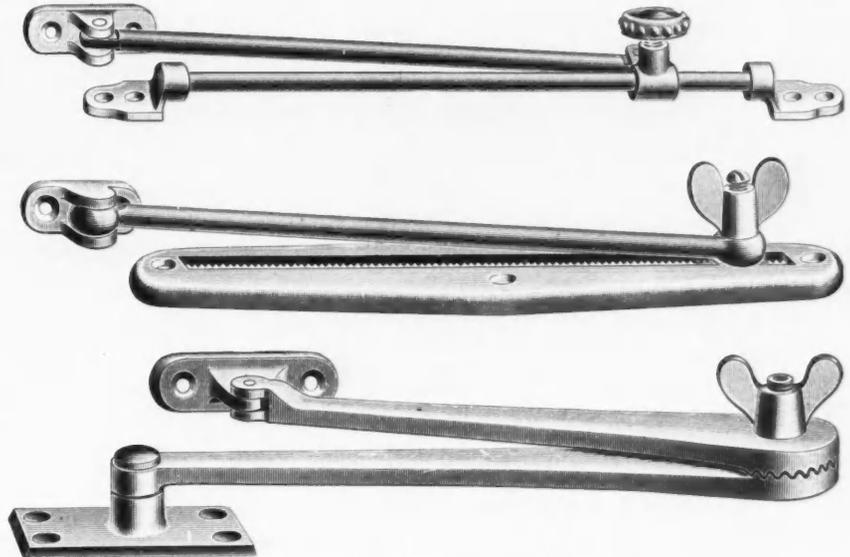
The fast having the narrow striker is for single casements open out. The one having the wide striker is the ideal fast for single open-in, double open-in, and double open out casements.

Particular stress is used by the Hardware Editor in advocating the Ring Fast; it has been proved up to be the best device to resist the burglar as well as the weather.

The Americans are champion mosquito and fly fighters. They have conquered them in Cuba, in Panama and in the Phillipines. The American inventors have enlisted in the good cause. Chicago is the home of the successful inventors who are carrying on the warfare against these most deadly pests. Their aim

was opened or closed. Three Chicagoans began racking their brains. Success crowned their mental efforts.

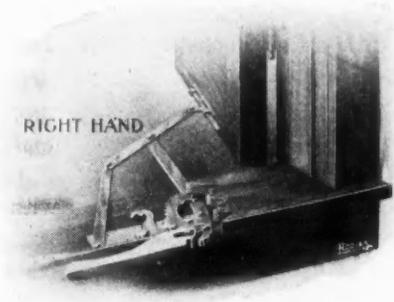
We show an illustration of the "Sperry" adjuster,



Three Styles Standard Casement Adjusters

also of the "Hold Fast," the "Bull Dog" and the "Vice Grip."

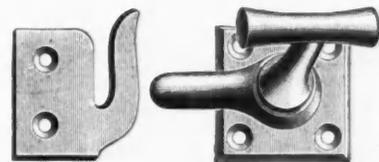
The "Vice Grip" adjuster and the "Bull Dog" adjuster can be applied to standard Detail Number 12, with varying measurements from sash to screen and varying widths of stools.



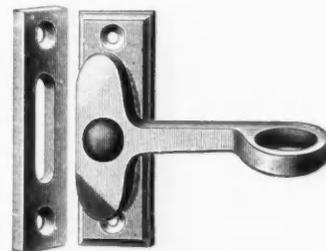
"Sperry" Adjuster and Lock

is to exclude them from the home. They believe that the fly should not be invited to partake of the food which now costs so much of man's efforts to procure. They know that man objects to BEING STUNG, hence the fight on the mosquito.

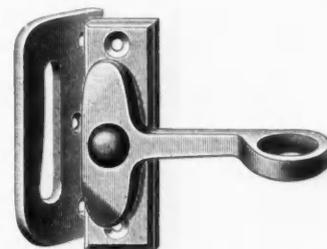
The only objection to open out casements, was that the screen had to be opened every time the window



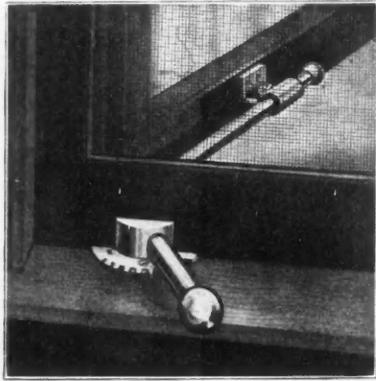
T-Handle Fast (Used for Open-in Casements)



Ring-Handle Fast with Narrow Striker for Single Open-Out Casements



Ring-Handle Fast with Wide Striker for Single Open-in and for Both In and Out Double Casements

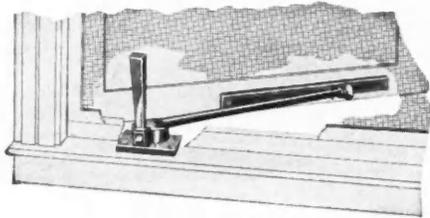


"Bulldog" Adjuster

The "Hold Fast" and the "Sperry" adjusters are operated from below the stool and care must be taken to get full size working details from the manufacturers, who will be delighted to furnish same on application.

The "Hold Fast" and the "Sperry" adjusters as shown in the illustrations do not interfere with the screen. The screen is never opened except when the occupant of the house wishes to make the house doubly secure against the burglar and the elements.

The screen is usually hinged at the side and held shut by Forg's friction catches and pulled open with a sash knob. The screen must be pulled open so as

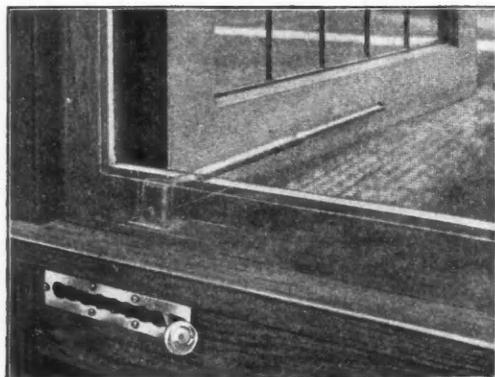


"Vice Grip" Adjuster

to get at the fast to lock or unlock the window.

The reader will notice that the screen straddles the "Bull Dog" and the "Vice Grip" adjusters. The screen in use with these adjusters is usually held in place by Forg's catches and a sash knob is used to pull the screen out of its position when it is desired to lock or unlock the window.

Everyone making a study of the habits of the house fly will know that they delight in warmth. Hundreds of these pesterers have been seen clinging to the out-



"Holdfast" Casement Adjuster

side of the screen in cool weather. It is up to the occupant of the house to "shoo" these flies from the screen before removing same from its place.

The "shooing" of flies is becoming a nuisance and a demand for a casement fast which will lock the open out casement window without removing the screen is one of the needs of the hour.

The Hardware Editor invites ideas on this proposition from his readers. The first Yankee inventor who solves this problem will be blessed by the householder who will persist in his desire for casements opening out.



Detroit Builders Object to License Scheme

"The proposal to license architects and allow only licensed men to work on jobs of \$2,000 or more would be a hardship on several thousand builders of Detroit," declared Robert G. McDonnell, a builder of that city. "Such an association would be a trust, nothing less."

"In common with hundreds of other builders in Detroit I prepare the plans for a great many of the buildings I erect. Under this proposed license act I would be barred from doing that except on jobs of under \$2,000. I would be forced to employ architects on all other work and the consumer will pay the extra money.

"I consider myself competent to draw up such plans as I prepare, and there are hundreds of others, not architects, who are in the same position. One argument used by the architects for the license is that in Illinois, where they have a license law, there have been no buildings collapse. Neither has there been any in Detroit, excepting the Temple roof, which was made too heavy.

"If this ordinance is passed, there will be nothing to prevent the architects raising their fee."

A petition circulated among the architects of Detroit will be presented to the council asking for a license ordinance. It is proposed that any architect or architects desiring to establish an office in Detroit shall obtain a license. Except in case of architects who have been practicing in Detroit for one year preceding the date of the adoption of the ordinance, the license is to be issued only after the applicant has passed an examination to determine his ability to prepare working drawings and specifications for various types of buildings, his work to conform with the city's building laws.

Applicants to whom licenses are issued will pay a fee, tentatively fixed at \$25, and an annual fee of \$10 for renewal of the license.



Writing on Blueprints

To write notes or dimensions on blue-prints use a pen dipped in saleratus water, or rub a cloth saturated with the solution on the print and write with a pencil on the resulting white spot.



THERE is not a job in the world that has no rough angles in it.

A Woman Turns Carpenter

BUILDS FIVE-ROOM BUNGALOW HOME WITH OWN HANDS

By Herbert C. Crocker

HERE is a five room cottage built by the hands of Mrs. Mary Tabor of Edwardsville, Ill., with some assistance only from her husband, M. F. Tabor. From start to finish, the job was superintended by Mrs. Tabor who made the plans, ordered all materials and took the principal part in all manual labors. Mrs. Tabor kept an accurate account of all

the St. Louis millionaire manufacturer, philanthropist and believer in co-operation in his shops.

Neighbors looked on with interest. When it came to shingling they felt sure she would abandon the job. Daily from daylight until dark Mrs. Taylor was seen sawing, fitting joints, pounding and gradually moulding her little home. In speaking of the results she declares it entirely satisfactory but suggests it should have been two feet wider and longer.



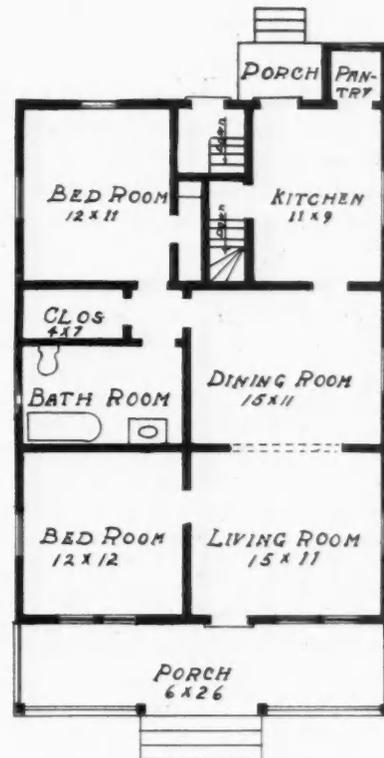
An anti-treat society has been organized in Ohio. You, doubtless, know a lot of fellows in your town who are eligible to honorary membership.



Ready for a Day's Work

materials used; and the total amounted to a little less than \$1,500.

Mrs. Tabor's working plans were roughly sketched on a piece of pine board. All of the estimates and dimensions had been carefully figured, and not once during the construction did she meet with a blunder. The assistance she received from her husband included



Floor Plan of Cottage



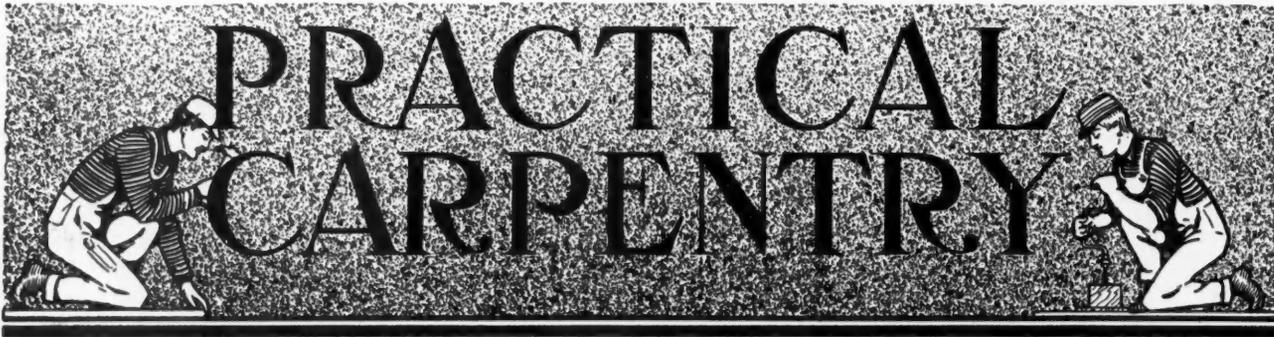
Good at Ladder Climbing. Neighbors Expected Her to Balk at Shingling—But She Didn't

the handling of heavy timbers and holding them until they were nailed in place. Tabor is a carpenter by trade, a Civil War veteran, but has long been retired.

Mrs. Tabor assisted in digging the basement excavation and mixed the cement for the concrete foundation. She placed orders for all lumber and mill work and figured out the various parts so there was very little loss. The home is located in LeClaire, a suburb of Edwardsville, "the model city" of N. O. Nelson



Cottage Planned and Built by Mrs. Tabor—Cost \$1500



How to Do Work Fast

SECOND PAPER

By I. P. Hicks

SINCE writing our last letter we have concluded to begin at the beginning with the fast work problem. That there is a whole lot in it we can convince most people quite readily. We will take the building of an average house with a gang of six men. Six men are all that can be worked to a good advantage on houses costing \$1,800 to \$4,000. On every job there must be a foreman, some one to take the lead and direct the work of the men. A job without a foreman is much like a saw without teeth. No job runs right without a foreman, and the better qualified the foreman in practical ways of doing work and handling men the smoother and faster the job will progress.

The Foreman Starts With a Rush—A Job For Every Man

We will suppose that the six men start on the house all at the same time and that the foreman has nothing laid out ahead, this will put many a foreman in hot water right on the start. To lay out work for five men when all are standing around with saws and hammers in hand—each waiting for a chance to start—is no small task and is, to say the least, somewhat embarrassing. All time lost by men standing around waiting for something to do counts against the job, and a few minutes now and then soon make an hour for one man; and an hour for five men will make five hours for one man; and if this happens very often, the first thing you know there will be two or three days charged up against the job that could have been avoided by skillful management.

I will tell Mr. Foreman how to start the job without losing a minute for anybody. Almost every house has a girder through the middle to support floor joists. You can locate the girder in a minute. Set two men at work putting in the girder, if it is too heavy for two to handle, give them a lift when they need the third man. You can quickly lay out a pattern for the outside studding, set two men framing these. Almost every house now-a-days has a rough floor laid diagonal, set one man cutting one end of the rough flooring boards on the proper end at the proper angle. Now every man has a job and there has been no loss time

at all to speak of. Now the foreman is ahead of the game and can go ahead and lay out the sills without being annoyed, which he could not do at first because he could not lay out this part fast enough for five men to work on with nothing laid out ahead.

Systematize the Work and Specialize the Men

As soon as possible lay out patterns for the joists, so that the moment the girders are placed there will be a job ready for these two men. By this time the foreman should also be ready for two men on the sills. With good management you can keep things moving with surprising rapidity and just like clock-work. Systematize the work and specialize the men so that each man knows exactly what to do and just when and how to do it. This makes it easier for all and surely is a time saver. Constantly changing the men from one kind of work to another causes more lost time than most people are aware of. The lost time creeps in and nobody seems to know just how or where. Look out for the minutes and the hours and days will take care of themselves.

Raise Whole Section At Once

When it comes to raising, if it is a one story building, nail a whole side or section together, even to the doubling of the plates, and with as much help of the men as may be required raise the whole section at once. The foreman should lay out the openings and the top headers should be cut in before raising, it is far easier and quicker to do this work before raising. The bottom headers can be put in after raising easier than before.

Don't Let the Men Get Bunched

A two story building with a ribbon for supporting the second story joists can not be handled just in the same manner because it is too heavy to handle and there is no practical way to get at the ribbon to nail it in before raising. In this case set up the corners, then a stud at the end of ribbon or where the splice comes; tack on temporary braces, and be particular to put them where they will not get in the way, then let two men set up the studding and nail them in place. You can divide up your force so that both

sides of the house will be going up at the same time. You can do the same with the ends and other sections; with five men besides the foreman it is easy to keep the building progressing on all sides. Do not let the men get bunched up, keep just enough in a place to work to advantage, any surplus of men in one place is counting against the job in dollars and cents.

Do all the Plumbing at Once

Don't bother to plumb the corners or the building till all or about all of the outside studding are set, then plumb it all around. This is much better and quicker than plumbing by piece meal, besides when you plumb as you go some of the corners are liable to get knocked out while the rest of the frame is being raised and you will have to go all over the plumbing process the second time.

It is often an advantage to set some of the inside partitions before raising the outside walls, while there is nothing in the way. This is particularly true of joist bearing partitions. The foreman should be constantly on the watch for doing things at the proper time and in ways that require the least time. I do not mean to sacrifice quality or durability, but do it right and at the right time before something gets in the way so that it takes twice as long to do the work and as likely as not you can't get half as good a job either.

Fast Porch Work

In framing the top part of a porch, frame the whole thing, except the ceiling joists and rafters, on the frame below; nail all together, then with as many men as may be necessary lift the frame work bodily right into place. This is three times as quick as building a scaffold and putting it up by pieces.

When it comes to sheathing the outside walls, let the men work in pairs, one to cut lengths and one to nail on the boards. This goes much faster on short spaces than each man cutting for himself. On the long spaces the two should work together one at each end of the boards as it is difficult for one man to handle long boards and is often a disadvantage. There are so many of these little things about a building that I can't begin to tell them all. It is up to the foreman to watch how things are going and keep them going right. It is the only way to make work count.

Scaffold Building

The foreman should direct the building of scaffolds, it will not do to leave it to the men to do as they see fit because if you do some of them will be too high, some too low and some in the way so they will have to be torn down and rebuilt before you can finish the job. Scaffolds should be uniform all around the house and so built that they do not get in the way of anything as long as they are needed. Much time can be saved by having the scaffolds built just right, it often saves rebuilding them or building another one. Scaffolds built just right for convenience save lots of

time in doing the work. A man will lose lots of time trying to work on a scaffold that he could hardly navigate on even without working.

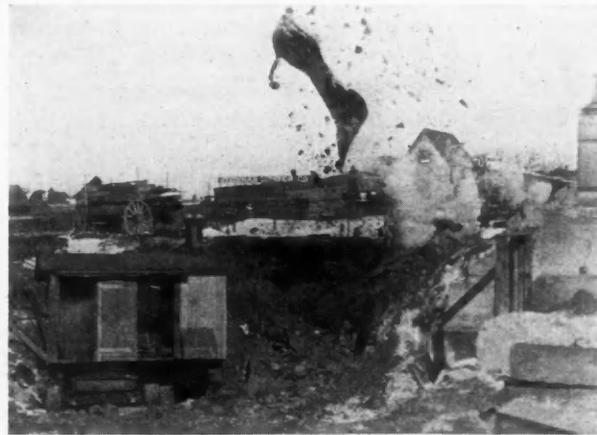
Mr. foreman will find that it will pay well to look after every detail in doing work. The saving of time and building material in building construction is an item that is well worth the close attention of the progressive carpenter, contractor and builder. It is also up to the foreman to look after all these things. It builds up his reputation as an expert and enables him to get the best of positions at the very best of pay. Be progressive, up-to-date and always awake.



Overcoming Building Obstacles

The building contractor has his troubles, especially when he is expected to rush a job through in cold weather. For instance, during this past winter the "frost" penetrated the ground in many places to a depth of six feet.

Manufacturers in a hurry to put up additional factory buildings to take care of increasing business, couldn't wait for a little thing like six feet of solidly frozen ground, however.



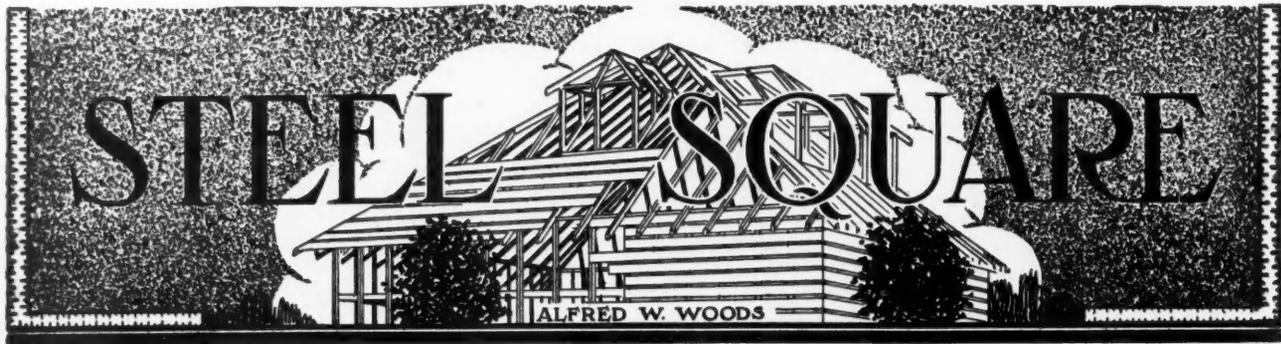
Blasting through 6 ft. of "Frost" for Rush Foundation Work Last Winter

Dynamite is resorted to in such a case. The accompanying photograph shows an example of this sort of work. A dynamite charge has just been touched off and is helping to excavate the ground for a \$125,000 addition to the factory of the Harley-Davidson Motor Co., of Milwaukee. Rush of business, the demand for Harley-Davidson motorcycles being so great, compelled this firm to build, and build in a hurry. Therefore they could not wait for the frost to work out of the ground naturally.

This photograph was snapped with an exposure of only one thirteen hundredth of a second. Quick photography, quick construction, and quick locomotion, seem to be the order of the day.



MEN out of a job envy toilers more than the latter envy the millionaires, and with far more reason.



Practical Uses of the Steel Square

AN ANALYSIS OF THE OCTAGON, SHOWING HOW ITS PARTS MAY BE RECKONED ON THE STEEL SQUARE—THINGS OUT OF THE ORDINARY

WE have chosen for our subject this month the octagon, a figure with eight equal sides. It belongs to the family of polygons and aside from the tetragon, or square, is the one most commonly used in building construction, of all the polygons. There are a number of ways of laying out the octagon, most all of which have been published in this Journal, and we trust the majority of the readers are familiar with them. Yet, it is quite the common thing even among builders to classify most any kind of an obtuse angle in connection with their work as an octagon corner; the result of carelessness of speech, rather than from ignorance of what constitutes the true octagon. In short, it is the divergence of 45 degrees from a straight line, or the joining of two lines at an angle of 135 degrees and the whole figure is composed of sides, which are equal to the chord of a segment comprising the eighth part of a circle.

Now, as we said before, there are a number of ways of arriving at the true angle and that, too, without the knowledge of the part that the degrees play in determining the angle, but it is not our purpose to illustrate the more common ways resorted to, but to show up the subject in a broader sense; showing its relationship under different conditions.

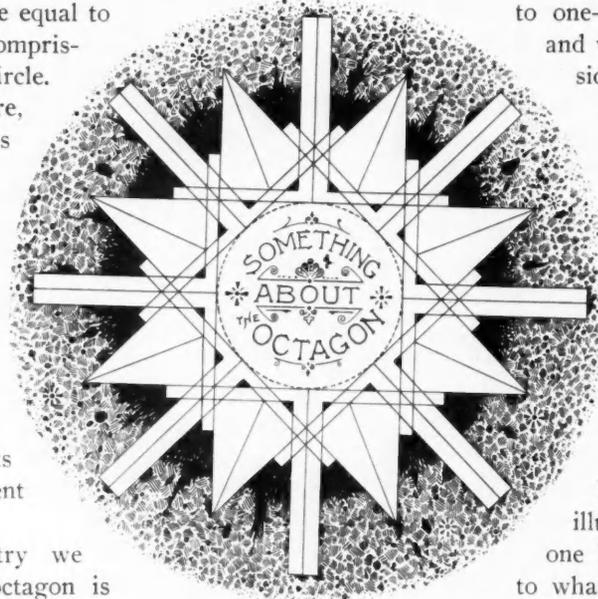
Referring to trigonometry we find that the side of an octagon is .41421 to unity. Then this multiplied by 12 to find the proportion to one foot is 4.9705, or practically 5 inches, and that is the reason 12 and 5 give the octagon mitre. Therefore the side of an octagon is practically $\frac{5}{12}$ of its inscribed diameter; but for calculations where accuracy is required, the decimal 4.9705 should be used as the factor

instead of the whole number, 5. It is true, the difference is not much (less than three hundredths of an inch to the foot of the inscribed diameter); but in a diameter of 34 feet, this difference amounts to a whole inch, which is practically a $\frac{1}{32}$ of an inch to the foot. It is an easy matter then to make a mental calculation by multiplying the diameter by 5 and deduct from the product a $\frac{1}{32}$ of an inch for each foot.

We once happened on a job where some workmen were engaged in building a church in which a large square in the frame work of the ceiling was to be changed by cutting in corner pieces to form a true octagon. Well, they did it alright, but how did they go about it? Why, two men got the points by clambering around over the frame work while a third bossed the job from below, striking circles from each corner with a wire—the radius being equal to one-half of the diagonal distance and where the circle intersected the sides gave the points for the corners. This, of course, is correct; but how much easier it would have been, say nothing of the time saved, if the boss had known the simple formula given above in figures; especially since he need not have left the ground floor after once the exact size of the opening to be changed was known.

Now, as to the accompanying illustrations we will pass the first one by as simply a show piece as to what may be accomplished in the way of geometrical figures with the aid of the steel square. There is seemingly no end to what may be accomplished in dealing with the different polygonal figures in connection with the steel square as a reckoning power.

In Fig. 2 are shown some of the things about the octagon that may be reckoned with the steel square as



follows, using only simple forms of reckoning:—

NOTE the octagon with 12 inch diameter. See the decimal proportions, add them up and it will be found that the sum equals 12. In connection with these parts are given the near equivalents in common fractions as mentioned before. Suppose we wish to reduce the octagon to a 7 inch diameter, without resorting to mathematics; it may be done by scale as follows:—

Draw a line from 12 to 7 and parallel from this line

these lines down to the pitch line show the angle that the piece must be cut to stand vertically. To the left is shown the oblique section. NOTE the true circle shown in the square cut section is changed to a symmetrical oval. To the left of this is shown the sectional cut in the stretchout as indicated by the parts A, B, C, etc., and when folded up it would show a straight cut as at the pitch line. In the upper left hand corner is shown the old square-root problem

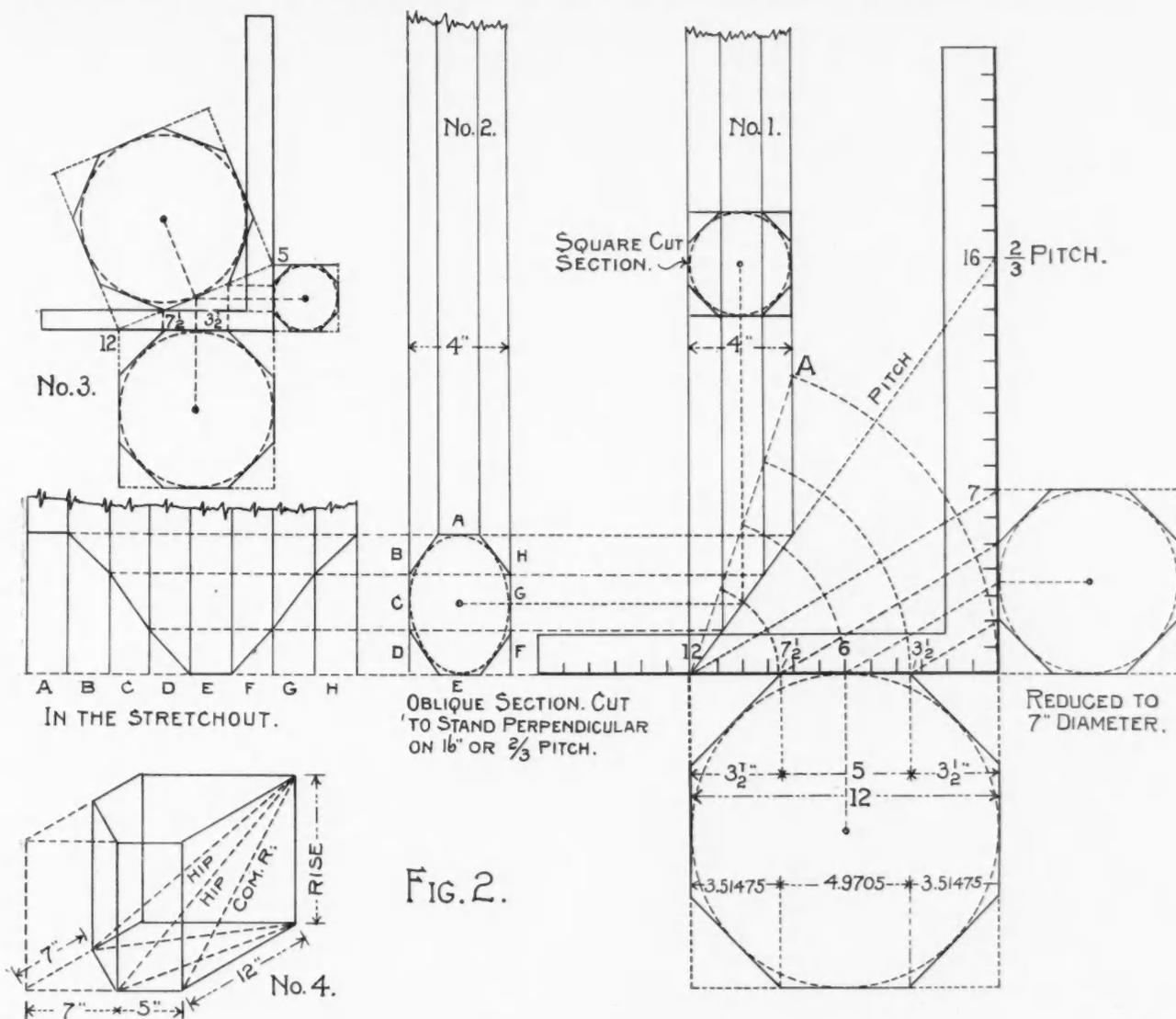


FIG. 2.

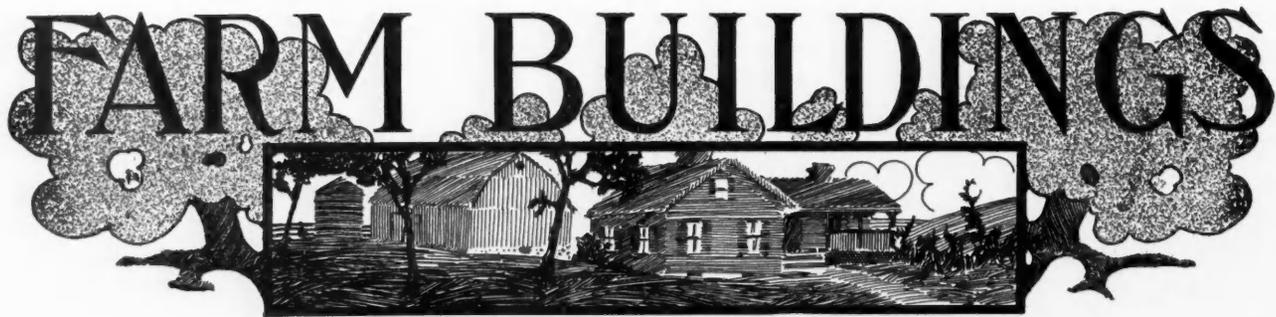
draw other lines from 7 1/2 and 3 1/2 and where these lines intersect the blade will be the points from which to develop the octagon, as shown. By the mental system it is 5 by 7 equals 35, which in this case is equal to thirty-five twelfths inches or 2 11/12 inches to the side.

Suppose it is desired to reduce the octagon to a 4 inch diameter and to stand vertically on a 2/3 pitch. From 12 on the tongue lay off 4 inches, as shown, and with a 12 inch radius strike a circle intersecting the 4 inch line as at A, then draw a line from A to 12 and strike the other circles from 3 1/2 to 7 1/2 to the line A-12 which gives the points for the octagonal lines as is proven by the square cut section and by extending

that the square of the two lesser sides of the triangle will equal that of the third, but in this case it is applied to the octagon.

In the lower left hand corner is shown the octagon cube. NOTE the cube is 12 inches square at the base and that 7 inches of the corner is clipped off. Four of these blocks placed together would form a true octagon cube at its base. This illustration contains the principles involved in octagon roof framing.

In our last article, we illustrated roof framing by the cube system, as applied to the square corner and the description matter there given applies equally as well in the case of the octagon.

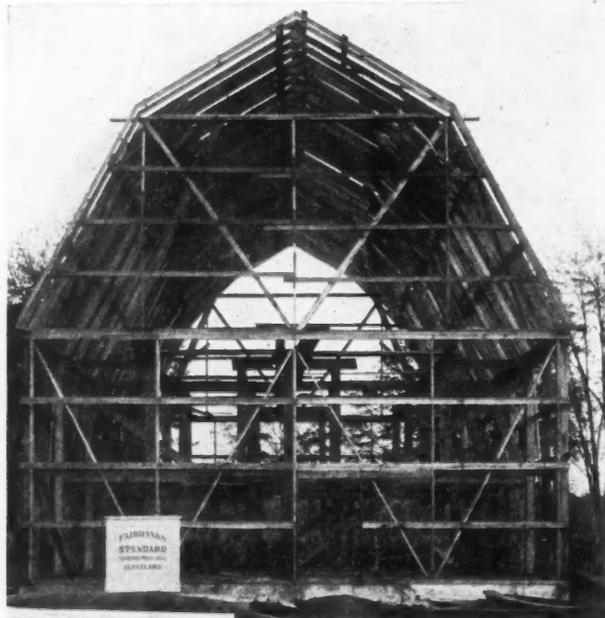


How to Build a Plank Frame Barn

PHOTOGRAPHS AND WORKING DRAWINGS SHOWING SELF SUPPORTING BARN ROOF CONSTRUCTION WITHOUT THE USE OF HEAVY TIMBERS

WITH the growing scarcity of timber, the old style heavy timber barn is becoming an expensive luxury. Plank framing makes a thoroughly satisfactory barn if properly done. The following letter, together with the drawings, makes clear a method tested by our subscriber (who is something of a barn building specialist) and found all right. To the Editor: Berkey, Ohio.

Under separate cover, I am sending you a set of blue prints of the frame work of my improved model of a plank frame barn. I have built several of this style and they are giving good satisfaction. They are erected much quicker than



End View at Close of Tenth Day—Plank Frame Barn Built by Chas. R. Ford

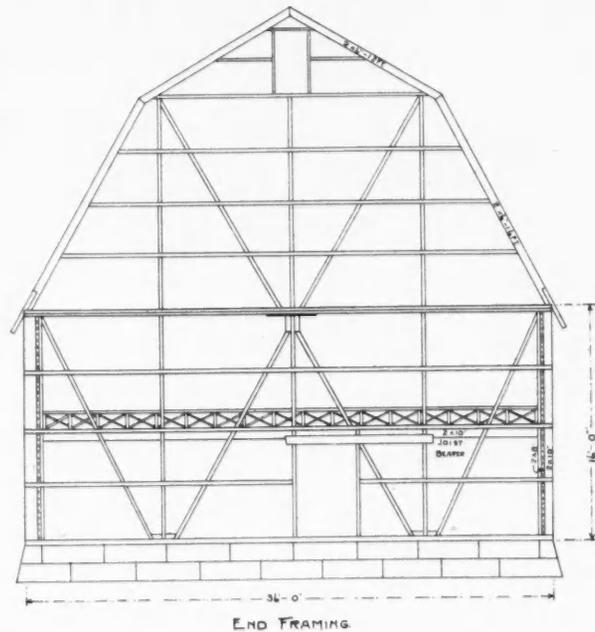
the square timber frame and the plank are much easier to get.

With my system of bracing, they make a stiffer frame than the square timber with a three foot run, 3x4-in. brace under the plates and beams which are always loose after the post and beam shrink. My brace sitting on the sill and reaching to the head of the main posts, braces the frame directly from the sill to the top of the frame. The inside work and siding are the same as any other frame. Arrangements and size can be made to suit any plan of barn.

I have built a great many square timber frames in the past and now it is hard to get long square timbers, (I might say impossible) so I planned this kind of construction and I think it is the best of any I have ever seen.

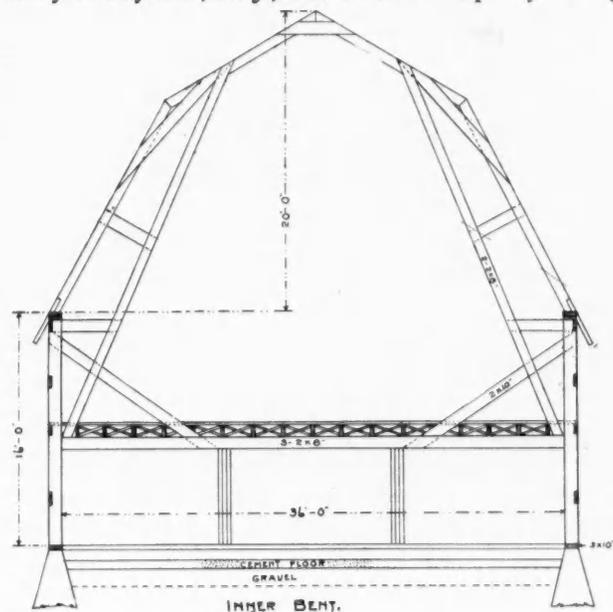
Hoping this will be of some benefit to those about to build, I am,

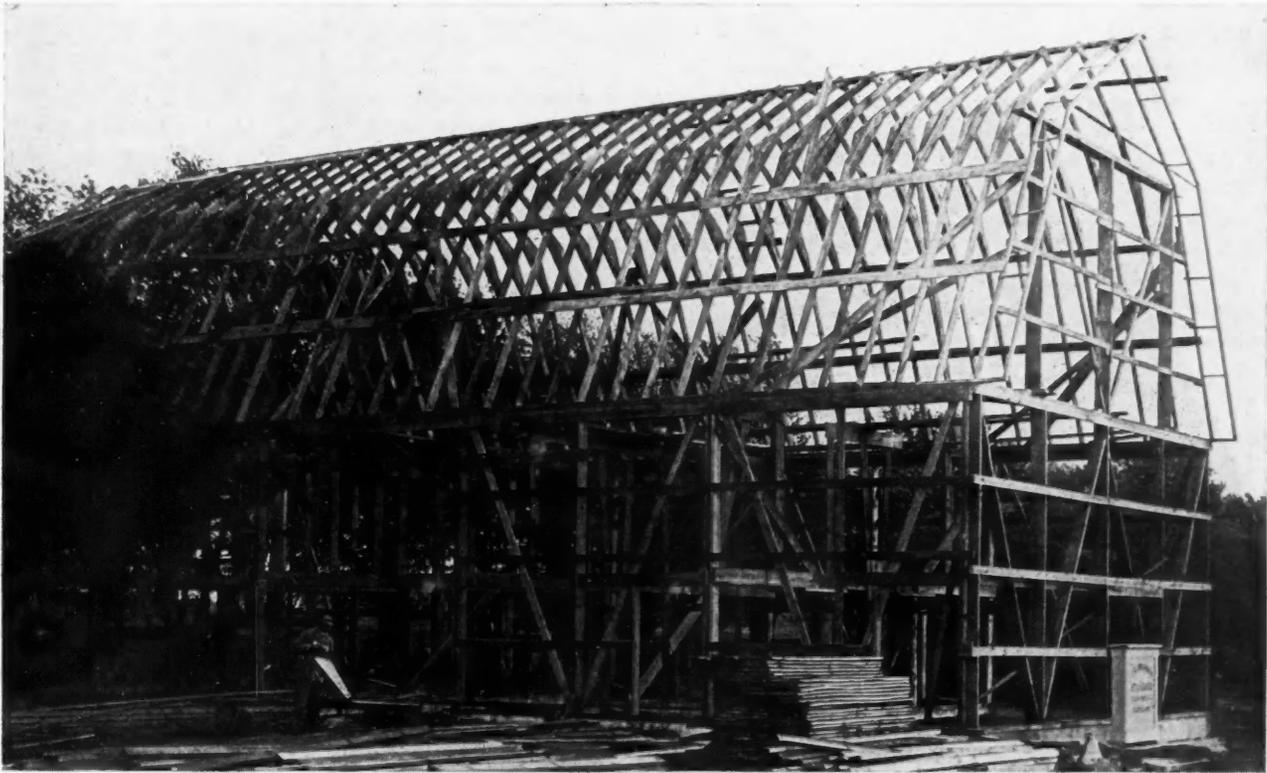
CHARLES R. FORD.



The First Cold Weather Reinforced Concrete Job

It is interesting to note that the first reinforced concrete factory ever built, the Pacific Coast Borax Refinery at Bayonne, N. J., was constructed partly during

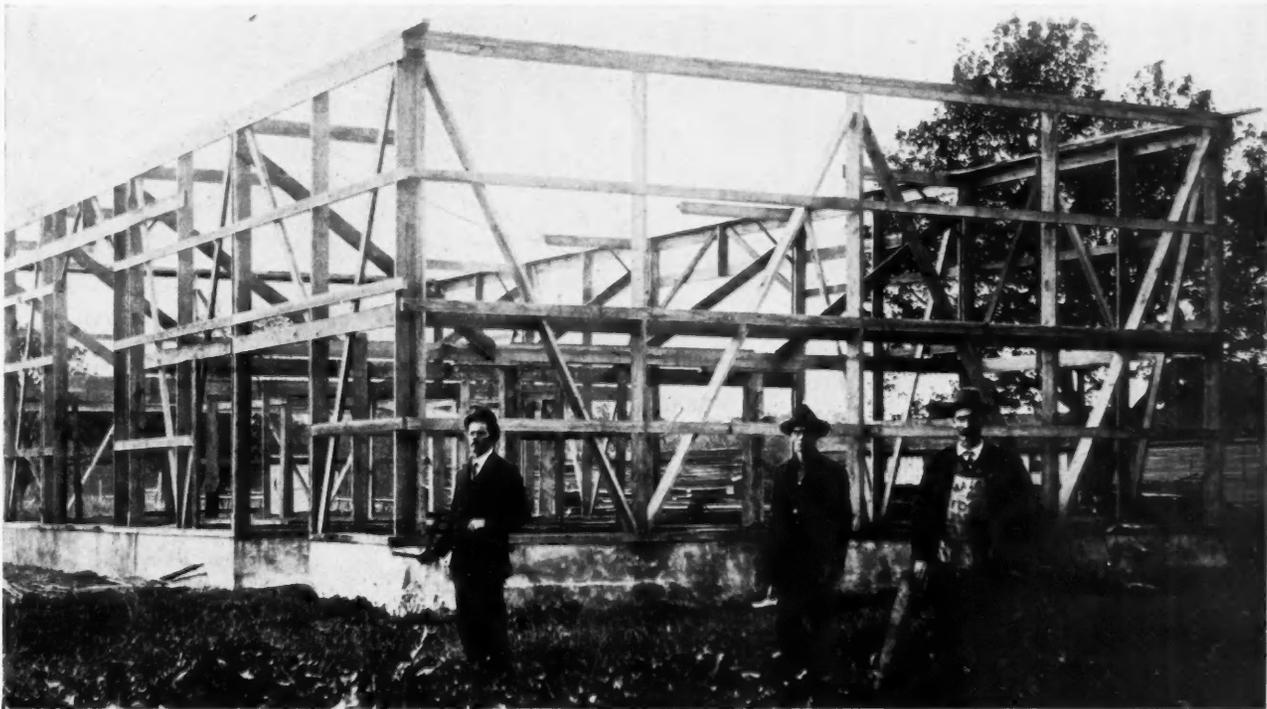




Side View of Plank Frame Barn at End of Tenth Day's Work

the winter of 1897-1898. Reinforced concrete buildings are now so general that it is hard to appreciate the boldness of the conception to construct a building to carry actual working loads of 400 lbs. per sq. ft. out of a material which had been previously used almost exclusively in foundations and at a time when the placing of concrete in the winter was considered absolutely erroneous.

The construction was begun late in the fall of 1897 when the ground was frozen. In placing the foundations salamanders with long legs were placed in the excavations to keep the concrete from freezing. Most of the broken stone was brought down in scows from the Palisades of the Hudson River and was piled near the cement shed. The size of the stone was limited to particles passing a 2-in. ring, while for much of



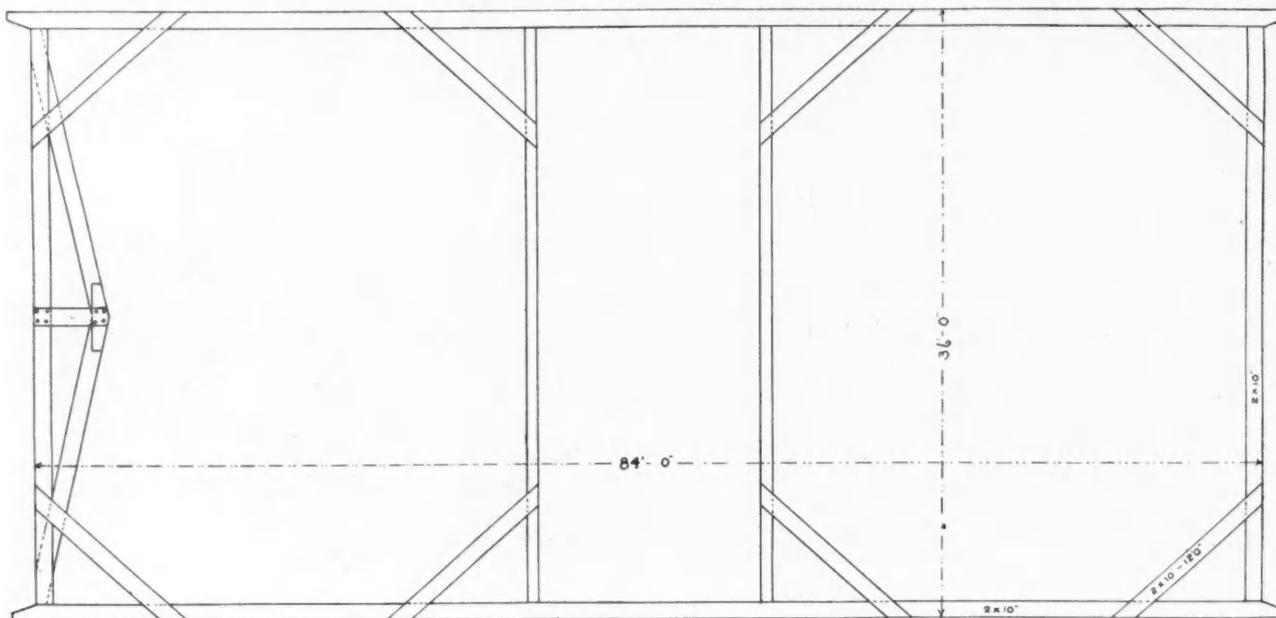
Mr. C. R. Ford of Berkey, Ohio, and Two of his men—They Framed the Barn to This Point in Four Days

the work a 1-in. size was employed. There was so much fine material left in the rock that only a small quantity of sand averaging not more than 10 per cent was needed. This stone pile was heated by steam pipes from a central plant to a temperature of about 80 degrees.

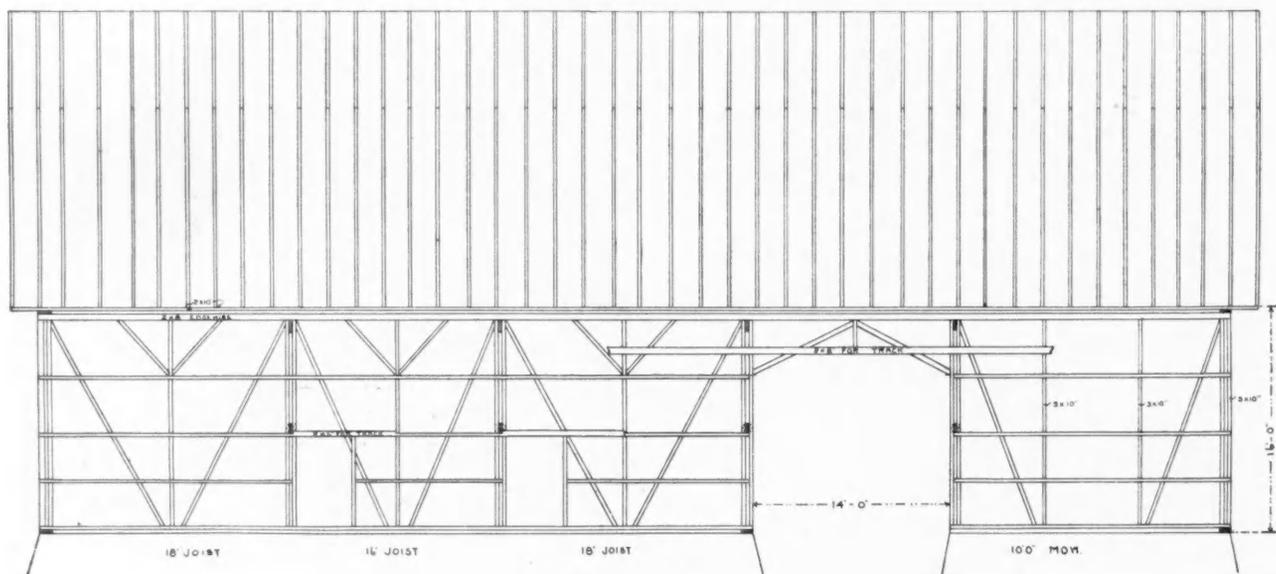
The cement and stone were measured in barrows,

material to the story where it was required and dumped upon a platform which held about one cu. yd. A steam engine operated the car, mixer, and elevator, besides operating a number of machine tools.

One of the most interesting points of this building is the double walls. The total thickness of all of the walls is 16 ins. for the entire height of the building,



TOP OF FRAME SHOWING BRACES.



SIDE ELEVATION SHOWING FRAMING.

Plank Frame Barn Construction, as Built by Charles R. Ford
(See Pages 54 and 55)

dumped into a hopper which discharged into a car. This car was hauled by a cable through a subway and then up an incline to about 30 ft. above the hopper and about 400 ft. distant where it was automatically tipped into a chute leading to the mixer. Salt was added to the water used in the proportion of 8 lbs. of salt to each barrel of water. The mixer was one of the early Ransome mixers and it discharged into a trough containing a screw conveyor which delivered the concrete to a vertical bucket elevator and this hoisted the

the hollow space varying from 10 ins. to 12½ ins. These walls were constructed in three foot sections and the concrete was kept from freezing by placing salamanders in the hollow walls. The whole work was enclosed by canvas, floor by floor, and salamanders were also used here. This method of concreting in cold weather proved very satisfactory and the cost of this building per cubic foot of contents was less than 5 cents, which is a remarkable showing when everything is considered.

Building Restrictions in Real Estate Deeds

PROHIBITIONS OF VARIOUS KINDS ARE OFTEN FOUND IN PROPERTY DEEDS—ARE THEY BINDING?—THEIR EFFECT ON BUILDING

By Elton J. Buckley

(Copyright, March, 1912, by Elton J. Buckley)

THE following letter brings a subject forward which I have been expecting to discuss for some time:

Chicago, Ill., March 15, 1912.

Elton J. Buckley, Esq.

Dear Sir:—I am in the wholesale and jobbing business in the city and would appreciate your opinion as to my legal status under a clause in my deed which I have just gotten into trouble over. About eight years ago I purchased my store property, and have recently begun to erect a small brick building on the rear to use as an office and sample room. My neighbor on one side is threatening to go to law to prevent me from doing so, on the ground that my deed contains a provision that no building must be erected upon the rear thirty feet of my lot. He takes the position that the building I propose to build there will cut off his light and air. When I purchased the property I was told that this clause was obsolete. Should like your opinion on the subject.

Respectfully yours,

JAMES PERLEY & Co.

The subject of building restrictions in deeds is one which touches in a vital point the use to which one's property can be put, and when one is buying real estate no deed should be accepted without the most careful scrutiny and consideration of any restriction which may be found there. Particularly is this so with real estate bought for business purposes for the reason that needs of growing business may be seriously interfered with by some building restriction which was regarded as of slight importance at the time of purchase. I have known several such cases where the property with the restriction enforced became actually unsuited to the business.

Nature and Origin of Restrictions

Generally speaking, building restrictions limit the use of a property, in that the whole or a certain portion of the premises must be used only in a specified manner; or that no business whatever can be carried on there; or that certain businesses which are described cannot be carried on there; or that the buildings erected shall be within certain limits of size, or shall cover only certain portions of the lot; or that no "offensive businesses" shall be carried on; or that only buildings of a certain cost shall be erected.

Building restrictions usually arise when the original owner of a large tract divides it into sections, and puts into each deed, as he sells his parcels off, some restriction which is intended to work to the benefit of all the other tracts. Such restrictions can be preserved indefinitely as long as each deed, when the properties are sold, contains the same wording. Suppose however, that one of the sections passes from hand to hand, as the years go by, and finally passes into the hands of A. A sells it to B, but neglects to have the building restriction put in the deed. B takes the property free from the restriction, and so does everybody who comes after B.

The Law Does not Favor

The law does not favor building restrictions, because they fetter the free use of real estate, which the law doesn't like. That is why building restrictions are upset, whenever the court can find a good reason to do it.

I have dug out of the leading cases on the subject several examples of building restrictions in order to show how the courts have construed them:

Some Typical Cases

A restriction forbidding the erection of "any livery stable, slaughter house, glue factory, etc., or any other manufactory, trade or business which might be offensive to the neighboring inhabitants," one court held was broken by keeping a coal yard on the place.

The owner of another property the deed of which contained a restriction "against the erection of any building in which should be conducted the trade of a butcher, or any nauseous or offensive trade whatever, or for any purpose which shall tend to disturb the quiet or comfort of the neighborhood," opened a grocery store. A neighbor took him into court for an alleged violation of the restriction, but the court said a grocery store was not a violation.

Still another restriction named certain trades which must not be carried on, and then added "cow stables, or hog pens, or any other dangerous, noxious, unwholesome or offensive establishment, trade or calling, or business whatsoever." The owner opened a livery stable and was upheld by the court, in the lawsuit that followed, as to his right to do so.

There are many cases where building restrictions have forbidden the sale of liquor. They have almost always been upheld.

In one very interesting case some peculiar individual, for undisclosed reasons, sold a property with a restriction in the deed that the business of wholesale or retail confectioner should never be carried on there. A grocer finally got possession of the property, and put in certain kinds of candy, which a neighbor attacked in court on the ground that it violated the restriction. The court said that the retail grocer was not pursuing the business of wholesale or retail confectioner, and so was not violating the restriction.

In a case where the restriction forbade carrying on the trade of a butcher, the court held that this was broken by selling raw meat on the premises, even though no meat was slaughtered. The case hinged on the meaning of the word butcher, and the court held that a man who sold meat was as much of a butcher as he who killed it.

In several cases a restriction forbidding the conduct of any business on the premises was upheld. Think of the predicament that decision left the owner who had carelessly overlooked that provision in his deed.

Restrictions—How Enforced

A building restriction is usually enforced by injunction, the court issuing an order forbidding the owner of the restricted real estate from violating his restriction. However, where the injury which the neighbor may have suffered can be compensated by damages, the court will often refuse the injunction and give damages in its place.

Generally speaking, there are three good excuses for violating a building restriction: First the neighbor who is now objecting waited too long to make his complaint. This is what the law calls laches; an example of it would exist if Perley & Co.'s neighbor should stand by without complaint and see them erect their brick back building and should then ask the court to tear it down.

Second, general acquiescence. This arises where a number of adjoining properties all subject to be same building restriction, should by common consent disregard it.

Third, change in the neighborhood, rendering the building restriction unnecessary and removing the cause. As for instance, where adjoining properties were originally residence properties, and the original owner of the tract of which they were a part created a restriction forbidding buildings on the rear portions of the lots. This to give them all a breathing space. The neighborhood becomes a business section, and there is no longer need of the breathing space. Under such circumstances the court will almost always declare the restriction obsolete and unnecessary and refuse to uphold it.

Cincinnati's "Model Homes for Workingmen"

By J. R. Schmidt

MODEL homes for workingmen are rapidly nearing completion in Cincinnati, where the wage earner can live in comfort under strictly sanitary conditions for the nominal sum of \$9.00 or \$12.00 per month. Such apartments as these would ordinarily rent in Cincinnati for \$15.00 or \$20.00.

These "Model Homes for Workingmen" are 3 and 5 room flats in substantially built brick buildings erected in localities convenient to the wage earner's place of employment. They are strictly modern and each one has its own bath-room with hot and cold water and toilet. The rooms are large, well lighted and airy. The kitchens are fitted with china closets and have hot and cold water. Electric lights furnish the artificial illumination.

That each family may have a fresh air breathing and sleeping place during hot summer nights, each apartment has a private porch attached in the rear.

The only condition necessary to secure one of these model flats is that the applicant, man or woman, must be at the head of a family and not earn over \$15.00 per week, be of honest, industrious and good moral character.

In a year or so there will be hundreds of families housed in these "Model Homes for Workingmen." At present the buildings erected are owned by a wealthy



Each Apartment Has Its Own Private Porch Built On in the Rear



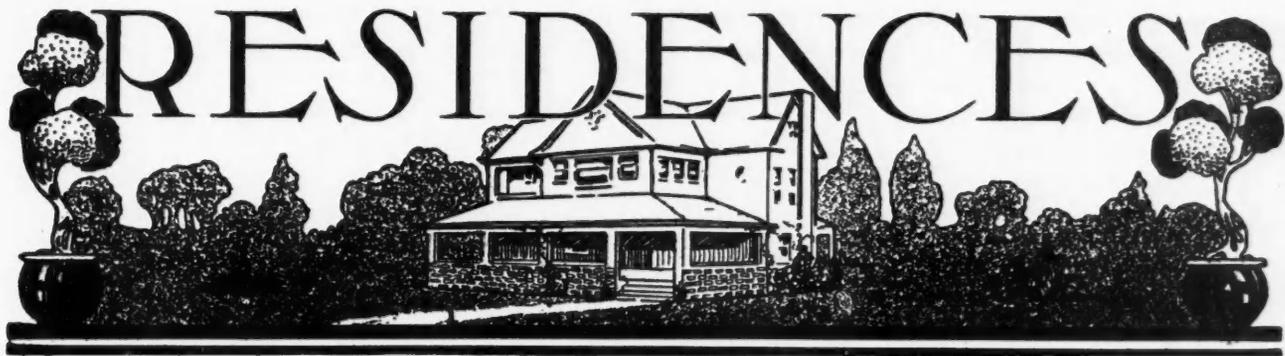
One of Cincinnati's "Model Homes for Workingmen" just completed—E. M. Rauscher, Architect; S. M. Cooper, Builder

banker who is satisfied with a 6 per cent profit on his investment giving the poor workingman the benefit of the high toll exacted for the rental of even the humblest of homes in Cincinnati.



First Floors—End and Inside

Second Floors—End and Inside



Complete Plans, House for Narrow Lot

NICELY ARRANGED SIX-ROOM HOUSE OF MODERN DESIGN—ARCHITECT'S PERSPECTIVE AND FULL SET OF WORKING DRAWINGS PRESENTED

HOME building or choosing will doubtless ever remain one of the hardest problems the average human is called upon to face. Most certainly is it one of the really important conditions requiring thorough solution, for it is not permitted the big majority of families to expect or assume that they will ever build or purchase more than one dwelling.

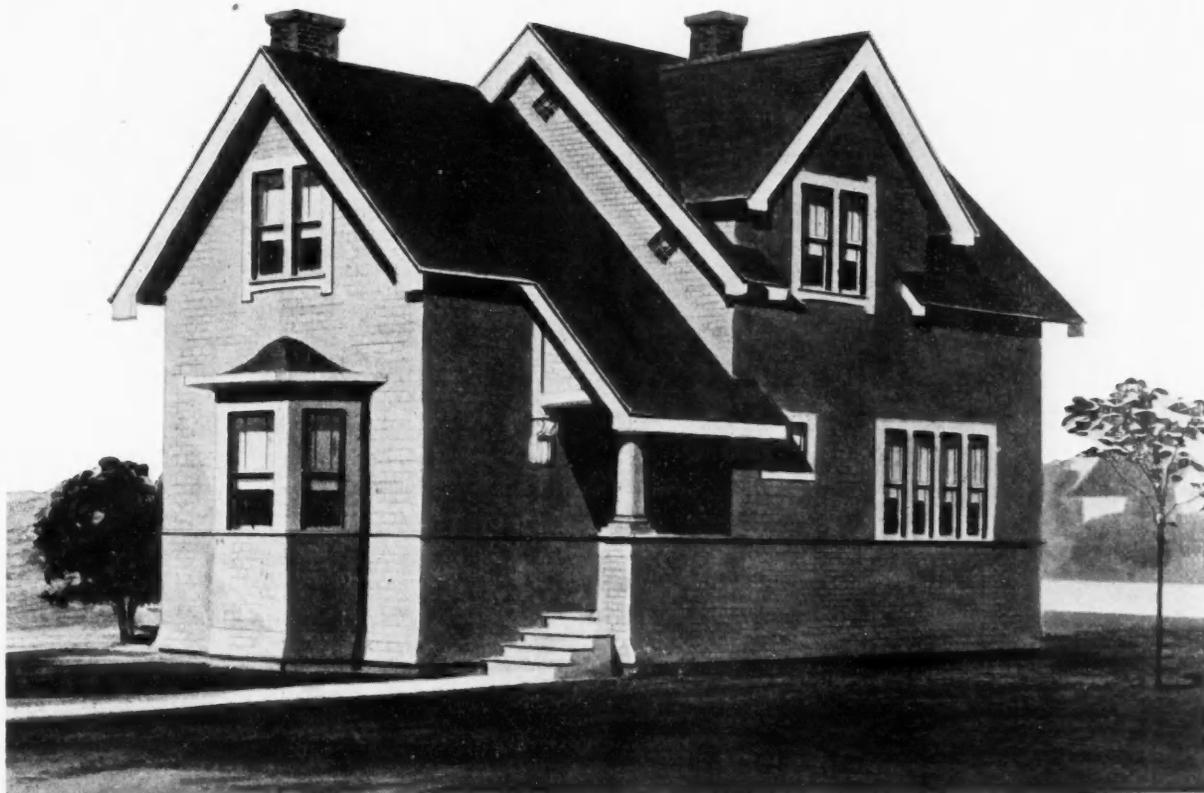
Of course plenty of time is required by every one in the selection of a home; and rightly so. Mistakes in building or buying can be very costly and every effort should be made to avoid them. Be certain all the elements pertaining to the prospective home are thoroughly thrashed out before the plans are Ok'd.

For our many readers who follow this department we are presenting this month a type of dwelling which affords complete solution of the narrow lot question

—one of the most vexing problems both the builder and owner have to face.

This house was planned for and erected by the C. D. Crane Co., of Newark, N. J. Prospective builders, contractors and dealers will do well to give study to the detailed plans, and perspective, of this shingled residence. They will undoubtedly prove adaptable for future if not immediate use.

Reference to the drawings upon the following pages will show a conveniently arranged six-room residence. Entrance from the covered porch is had into a spacious hall connecting living and dining rooms. Note that in the large living room, the open fire-place, mantel and built-in window seat type of design is followed. Dining room is large and well lighted. Kitchen is of ample size with complete pantry space.



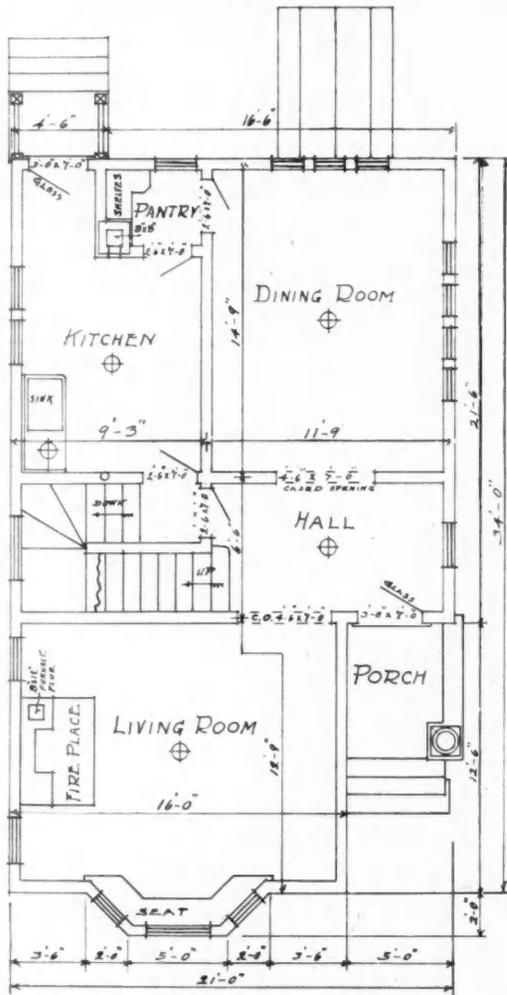
6-Room Shingled Home, 21 Feet in Width, Designed for the C. D. Crane Co., Newark N. J.
COMPLETE WORKING DRAWINGS FOR THIS HOUSE ARE PRESENTED ON THE 4 PAGES FOLLOWING

The up-stairs rooms are large and light. Throughout the home every modern convenience is provided and the most modern practice of inside trim has been followed. Exterior finish is entirely shingle—stained. Basement has complete laundry, heating equipment and storage spaces.



\$25,000-a-Year Flats

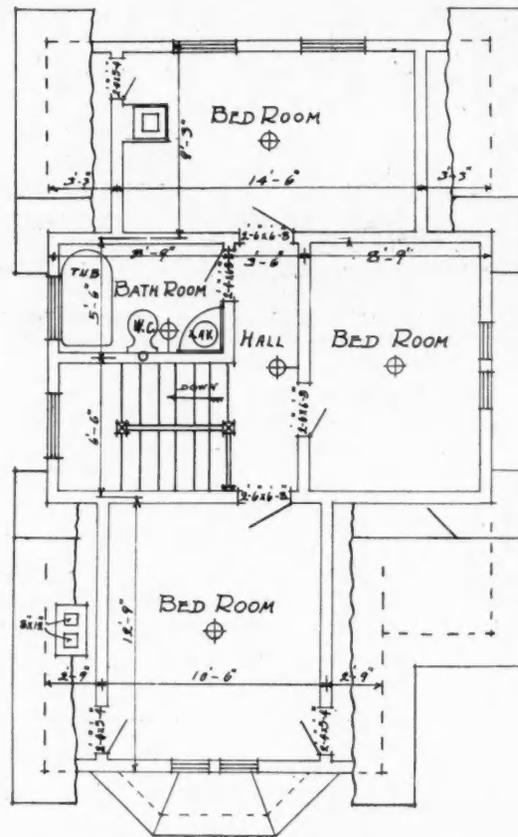
A flat in a new apartment building at Fifth avenue and Eighty-first street, New York City, has been rented to Murry Guggenheim, one of the famous family whose name has become widely iden-



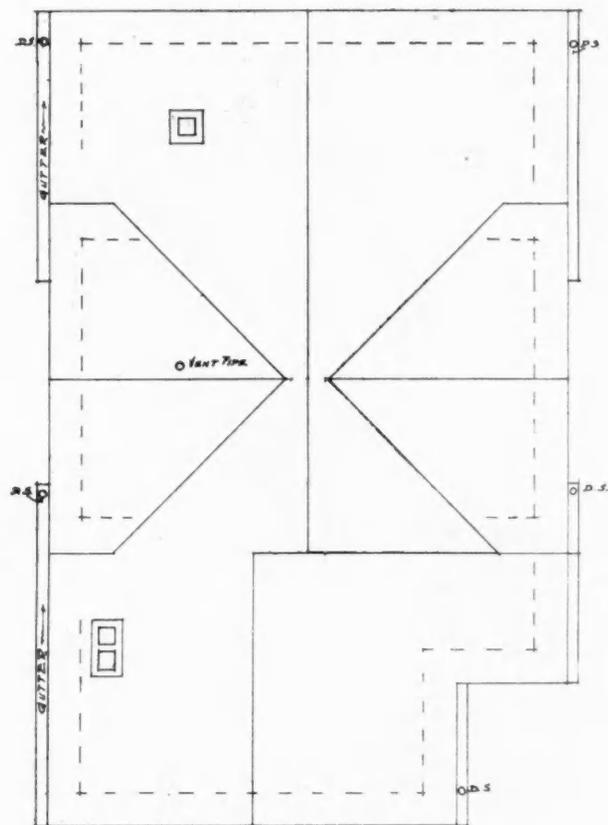
FIRST FLOOR PLAN
(House Plan 59)

tified with mining and commercial enterprises, for \$25,000 a year. This, says the *Chicago Record-Herald*, is the high water mark for flat rentals in the eastern metropolis, which means the highest point reached in the western hemisphere, if not in the world.

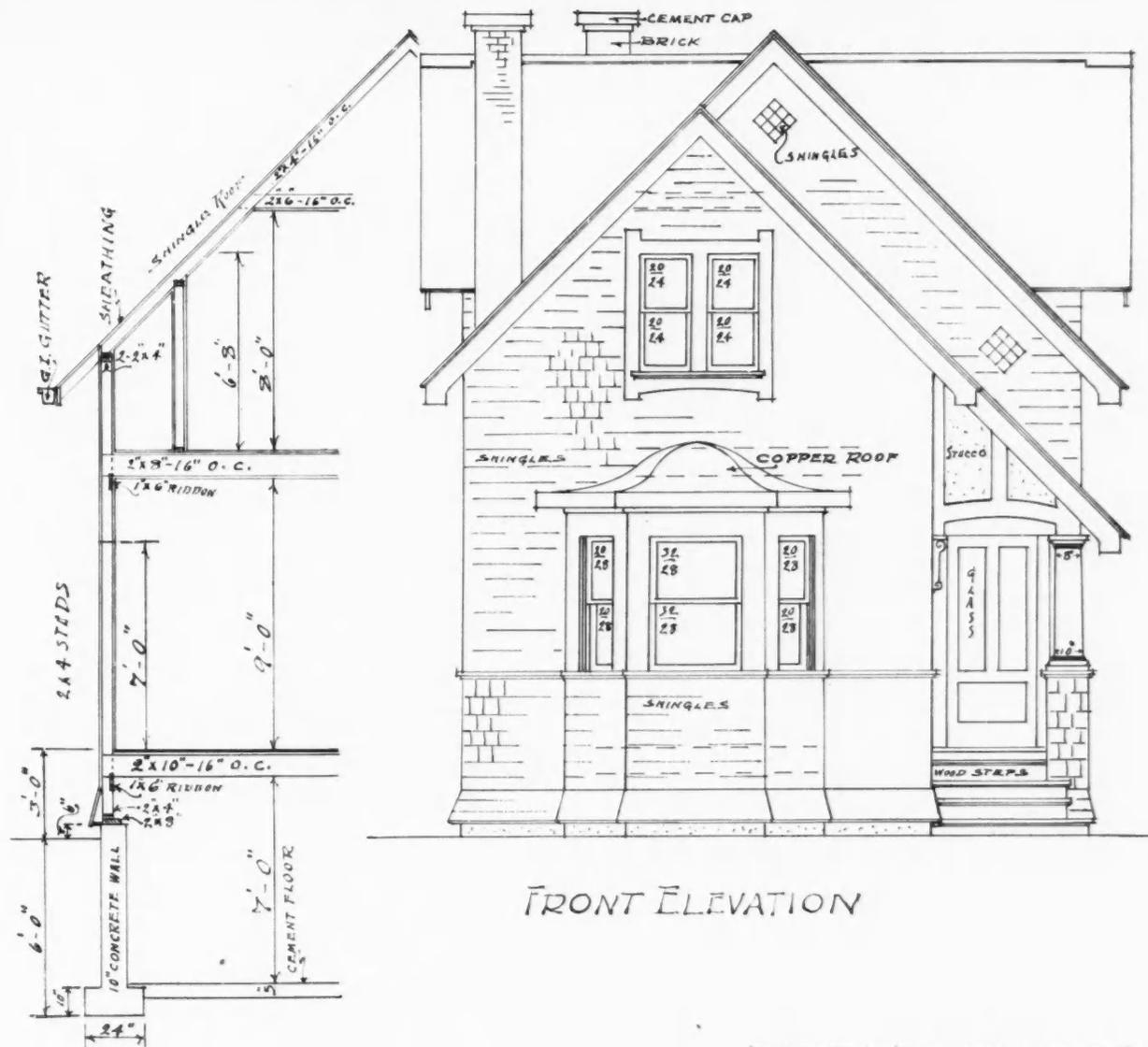
Mr. Guggenheim will have the ninth floor of the building. His flat will contain twenty-two rooms and eight bath-rooms. All heating and ventilation fixtures will be concealed; there will be huge fireplaces in the principal rooms and many safes for valuables. Costly ornamentation and rare woods will be features of the ornamentation.



SECOND FLOOR PLAN
(House Page 59)



ROOF PLAN
(House Page 59)



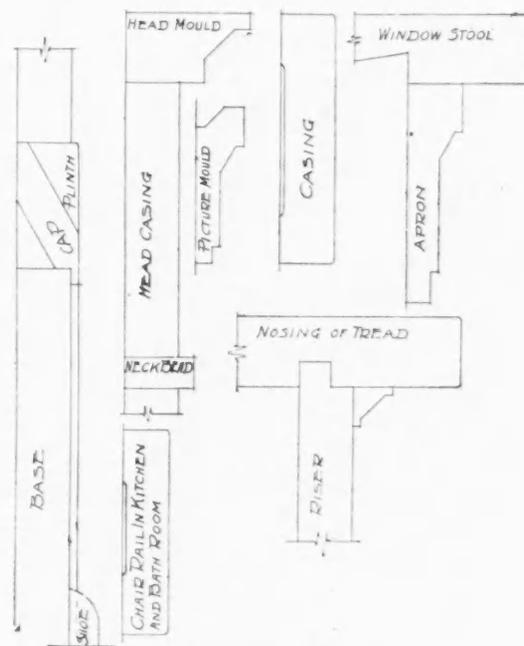
SECTION

FRONT ELEVATION

On the floor above Mr. Guggenheim will be the apartment of Senator Root, who will pay only \$20,000 a year. Other flats in the building bring the same rental as Senator Roots'.

There is nothing in any American city outside New York to compare with these rentals. In Chicago the flat that rents for \$4,000 to \$5,000 a year is considered high priced, and \$7,200 a year, or \$600 a month, is the highest rental. The finest flats there are on the Lake Shore drive, though many high-priced ones are on the South Side. Chicago real estate men say the very high-priced flat is not likely to come into fashion there, owing to the great area over which the city can spread. In New York everything fashionable is in a narrow belt running north and south.

When all is said that can be said in favor of expensive apartments, the fact remains that they are flats. They have no grounds or gardens belonging to them, and there are other flats above and below them. A humble cottage in the suburbs has some manifest advantages over the best of them.

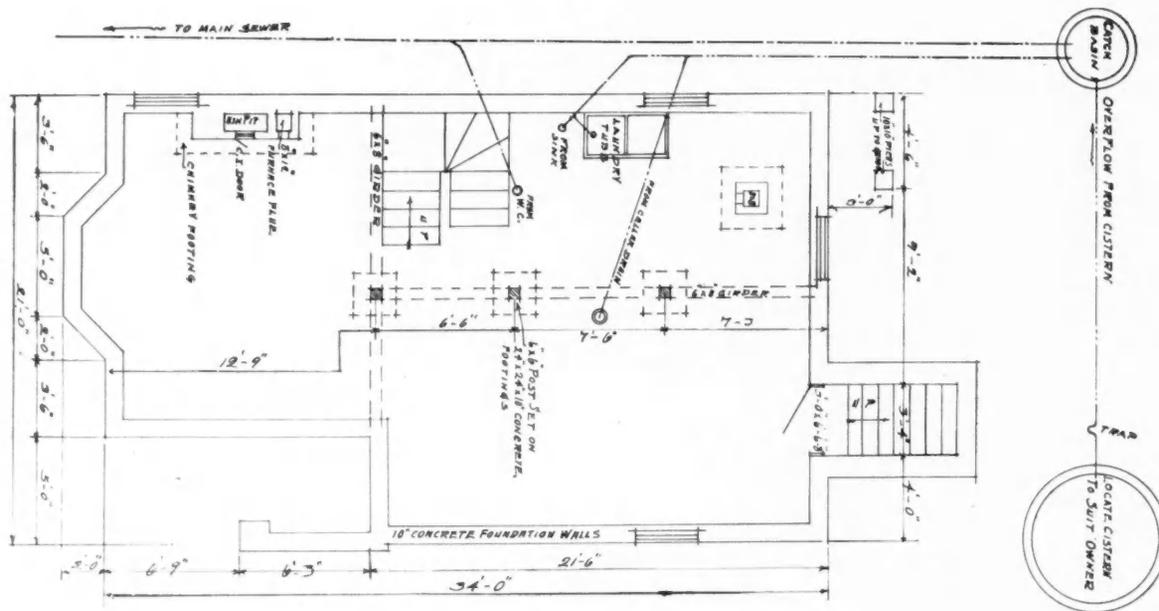


DETAILS OF INSIDE TRIM
FRONT, SECTIONS AND
INTERIOR DETAILS

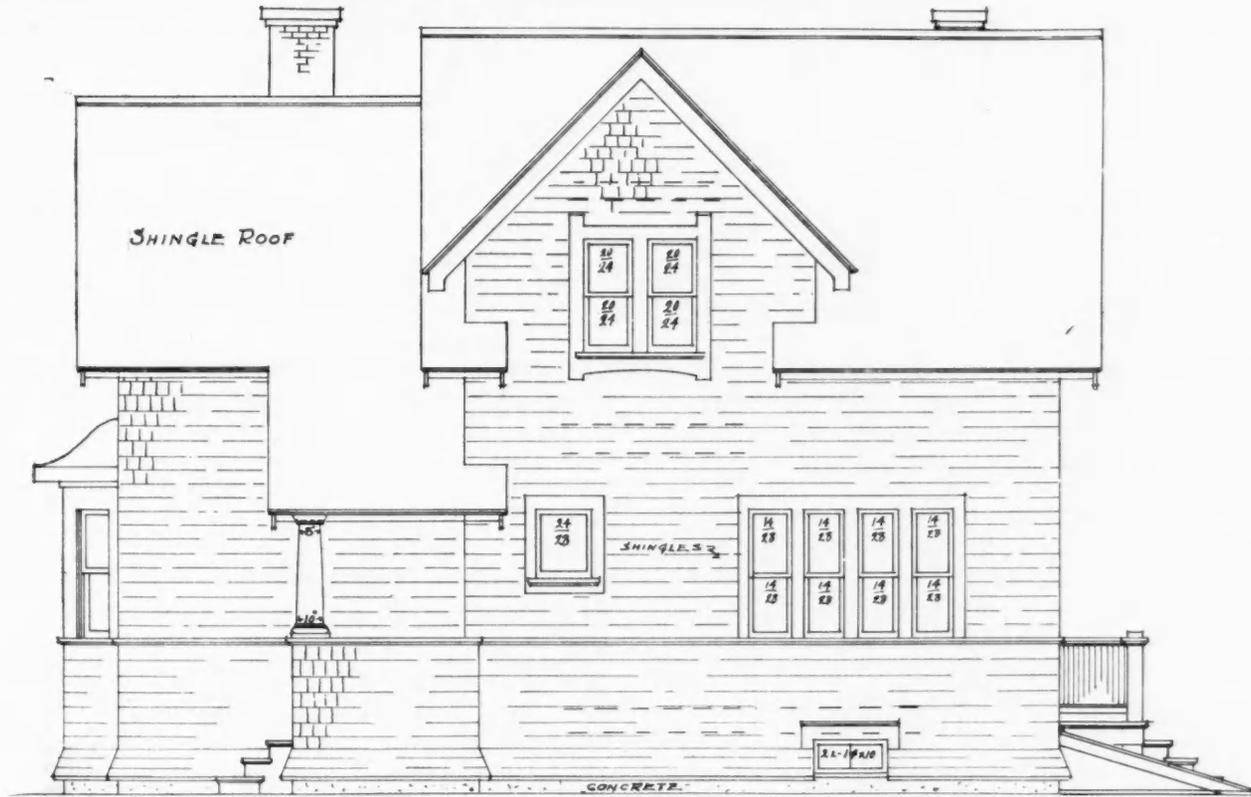
(House Page 59)



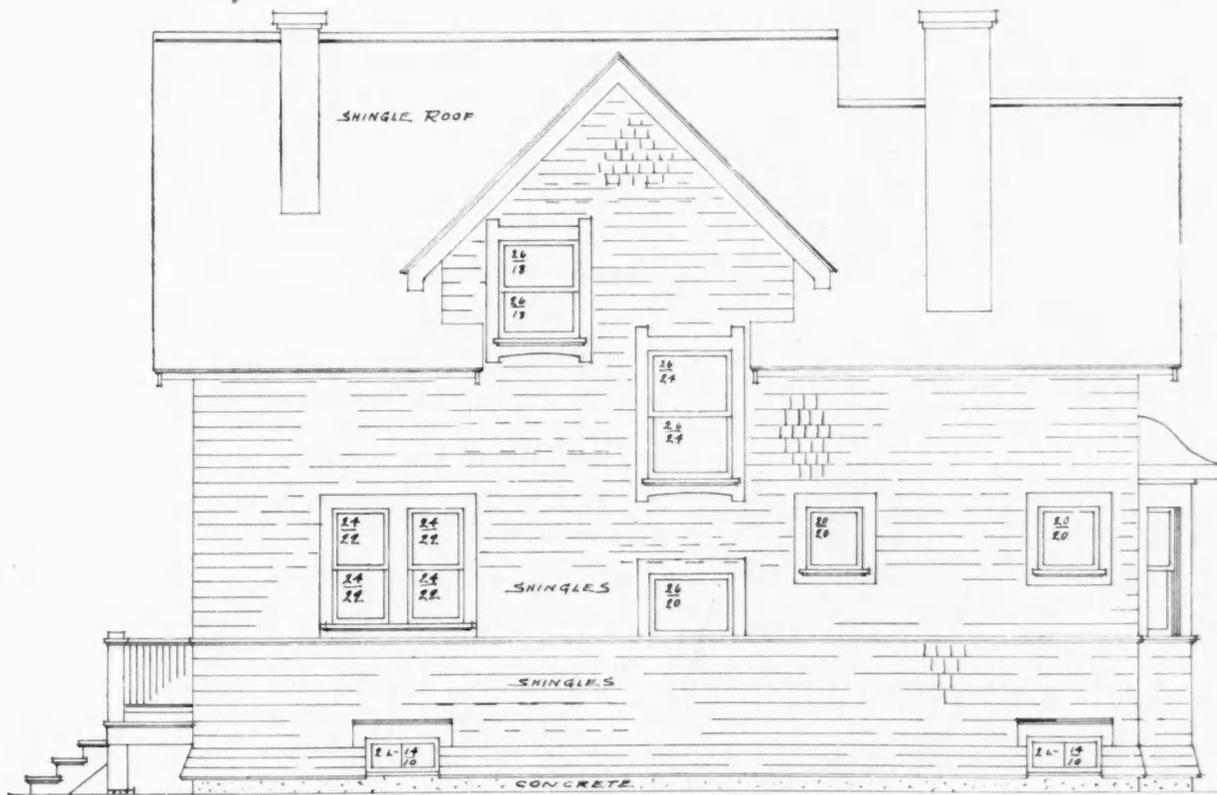
REAR ELEVATION.



BASEMENT AND FOUNDATION PLAN AND REAR ELEVATION
(House, Page 59)

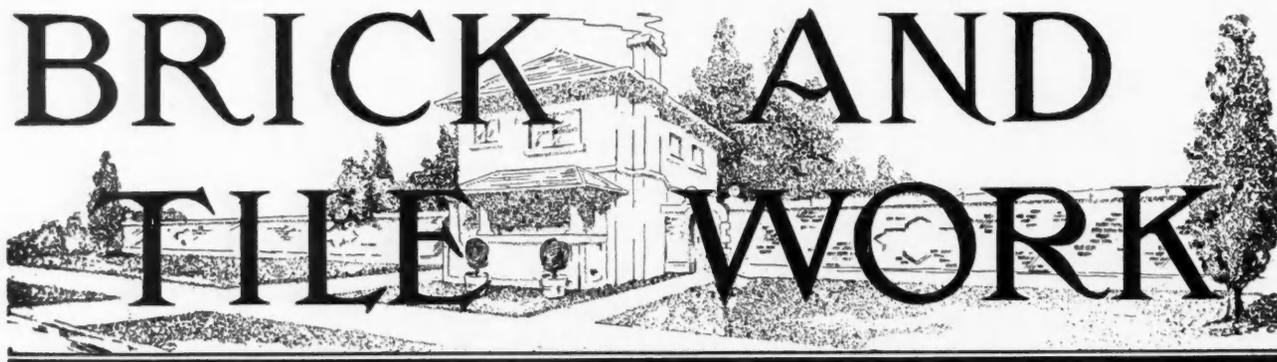


RIGHT SIDE ELEVATION



LEFT SIDE ELEVATION

(House, Page 59)



How To Pave With Brick

CARE NECESSARY IN PREPARATION OF FOUNDATION—SMOOTH SURFACE NEEDED—UNIFORM DEPTH OF SAND CUSHION AND PACKED JOINTS MOST IMPORTANT

By Will P. Blair

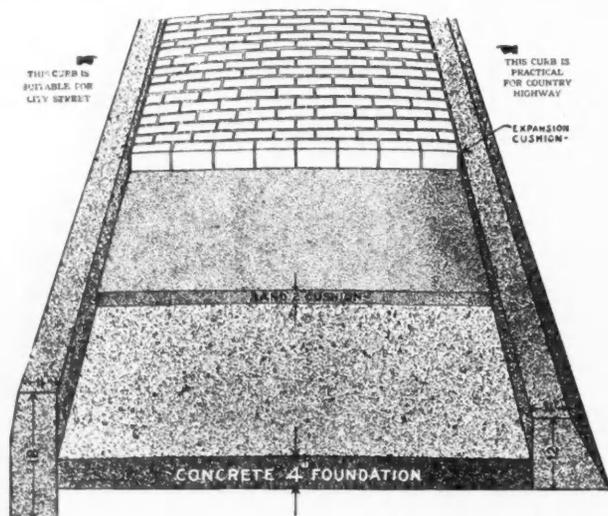
(Secretary National Paving Brick Manufacturers' Association).

THERE is no mystery or difficulty connected with the proper construction of brick street pavements. It is so easily understood and easily done, but, like other "best things" in this world, has been greatly abused. Vitrified brick have too often been pitched into the street. Horse sense, a disposition to do, and a little information will accomplish wonders with a brick street. Mr. Taxpayer, read what follows. It is worth more to you than to us:

The subfoundation must be prepared as you would for the construction of any street: Graded, compacted to a smooth surface conforming to the grade of the finished street. Upon this grade spread four, five, or six inches of concrete or broken stone or gravel mixed with sufficient sand and finer particles of stone or gravel so that the body of the concrete will be closely united, with the least amount of voids, and with sufficient water so that the surface of the concrete itself may not only be made smooth but to a grade conforming to that of the finished street.

Foundation Needs Uniform Depth

Thus finished smooth, it is possible to spread the requirement of uniform two inch compressed sand



Proper Construction of Vitrified Brick Pavement as Recommended by the National Paving Brick Manufacturers Association

cushion. The use of an ordinary lawn roller, weighing about 300 pounds, will enable the operator to secure a uniform density of this cushion throughout, and by the use of a template with a steel plate the cushion can be cut to an exact two inch uniform depth. You will have then prepared the cushion that will furnish a uniform and ample support to the wearing surface and yet will afford sufficient resiliency both to protect the brick from chipping and the cement filler from shattering or breaking from either the vibrations of the impact or the weight of the load to which it is to be subjected.

Place the brick upon this cushion on edge with the best edge up; then roll with a five-ton roller, bringing the surface of the brick to a perfect plane. After the brick are laid, provide a space, from one to one and one-half inches in width and to the depth of the brick, along the curb by placing a board that may be subsequently withdrawn, affording a space in which an asphaltum pitch may be poured to serve as a cushion for the contraction and expansion of the pavement occurring during the season of extreme temperature.

Joint Filling Requires Care

The whole pavement is then converted into a monolithic form by carefully filling all the joints or interstices with a mixture of grout composed of one part of some one of the highest grades of Portland cement and one part of fine, sharp sand. This mixture must be so applied that the sand and cement shall be maintained in place in the proportion named and to the full depth of the joint. This is easily accomplished by mixing this filler in small batches, not exceeding one sack of cement and a like portion of sand, in a box standing on uneven legs, so that water having been added to the mixture and making it of the consistency of thin cream, the mixture itself as it is pulled away with the hoe from the lower corner of the box will rush back to the lower corner by gravity.

In this condition it is lifted by a scoop shovel and let fall upon the street a shovelfull at a time, being immediately swept into the points. The joints should thus be filled full and flush with the pavement itself. This is readily accomplished by the use of a squeegee

in the application of the last coat of the filler, a rattan or fibre broom being used in the application of the first coat.

"Green" Pavement Needs Protection

With the pavement in this condition, it should be protected from temperatures and a slow setting of the filler effected by spreading over the surface a thin layer of sand. In extremely hot weather, to insure a slow setting, the surface of sand should be wet by sprinkling.

The boards along the curb should now be withdrawn and the space filled with the material for the expansion cushion.

By the foregoing simple and easy method you may have a street, the economical, sanitary, and tractional value of which is not to be found in a street made of any other material known to the world. A street so built will serve in perfect condition, without a penny of repair, upon at least 80 per cent of the streets of the city of Chicago for an indefinite length of time in an entirely satisfactory condition for travel, and without any maintenance charge whatever on account of wear and tear. This indefinite "length of time" is comparable and means with reference to this life, say, thirty-five years.

Paving Satisfactory and Durable

All this while the street will be as satisfactory for use as it is durable. This statement is not made upon theory, faith, or hope; founded in an experience of a street 1, 2, 3, or even 5 years old. We have absolute and indisputable proof in the experience of hundreds of streets in this country that are from 15 to 20 years old, and subject all the while to excessive use.



What Sodding Will Do

Most carpenters and builders will probably say that they are makers of buildings and not landscape gardeners, so have very little interest in whether the yards around the buildings they put up are made presentable by means of sod, shrubs, etc., or are left raw and ragged.

The building contracts usually stipulate that "contractor is to remove all refuse from building site and leave same in neat condition." Sometimes the contract



Before the Turf Wall was Constructed the Hillside was Ragged and Unkempt



By Courtesy of American Homes and Gardens

The Sloping Triangular Corner Here Shown was Walled and Brought to a Level with the Lawn Back of it, a Pergola Being Added, Furnishing a Delightful Outlook

may also call for grading and leveling.

The real estate builders have found that they can't afford to stop just with the erection and completion of the dwelling, but must improve the yard, making it attractive as well, if they want to sell their properties to the best advantage.

This is where the value of sod comes in, especially if the building site is hilly—raised up above the street level. It is then almost impossible to get grass to grow in the new earth; rains wash it out before it has a chance to get started.

In places of this kind good sod slabs should be laid down and in some instances a real wall of turf built up. "Suburban Life" illustrates a piece of work of this kind, in a pair of "before and after" pictures, which we reproduce here. They state that in this place the turf wall was able to hold back the sliding hillside and did the work ordinarily required of an expensive retaining wall.

It is always best for builders to look after the surroundings of their buildings. If you put up a nice residence, don't let them spoil it by letting the building site go ragged and unkempt.



After—Hillside Graded to Double Terrace and Sodded

Antiquated Store Fronts Are Passing

MERCHANTS NOW APPRECIATE THE VALUE OF AN ATTRACTIVE INVITING EXTERIOR ENTRANCE AND DISPLAY WINDOWS. THIS MEANS BUSINESS FOR THE LOCAL CARPENTER AND BUILDER

By F. M. Lally

“FOLLOW the crowd,” is an old adage—but one that is pretty generally observed even in this hustling, bustling age. We twentieth century folk seem imbued with a certain spirit of curiosity that impels us in haste to any particular point the instant we eye friend or stranger headed that way. And this curiosity seems not to be confined along any one particular line of action. It is general in its nature and positive in its command.

“Let’s see—what’s the matter or what is it?” is often heard by those departing from the outer circle of a crowd, as coming from the lips of those who are just arriving and pressing forward to view for themselves.

What is it? Curiosity—just plain curiosity. It is the element of human nature that merchants, the country over, are playing to success. It is this self-same curiosity, plus an amount of business acumen upon the part of shop keepers, both large and small, that has developed the window and entrance front to be a most important factor in the successful management of any retail store—regardless of the nature of the business.

Walk along the business streets of any city today. The shops you would enter, the shops that you instinctively know are successful, are the shops that present an inviting, attractive and interesting exterior appearance.

The day of the dilapidated, dirty, repelling, store front is a thing of the past. Merchants, who do not think so, will soon find themselves so far behind the modern trend that a For Rent sign will decorate their place of business.

The larger cities lead in store front remodeling, the medium sized cities followed. Progressive merchants saw that the best—the easiest—way to get prospective customers within their store was to make that store attractive from without. Open, light, clean and compact display windows were necessary. Easy of access doors would help matters considerably. They installed their window and doors. They saw—they knew in dollars and cents—that they paid. Other shop keepers saw—some acted and some fell by the wayside.

Money in This for Builders

From city to city has been passed the modern need for a pleasing store exterior. To every contractor, carpenter and builder in the smaller cities, say 10,000 or under, this modern demand can well prove extremely profitable.

Remodel Those Old Fashioned Fronts

There are doubtless in your vicinity many retail stores in need of modern, practical display windows

and entrances. It is quite possible the owners of these places do not think so. There is the contractor’s and builder’s opportunity. Go to the merchant—study his location, window display and entrance, then show him just how you can improve his store front.

Assistance for the Asking

There are today a number of companies specializing in the manufacturing of store fronts. Any one of these companies will render assistance to the local carpenter and builder in the manner of forwarding their various descriptive booklets featuring their respective systems and showing through illustrations just what has been accomplished for merchants in various sections of the country in modernizing their window display space and store entrances.

From these companies and the explanatory matter they will mail, any contractor or builder can learn very quickly just what is necessary in the design and construction of a modern store front. Then work out a rough pencil sketch, take it to the merchant and show him just what can be done toward improving the general appearance and attractiveness, as well as pulling power, of his store front.

The merchant of any city regardless of size must to succeed now-a-days continually interest his public. He must keep their curiosity—their desire to see and their purses—at a seething point. What better means has he to do this than through his own show windows.

The modern store front for the smaller cities is a positive fact, carpenters and builders. Your particular locality can and will develop considerable business along this line. As the local builder you are the logical man to control this business. Go to your merchants, show them what you are prepared to do for them.



For Good Roads—Nothing

In the special automobile number of *Harper’s Weekly*, dated April 6th, George C. Diehl, Chairman of the National Good Roads Board of the American Automobile Association, gives some startling and discouraging figures. The United States government, he says, has given 200,000,000 acres of the public domain to railroads for the purpose of encouraging the construction of these modern steel highways. It has appropriated for the improvement of rivers and harbors since 1875 the sum of \$592,395,160, which does not include \$16,580,614 appropriated for levees along the Mississippi River. It is spending \$400,000,000 in the construction of the Panama Canal. For building roads outside of military reservations and national cemeteries the appropriations made by the Federal Government since 1838 are represented by a row of ciphers.

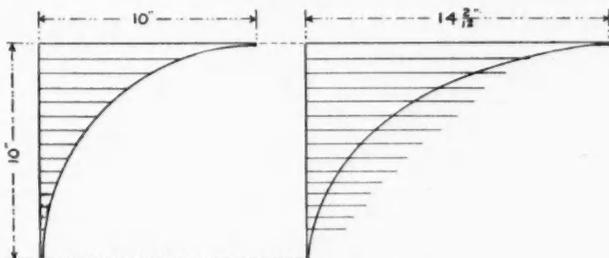
PLANING MILL WORK

More Shop Kinks

HELPFUL IDEAS AND SUGGESTIONS FOR CARPENTERS, CABINET MAKERS AND MACHINE WOODWORKERS
By Wm. C. Jasbury

YES, boys, my hat is still in the ring. In spite of the awful drubbing you gave me over that stair building "kink," I have "come back."

Laying Out Angle Brackets for a room that has a cove ceiling, I mean the rough brackets that nail on the studs on which to lath, these are usually 6 to 10-inch radius. Now, these are very easy to lay

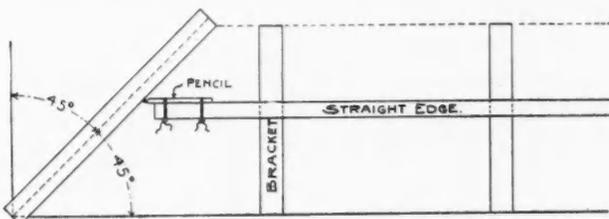


To Draft Curved Angle Brackets

out, except the one that comes in the angle; it must be shaped to receive the lath from both ways. Here is a very good way to lay out the angle bracket. Lay out the regular bracket, then draw a series of parallel lines from it, any distance apart, and for every inch in length of these lines measure off $1\frac{5}{12}$ inches. The plumb side remains the same.

Thus: The extension of the common bracket being 10 inches, the angle bracket would be $10 \times 1\frac{5}{12} = 14\frac{5}{12}$ inches and so on for the other lines all the way down.

Oh yes! I nearly forgot this one. Before I caught on to the above, I got out the angle bracket in this way: I sawed out the common brackets, then I nailed two of them with their backs to a straight line on the floor and then set a piece of bracket stuff touching the same line, but at an

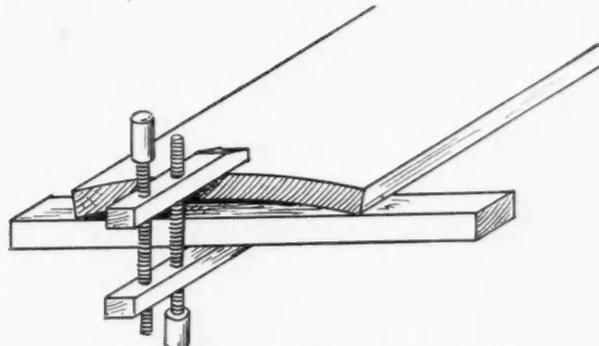


Another Way to Get the Corner Curve

angle of 45 degrees. Then I took a straight edge and fastened a pencil on the end of it and by passing the straight edge over the face of the common brackets and with the pencil end against the angle piece, in that way described the required curve for the angle bracket. Get 'em?

To Straighten Warped Boards. Many times a piece of wide stuff that is to be nailed up or to another piece will be so badly warped that it will appear impossible to make a joint. I have had good success with putting a stiff stick across the end and using a hand screw to pull it down flat again.

Many times men will complain about a wide board being warped. Now then, while in the pile it is



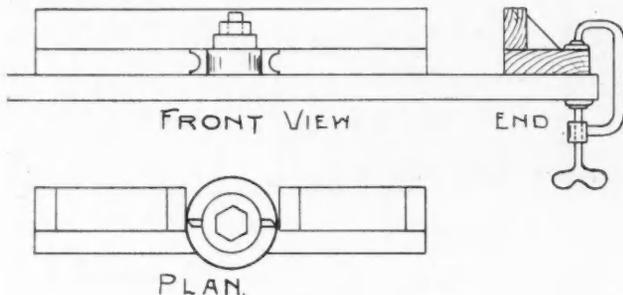
Hand Screw to Straighten Warped Boards

perfectly flat, owing to the weight of the upper boards on it, but soon as it is planed and laid on the floor it begins to warp. This, of course, is due to the air on one side more than the other. It is a good plan to place them on edge so that the air can hit both sides alike, then they will stay flat. Mahogany is the king of woods to stay flat; take bar tops (not in Asbury), for instance, where they are constantly wet on top and dry underneath; if it were not mahogany it would not stay so well.

A Simple and Handy Device. Now there are occasions when pieces of work can be held together (for working) by dogs or large staples made from large spikes sharpened square to a point at each end and bent to a staple shape. These are helpful in putting Colonial staved columns together, in keep-

ing the ends of boards together while gluing, and in many other uses that will suggest themselves.

Variety Molder Again. In working some stuff straight, it is necessary to have some sort of a guide. Take, for instance, working the nosing on



Gauge Rig for Molder Work

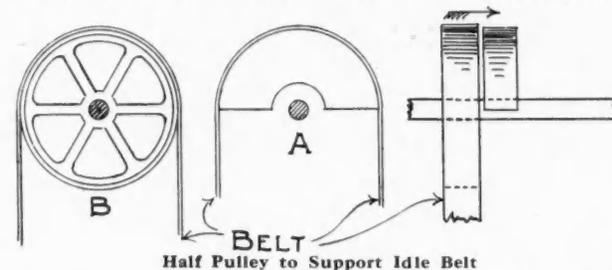
a tread; if there was no gauge, the tread would run in too far and spoil it. Here is an illustration for the gauge for treads and such like.

A Tool Chest Story. Here is a story that I had told me more than once by a turner with whom I went to California on an extensive trip a few years ago. He once worked in a mill in Alabama; work was brisk to the degree of taking on more men. A young man called on the foreman of the shop one morning, asked for a job and the foreman settled with him, the preliminary arrangements, viz.: hours, wages, etc. The new man said: "I shall go to the freight station and have my chest sent up." Well, about ten o'clock a wagon backed up to the shop; the driver unloaded a box which was a complete laugh, made of hemlock, spruce, N. C. pine boards, some rough, some planed, pieces of iron bailing nailed on here and there, boards sawed off both ways, then broken, ends of boards out of square, a big padlock and hasp, three hinges, all rusty, and different pattern, etc.—certainly a sight. When the foreman saw the outfit, he said: "What have I hired, anyway, a mound builder, or a Zulu?" Of course the shop men all had a good laugh at this piece of horror. At noon, the young man showed up. Of course the gang were all on the lookout; he took out his keys, opened up the box, but when he threw back the lid, the chest they saw was a stunner—they beheld the most beautiful kit of tools ever seen by any of them and mind, he could use them, too. He often said he had had many a good laugh on his (overalls) chest. He stayed one month and then the roaming spirit got the best of him.

Cabinet Makers, Expert and Not. How many times one will hear around a shop, "Who and where are the mechanics that built this marquetry and Chippendale and Louis XIV furniture?" Now, men of this type we do not often find hanging around a planing mill; one would naturally suppose they were a very highly paid element, only found in studios, but such is not the case. The same fellows, some of them—in fact, most of them—are

not anyway near as highly paid as the ordinary mill man. Now as to why the average mill man does not meet these fellows is the general run of them are not Americans; they are a species of European product. Now and then one of them will wander away from the fold and try his hands at **Americanditions**. (This word was made of glue and sawdust.) On the other hand, I have had men working with me that came from across, who said they had made a specialty of fancy inlaying with (grub, it seemed to me) fancy woods, silver, etc., and had built many pieces of antique furniture, and these same men could not do a decent job to save them. That seems strange, but nevertheless true. One Frenchman, who said he had been the rage of Paris, had a fine kit of tools, own bench, clamps, etc., showed photos of his handiwork, but for the firm, I know he could not make a joint, or cut a piece of stuff right to save him. So you see it takes all kinds of people to make a world and we have them. What's the answer?

Band Saw Shifter. Here is another contrivance I once saw a shifter on a band resaw. The belt which was a large one was run loose, except when the saw was working a tightener was put on. When the saw had made the cut, instead of letting the belt run, they had a form built the same width and diameter as the driving pulley, except it was only a half circle; this was nailed up over the saw, right up against the driving pulley, so when they put the saw at ease they would shove the running belt



Half Pulley to Support Idle Belt

off onto the false or dead half pulley, the belt being shoved off the pulley on to the crib or false pulley in the direction of the arrow.

The cut A is a front view of the crib which should be in front of pulley B. This is a novel thing—hope I have made it clear.

Some Glue Talk. In repairing furniture, it is best always to take a rag with warm or hot water, and rub off the old glue first operation, then again when gluing up furniture take a rag with water and wipe off the glue on the outside of the joint that has slopped or run over, because when this hardens and gets a hold on the wood it makes a mean job to remove it. Then again in using glue in a mortise, it is always the best plan to use a brush, but a flat thin stick is better, as it applies the glue in a thin layer on the sides of the mortise. Hardwood joints should always be gone over first with a scratch plane, which makes a much better surface for the glue to adhere to.

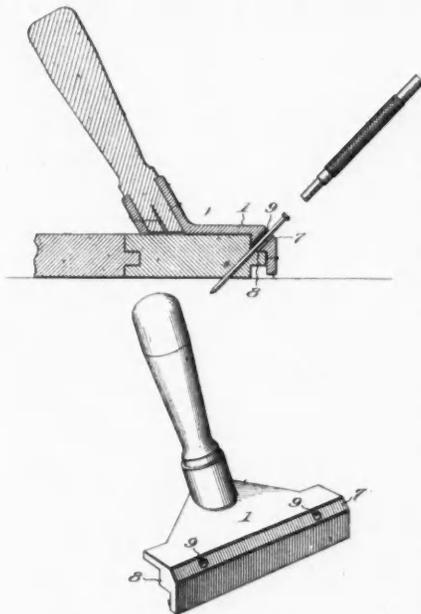


Conducted by Watson & Boyden, Patent Lawyers and Solicitors, Washington, D. C.

Combined Floor-Set, Nail-Set and Nail-Shield

1,016,383—Patented Feb. 6, 1912, by William T. Wellman, of Lawrence, Kansas.

This invention relates to a combined floor set, nail set and nail shield, the object of the invention being to provide an implement for facilitating the laying of floors and for also facilitating an accurate set and driving of the nail to its work, and for further constructing the implement so as to protect the floor during the driving operation of the nail through the holes (9).



Useful for Floorers

When the implement is operatively associated with the flooring the plate (1) is disposed immediately above the flooring so as to wholly contact with the upper surface thereof, the rib (8) fitting the upper rabbet on the tongued edge of the flooring and arranged with respect thereto so as to permit of the effective driving operation of the nail. In this position of the implement the striking face (7) and the

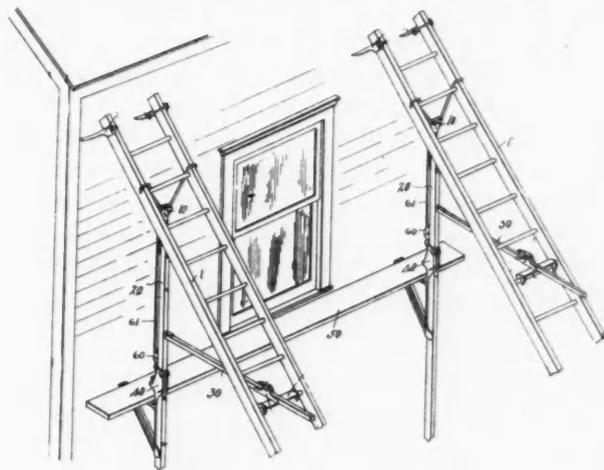
portion (13) may be struck with a mallet, hammer or any suitable driving tool so as to force the tongue and groove portions of the adjacent flooring sections into operative engagement or association with each other.

Swinging Scaffold

1,018,043—Patented Feb. 20, 1912, by William C. Gaw, of Cleveland, Ohio.

This invention relates to a painter's swinging scaffold and has for its object to provide a device of this class which shall be very light and easily transportable and at the same time be strong, easily adjustable, efficient, and inexpensive. Such a device ought to employ ladders, planks and other simple materials such as every painter necessarily possesses and avoid the necessity of buying and transporting other heavy and cumbersome apparatus. This system aims to utilize these

articles to their full capacity and to employ in addition thereto only a small number of simple and inexpensive parts.



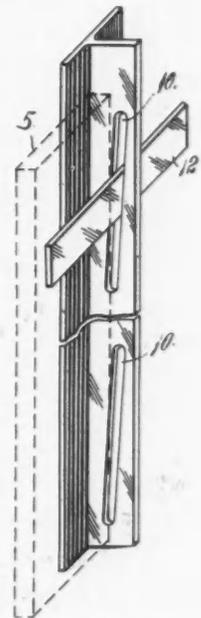
Swinging Scaffold—Adjustable

1—1 represent ladders of the ordinary or any approved type inclined against the side of a house and carrying suspension members (10) near their upper ends, to which suspension members poles (20) are attached. These poles hang in a vertical position at a convenient distance from the wall of the building, being braced against swaying by struts (30) suitably secured to said ladders, and carry slidible bracket members (40) adapted to support a plank (50) or other suitable platform in such manner as to permit easy and rapid vertical adjustment of the same by means of the pulley blocks (60) and tackle (61).

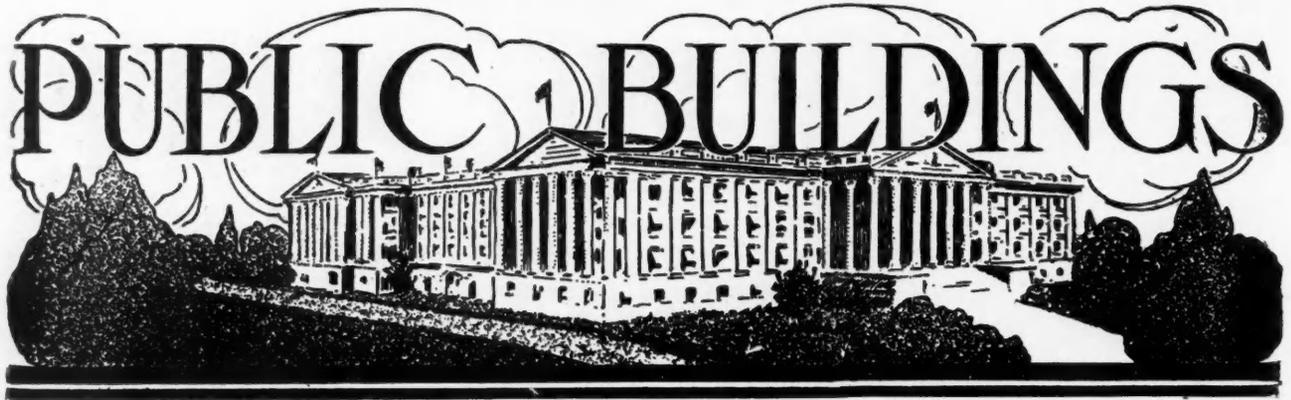
Building Partition

998,293—Patented July 18, 1911, by Louis F. Jackson, of Denver, Colorado, assignor to Davis-Jackson Supply Company, of Denver, Colorado, Co-partners.

In constructing partitions in accordance with this invention, vertically arranged T-beams are employed having slots (10) in their web as clearly shown in the illustration. The partition boards (5), shown in dotted lines, are secured between the flanges of the T-beam and keys (12) driven into the inclined slots.



Good for Plaster Board Partitions



School for University Place, Lincoln, Nebr.

ARCHITECT'S PERSPECTIVE AND FLOOR PLANS SHOWING MODERN HIGH SCHOOL BUILDING DESIGNED BY WELL KNOWN CHICAGO ARCHITECT

MUNICIPALITIES at the present time are very generally inclined to devote considerable care to the proper housing of their school children. Boards of education recognize this as an all important factor of the educational problem confronted by every city. Poorly designed and constructed, ill-ventilated school house fire-traps are fast passing.

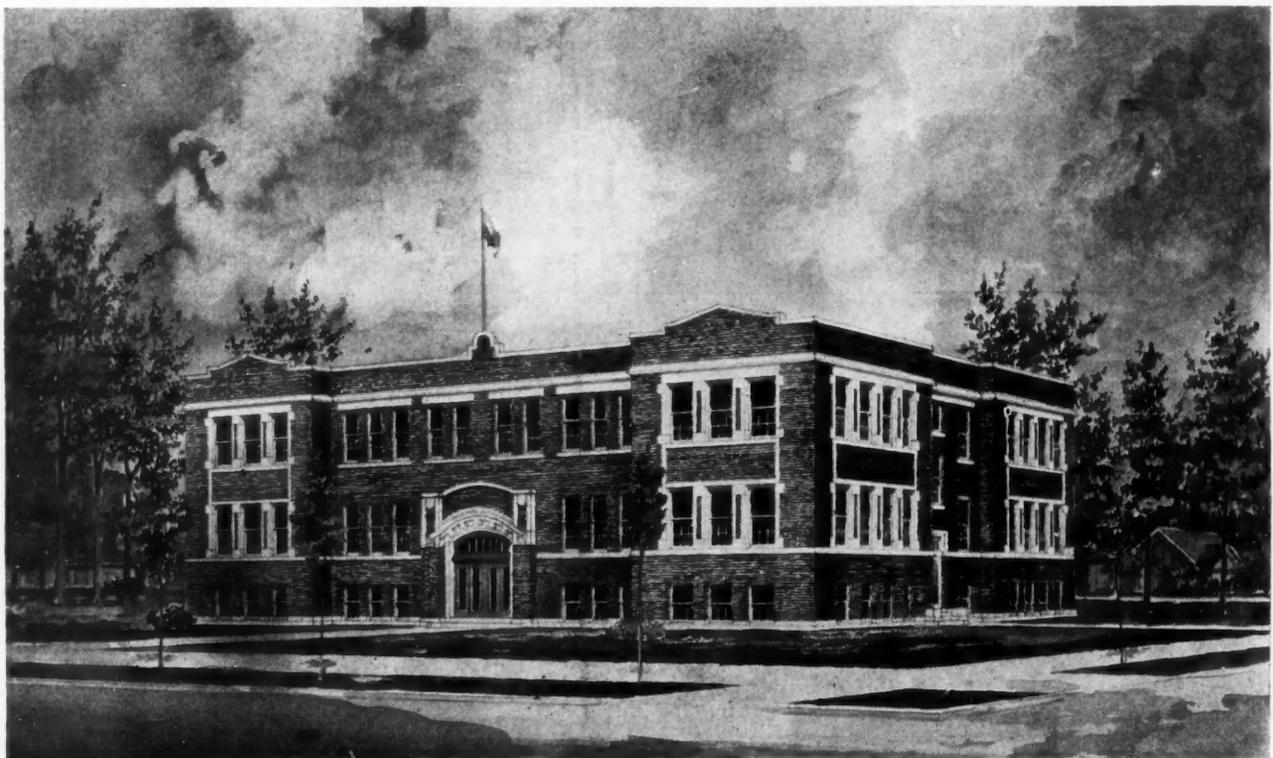
Playing a prominent part in the advancement of type both in design and construction of public buildings has been that well known Chicago architect, G. W. Ashby.

We are devoting this section this month to the high school building Mr. Ashby planned for construction in Lincoln, Neb. A study of the accompanying floor plans will indicate the especially pleasing, entirely sanitary and thoroughly modern building designed for the Nebraska city.

Of two stories and basement type, the exterior finish included red face brick and white stone trimming. Entrance through the double door vestibule and up a short flight of steps, gains a wide corridor, from which all first floor rooms are in direct access. At each end of this corridor flights of stairs lead to the second floor, to double door vestibule entrances and to basement.

The first floor of this building provides four spacious well lighted class rooms, each room having direct connected cloak rooms. Across the corridor from main entrance is large assembly hall, equipped with two ante-rooms to the side of center stage. Running from end of corridor is sub-hall from which opens book room, superintendent's office and library.

Upon the second floor, space is given to six class rooms and chemistry and physics laboratory, with sup-



High School Building, Submitted in Competition by G. W. Ashby, for Construction in Lincoln, Nebraska.
(FOR FLOOR PLANS SEE OPPOSITE PAGE)

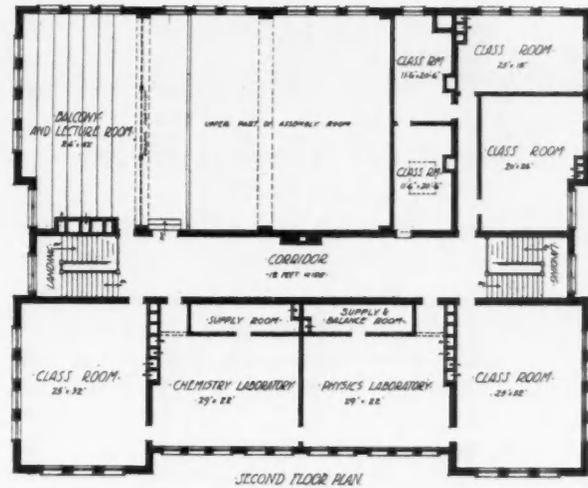
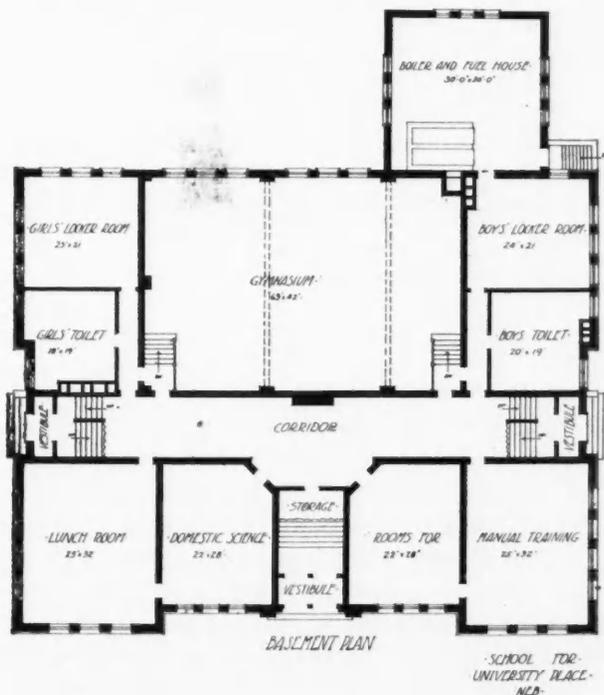
ply rooms opening direct from the latter. The upper part of assembly hall and a balcony and lecture room occupy the remainder of this floor.

Basement plan includes rooms for domestic science and manual training, lunch room, girls' locker room and toilet, boys' locker room and toilet, large gymnasium and storage space.

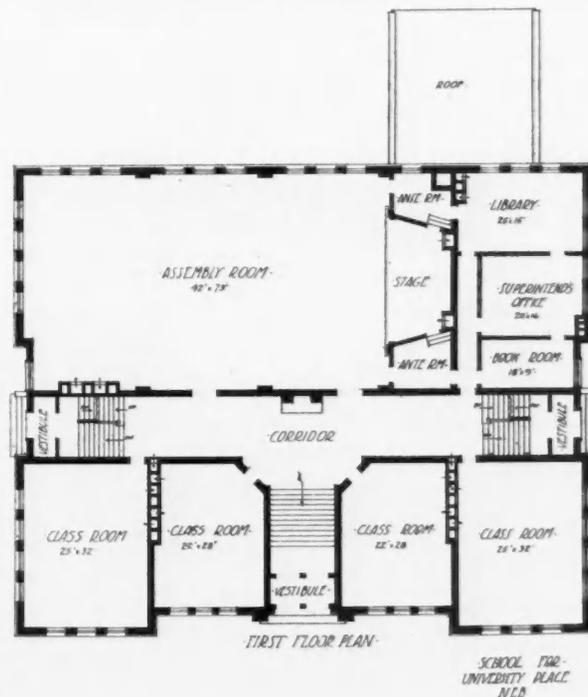
Provision is made for heating equipment in a boiler and fuel house, 30'x30' one story extension, at right rear of building. This plan removes entirely from main structure all dirt and noise, which always accompany the operation of a heating plant. Entrance to this part is had from without direct, and also from boys' locker room.

Thorough study of these plans, as prepared and shown here, will undoubtedly prove profitable to city and village educational boards, contractors and build-

ers. Why not, then, a gasoline engine and a small portable power mixer for making up the concrete for foundations, walks, etc., and then why not go a step further and have the same little gasoline engine do the work of hoisting up the framing and other building material?



Already there is a fairly wide spread use of ropes, blocks and hand derricks for relieving in some measure the burden. So why not go a step further and relieve it a whole lot more by making power appliances do this work? Often the same engine that drives the concrete mixer can, by the addition of a hoisting drum,



ers, in affording suggestive principles which can well be followed in school house construction. Particular attention is directed to the ample lighting provision made for each room.



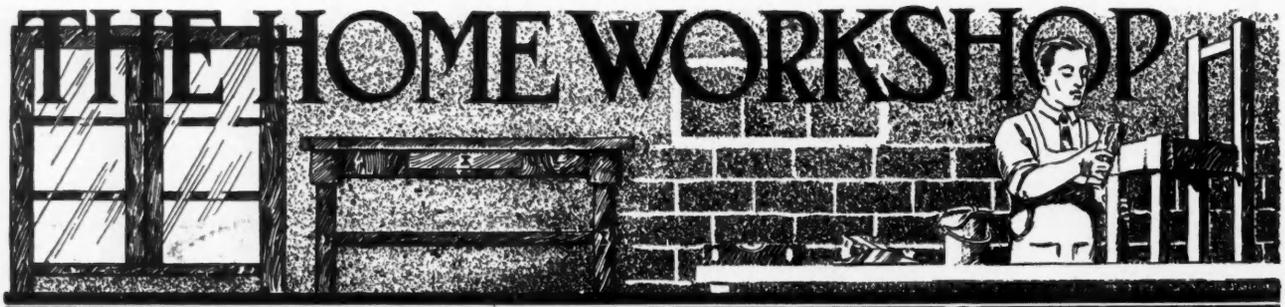
Power Appliances on the Job

The use of power appliances on the job is now quite common on the larger undertakings, so common in fact that it would be a slow-poke of a contractor that would undertake any kind of a large building without them. And we will soon be to the point where only the slow-pokes and the unfortunate will be without power appliances even on the ordinary house job.

Where electric current is not available, gasoline engines are to be had at modest prices and in such a variety of shapes and sizes that almost any want can

be used for all the heavy work of getting up material. And this really all amounts to enough that pretty soon the progressives will be doing it, and those that are not will have a hard time keeping up.

J. CROW TAYLOR.



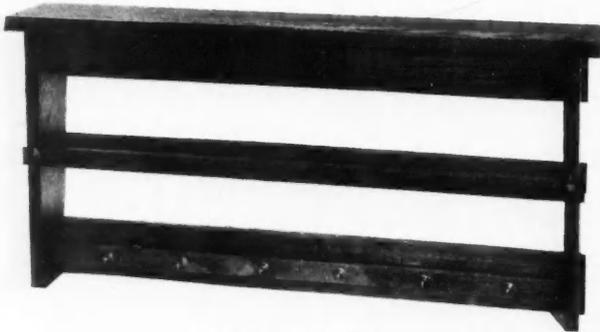
How to Make Plate Rack and Book Trough

PHOTOS, WORKING DRAWINGS AND COMPLETE INSTRUCTIONS FOR MAKING AND FINISHING THESE TWO INTERESTING PIECES

By Ira S. Griffith

WE present this month two pieces of comparatively simple construction. Any boy who has mastered the first use of the simple hand tools ought to be able to construct either without difficulty.

The plate rack might be made of some soft wood



View of Plate Rack

but the book trough ought to be made of some hard wood to withstand wear. The plate rack shown was made of chestnut and the book trough of black walnut. The coarse grain of the chestnut makes a fine appearance fully equal to that of oak.

The plate rack is intended to hold the occasional piece of china and is designed simple so that the small boy may construct it. The following pieces will be necessary:

STOCK BILL FOR PLATE RACK

- Top, 1 piece, $\frac{3}{4}$ by $4\frac{3}{4}$ by $32\frac{1}{2}$ inches, S-2-S.
- Ends, 2 pieces, $\frac{3}{4}$ by $4\frac{3}{4}$ by 14 inches, S-2-S.
- Back pieces, 2 pieces, $\frac{3}{8}$ by $3\frac{3}{4}$ by 31 inches, S-2-S.
- Back piece, 1 piece, $\frac{3}{8}$ by $1\frac{3}{4}$ by 31 inches, S-2-S.
- Front rail, 1 piece, $\frac{3}{8}$ by $1\frac{1}{4}$ by 31 inches, S-2-S.
- Supports, 2 pieces, $\frac{3}{8}$ by $1\frac{1}{4}$ by $29\frac{1}{2}$ inches, S-2-S.

Square up the top, the front, back and supports in the usual manner. In preparing the ends prepare a face-edge and square to this the two ends. The second edge may then be shaped as shown in the drawing.

Lay out and carefully cut the grooves that are to receive the various pieces.

Thoroughly sandpaper all the parts and assemble as shown. For a finish the following direction will produce a satisfactory effect if chestnut or other coarse grained wood is used in the construction of the piece: If a dark finish is desired, apply a coat of stain of a color somewhat lighter than is wanted for the highlights. This stain may be water, oil or spirit—each has its advantages and disadvantages. Water stain is cheap, penetrates the wood well and is transparent but roughs up the wood so that it will be necessary to sand the surfaces well with number 00 paper after the staining to remove the "whiskers" that have been raised. A penetrating oil stain will not raise the grain but does not give quite as clear an effect as the water.

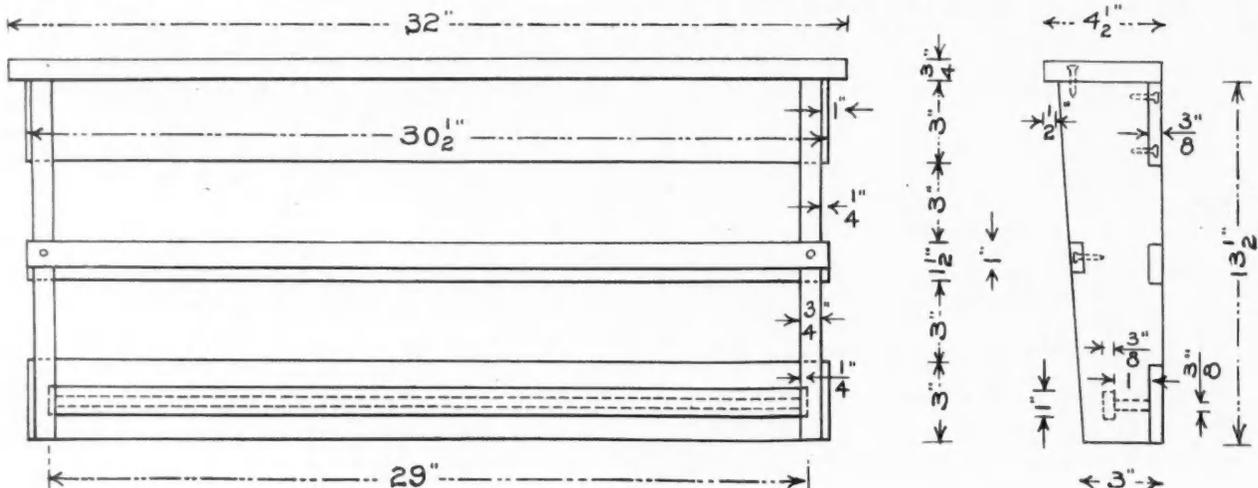
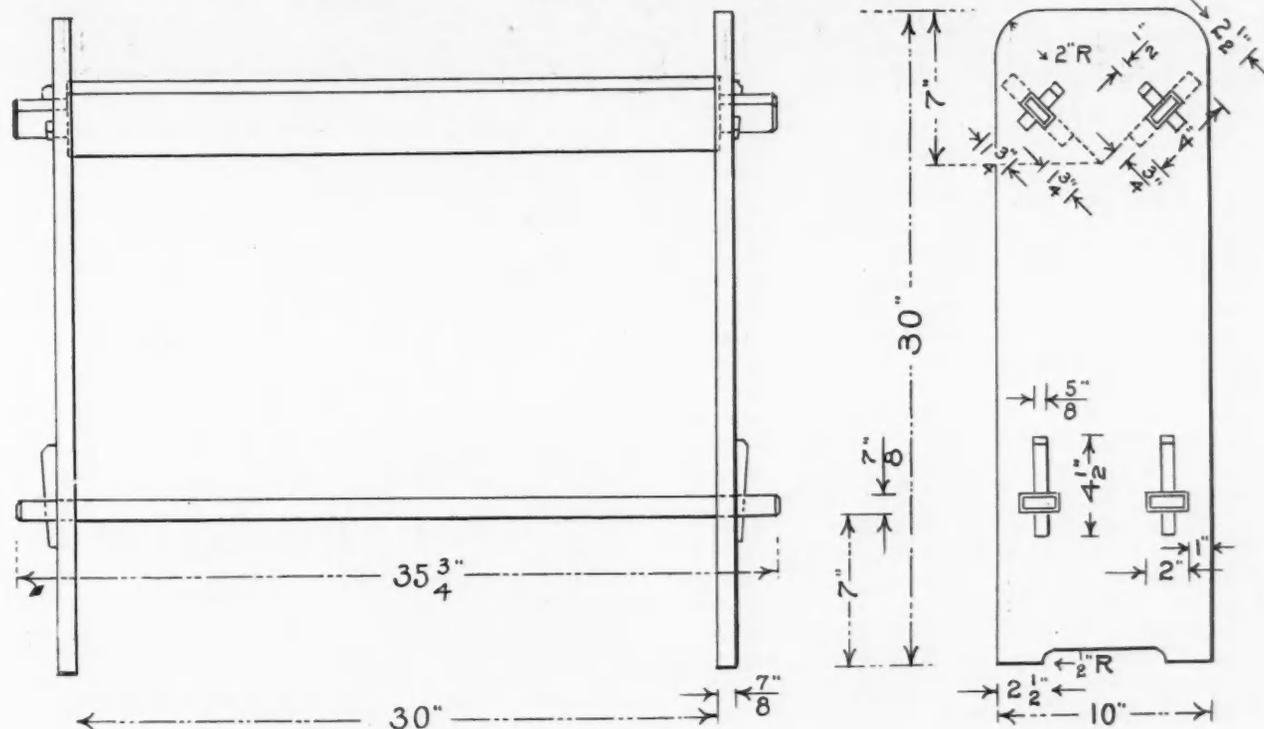


PLATE RACK.

How to Make the Book Trough**STOCK BILL FOR BOOK TROUGH**Sides, 2 pieces, $\frac{7}{8}$ by $10\frac{1}{4}$ by $30\frac{1}{2}$ inches, S-2-S.Trough, 2 pieces, $\frac{3}{4}$ by $4\frac{1}{4}$ by 36 inches, S-2-S.Shelf, 1 piece, $\frac{7}{8}$ by $10\frac{1}{4}$ by 36 inches, S-2-S.Keys, 4 pieces, $\frac{5}{8}$ by 1 by 5 inches, S-2-S.4 pieces, $\frac{1}{2}$ by $\frac{3}{4}$ by 3 inches, S-2-S.

four hours apply a thin coat of shellac and allow it to harden over night. Sandpaper this shellac with number 00 paper then apply a coat of wax. Apply wax just as you would shoe polish and polish in the same manner. If a paste wax is used it must be applied sparingly if a good result is to be obtained. If the surface should have too much wax applied to it the

**BOOK TROUGH.**

Square up the end pieces in the usual manner then the pieces for the trough and the shelf.

Lay off with knife and square and gauge the tenons on the horizontals. Before cutting the shoulders of these tenons, lay and work the mortises in them into which the keys or wedges are to be fitted. The reason is obvious—otherwise there would be no place to place the gauge head in laying out these mortises.

In laying out the mortises for the keys, plan the work so that definite dimensions may be followed. Do not work either these or the keys by the hit and miss method.

Keys may be made in a variety of shapes. The essential thing is to have the measurements at the joint the same as those of the mortises.

Lay out and work the mortises in the verticals. The drawing indicates that the ends of the pieces forming the trough and the shelf ends are to be housed into the side pieces to a depth of one-quarter of an inch.

Lay out the curves at top and bottom of the verticals and cut them. Thoroughly scrape and sandpaper all the parts then apply the finish before assembling.

For black walnut the most satisfactory finish, when ease is considered, is obtained as follows: Apply a coat of boiled oil allowing it to stand some time then wiping the surface clean of surplus oil. After twenty-

low places, the open pores, will hold the surplus and when the whole dries these places will show a white chalk like appearance. There is no need for such



View of Book Trough

a result if the wax is applied sparingly. It is a curious thing that the thinner the coating, providing it is applied over all, the better the polish. Apply two or three coats of wax, polishing each and allowing each some thirty minutes between coats.



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

How to Bind Your Magazines

To the Editor: Santa Fe, N. M.
Now I wish some brother chip would give me a tip on how to bind back numbers of the AMERICAN CARPENTER AND BUILDER. I have four years' back numbers. I have stripped off the advertising pages in front and back and want to bind them, so will thank anyone for information regarding method of procedure.

I also wish to ask the editor, is the AMERICAN CARPENTER AND BUILDER set up by union printers? I always like to see the typographical union label on the first page.

THOMAS J. MANSFIELD.

Answer: It makes us nearly tear our hair out when you say "I have stripped off the advertising pages in front and back and want to bind them." We have always maintained that the value of these advertising pages as a business directory for builders (from which building materials, tools, supplies, etc., could be ordered when needed) was very great. But to see the advertising pages so valuable to you that you want to bind them up, throwing the editorial section away!—that's a little too much. We have tried to make the editorial pages just as interesting, practical, and useful as the advertising. It is an up-hill race, we admit; but we thought we were gaining a little.

Of course, if you haven't room on your shelf for both the advertising and editorial sections bound up, and must throw one away, certainly let it be the editorial. But if you possibly can, as a personal favor to the editor—save both parts. Look over the articles again; you will find them still good, we are sure;—illustrations clear and enlightening; text under-

standable and with an idea here and there—really worth while saving for one who is engaged in building. And as to the advertising pages, there is no more complete, reliable, and up-to-date directory to show you what the newest and best of building materials, tools, and builders supplies are, and where you can get them. So save *both* parts; and bind them up together. Yes, by all means.

Here is a way to build up your back numbers of the AMERICAN CARPENTER AND BUILDER. Place the copies on a pile in regular order, then place a thin board on both sides of the pile, flush with the back, then place in vise as illustrated. Make two cuts about 2 inches apart, $\frac{3}{8}$ of an inch deep, and at an angle of about 45 degrees, as shown. Now, loosen the vise and raise books above the boards, sufficient to clear the cuts, then tighten vise and wrap several times with strong twine or wire at the bottom of the cuts. Repeat this process at the other end of the book.

The book may then be covered with any strong paper, large enough to go around both sides and back. Glue the entire back, and far enough on both sides to cover the stripping. This makes a neat and substantial binding. It was originated, we believe, by a reader of *The Woodworker*, who has bound about thirty volumes of various magazines, by this method, successfully, none having ever come apart.

In answer to your last question, the AMERICAN CARPENTER AND BUILDER is set up and printed entirely by union printers, members of Typographical Union No. 16. You will not find the typographical union label in any of the standard magazines, although most of them are, so far as we know, produced in union shops.

EDITOR.



But the Roof Leaked

To the Editor: Toledo, Ore.
There has been a good deal said of late, about shingling in your valuable paper. Now, I came from New York State a few years ago and I never saw a man that could lay over 3000 shingles in a day and 2500 got me. But I have seen one man lay 10,000 in 9 hours and he did not build any scaffold or staging. He used a roof cat and had spikes in his shoes and a gauge on his hatchet. But let me say that the roof leaked the first rain. It was a public building and they got it cheap and that seems to be the main object.

I have been driving nails for the last 15 years and am not able to lay over 3000 shingles for one day.

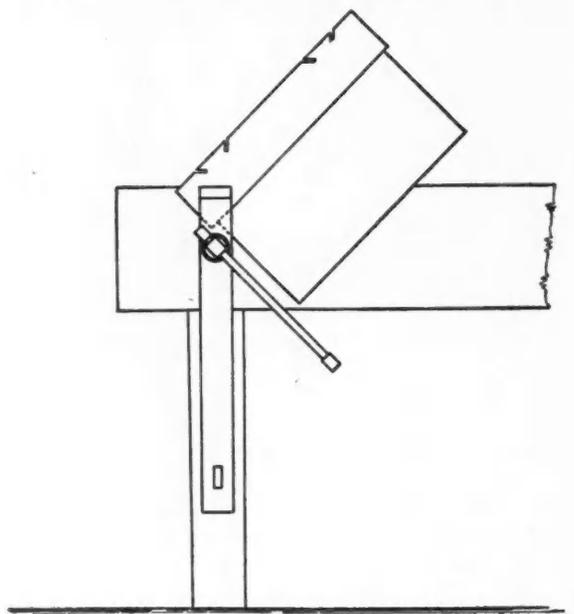
I am sorry the AMERICAN CARPENTER AND BUILDER is not a weekly as it seems a long time between copies.

W. H. CORNBEAR.



Would License Carpenters

To the Editor: Collinsville, Okla.
I like to read such pieces as the one from the Brother from South Dakota telling about the "Cornrow Carpenters." We are up against the same thing here in Oklahoma and I



Place Volume in Vise and Saw Notches

thoroughly endorse the idea of the Brother from Brooklyn to license builders—that is make every man that follows the carpenter trade stand an examination just like school teachers; if anyone can't pass the examination don't let him work at the trade.

Now, I don't believe in putting a tax or license just on the contractor for I don't think that will help the matter for some contractors will pay the license and then as long as they can hire these carpenters that don't know much at reduced wages will keep on doing the same kind of work.

I have been a reader of your paper for two years and find it a great help to me. Yours for better building.

E. L. HOLLOWAY.

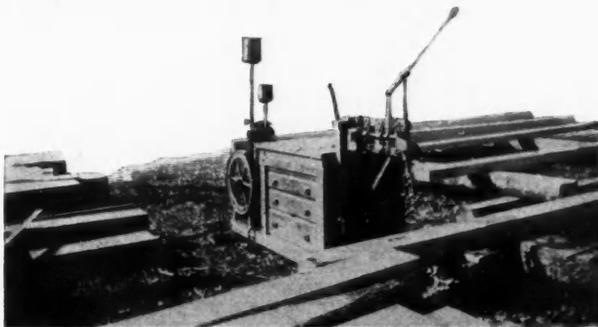


Power Barn Framer

To the Editor:

Roanoke, Ind.

The building prospect here is good, I do building and contracting with the farmers principally, but do work in the cities too. I do a good share of the large barn building and sawing by gasoline engine power.



Home-Made Power Borer

I herewith enclose cards illustrating two of my inventions, one is the power woodworker (borer, etc.), the other an automatic farm gate. I notice in the March number that Joseph Lipskey, of Oklahoma, wants working drawings of



Automatic Drive Gate

an automatic farm gate. This is patent No. 583036, one-half interest in which I own.

I am always pleased to get the AMERICAN CARPENTER AND BUILDER.

G. A. DENTELBECK,
Contractor and Builder.



Details of Fireplace for Burning Wood

To the Editor:

Fitzgerald, Georgia.

I build a deal of farm houses and for that reason I am interested in fireplaces. About one-half I have had built in the last fifteen years smoke. On page 47 of your March

issue you have an article on "smokeless fireplace," but you give no measurements. In your book "Radford's Details" you show some fireplaces without any better details.

I have never found a mason who rightly understands how to build a chimney for burning fat pine wood. The old clay and stick chimneys never were known to smoke. My opinion is they don't make the flue large enough. I don't think this class of chimney requires a throat or flared back. If you have any one on your staff who thoroughly understands the principle of a fireplace to burn wood, and would publish details of a fireplace to burn, say 30-inch wood as a standard size, I feel sure it would be of great value to Southern people. Houses are rarely built in this country without fireplaces. Of late I have been building my flues with a space of 144 inches and I am not having any great amount of trouble.

Forty years ago I used to see a lot of white painted mantels with a decoration of urns, festoons, etc., which I think was put on with plaster. I would like to build some of these now. Is there any way of getting these decorations? It appears they could be made in stamped brass and painted with the mantel.

SYDNEY CLARE.



An Odd Pitched Roof

To the Editor:

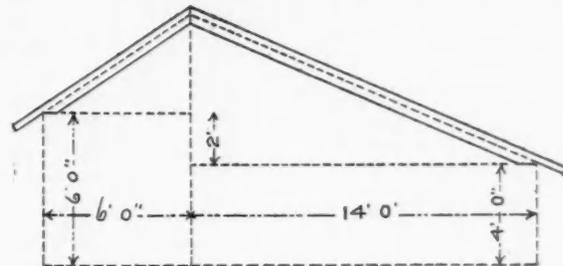
Elkhart, Ind.

Here is a question that I would like to see explained.

How do you proceed to cut rafters for a building as per sketch with any pitch? Would like to see this explained.

LLOYD A. HERSHBERGER.

Answer: Easy enough; just proceed the same as you



Simple Rafter Problem—When Understood

would for the common gable roof, as the run for each is clearly defined. The rise for the short run can be anything desired while that of the long run must be the same, plus the difference in the height of posts—which in this case is 2 feet. Therefore, if the rise for the short run is 3 feet, that for the long run must be 5 feet.

EDITOR.



Do Not Oil

To the Editor:

Carpinteria, Cal.

In answer to C. S. Scovell of Nebraska, get a new emery-wheel and never put any oil on it. It would make me "hot" to have oil put on my emery-wheel.

I think Mr. Moorehead's last statement is correct, except the last sentence.

FRANK PIERCE.



Wants Plan of Truss

To the Editor:

Moose Jaw, Canada.

I would like to have some of your readers give a sketch of a roof truss to be self supporting and to span 130 feet. It is for a skating rink. Cheapness to be considered, yet must be substantial.

I have been a reader of your publication for some time and find many useful things therein.

R. JONES.

House Sewage Disposal Plant

To the Editor:

Pittsfield, Mass.

I am a "Charter Member" of AMERICAN CARPENTER AND BUILDER and enjoy its pages very much. I would like to see an illustrated article on the proper construction of Septic Tanks suitable for single family use—say a family of five or six persons on an ordinary size building lot in the suburbs of a city, where city sewerage has not extended. Ground on said lot is quite level—gravel soil.

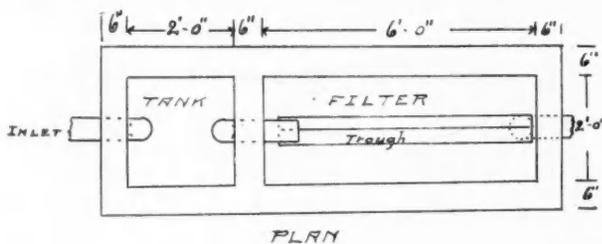
I believe there are many readers of your journal who would appreciate such an article. May we see it in an early issue?

CHAS. J. GOODRICH.

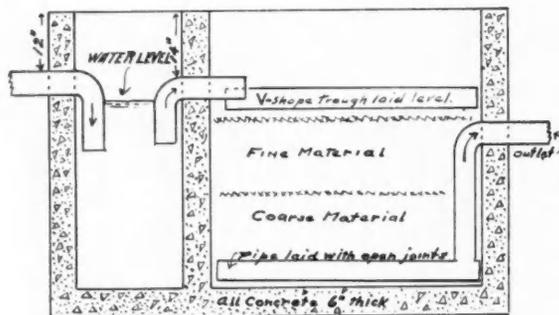
Answer: There are various kinds of combined septic tanks and filter beds for treating the sewage from private residences, but the simple ones seem to be fully as satisfactory—and are less expensive than—the more complicated ones.

Any installation of this character will require some attention at least once a month, to see that all pipes are clean and that sludge is not passing from the tank to the filter bed.

The sludge that settles to the bottom of the tank must be



PLAN



ELEVATION

Details of Concrete Sewage Disposal Plant for Moderate-Sized American Family

occasionally removed and disposed of, although this ordinarily will not be necessary oftener than once in every 3 or 4 years.

The filter part may sometimes need to be renewed, or at least washed with clear water, to remove the sludge that may have carried over from the tank.

A form of combined tank and filter that has been found satisfactory in many places, is illustrated in the accompanying sketch. This tank will prove large enough for a family of 6 to 8 persons, unless too much bath water is allowed to go through the tank.

For the construction of this combination, we shall need to remove at least 5.8 cu. yds. of earth; and furnish 2 cu. yds. of concrete, 1 cu. yd. of filtering material, and, when necessary, an air-tight wooden cover which can be easily removed to allow of inspection of the tank.

The concrete should be thoroughly mixed very wet, and composed of 1 part Portland cement, 2 of clean sand, and 4 of crushed rock, the rock not to be larger than will pass

through a ring 1½ inches in diameter.

The filtering material should be of crushed stone or furnace slag in preference to any other material, although coke, gravel, or even pieces of very hard paving brick or broken pottery might prove to be fairly satisfactory.

The top half of the bed should be of pieces ranging in size from ½ to 1 inch, with the smaller pieces predominating; and the bottom half should be of pieces ¾ inch to 1½ inches in size. In addition to this, a few pieces of 4- or 6-inch sewer pipe and elbows will be needed.

On the filter bed is to be laid a V-shaped wooden trough with small notches cut in each upper edge, to distribute the sewage evenly over the filter bed without raising the water level to a point where it will stand in the inlet pipe.

The location of the tank, distance from the nearest house, and fall of the ground, will determine many of the details of construction.

When the tank is 200 feet or more from the house, a cover over the filter area is not always absolutely necessary. If the ground has sufficient fall to allow the outlet pipe to be laid straight away from the bottom of the filter, instead of part way up the end as shown in the drawing, then it will be an advantage to have no cover over the filter, or else a very open one, as these filters give better results when open to the air and sunshine. But if it is necessary to construct the little treating plant close to a residence, then the filter and all should be covered tightly.

The outlet may lead away to drain, if there is one; or if not a "French drain" composed of broken stone loosely piled together should surround the box on three sides.

In every case, without exception, where installation of this kind is used, all the fixtures in the house should be ventilated according to the rules for sanitary plumbing.

The sewer pipes leading from the house to the tank should be carefully laid, with a fall of at least 2 feet in every 100, and the joints made as nearly water tight as possible so as to keep out surface water during wet weather.

JAMES W. BEEBE.

Civil and Sanitary Engineer.



Wants Testimony Before Buying

To the Editor:

Stonington, Me.

I would like to hear from some of the men who have used nailing machines for shingles. Are they any good?

H. B. SMITH.



To Frame a Post Sitting at an Angle on an Incline

To the Editor:

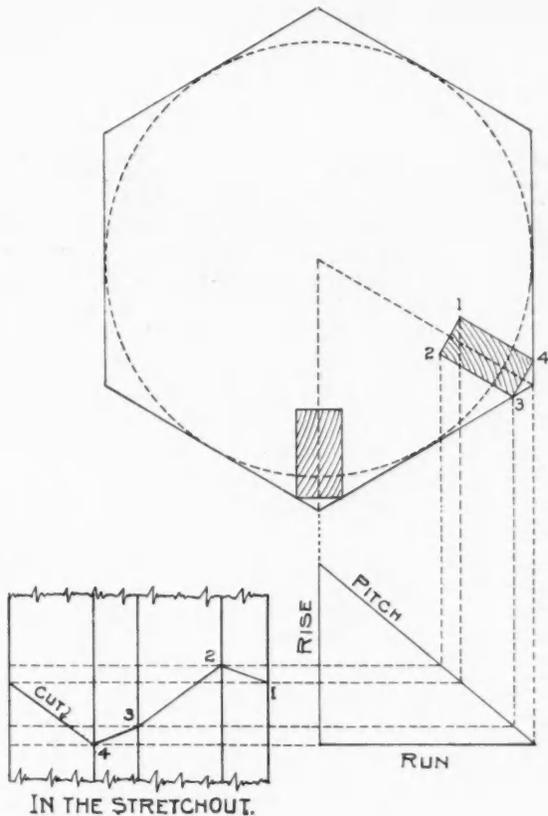
Elsworth, Iowa.

I would like to know a method to cut the studs for a hexagon cupola or ventilator where two studs rest on the comb of the roof and are cut off square on the sides, but the other corners rest at an angle on the roof, which is 5/12 pitch. Also will the same rule cut the braces 3 feet long and spread at the bottom?

I read with pleasure and profit the questions and answers given in the AMERICAN CARPENTER AND BUILDER.

GEORGE B. HOLT.

Answer: To frame a post to rest at an angle on a pitched roof furnishes a problem that will try the ingenuity of the best of framers; it is one that clearly comes in the range of the steel square, but the method of procedure is beyond those not acquainted with the true principles involved, which, if understood, apply to any angle the post may rest on the roof; but we cannot enter into the discussion of that part of the subject now, because it would make quite an article of itself, and we would rather save it for a special article to be given in the future.



To Frame Hexagon Cupola

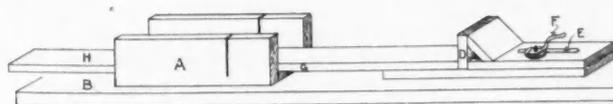
In this case, the proportions on the square are 10 and $13\frac{3}{4}$ for the side cut of the stud, and 10 and $23\frac{1}{2}$ for the edge cut. The side of the square on which the former number is taken gives the cut in either case. As far as the brace is concerned, it is an easy matter to get the cuts by scribing to its place and using the piece as a pattern, cutting the pieces right and left. Then there is the graphic method, which is a simple line drawing, as shown in the illustration, and which is self explanatory, as will be seen by following the lines from the plan to the intersection of the pitch line, thence at right angles clearly shows the line of the cut in the stretch-out plan and to which the bevel square may be readily applied. Or the four lines may be carried clear around the stud, then lay off the diagonal lines, catching the corners at different points, as shown by the parallel lines around the stud. The posts, of course, must be cut right and left for the two that sit on each side of the roof. Those sitting on the ridge require only a simple cut to fit to the ridge.

A. W. Woods.

A Useful Device

To the Editor: Vesper, Wis.
I am enclosing herewith a sketch of a simple little device for making duplicate cuts, such as window jambs, head casings and the like. I find that it saves considerable time when there are quite a number of duplicate cuts to make. In the illustration, A represents the miter box; B top of bench; C thickness of board; D butting block; E slot or slide; F handle nut to secure D; H shows the board in position to be cut.

F. G. Rockwood.



Stop Gauge for Mitering

Preservative for Timber

To the Editor: Lebanon, Ore.
I have been a subscriber to your paper (my people call it my Bible) for something over three years and have found much in it of value to me—but now I'm puzzled. One man here wants a barn 50 feet by 70 feet, 22-inch eaves, gambrel roof and without post or beams above upper floor, which is to be 12 feet below plate. Now, how near can I come to this and make a good substantial job? And is plank frame as good as heavy timber?

Here is plan to preserve post, piling, etc., which are to be set in ground. Use green round poles with bark on up to one foot above ground line. Bore hole in to center of pole one inch above ground and put in a powder made in the following proportions: Arsenic, 2 oz.; Corrosive Sublimate, 3 oz., and common salt, 5 oz. Mix, and use teaspoonful to 5-inch pole, two tablespoonsful to 10-inch pole. Drive dry wood plug in hole. Common fir poles have been taken up here that have been treated in this manner and were perfectly sound after being in the ground 20 years.

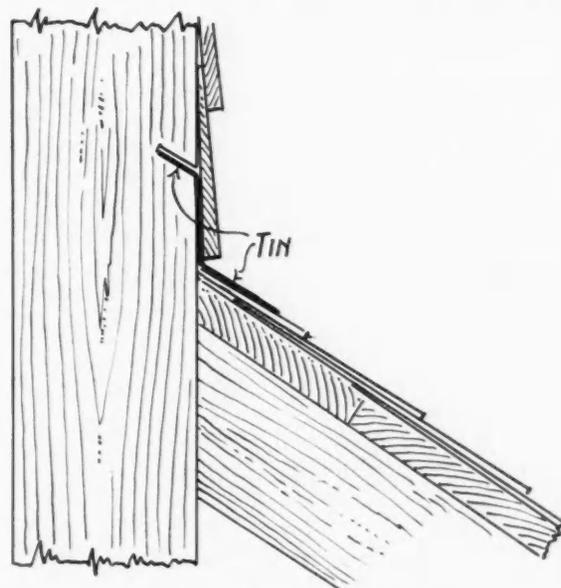
I. E. ANDERSON.



To Stop that Leak

To the Editor: Jonesboro, Ill.
If Mr. Metzger of St. Paul has not yet received information to stop that leak, I will undertake to give a way of handling such problems. It never fails for me in making a tight job over a bay window or any other similar break in a wall.

Let the tin flashing go behind the storm sheathing; take off if necessary, a few of the boards by cutting off at the studing back on each side of the leak and then replace after the flashing is put in, being careful to lead it outside at the



Warranted to Prevent Leaks

bottom where it begins. Where there is only lap siding, I cut a short slanting kerf in the studs to catch the water, running down same and insert the upper edge of the tin in same as shown.

Now, I would like to ask a question.

Who knows where I can obtain a brass faced flush bolt to put in a sliding door to hold one side and where the other side is generally open. I have taken them off of old work but cannot find them listed in the catalogues.

J. F. KRAUSS,
Carpenter and Contractor.

Induce Them to Study

To the Editor:

Canon City, Colo.

Permit me to make a few remarks in your most valuable paper. The article in the April number written by Mr. Hicks is just what every contractor sees every day. It really gives me a pain to see the many needless things that men do. I don't believe any contractor will intentionally put his foot (so to speak) on any of his men if they are trying to do justice to the contractor. We need good men, and the best way I know of to get them is to get them to study Radford's "Cyclopedia" and the AMERICAN CARPENTER AND BUILDER, then go on the job and put it into practice. Then if the man doesn't enjoy the business, there is something wrong with his bean. I try to get my men to take the AMERICAN CARPENTER AND BUILDER and am always glad to receive mine.

S. D. HECKART,
HECKART & SON,
Contractors and Builders.



He Asks Two Questions

To the Editor:

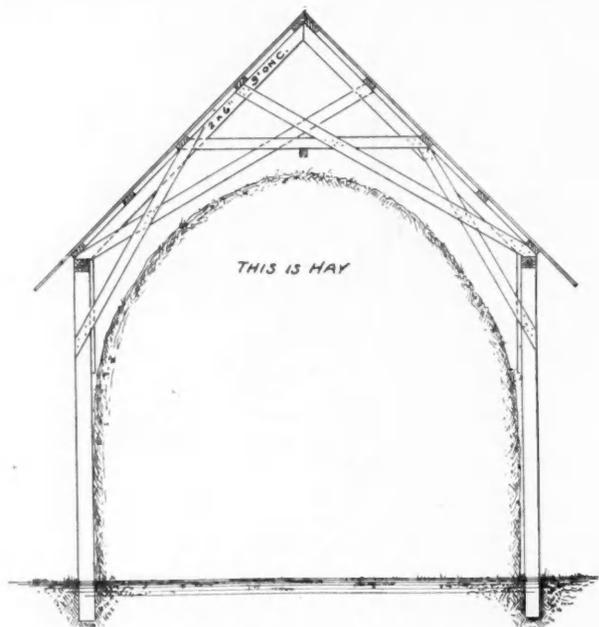
Prairie View, Kansas.

I would like your advice on two questions. The first is this: I have a job to build a hay shed this spring, 24 by 60 feet and 16 feet high. Can this be braced sufficiently against wind storms, omitting the cross bracing? I am in doubt about it myself.

My second question is, how is the best way to get out the frames for screens for a porch having a quarter circle?

H. QUICHELAAR.

Answer: Yes, the building should be cross braced, as there is nothing to keep it from spreading, caused from the weight of the roof, to say nothing of the outward thrust of the new hay as it is being stacked inside and liable to settle against the posts. Then there is danger of collapse in wind-



Framing for Large Hay Space

storms, and more so when it is empty; even at best only the ordinary windstorms that prevail every season can be taken into consideration. How best to place the bracing is the question, so as to give the least interference with the stacking of the hay.

But say—this is a question that has never been handed to us before, neither have we had hay in our whiskers, but if we had any to protect, we would take our chances in build-

ing the shed as shown in the sectional drawing, with the posts set about 6 feet apart on the sides. Perhaps some one has a better way. If so, let him come forward or forever hold his peace.

However, we have noticed through this section of the country (Nebraska) the great majority of farmers protect their hay only with the canopy of the blue sky, and just now your uncle (who cannot afford an automobile) has to pay at the rate of about \$30.00 per ton to help keep up the motive power of his shay. We are almost tempted to throw the steel square away and take up the pitchfork and go to raising hay;—may the Lord forbid.

As to the second question, would make the cross rails circular to conform with the circle of the porch, or where it is to go, and insert light vertical bars at a reasonable distance apart to hold the wire in shape.

A. W. WOODS.

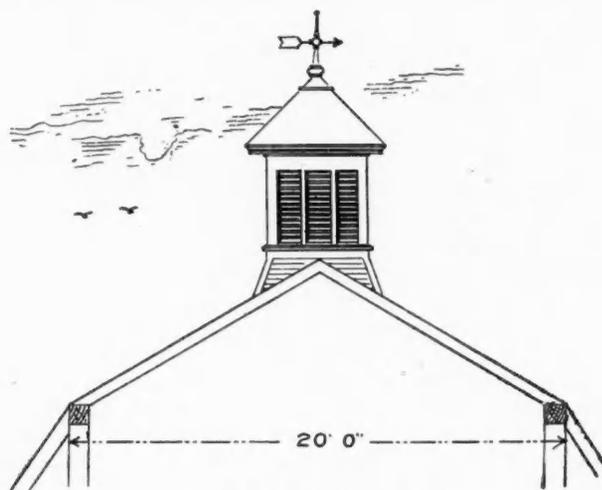


A Suitable Cupola

To the Editor:

Grove City, Minn.

I am herewith enclosing a drawing of a barn and would like some kind of a sketch of a cupola best fitted for that



A Good-Looking Cupola

kind of roof. The barn is 36 by 70 feet. I have the files of your valuable paper but I fail to find anything suitable for the purpose.

O. P. BARROWS,

Contractor and Builder.

Answer: Something like this will look all right on most any kind of a barn, and for a building of this size it should be not less than 8 feet square.

EDITOR.



More Light on the Subject

To the Editor:

Dushore, Pa.

In the January number of the AMERICAN CARPENTER AND BUILDER, there appeared a very good explanation of how to frame hip roofs of all shapes. It was all very plain to me, except the backing of hip rafter and that too was plain enough; but what I want to know is, should the hip be backed first of all before laying off the length and cuts? Some writers say it should be backed first and length and cuts taken on gauge line instead of corner of hip, to have same correspond with the common rafter in length, etc. Please explain this through the columns of your valuable magazine.

JOHN W. BRISLIN.

Answer: When the backing question is thoroughly understood, it does not matter whether the rafter is backed before or after the length and cuts are made. It is true, the length of the hip is along the center of its back and when it is not

backed the roof boards only touch the edges of the rafter, leaving a hollow place which is deepest in the center, thus clearly showing that the true measurement line is entirely off of the rafter. On the other hand, if it is first backed, then the measurement line should be taken along the center of the ridge from a point directly plumb over the corner of the plate to the intersecting point with that of its mate and the side, or more properly top cut, should pass through that point. If there is a ridge tree or piece, then a deduction should be made for same by measuring square back from the plumb cut one-half of the diagonal thickness of the ridge piece.

Now passing on to the valley, we have just the reverse,—that is, if it is not backed—the roof boards will only touch at the center of the back, thus showing that if it is to be backed, then the true measurement line is actually down in the wood just as much as it is off of it in the case of the hip, and it requires patience and a lot of study on the part of the manipulator of the square to get it just right. It is true, the difference does not amount to much and in fact is more often passed by as good enough, unmindful that an error has been made; just cut a little short—a shingle slipped in or under the defective point and nothing more is thought about it, only to occur again and again without the real cause being discovered. The framer should make it a point to see that the plates are true, otherwise correct measurements in the roof work are bound to show up misfits when the trouble does not belong there.

A. W. Woods.



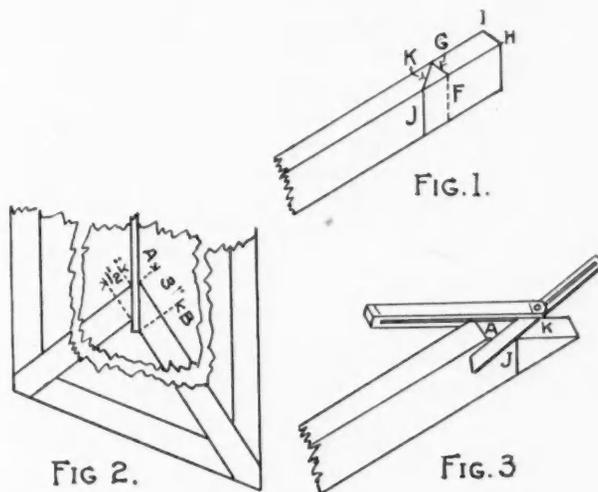
Rafter Cuts

To the Editor:

San Francisco, Cal.

In the December number, Ashley of N. D., told us of a simple way to get the side cuts for hips and jack rafters, as shown in Fig. 1. Parallel to the plumb cut at a distance equal to HI (thickness of rafter) draw J; draw G square across top edge of rafter; draw K intersecting J and G; K gives the cut.

He stated this applied only to right angled buildings, where



rafters are 45 degrees and equal pitches. Now, I claim that it applies to any angled building with unequal pitches, as shown at Fig. 2. Measure the distance on the plan from A to B and apply as shown by Ashley in Fig. 1. Suppose 2 or 3 inches is wanted on a level, then cut at top of rafters as shown at A, Fig. 3, which is the same as the foot cut, then set bevel to the angle on plan and apply as shown. It is a good thing to understand these points because it means a more efficient workman.

I have received the new book, "Radford's Details," and I must say that it is a great book.

H. KEENAN.

Note: Evidently Mr. Keenan does not catch the point referred to by Ashley, that the distance HI (thickness of rafter) does not apply to other than right angled buildings and of equal pitch, which is correct. Mr. Keenan uses the same principle, but the distances given do not equal the thickness of the rafter; and it is because his angles and pitches are not regular. Therefore, either method is correct to the condition to which it applies.

EDITOR.



To Find a Part of a Circle or Polygon

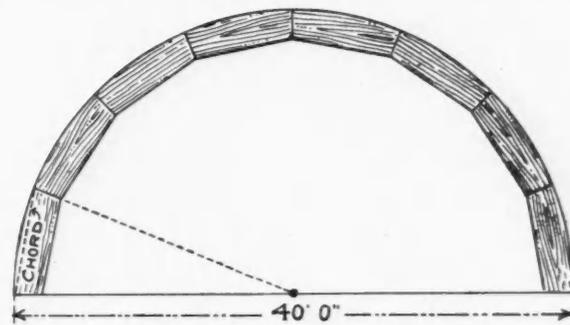
To the Editor:

Pullman, Wash.

Will you please tell me how I can get the circle for one section of a polygon without making the entire or one-half of the circle? For instance,—I want to put an arched roof on a barn 40 feet wide; can I get the circle on, say 8 feet, without making the entire circle?

J. H. CLINE.

Answer: If it is simply to find any part of the circle, lay off the radius (in this case, 20 feet) and swing it around



To Build Up a Circle of Short Pieces

until the length of the arc is equal the desired length and the line of the radius will give the required miter. Or, if it is desired to lay off one part so that a given number will complete the half circle, then the circumference must be found for the complete circle and this divided by 2 will be the length around the arch; this divided by the number of desired pieces, will give the length to cut the pieces.

Example: The diameter being 40 feet, the circumference is found by multiplying the decimal 3.1416 by 40 (the width of the arch); thus $3.1416 \times 40 = 125.664$, which is equal to the circumference of the complete circle; and the half of this is equal to 62.832 feet, which divided by the desired number of pieces in the arch will give the length of the pieces. Thus,— for 8 pieces, the length would be as follows: $62.832 \div 8 = 7.854$, or 7 feet $10\frac{1}{4}$ inches.

By drawing the cord line as shown, would change the circle to a polygon of 16 sides; and if it is desired that the roof be that shape, the lengths may be found by dividing 180 by the number of pieces, as $180 \div 8 = 22\frac{1}{2}$, which represents the degrees that the pieces stand with each other. By referring to a table of chords, we find this to equal .196 and this multiplied by the diameter will give the length of the pieces.

A. W. Woods.



He Wants to Know

To the Editor:

Novinger, Mo.

Will some kind brother chip please give me a simple but correct method of finding the plumb cut on the top end of an angular or hood rafter such as we use in making an extension for a hay track? Like the Jap, I want to know.

CHARLES E. OTT.

The Carpet Problem

To the Editor:

Espy, Penna.

As a subscriber of your valuable publication, I wish to answer the problem of Mr. N. W. Russell, of Minneapolis, Minn., in the April issue, relative to "How long a piece of carpet will be needed."

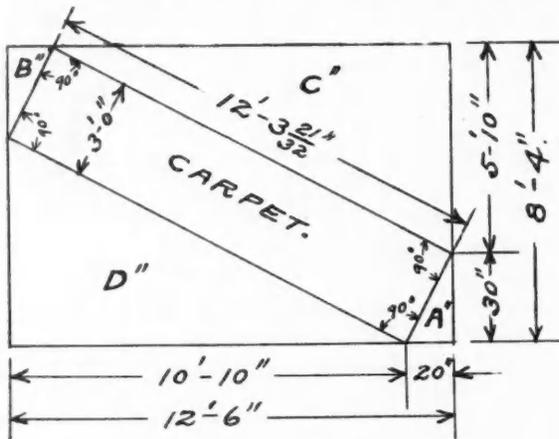
In order to fully illustrate the principles it will be necessary to re-draw his diagram and use characters to further illustrate my proposed answer, which follows.

First, it will be observed that the room 8 feet 4 inches in width is two-thirds of the length 12 feet 6 inches. Now we have a proportion of $\frac{2}{3}$ which I will fully carry out and work to.

Next I will take up the rule of square root for a right angled triangle.

"The hypotenuse is equal to the square root of the sum of the squares of the other two sides."

Second, we now have the hypotenuse of the small right-angled triangle A and B, as 3 feet or the width of the carpet. It therefore will be necessary to find angles whose hypotenuse will equal 3 feet and at the same instant the smaller side or leg must equal $\frac{2}{3}$ of the larger side or leg; this would be found in an angle 20x30 inches. Again it will be observed that the right-angled triangles C and D facing the edges of the carpet are the same relative proportion as the smaller ones A and B (all being of 30, 60 and 90 degrees.)



Now to obtain the length of the carpet in question, I will deduct from 8 ft. 4 inches, 30 inches or the larger side or leg of the angle A, which will let remain 5 feet 10 inches. Again I will deduct from 12 feet 6 inches, the opposite leg of the angle 20 inches, which will let remain 10 feet 10 inches. Therefore the right-angled triangles C and D would be 5 feet 10 inches by 10 feet 10 inches and would have a hypotenuse of 12 feet 3 and 21/32 inches or the length of the carpet.—Answer.

Again I desire to say that this is not an exact mathematical form, although it is illustrated with such simplicity that the average person would thoroughly understand it. The proper solution would be to find the degrees of the angles involved, relative to the tangent with the edges or the parallel sides of the carpet, and then the sines or co-sines of the angles, etc., which would be quite lengthy and very difficult to the average person, thus I give the form in a subject manner of proportion relative to the width and length of the room, which results are only approximate, although close enough for all practical purposes. As the problem is out of the ordinary, it may be well to state, for the benefit of all brothers, that unless the right-angled triangles A and B, or C and D are not all 30, 60, and 90 degrees, the subject in question would not be practical, and would be impossible to determine as the

angles A and B must be the same relative proportion as the angles C and D. (The only other angles that could possibly be used in the manner as above stated would be those of 45 and 90 degrees.)

CHAS. C. HUMMEL.

F. T. Hammond, New Bedford, Mass., sends in a clearly worked out solution arriving at 12 ft. $3\frac{3}{4}$ inches as the answer.

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Another Solution

To the Editor:

Sac City, Iowa.

As I am a charter subscriber to your most valuable paper, and have never contributed anything, I thought I would send in the answer to the problem given by N. W. Russell, Minneapolis, Minn., in the April number.

In a room 12 feet 6 inches by 8 feet 4 inches the length from diagonal corners is 15.023 feet. The length of base of triangle in corner, in proportion to this is 2.496 ft. This number squared and subtracted from the square of the given side (3 ft.) will give you the short side of the triangle, which is 1.46 ft. Now subtract 1.46 ft. from 12 ft. 6 in. and 2.496 ft. from 8 ft. 4 in. and you have the two sides of the larger triangle. The square root of these will give you the remaining side which is the length of the carpet required—12 ft. 11.95 in.—Answer.

Perhaps this could be worked by a shorter method, but I believe it is nearly correct with the exception of a few small decimals that I did not carry out.

Yours for success,

W. J. PARRISH.

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Who Will Answer?

To the Editor:

Topeka, Kans.

How does an American modern architect distinguish between porch, piazza, portico and veranda?

I am very glad to have "Radford's Details of Building Construction." This is a very valuable book for me.

H. M. POND.

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Good Country School

To the Editor:

Mesick, Mich.

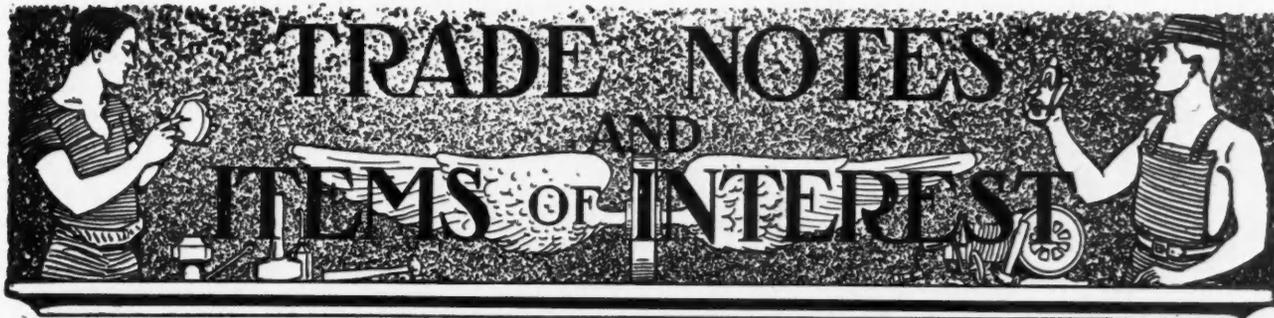
I am a charter member of your great family and would not do without your paper for anything. I am sending you a picture of a 3 room school house that I built at Harlan, Mich., last fall. It has 3 class rooms, entrance corridor, lavatory, office and 4 cloak rooms on main floor, and 3 play-rooms and boiler and coal rooms for steam heating plant in basement. We think this quite a nice building for a country school.

ORLIN CRITTENDEN,

Contractor and Builder.

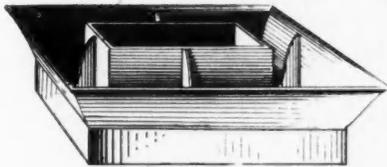


Substantial Country School Built by Mr. Crittenden



An Improvement in Chimney Tops

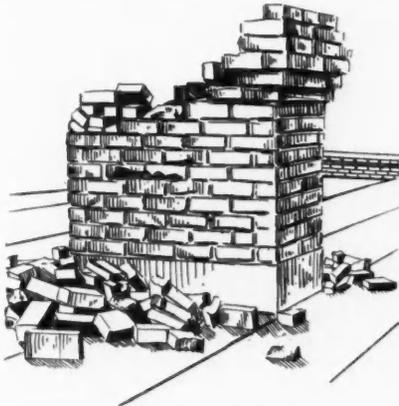
Contractors and builders have heretofore experienced trouble in procuring a substantial chimney top; one which would protect the chimney, make a good appearance and at the same time not be affected by expansion and contraction, caused by freezing.



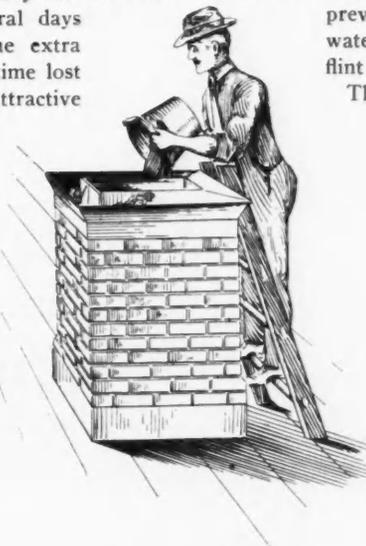
Cast Iron Top

Stone tops have been used by some builders, but the high cost of this material has prohibited its use on many classes of buildings.

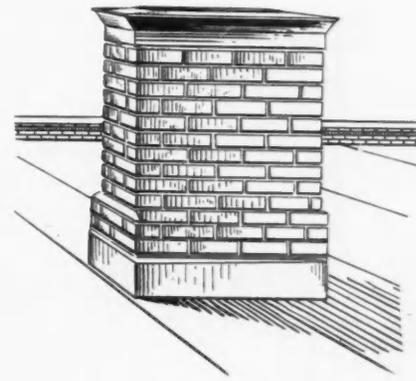
Cement has been the most popular for the tops of chimneys. Wooden forms are made, placed on the chimney and filled with cement. With this method it is necessary for the brick mason to remove the wooden forms several days after the job is completed and causes the extra expense of making the forms and also the time lost in returning and removing them. While an attractive



The Ordinary Chimney's Fate



Setting and Filling Improved Top



Chimney Complete—It Won't Fall Down

chimney top can be made in this manner, it is not so durable as the stone top.

Cast iron is the only known material which will stand the elements. This material will last indefinitely.

The Waterloo Register Company, Waterloo, Iowa, is manufacturing a chimney top protector made from cast iron, illustrations of which are shown here. It is claimed that this protector will practically last forever.

In finishing the chimney, the brick mason places the iron protector on the top of chimney and fills with broken brick and cement. As the inner walls of the protector are higher than the exterior walls, this allows the rain to flow to the outside of the top protector, which is supplied with a flange that prevents the water from following the chimney to the roof and causing the mortar to disintegrate.

The low cost, durability and attractive appearance of these cast iron chimney top protectors are sure to meet the approval of all contractors and builders.

Prevents Cement from Sticking

All who have occasion to use cement moulds in their work will be interested in learning of "Anti-Stick," a liquid preparation which prevents the cement from sticking to the moulds. This is being manufactured by the Anti-Stick Company of Westerville, Ohio.

This "Anti-Stick" is to be used only where the cement mixture is poured and allowed to harden in the moulds. It is a liquid coating for wood, metal, and materials of all kinds which are used to cast cement on. It releases cement from cement and cement from stone. Applied with a common paint brush, and ready for use one-half hour after applying. It is used extensively by builders to cast foundations and buildings. Releases cement from moulds with ease, and does not discolor the finished product. It will not gum up moulds as oil and grease do. Will not rust metal and prevents rust. Does not cause air bubbles as water lies flat on the coating. It gives a hard flint finish to cement products.

This company are also manufacturers of

"Anti-Stick" enamel and "Anti-Damp." The former is intended for use on all materials where damp casting is done and upon the face plates of any moulding machine. It gives a very smooth surface. One application of the enamel lasts for several days under constant use. Contractors and builders will find it very useful.

"Anti-Damp" is a liquid and can be applied with either a paint brush or by compressed air. It comes in many colors or transparent. The colors are fast and wear thoroughly. The water-proofing penetrates the cement to a good depth but the coloring remains on the outside and becomes part of the cement. It gives a flint-like surface. Especially intended for water-proofing and can be applied on any cement products, brick and plastered walls, stucco and wood or combination of any of these.

The Anti-Stick Company issue descriptive matter detailing their products completely. For this and other information address them at Westerville, Ohio.

Low-Cost Fireproof Residences

HOW TO BUILD THEM OF REINFORCED CONCRETE

The growing popularity of reinforced concrete as a construction medium may be ascribed to a variety of causes. Each year that passes sees a marked diminution in the amount of timber available for building purposes, while the improvements in material and methods inaugurated in recent years have made it possible to utilize concrete for practically every type of construction where wood was formerly indicated.

In the minds of many builders, however,—and until lately the prejudice was a well-founded one—the objection to the use of reinforced concrete for smaller structures was its prohibitive cost, due to the necessity for expensive form work and centering. Reinforced concrete was conceded to be a most excellent medium for large office and factory buildings, but for residences, garages, and similar smaller structures quite out of the running in comparison with wood, stone or brick. The many evident advantages of reinforced concrete, however; speedy erection, permanence, susceptibility to a great variety of building designs, indestructibility, sanitariness and fireproofness—made it preeminently desirable for these lesser-sized constructions. There only remained the question of relative cost to dispose of, before opening up for reinforced concrete a universal field of utility.

Among the various methods of such construction which have in one way or another obviated the expensive feature of form work and centering, is the one of which we treat in the present article, Hy-Rib and Lath Construction, which has been developed by the Trussed Concrete Steel Co., of Detroit, Mich. It will be evident from a reading of the subsequent paragraphs that the one principal objection of expense has been eliminated by the employment of this method.

Hy-Rib (sectional views of which are shown in the illustration) is a steel sheathing with deep, stiffening ribs. The ribs and lath are manufactured from a single sheet of steel, making it a complete unit of lath and studs.

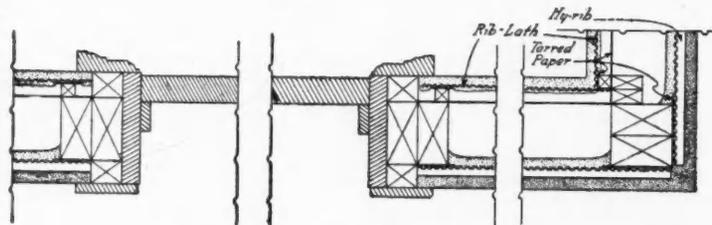
The lath surface is straight and true and expansion so made as to provide a perfect clinch with a minimum amount of plaster. Hy-Rib, because of its lightness and rigidity, and the fact that it combines in single steel sheets both lath and studs, is merely set up in place, for actual construction, and plastered on both sides for walls and sidings; in floors and roofs it is merely laid over the supports, concrete poured in above and the plaster applied to the under side. From this it will be readily seen that Hy-Rib is equally efficient in construction work of all kinds, and when shipped bent to curve at the shops is said to be the

best possible medium for arched floors, culverts, conduits, sewers, reservoirs, tunnels, etc.

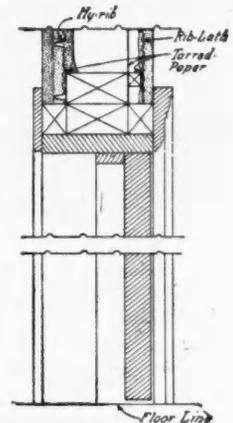
Rib Lath consists of a series of parallel ribs which are deeply corrugated or beaded. In actual use these ribs act as small steel beams, spanning between the studs and giving the lath extraordinary stiffness and rigidity. Because of this stiffness, the studs may be placed much farther apart than with the ordinary forms of lath, thus saving in the cost of studding and the labor of installation. The parallel ribs also permit of easy conformity to the outline of cornices, eaves and other ornamental work.

For the building of smaller constructions of reinforced concrete, such as residences and garages, these two types of reinforcement are particularly suitable, whether used separately, which is very frequently done in the case of Hy-Rib, or in combination, where the advantages of one supplement the advantages of the other.

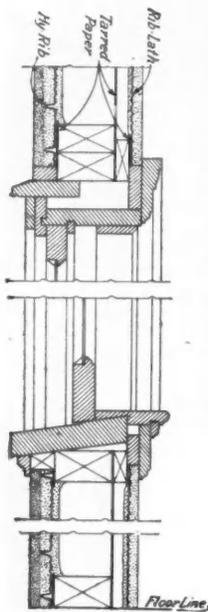
For residence construction, set up



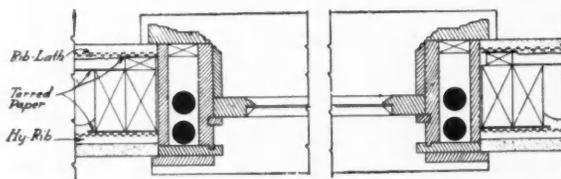
Horizontal Section Through Outside Door



Vertical Section Through Outside Door



Vertical Section Through Window



Horizontal Section Through Window

an ordinary "baloon" frame structure with 2 by 4 studding spaced 16 to 24 inches apart, and put all temporary bracing on the inside. Fasten Hy-Rib sheets to the outside of these studs with 2½-inch staples over each rib, using the 3-rib Hy-Rib with ribs extending horizontally and the lath surface placed against the studs. The Hy-Rib sheets should be interlocked at the sides and ends, securely wiring or clinching them every 24-inches along sides and at every rib at the ends. Paint the studs with creosote or asphalt paint along the entire outer face, and at least one inch back on the sides. This Hy-Rib should be plastered on the outside with cement mortar to a thickness of 1½ inches and any desired finish given to the surface. The mortar used consists of five parts Portland cement, twelve parts sand and one part lime paste. This cement and hydrated lime after being thoroughly mixed dry to uniform color should be added to the dry sand and the whole manipulated until evenly mixed, water added and the mass homogeneously mixed. The last ¾ inch of finish in this method of construction is waterproofed with Trus-Con Waterproofing Paste. The Hy-Rib is then back-plastered with similar mortar to a thickness of half an inch.

This construction insures absolute protection to the steel and when the mortar has set, a 2-inch reinforced concrete slab results, solid as rock, and much stronger and more rigid than the ordinary matched sheathing of which it has taken the place.

On the inside of the studding is tacked thin asbestos board or heavy tarred paper, then ⅞-inch furring strips and heavy Rib Lath on which is plastered ⅝-inch of cement mortar or good plaster and the regular finish coat.

A residence secured by the above briefly outlined method is practically fire-proof, due to the heat-resisting qualities of the 2-inch reinforced concrete slab on the outside; absolutely water-proof and damp-proof; easy to heat in winter and

keep cool in summer owing to the double air spaces in the wall; practically indestructible owing to the permanence of the reinforced concrete wall; requires no expense for maintenance, such as painting, repairs, etc.; possess unusual architectural beauty because of the artistic effects that can be secured with stucco, and is low in first cost.



Portable House and Barn Framing Machine

The Sidney Tool Company have recently placed on the market a new machine which they call their house and barn framing machine, mounted on a steel truck, equipped with the pulling tongue to move from job to job.

This machine was designed and built especially for all kinds of house and barn framing and is equipped with the traveling cut-off saw attachment, as shown in the cut, which will accommodate any size saws up to 30 inches in diameter, and is especially adapted for heavy cutting off, either straight or at an angle. The cut-off fence or gauge is adjustable for different miters and is especially convenient for squaring off joist, cutting rafter joints, or any special work of this kind.

The table is made of kiln dried oak, mounted on steel construction and can be removed when the machine is being moved from job to job. The arbor which carries the saw is mounted on a heavy steel frame, traveling back and forth in roller bearings, operated by hand lever, and is equipped with a weight to carry the saw out of the way when not in use.

The machine is also equipped with a heavy ripping attachment, which will carry saw blades up to 30 inches, will rip as thick as 8 inches. It is driven direct from the countershaft, and is equipped with a friction clutch with operating lever for starting and stopping. Arranged with

It is arranged with the lock and trip, so same can be lowered in any position, stopped and held in any position, or hoisted at any time, being operated by trip rope. It is very convenient for all kinds of building.

The machine comes complete with the gasoline engine which has sufficient power to operate all of the different attachments shown in the cut. It is equipped with the best grade of belts and with friction clutches for stopping and starting all of the different attachments. The cut-off saw arbor is also arranged with the extension on arbor to receive 6-inch dado heads, for all kinds of gaining or framing.

The weight of this machine complete is 4,500 pounds and when same is set up for operation it is 40 feet from one end of the steel track to the other. When it is taken down and loaded the truck is only 18 feet long.

This machine is made of high-grade material, and is a great time and money saver on any kind of framing on large building or any kind of large cement construction.

The Sidney Tool Company, Sidney, Ohio, will furnish you more complete details and price if you will write them.

Do it today. This is worth looking into.



United Machinery Make Special Offers

The United Machinery Company of New York City, inform us that for this month they are making a specially low price upon both a 27-inch complete $\frac{3}{8}$ band saw, with Wright guide, weighing 800 lbs.; also upon a 30-inch complete $\frac{3}{8}$ band saw, with Wright guide, weighing 1100 lbs.

This company handle a complete line of woodworking machinery, upon which they are very frequently able to make special offers.

For further and detailed information upon their line address



Something Entirely New—Combination Framing Machine Offered by the Sidney Tool Co., Manufacturers of the Well Known "Famous" Combination Woodworkers

a 20-foot traveling table, traveling on steel track with roller bearings, especially adapted for sizing all kinds of timber, crowning joist, and doing all kinds of necessary ripping, which is necessary to be done on a large and heavy job.

They have also provided a boring machine in connection with this having three speeds for doing all kinds of heavy boring and barn framing. The traveling table carries the timbers to any desired position for boring for different mortises. This boring machine is adjustable in and out and can be swung entirely out of the way when not in use.

The portable house framer is also equipped with a power hoist with sufficient strength for hoisting all kinds of heavy timber, brick, shingles or slate to the top of the building.

them—United Machinery Company, 86 Centre Street, New York City—for their descriptive catalogs and circulars.



Special Specifications

The department of Technology of The Glidden Varnish Company, Cleveland, Ohio, has recently prepared special specifications for the treatment and finishing of concrete floor surfaces, and for the damp-proofing, uniforming and decorating of cement and stucco surfaces, cost data being included in each set of specifications, both of which are just off the press, and we understand that The Glidden Varnish Company would be very glad to mail copies of both or either upon request.

The Schill Grand Empire Furnace

Large manufacturers of furnaces, stoves and ranges are the Schill Bros. Company of Crestline, Ohio.

Their furnace line includes the "New Idea," the "Schill," the "Advance," the "Grand Empire," the "Grand Idea," the "Radium,"—all furnaces in extensive use and giving entire heating satisfaction.

One of their best known furnace models is the "Grand Empire"—a furnace that is especially neat in general appearance and is built throughout of the highest grade materials and upon practical furnace construction principles.

This Schill "Grand Empire" is an all-cast furnace. It has a "New Idea" grate, which is full shaking-dump center and has roller bearings. The ashpit and door are large and the entire grate can be removed or replaced through ashpit door. The fire-pot is two-piece and unusually deep. Casing is large and allows full circulation. Circulating radiator is very heavy. Flue may be turned any direction. This furnace will burn with equal heating effect hard or soft coal, coke or wood.

This company have been manufacturing furnaces for over twenty years. During which time they have continually ad-



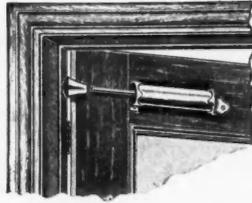
One of Schill Bros. Leaders

vanced the type and principle of their construction. Schill furnaces have established through actual usage and service a known record of utility.

AMERICAN CARPENTER AND BUILDER readers can obtain detailed information concerning each of the several Schill furnaces in writing to the Schill Bros. Company, Crestline, Ohio, and requesting their descriptive catalogs. These will be sent free together with such other furnace news that is of interest to prospective home owners, builders and contractors.

Keeps the Screen Door from Banging

That always startling and exceedingly disagreeable and nerve racking bang of a closing screen door has been the means of bringing out an especially designed check to overcome the nuisance.



Screen Door Check

This new device—the Caldwell improved screen door check—is being manufactured and marketed by the Caldwell Manufacturing Company, of Rochester, N. Y., manufacturers of exclusive hardware specialties.

The new check consists of a drawn brass cylinder, a steel piston in connection with two compression springs, a leather valve to control the flow or supply of air and a vent in the closed end of the cylinder to relieve the air when suddenly compressed.

The check is easily applied at the head of the door at the hinge side. A gray iron bracket is fastened to the door frame, at a proper point, to engage with the free end of the piston and force it into the cylinder when the door closes. Thus the door is held in suspense until the compressed air is slowly expelled through the vent, allowing the door to close noiselessly.

The check is neatly finished, the cylinder being of brushed brass with the brackets nickel and of dull finish. It makes an attractive and substantial door fixture.

Complete information as to this check and their other hardware specialties may be had from the Caldwell Mfg. Co., 8 Jones Street, Rochester, N. Y., by dropping a line to them.



A Time Tried Pumping Engine

The use of special pumping engines is rapidly on the increase. The advantages of a first class pumping outfit are self-evident for these engines have demonstrated their capacity and power on the farms all over the country.

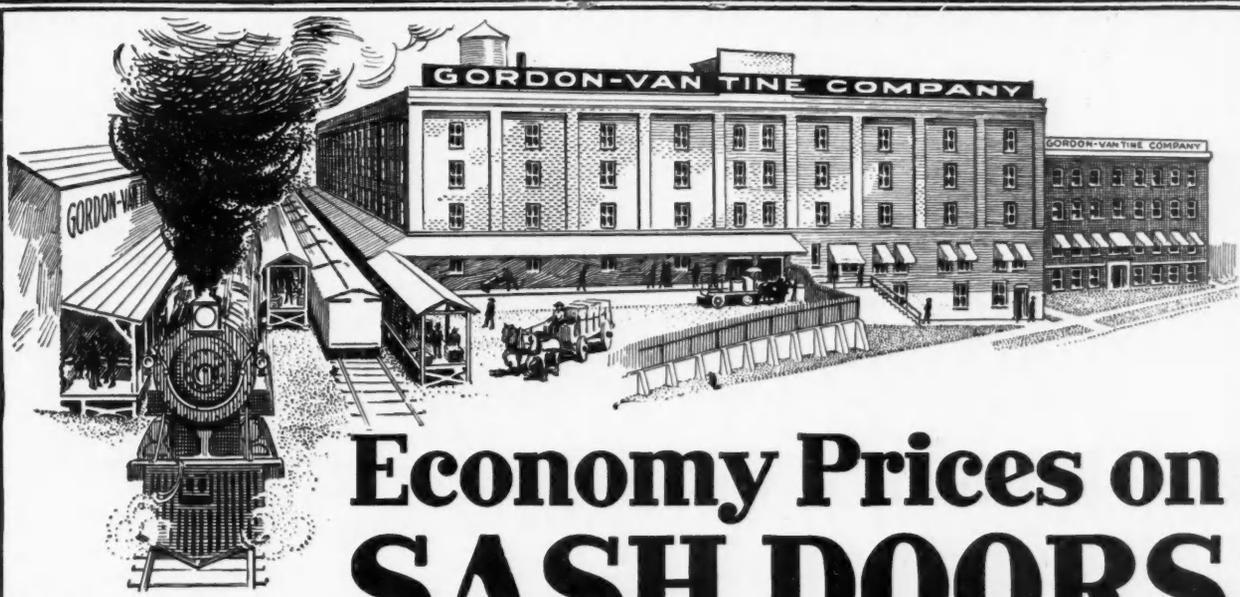
The farm pump engine, built by the Fuller & Johnson Manufacturing Co., of Madison, Wis., is the pioneer in this field, having been on the market several years. It is a vertical, air-cooled engine that connects direct to the pump by four bolts and requires no belts, pump-jacks, anchor-posts or arms, as is the case with practically all other small engines employed for pumping purposes. This little engine has been subjected to the most extreme tests and has made good in every instance. During the recent severe cold weather these engines have given perfect satisfaction in the hands of users.

This engine has a pumping capacity of from 270 to 2,450 gallons per hour, depending on the depth of well and size of pump cylinder. It is a wonderful labor saver, relieving its owner of the tiresome job of pumping water for stock and domestic uses and furnishing power to run cream separators, etc., while pumping. Ownership of the farm pump engine means that you have water on tap instantly, without the necessity of storing it in tanks. It supplies water at the proper temperature for stock to drink.

It costs less to operate the engine than it does to run a tank heater. The new farm pump engine catalog gives a great deal of valuable information in regard to this engine and its different uses. A copy can be secured by writing direct to Fuller & Johnson Mfg. Co., 4 Ames Street, Madison, Wisconsin.



To get all the meat out of the coconut, you have to read the advertising pages and "trade topics" of your trade paper.



We Ship Promptly

This giant establishment, the strongest and most fireproof in the West, is the largest structure of its kind in the world. It has over 14 acres of concrete floor space. It has two railroad switching tracks with triple loading platforms extending the entire length of the vast structure, with capacity for handling 25 cars at a time.

The five floors are reached by electric elevators having a capacity of almost a carload at one lift.

We load direct from platform to cars, without any drayage. These quick-handling conveniences, combined with our direct trackage connections with the great trunk lines, give us quick shipping facilities that are absolutely unexcelled.

Our immense warehouses are filled from roof to basement walls with vast reserve stocks of Building Material, enabling us to fill the largest orders within 48 hours after receipt of same.

5,000 Bargains Ready to Ship!

Economy Prices on SASH, DOORS Millwork and Lumber 14 Acres of Building Material Bargains

Our prices for 1912, as announced in our latest catalog, make this "Economy Year" for Carpenters and Contractors who deal with the Gordon-Van Tine Co.

In our great five-story Building Material Plant are fourteen acres of bargains in highest-grade Building Material.

Our Enormous Facilities Are at Your Service

We carry on hand at all times, ready for immediate shipment, the most complete stock of sash, doors and millwork in America.

In addition to all staple styles of Windows, Doors, Mouldings, etc., we offer a vast and varied line of special designs, at a fraction of planing mill prices.

Compare Our Prices on Staple Items in Building Material

Y. P. Door "B"—2—6x6—6—1 3/8	\$1.38	Turned Porch Col., 6x6—8 ft., plain cap	\$1.50
S. P. Door "A"—2—6x6—6—1 3/8	1.74	Corner Blocks, 4 1/2 x 4 1/2—1 1/8	2c each
4-lt. Ck. Wd., 10x16, S. S., 1 3/8	.58	Base Blocks, 4 1/2 x 11—1 1/8	4c each
8-lt. Plain Wd., 8x10, S. S., 1 1/8	.54	100 lineal feet Quarter Round	25c
		Corner Beads, round turned, 1 3/8 x 4 ft.	8c each

Use Our Exclusive Stock Designs and Save "Made-to-Order" Expense

Don't pay fancy prices for special millwork for porch work, stair work, art windows, special doors, etc. Use our stock designs in exclusive patterns, and thus secure the most artistic results while saving two-thirds of the usual cost.

BUILDING MATERIAL CATALOG FREE

Write for our Grand Free Millwork Catalog, Lumber List, etc. Learn what remarkable savings our "Economy Prices" place within easy reach. Ask for names of carpenters and contractors who buy everything from us. (186)



Stair Newels
Price \$2.57
Price \$2.86



Art Window, \$3.75



Oak Beamed Ceiling, 13c per ft.



Oak Flooring, 100 lineal feet, 52c



Front Door, \$4.60

Mantel, \$24.16

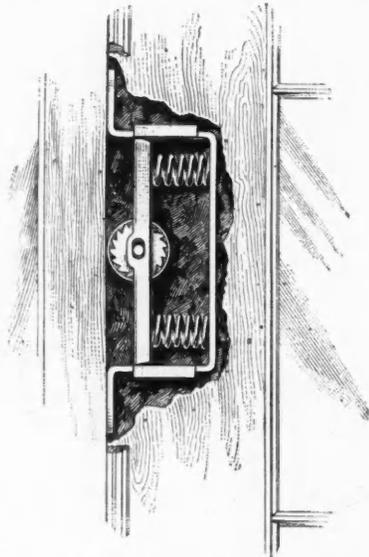
GORDON-VAN TINE CO. 606 Federal St. Davenport, Iowa

When Writing Advertisers Please Mention the American Carpenter and Builder.

Automatic Sash Holders

Contractors and builders look upon automatic sash holders with considerable favor and they are being extensively used in the building work of the day.

The Automatic Sash Holder Mfg. Company, of New York City, manufacture a sash holder which is meeting with con-



Window Side Rail Cut Away, Showing Holder

siderable success. Their holder does entirely away with any sash weights, cords, pulleys, pocket frames, etc.

It is a positive acting, durable device, which holds a window in any position desired. It is simple in construction, there

being nothing about it to get out of order.

It can be applied to old as well as new windows. With automatic sash holders in use broken cords, binding pulleys and rattling windows are a thing of the past.

The Automatic Sash Holder Mfg. Company are now making their sash holders in three styles—for each sash weighing up to 8 lbs., up to 20 lbs., and up to 35 lbs., or over. They are economical in cost.

Complete particulars concerning these automatic sash holders can be obtained by addressing the Automatic Sash Holder Mfg. Company, 52 Church Street, New York City, for their detailed descriptive matter upon the holders of their manufacture.



Examinations for Factory Inspectors to be Held

An examination will be held in Chicago on May 17, 1912, to fill present and future vacancies in the Department of Factory Inspection. Special examinations, open to men and women between the ages of 25 and 50, will be held for each of the following branches of the Inspection Service: General Inspector, Metal Polishing and Grinding, Electrical, Ventilation, Mechanical, and Structural Iron Work. Applicant must indicate on application the examination he desires to take. Each pays \$100 per month with necessary travelling expenses.

For copies of the laws, a knowledge of which is required in these positions, write State Factory Inspection Department, 11th floor, Security building, Chicago.

Applications must be on file at the office of the Commission in Springfield prior to 9 A. M., May 10, 1912. Address requests for application blanks to W. R. Robinson, Chief Examiner, Civil Service Commission, Springfield, Illinois.

Quality Is
Economy

*Guess Murphy Varnish
Started the Movement
for Better Building*

We have been pleading it, and pleading the economy of it, for many, many years.

Owners have learned, by slow and sure experience, the wisdom of using Murphy goods.

With our Finishes, buildings rent or sell more quickly; need repairing much less often.

We congratulate *American Carpenter and Builder* on its campaign for Quality---which is Economy.

The Varnish
That Lasts
Longest

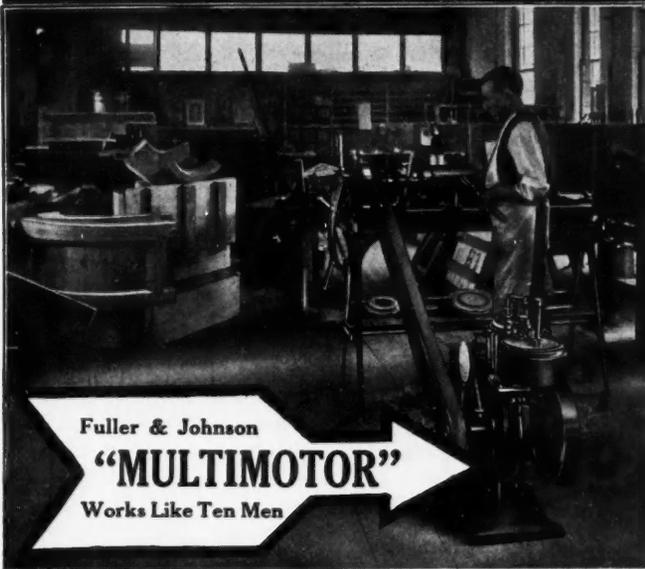
Murphy Varnish Company

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.

Stop Pedal-Pushing and Crank-Turning!



Fuller & Johnson
"MULTIMOTOR"
 Works Like Ten Men

Let the Fuller & Johnson "Multimotor" turn the wheels in *your* shop. It will turn them quicker and easier than three men, at a cost of *less* than a cent an hour. This wonderful engine is small in size but a giant in power.

Day in and day out this mighty little worker goes on piling up profits for its owner.

It never gets sick or tired—never wants a "raise"—never wants *anything* but a few cents' worth of grocery-store gasoline and a little lubricating oil. On this fare the "Multimotor" runs all hand-power or foot-power machines—jig saws, lathes, emery wheels, grindstones, drills, etc.

The "Multimotor" is "just-what-the-doctor-ordered" for carpenters, contractors and owners of small shops.

Fuller & Johnson "MULTIMOTOR" Shop Engine

In design, material and construction the "Multimotor" equals the best automobile engines. It is the simplest, neatest, strongest and most reliable little engine ever built. Comes to you *complete*—there's no "extras" to buy—nothing but gasoline and lubricating oil.

Safe Portable Power

The "Multimotor" is air-cooled, fool-proof and cannot freeze or overheat. Every important working part is protected by dust-proof case. It is a marvel of simplicity and needs no attention while running.

The "Multimotor" only weighs 250 pounds and is easily moved anywhere. Mount it on trucks and pull it wherever the job is. For *indoor* use, *outdoor* fuel tank can be supplied if desired, insuring perfect safety.

This marvelous power-maker is making machinery hum all over this continent. Set it anywhere, fill the tank, oil up and start the engine. It is work-hungry all the time.

Engines for Every Use

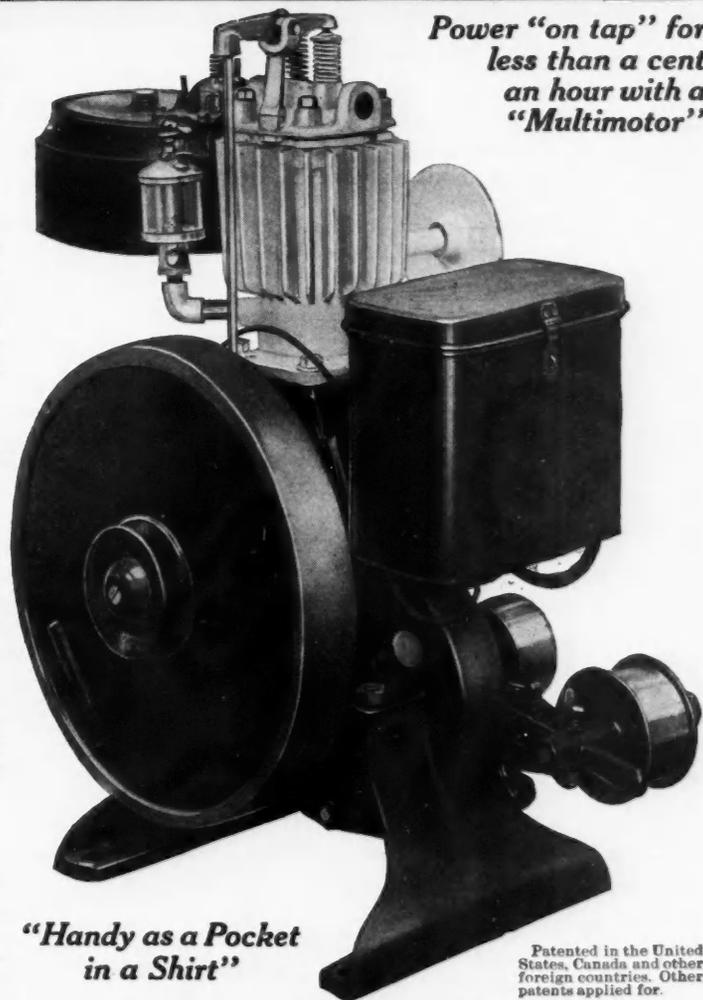
We are the builders of the famous Farm Pump Engine, which is practically the same as the "Multimotor" with pumping gears added. Needs no belts, arms, jacks or special platform. Pumps 270 to 2,450 gallons every hour.

We've just brought out a new line of high-grade, popular-priced gasoline engines which meet the requirements where larger engines than the "Multimotor" are needed. Prices are absolutely the lowest at which high-grade engines can be sold for.

Send for FREE Engine Book

Write for full information about the "Multimotor" and Farm Pump Engine, also our new line of popular-priced, high-grade, all-purpose engines.

If interested in large engines, ask for catalog of Fuller & Johnson's Famous Double-Efficiency Engines.



Power "on tap" for less than a cent an hour with a "Multimotor"

"Handy as a Pocket in a Shirt"

Patented in the United States, Canada and other foreign countries. Other patents applied for.

FULLER & JOHNSON MFG. CO. 5 Ames Street (Established 1840) **Madison, Wis., U. S. A.**

When Writing Advertisers Please Mention the American Carpenter and Builder.



"I Tell You, It's a Great Saw!"

Every one who owns a Simonds Saw is proud of it—proud of its looks, but a whole lot prouder of its work. You've probably noticed that the

SIMONDS SAW

(Pronounced Si-monds)

you have will keep sharp for many years with ordinary home use. Simonds Steel is so tough and hard the teeth hold their sharp, quick-cutting points and do not lose their set. For the professional or amateur carpenter the best tools are the only ones worth while, and the best saw means a Simonds.

Simonds Special Crucible Steel is the basis of the extraordinary wearing quality of Simonds Saws. We make and temper our own steel by a special process to get the quality we can guarantee. You don't get it in other saws. That's why so many good carpenters choose Simonds Saws. Ask a good carpenter about them—or your dealer. Send for

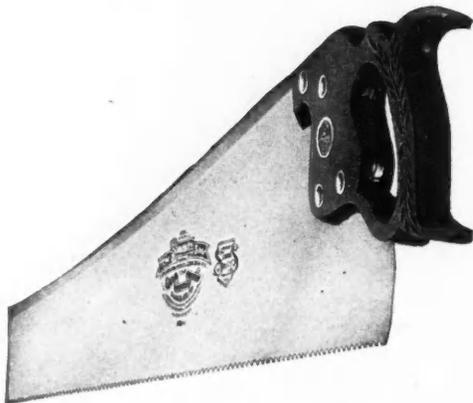
"Simonds Carpenter Guide"—Free

Tells all about filing a hand-saw.

Remember, Simonds Hack-saw Blades and Files are most efficient. Simonds Circular, Band and Cross-cut Saws are the American and Canadian lumberman's accepted standard.

SIMONDS MFG. CO. (Founded 1832) **Fitchburg, Mass.**

Chicago Portland San Francisco New Orleans
New York Seattle Montreal Lockport, N. Y.



When Writing Advertisers Please Mention the American Carpenter and Builder.

Does Advertising Increase the Price of Goods to the Consumer?

By W. M. Boggs

Cortright Metal Roofing Co.

Scarcely a day passes that the proposition is not put to our salesmen, and we presume the same experience is had by salesmen of other standard lines—"Meet this price, and you can have the order."

The price referred to, usually being the quotation of some competitor of imitation goods, who claims that because he doesn't advertise he is relieved of this fixed charge, and therefore he is able to sell the goods cheaper.

The fact that he thereby admits he is trading on some one else's reputation, by taking advantage of a condition created by the other party, doesn't worry him a bit.

He glibly states, and in some cases it is true, that we are both buying raw material from the same source. He even goes further and displays practically the same design of shingle, which he has copied from us, and to all intents and purposes it looks like ours to the consumer, or it may be the dealer even. Yet both will turn around and offer us the business, if we will meet the price. Why? Simply that they have become so thoroughly impressed with the truth of the statements we have made through the advertising columns of various papers during the twenty-six years we have been in business that there is no room for doubt that the Cortright metal shingle is all we claim it to be, but—that story about the advertising increasing the price has sunk in.

"Why should I pay the price for a name, if these other shingles are just as good?" he says. True, quite true, you wouldn't do it, nor would I, but—Has the advertising increased the price? Has advertising had anything to do with marketing of the goods at all? Did our advertising create a demand for metal shingles? If it did, if the metal shingle was something that the public didn't want, but because we spent our money and the publisher inserted our announcements, the public was forced to buy our goods, then the publisher was a thief and a robber. On the other hand, if the demand already existed, and our advertising merely told the public where they could get the very thing they wanted, made in the way they wanted it and at the price they wanted to pay, then we both did the public a service for which we are entitled to a just reward for our efforts. But does that mean that we should get more for our goods because they were first in the market, were first advertised, and are largely advertised today? Certainly not, nor do we expect it, and what is more, the other fellow knows we don't expect it. He knows further that advertised goods as a rule must maintain a higher standard of quality than the non-advertised article. The man who advertises must convince the prospective purchaser that his goods have greater merit than all other competitive articles. In the case of metal shingles, the competition is not with metal shingles alone, but with wood shingles, slate, plain tin and other patented roofings. So that the advertiser of this line has a big story to tell and the goods must size up to his claims, therefore, they must be made on a quality basis and price must only cut a secondary figure.

In proof of this, and to show to what effort we go to protect the consumer, we found the imitators making the strongest bid for galvanized goods, where to those who do not know very little apparent difference existed. We found these goods were often sold as genuine Cortright metal shingles, so to protect ourselves and the consumer we emboss the words "Cortright Reg. U. S. Pat. Off." on the fourth ridge of each shingle, thereby setting down the reputation of this company as a guarantee that each shingle is

CAST IRON COLUMNS

IN ALL LENGTHS UP TO 12 FEET
CARRIED IN STOCK

CHEAPER
THAN WOOD,
STRENGTH
AND
DURABILITY
CONSIDERED



A-5
Special Cap

FIRE AND
WEATHER
PROOF
PRACTICALLY
INDES-
TRUCTIBLE

Immediate shipment will be made on orders for cast iron columns from our stock as follows:

Net Prices F. O. B. Foundry, Coshocton, Ohio

	A-3 Plain Cap and Base	A-4 Moulded Cap and Base
5 inch columns 12 feet long, each	\$ 6.40	\$ 7.10
7 " " 12 " " "	9.60	10.60
9 " " 12 " " "	13.00	14.50

The above prices are given on a column 12 feet long over all including cap and base. For columns of different lengths deduct per foot

5 inch columns	\$.25
7 " " . . . . .	.35
9 " " . . . . .	.50

A-5 Special Cap, each, 5-inch \$1.75, 7-inch \$2.50, 9-inch \$3.25
Prices on larger size columns on application.

A-3 Plain Cap
and Base

A-4 Moulded
Cap and Base

Safe Load in Pounds for Cast Iron Columns

Made Up from Base and Top Castings	5-inch Column		7-inch Column		9-inch Column	
	Cap and Base 10 in. Square		Cap and Base 12 in. Square		Cap and Base 14 in. Square	
Length	Approximate Weight	Capacity	Approximate Weight	Capacity	Approximate Weight	Capacity
6 Feet	135 Pounds	38,400	222 Pounds	71,800	288 Pounds	90,500
6 Feet 6 inches	145 "	37,000	239 "	69,800	310 "	90,500
7 Feet	155 "	35,600	256 "	69,200	332 "	90,500
7 Feet 6 inches.	165 "	34,200	273 "	67,600	354 "	90,500
8 Feet	175 "	32,900	290 "	65,500	376 "	90,500
8 Feet 6 inches.	185 "	31,500	307 "	64,500	398 "	90,500
9 Feet	195 "	30,300	324 "	62,900	420 "	90,500
9 Feet 6 inches.	205 "	29,000	341 "	61,300	444 "	89,100
10 Feet	215 "	27,800	358 "	59,700	466 "	87,400
10 Feet 6 inches.	225 "	26,600	375 "	58,100	488 "	85,700
11 Feet	235 "	25,500	392 "	56,500	510 "	84,200
11 Feet 6 inches.	245 "	24,400	409 "	54,900	532 "	82,500
12 Feet	255 "	23,300	426 "	53,400	554 "	81,000

JAMES B. CLOW & SONS

HARRISON STREET BRIDGE, CHICAGO

FOUNDRIES: COSHOCTON, OHIO.

NEW COMERSTOWN, OHIO.

SAVE THIS PAGE FOR FUTURE REFERENCE.

OTHER CAST IRON SPECIALS WILL FOLLOW

When Writing Advertisers Please Mention the American Carpenter and Builder.

as represented, and further that the quality of the shingle is not regulated by the price.

As a matter of fact, with the large advertising we are doing we get less, and Cortright metal shingles cost the consumer less today, considering the increase in cost of raw material and labor, than previous to 1900, when we did practically no advertising, and this condition has only been made possible by the increased volume of business, for the quality of Cortright metal shingles has steadily increased as the makers of the raw material have found ways to improve their product, and our experience enables us to improve our methods of turning out the finished product. What's more, we intend to keep on improving the quality of Cortright metal shingles, and possibly give them wider publicity, irrespective of the price quoted by the imitator, as our experience has been that in selling a man a roof he is as much interested in what it is going to cost him after it is on as before, and the only way to give satisfaction is to put the quality into it that will last. When you can point to roofs put on twenty-six years ago as good as new today, and have never needed repair, it takes a mighty lot of price argument and advertising-increasing-the-cost talk to convince him that he is going to save in the long run by buying an uncertainty. That's why it pays to advertise.—Philadelphia, Pa.



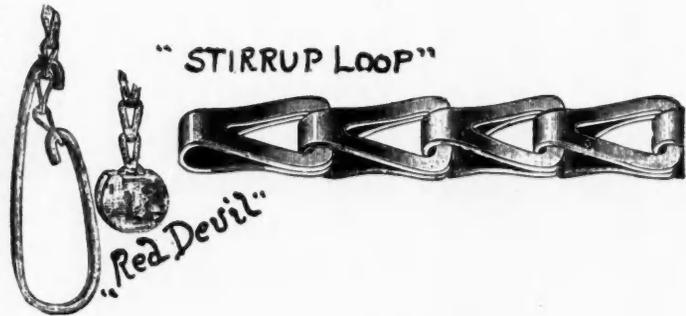
To Work for Better Roads

A new sixteen-page illustrated publication is being issued by the Universal Portland Cement Co., "Permanent Pavement." It covers the field of good roads and while the company is now especially interested in pavements using concrete it will cover all types. It is to arouse interest in road improvement and in bettering farming conditions through better transportation facilities.

Still Another "Red Devil"

At the rate Messrs. Smith & Hemenway Co., of 150-152 Chambers Street, New York, are putting out new tools and hardware specialties of their own manufacture during the present year, it will be long before the trade and consumer can obtain almost anything in the hand tool or hardware specialty line with the well and favorably known "Red Devil" trademark stamped on it.

Their latest production to bear their trademark is "Red Devil" Stirrup Loop Sash Chain illustrated herewith.



The manufacture of sash chain and sash chain fixtures had been under consideration and experiment by them for some time but the perfecting of a special grade of bronze metal that would add from 15% to 25% to the strength of the chain has only just been completed, and the chain is now being put on the market. It is claimed that in making "Red Devil" Stirrup Loop Sash Chain (which is the name they have given it) they add from 15% to 25% more strength to the chain than where chain is cut in the ordinary square link fashion.



The rent agent calls attention to the Wolff Plumbing Fixtures as the best guarantee to the prospective tenant of the high grade of the plumbing system—indeed, the type of the whole building is many times inferred from the use of WOLFF material throughout.

The worries from "assembled" plumbing, contrasted with the perfect service of the all-built-by-one-house Wolff Plumbing, makes it easy for the architects to use Wolff specifications.

L. WOLFF MANUFACTURING COMPANY

MANUFACTURERS OF

PLUMBING GOODS EXCLUSIVELY

The Only Complete Line Made by Any One Firm

General Offices
601-627 W. Lake St., Chicago
Trenton, N. J.

Showrooms
111 N. Dearborn St., Chicago
Denver, Colo.

Branch Offices:

Omaha, Neb
Minneapolis, Minn.

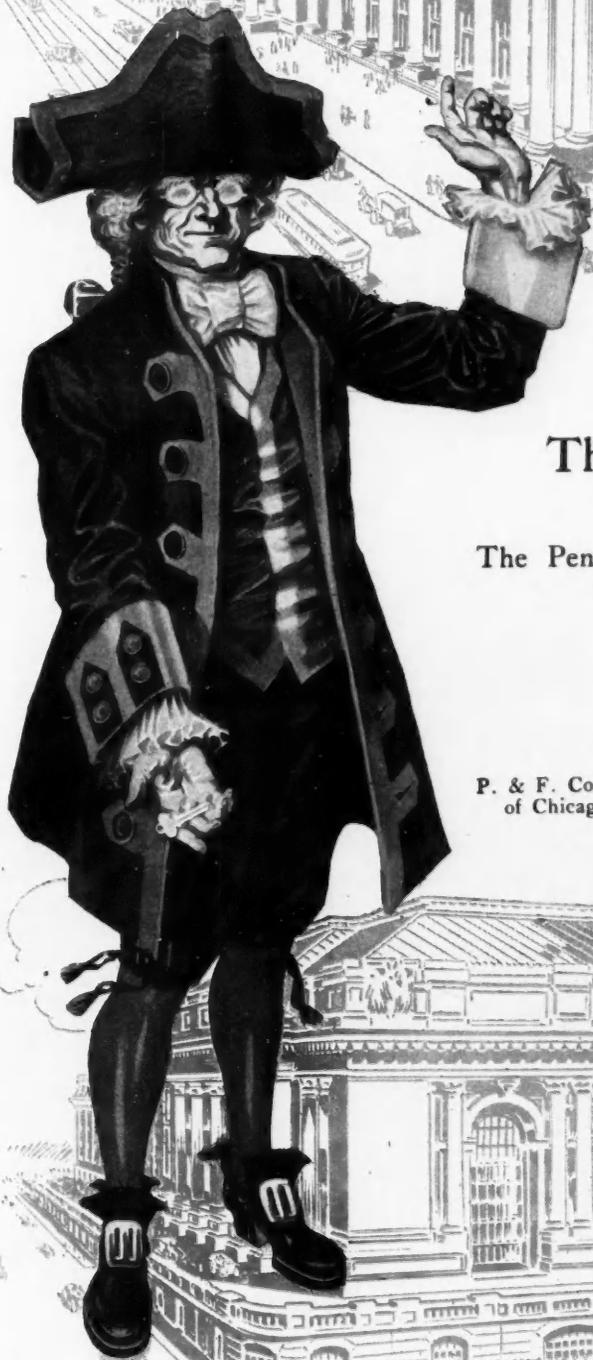
St. Louis, Mo.
San Francisco, Cal.

Cleveland, Ohio
Washington, D. C.

Kansas City Mo.
Cincinnati, Ohio

Buffalo, N. Y.
Dallas, Texas

When Writing Advertisers Please Mention the American Carpenter and Builder.



The Gateways of New York

To the East and West

The Pennsylvania Terminal Station and The Grand Central Station are equipped with Corbin Hardware.

P. & F. CORBIN

Division

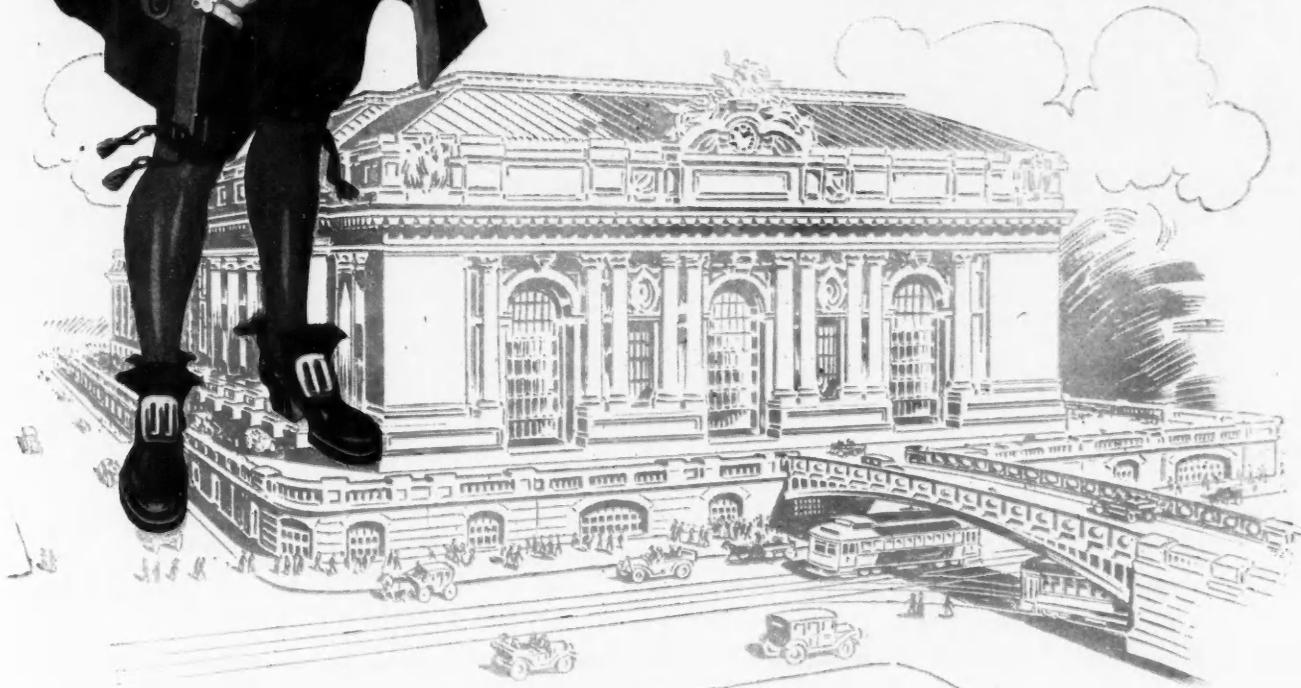
The American Hardware Corporation

NEW BRITAIN, CONNECTICUT

P. & F. Corbin
of Chicago

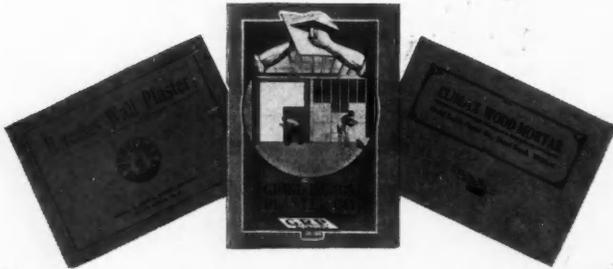
P. & F. Corbin
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GET THESE BOOKS

We Send Them
To You **FREE**



Are you—Mr. Contractor and Builder—thoroughly familiar with the many advantages hard wall plaster has over the heavy, cracky, lime mortar plaster? Do you know just what hard wall plastering is?

These booklets will explain hard wall plastering to you—will explain the great difference between hard wall plastering and the heavy, cracky, lime mortar plasters—will show you just why you should use hard wall plasters to obtain permanent plastering satisfaction.

Don't you realize that in continuing the use of heavy, cracky, lime mortar plasters you are constantly accepting all sorts of plaster-trouble risks? These plasters do not produce satisfactory results—the work has to be steadily repaired or entirely re-done. In the long run you are out money on the job.

Why not do away with all this? Our Climax Wood Mortar and Hercules Wall Plaster—hard wall plasters—give permanent, thoroughly satisfying, results.

Climax Wood Mortar

is being extensively used. It is the best plaster made. It is a wood fiber plaster made of pure gypsum rock. 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 fire-proof. Its density prevents vermin. It is not affected by water. It is durable, flexible and pliable. Plastic and very easy to spread—any plasterer can apply it. It is very adhesive and permanent. It does not contain one particle of sand.

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 fire-proof. 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 and it contains no chemicals, acids or vegetable matter.

We want to send you our booklets—we want you to know all about our Climax Wood Mortar and Hercules plasters—also our Superior Wood Fiber Plaster, Gypsum Wall Plaster and Sackett Plaster Board. With these books we will send you our room measurement reference booklet—from it you can tell at a glance the number of square yards in a room.

Let us hear from you to-day and we will forward booklets, together with name of dealer from whom you can get our plasters immediately.

Grand Rapids Plaster Company

GRAND RAPIDS, MICH.



"Remember the
TRADE MARK"

GRAND RAPIDS
PLASTER COMPANY
GRAND RAPIDS, MICHIGAN

N. B. We solicit inquiries from Michigan, Ohio, Indiana, Illinois, Wisconsin, Kentucky, Tennessee, West Virginia and Pittsburgh district, Pa., only. Freight rates will not permit shipment to other territory.

When Writing Advertisers Please Mention the American Carpenter and Builder.

"Red Devil" Stirrup Loop sash chain is made in all sizes: No. AA, A, O, 2, 1 in "Red Devil" bronze, in steel and in steel coppered.

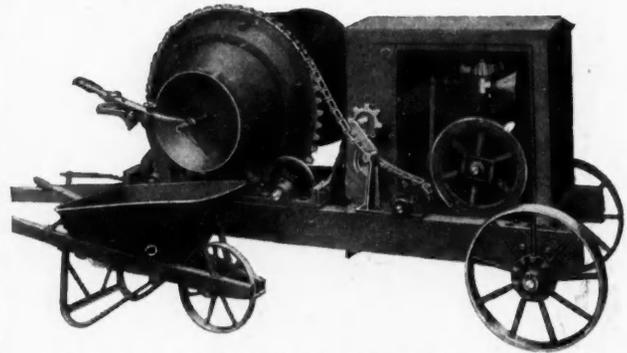
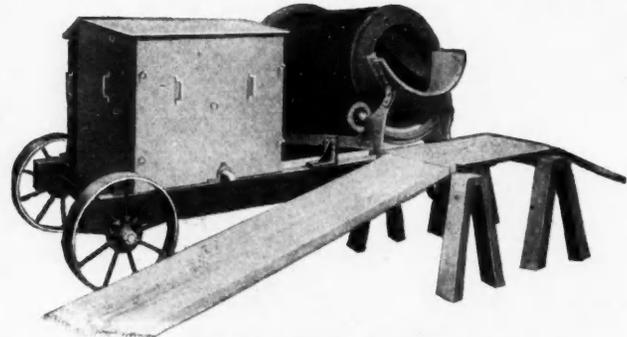
It is put up on reels containing 500 feet. Prices, samples, etc., will be sent to any of our readers by Smith & Hemenway Co., New York.



Northwestern Concrete Machinery

Eau Claire, Wisconsin, is the home of probably the largest manufacturers of general and special concrete machinery in the world. Reference is had to the Northwestern Steel and Iron works, whose immense plant is located in the Badger city.

This company make almost everything that any contractor or concrete worker can ever want. They issue a very elaborate catalog covering in detail their large and varied output,



Northwestern Cone Batch Mixer, Intake Side (above) and Discharge Side (below)

in addition to which they have a number of attractive circular bulletins upon special addition or features of their line.

This concern's mixers, either of the cone batch or continuous type, are widely known and in extensive general construction use. They build their machines substantially and upon principles of operation which insure their giving thorough satisfaction and doing a high class of work.

Other than mixers the company build various block and silo block machines; brick machines; post machines; and any number of special moulds; tile moulds; well-curb moulds; pier and chimney moulds; ornamental post and block moulds; burial vault moulds; concrete block cars; cinder crushers; "Universal" rock crushers; gauges, wheelbarrows, and general concrete working tools and equipment. In addition to the foregoing, they are now manufacturing staggered air-space, continuous air-space, single- and double-wall block machines, various culvert forms, the Cardiff cement tile machine—a hand worker—and heavy duty and general farm use gasoline engines.

AMERICAN CARPENTER AND BUILDER readers are no doubt well acquainted with Northwestern equipment; and the company, desirous of furthering its policy of keeping in close touch with contractors and workers, will mail any or all of its catalogs or bulletins to those requesting them. Their address is 1054 Spring Street, Eau Claire, Wisconsin.

Glidden

Says:

WE can't tell what your taste in wood finishing may be until you let us know, but we do know that we are able to produce any effect you wish.

We have a special department devoted exclusively to your requirements and we will be pleased to prepare special panels for you, such as Fumed Oak, Quartered Oak Finish, Natural, Very Dark Mahogany, Natural Mahogany or any other effect you or your client may prefer.

Every builder has his own ideas. This is what gives him individuality, and individuality is what makes him. Our mission is to carry out your ideas at no expense to you.



All that we ask is that our materials be mentioned in your specifications, if, after receiving our panels, you decide that the Glidden products are worthy.

The Glidden Varnish Company

Factories: CLEVELAND, OHIO—TORONTO, CANADA.

Branches: NEW YORK—CHICAGO—LONDON.

Sharpen Tools

No Money Needed—No Promises—No Red Tape

Here is a tool grinder that will save time, money and work for every mechanic, carpenter, shop, factory and tool user. **Prove it yourself. You can try this complete 14 attachment shop outfit for 30 days absolutely free.** Do all the grinding you wish, use it to sharpen up your twist drills, saws, plane bits, chisels, every tool you have. See how amazingly quick and easy it is to make the dullest, most battered tool as keen and bright as new. Use it free for 30 days, and then if you wish, send it back at our expense.

Luther Shop



JIG SAW



LATHE AND SAW



SAW OUTFIT



BORING ATTACHMENT

A Workshop in Itself

Besides the sharpening attachments which are included in the sharpening outfits, there are 16 other attachments from which you can select what you want. In this way you can secure a turning lathe, drill, circle saws, jig saws, large metal polisher, etc.—17 in all—simply by getting these attachments to go on your "Hummer" Grinder.

If you were to purchase machines to do the same work that these attachments will do, it would cost a good deal, but by getting these attachments for your grinder you can completely equip your workshop at amazingly small cost. Our Free Book describes all attachments.

"DIMO-GRIT" Sharpening Stones

Ask your dealer for Dimo-Grit sharpening stones, the fastest and smoothest cutting sharpening stones in the market—look for the name "Dimo-Grit" on the stone.

25 times faster than the grindstone

10 times more efficient than emery

Dimo-Grit is the new artificial diamond abrasive. It is made in the wonderful electrical furnaces at Niagara Falls, the hottest furnaces in the world, the terrific heat of which fuses the elements of real diamonds into Dimo-Grit crystals as hard as genuine South African diamonds. Dimo-Grit peels steel away in tiny shavings—no heat developed, no need of water cooling, no danger of drawing temper. Dimo-Grit is especially suitable for steel, leaving the smoothest, keenest edge.

When Writing Advertisers Please Mention the American Carpenter and Builder.

FREE!

Engine and Foot Power

The Luther shop outfit meets every grinding, sharpening and polishing need for the shop or individual tool user. The machine and wheels are guaranteed for five years. Dimo-Grit wheels will not glaze, fill up, or wear lopsided. The shop grinder is built all of steel and iron, and is absolutely rigid—no troublesome chains to catch the particles from the grinding wheels and be ground to pieces—it has bevel gear shaft drive like an automobile, dust proof bearings, gravity lubrication. Patent tool rests and attachments enable apprentice to sharpen twist drills, planes, bits, etc., as well as high paid mechanic.



Tool Grinder

Forty Page Book Free

Tells the full story of the discovery of artificial diamond abrasives as it appeared in McClure's Magazine. Dimo-Grit wheels outwear any number of emery wheels, saving that much money. Dimo-Grit saves tools and time, another big saving of money. Makes the work go faster and easier. Send back this coupon today, get this interesting free book, and then decide if you want us to send you the complete shop outfit for 30 days free trial.

Luther Grinder Mfg. Co.

805 Michigan St.
MILWAUKEE, WIS.

Return
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Today

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**LUTHER
GRINDER MFG. CO.**

805 Michigan St., Milwaukee, Wis.

At no cost or obligation to me, please send your 40 page free book, special introductory prices, and 30 days free trial offer.

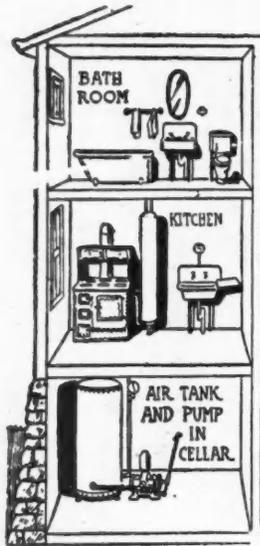
Name

Address

When Writing Advertisers Please Mention the American Carpenter and Builder.

The Missouri Air Pressure Water System

From St. Joseph, Mo., comes the big catalog of the Missouri Water and Steam Supply Company of that city. This concern handle an immense line of steam, water, plumbing,



House Section Showing Fixtures

engineering, gas and mill supplies which includes hot water heating plants, acetylene lighting plants, bath tubs, water closets, wash basins, sinks, range boilers, pipe and fittings, wind-mills, pumps, gasoline engines, hydraulic rams, pump jacks, tank heaters, stock tanks valves and tools.

An especial feature of this company's business is their Missouri air pressure water system which comprises a complete water equipment for the house. The hygienic equipment of the house is a matter of first importance to all builders. No other one feature will afford so much comfort and be so conducive to perfect health as a good supply of pure water, while, on the other hand a

poor or unwholesome water supply is not only a constant menace but is a source of everlasting annoyance and expense.

The Missouri air pressure water system consists of a large air-tight tank, made of heavy boiler steel and a pump to force water into the tank, against the pressure of the air in the tank. The air, being compressed, seeks constantly to expand, thus keeping a constant pressure on the water

sufficiently powerful to raise the water in the water pipes of the house and ready to discharge under pressure very similar to water that comes from city water mains, a stand pipe or elevated tank.

This Missouri air pressure water system has been extensively installed and is uniformly giving highly satisfactory service. It is, of course, particularly intended for use where city water service is not obtainable and for general farm and cistern utility.

The cost of a system complete varies but is, under general conditions, comparatively inexpensive.

Any AMERICAN CARPENTER AND BUILDER reader can secure the Missouri Water and Steam Supply Company's 180 page catalog, with detailed information concerning this company's varied lines, by writing the company at St. Joseph, Missouri.



Annual Meeting Joseph Dixon Crucible Co.

At the annual meeting of the stockholders of the Joseph Dixon Crucible Company held at the company's main office in Jersey City, N. J., Monday the 15th inst., the retiring Board of Directors consisting of Geo. T. Smith, William Murray, Edward L. Young, William H. Corbin, Geo. E. Long, William G. Bumsted and Harry Dailey, was unanimously reelected.

Officers elected for the ensuing year are as follows: President, Geo. T. Smith; vice-president, W. H. Corbin; Treasurer, Geo. E. Long; Secretary, Harry Dailey; Assistant Treasurer and Assistant Secretary, J. H. Schermerhorn.

There were voted 9,304 shares of a total of 10,000. A number of stockholders attended the meeting and expressed themselves as well pleased with the company's showing and with future prospects.

An All-Mineral Shingle Roof Permanently Durable and Ornamental

J-M Transite Asbestos Shingles are made of Asbestos (rock) fibres and Portland cement, both minerals. They are by nature immune to the destructive action of fire, water, acids, gases, chemical fumes and climatic conditions. The longer they are exposed to the weather the harder and tougher they become.

J-M Transite Asbestos Shingles

are moulded under enormous hydraulic pressure into a homogeneous mass—not built up layer on layer like cardboard. Laminated Asbestos shingles are liable to warp, exfoliate and peel. J-M Transite Asbestos Shingles cannot do this, and will not rot, crack or decay.

All shapes and sizes to meet all conditions. Colors: Natural Gray, Indian Red and Slate.

Write Nearest Branch for Booklet and our Special Dealer's Proposition to Builders.

H. W. JOHNS-MANVILLE CO.

MANUFACTURERS OF ASBESTOS AND MAGNESIA PRODUCTS **ASBESTOS** ASBESTOS ROOFINGS, PACKINGS, ELECTRICAL SUPPLIES, ETC.

Baltimore	Cleveland	Kansas City	New Orleans	Pittsburgh
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Buffalo	Detroit	Milwaukee	Omaha	Seattle
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For Canada—THE CANADIAN H. W. JOHNS-MANVILLE CO., Limited
Toronto, Ont. Montreal, Que. Winnipeg, Man. Vancouver, B. C.

1482



Residence of Mrs. I. J. Kirscher, Llanerch, Pa.
Covered with J-M TRANSITE ASBESTOS SHINGLES

When Writing Advertisers Please Mention the American Carpenter and Builder.

Cut Your Coal Bill in Half THE UNDERFEED *Does It*

Above is the Slogan That Sells the Underfeed

BECAUSE the Underfeed *does* reduce coal bills $\frac{1}{2}$ to $\frac{2}{3}$, it appeals to *every* builder as the heating system which ADDS to the Selling and Renting value of ANY building. Builders are urged to consider the following three exclusive *money saving* features of the Underfeed which distinguish it from all other heaters:

1st SAVING—The Underfeed burns cheap slack soft coal and pea and buckwheat sizes of hard and soft coal, which yield in the Underfeed as much clean, even heat as highest priced coal burned in heaters of ordinary types. The big difference in coal cost is *saved*.

2nd SAVING—In the Underfeed coal is fed from below. Fire is on top. Smoke and gases, wasted in ordinary heaters, pass up through the fire in the Underfeed and are consumed, producing *more* heat. Combustion is perfect—no smoke, no soot, no clinkers and but few ashes.

3rd SAVING—In the Underfeed, the fire is in direct contact with the *radiating surfaces*—the exact reverse of top-feed heating methods. This insures *constant, adequate, even* heat, thereby avoiding frequent "firing-up." Alternating chill and overheat means both discomfort and waste of coal. *EVEN* heat is *ECONOMICAL* heat.

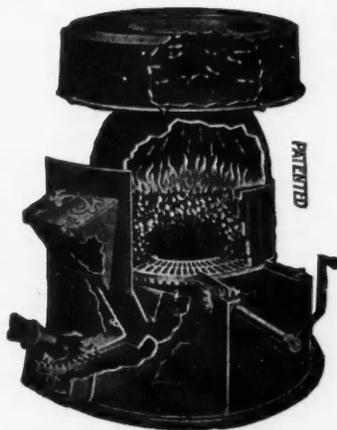
The big saving described is *continuously* emphasized in our advertising in publications of *national* circulation.

Underfeed systems are adapted for *all* buildings, large and small. Apartments, Residences, Churches, Stores, Halls, Theatres and Armories can best be heated by

The Peck-Williamson Underfeed HEATING SYSTEMS WARM AIR STEAM-HOT WATER FURNACES-BOILERS

It will add to your own reputation as a builder of *always* comfortable buildings to recommend Underfeed heaters. Send us your building plans and expert services of our Engineering Corps are Yours—*FREE*.

The Underfeed Furnace, with casing removed, cut away to show how coal is forced up under fire which burns on top.



There is tremendous satisfaction in traveling with the top notchers. The Underfeed is indorsed by thousands of users who *KNOW* that their heaters yield *clean, even* heat at least cost. The Underfeed soon *pays* for itself.

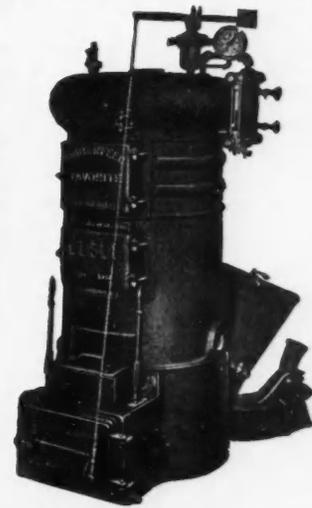
Underfeed users of cheap slack soft coal testify just as enthusiastically as does S. W. Stanton, 127 Pennsylvania Ave., Binghamton, N. Y. who uses hard coal:

"Seven tons of buckwheat coal costing \$23.80 heated four large and six small rooms which heretofore required nine tons of chestnut coal costing \$57.60. The Underfeed saved me \$33.80. Have steady heat 24 hours daily, few ashes to empty and but half the usual work in caring for furnace."

Let us send you a lot of fac-simile letters just as cheerful as the above with Underfeed Furnace Booklet or Boiler Catalog—all *FREE*.

THE WILLIAMSON CO.,
436 W. Fifth Avenue
CINCINNATI . OHIO

This illustration shows the Underfeed Boiler



When Writing Advertisers Please Mention the American Carpenter and Builder.

Are You Crazy, too?

That's what a man said about himself the other day when asked why he had let a certain roofing concern hypnotize him into believing that he could get more out of roofing than he put into it.

How can you expect roofing to last over five or six years when it is made from the cheapest kind of material?

Your own intelligence tells you that when a manufacturer sells a roll of roofing for seventy-five cents or a dollar, he hasn't put more than seventy-five cents' or a dollar's worth in it.

We claim that Rex Flintkote Roofing will give LONGER and BETTER service than any other roofing, because we put better material in it.

Rex Flintkote is made for people who can't afford to make a mistake when they buy roofing.

And the more you know about it and the closer you investigate it, the more you realize that Rex Flintkote gives the most for the money and is made to last indefinitely.

It is true that Rex Flintkote will cost you a trifle more than most other roofings—but it costs us more to make it—but it costs you less to use it; in fact, it is the **cheapest per year roofing** you can get.

So don't buy roofing hastily—learn why you should buy such and such a brand—investigate the facts.

Send for booklet, "Facts in Evidence" and samples of Rex Flintkote Roofing.

Flintkote Manufacturing Co.
189 Pearl St., BOSTON, MASS.

Edwards Co. Open Dallas Office

The Edwards Manufacturing Co., "The Sheet Metal Folks," announce that they have opened up a branch house in Dallas, Texas, 1625-1627 Pacific Avenue, where they have now on hand approximately 4,000 squares of ceilings of various patterns, including the mouldings. In the near future they expect to carry there a complete line of metal shingles, spanish tile, eaves trough, conductor pipe, imitation brick and stone siding; in fact, a full line of sheet metal building material. Mr. J. F. Agnew, who has represented them for the past several years in Texas, will be in full charge of this warehouse.



All-Metal Fly Screens

This is the All-Metal fly screen made along correct lines that is being recommended by architects, contractors and builders. It is the only all-metal fly screen that can be rewired without returning to the factory. Note the soft copper rivets or screws that can be easily removed for rewiring. The wire cloth is firmly held by rounded corners which prevents cutting by vibration and forms a perfect water shed. All bearings on this fly screen are made of copper, the reinforced corners as well as the improved turned edge guides. It will defy the evils of inclement weather, will not rot, warp, shrink or swell, can be made basket, oval, segment, round, or any shape necessary to properly fly proof a house.



The Cincinnati Fly Screen Company of Cincinnati, Ohio, are the manufacturers and are prepared to quote prices and take care of orders promptly. They have prepared a booklet giving much information on this subject which will be mailed on request.



Heavy House-Moving Machinery

The easiest way to meet the high cost of living and have the luxuries for yourself and family is to earn more money. The contractor who uses his gray matter nearly always succeeds, while the man who plods along with his eyes shut to the many opportunities for making money right near home continues to throw out remarks about the high cost of everything.

The illustrations shown with this article suggest a new way for the contractor and builder to make more money. It really places him in a position to speculate in real estate in such a manner that there is not one chance in a hundred for him to lose out.

Suppose the contractor has a job which necessitates the removal of wrecking of an old residence. It takes time to wreck a building, to divide up the lath, the flooring, the siding, timbers, etc., pile them up around the building, and then cart them away for storage. Even if the contractor can use some of these materials on another job, or can sell them at a fairly good profit, there is not the money in it for him that he can get for the whole building. Suppose instead of wrecking the old building he can place it on three sets of trucks or wheels, move it a mile away to some other lot, and then, after fixing it up a little, sell the house and lot at a good profit.

The old way of moving a building is a hard and unsatisfactory job, but modern methods have made it possible to move large, heavy residences and other buildings a considerable distance in a very short time. What are said to be the best up-to-date, heavy house-moving machinery and tools

When Writing Advertisers Please Mention the American Carpenter and Builder.



You don't need to be a tool-expert in order to know good tools.

You don't need to be a finishing-expert in order to know good varnish.

WRITE for our practical book "*Natural Woods and How to Finish Them.*"

It will help you give good advice to your customers. It will help you know good varnish.

Free to all readers of "The American Carpenter & Builder."

BERRY BROTHERS VARNISHES

MADE TO FINISH EVERY THING THE CARPENTER BUILDS

LIQUID GRANITE
TRADE MARK

For finishing floors in the most durable manner possible. There is no substitute.

LUXEDERRY
WOOD FINISH

For the finest rubbed (dull) or polished finished on interior woodwork. It has for upwards of 50 years been the standard.

ELASTIC INTERIOR
FINISH

For interior woodwork exposed to severe wear. Stands the action of soap and water to an unusual degree.

ELASTIC OUTSIDE
FINISH

For front doors and all other surfaces exposed to the weather. Great durability under most trying conditions.

LUXEDERRY
SPAR VARNISH

For ship spars, decks, yachts, launches, canoes and all other surfaces exposed to wind, wave or weather. Does not turn white. It has stood years of test in actual service.

BERRY BROTHERS, Ltd., Detroit

Largest Varnish Makers in the World

Dealers: EVERYWHERE



When Writing Advertisers Please Mention the American Carpenter and Builder.

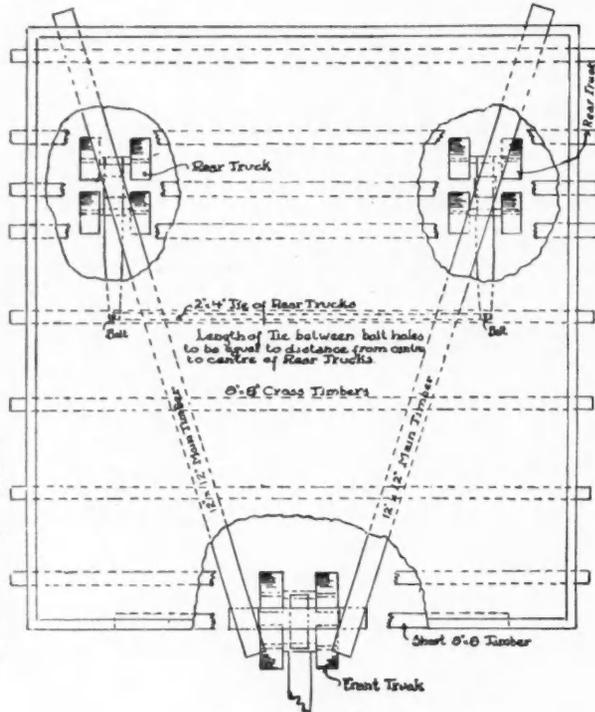


Fig. 1. Plan Diagram

are manufactured by the La Plant Tool Company, Marshalltown, Iowa. This company have a well equipped plant for making heavy house-moving steel trucks which have proved a wonderful success for contractors and builders.

The illustrations shown in this article will give a pretty good idea of the whole system of moving heavy buildings quickly

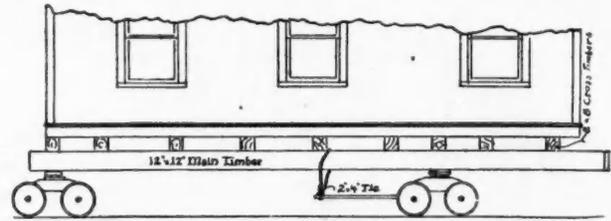


Fig. 2. Side View

from place to place. Figure 1, for instance, shows the method of loading the building on timbers and trucks. Figure 2 shows a side view of the loading plan. Figure 3 shows the end view with trucks beneath the building. Figure 4 shows the steel bolster on a La Plant four-wheel truck.

Figure 5 shows a large frame building being moved away from a lot where a new building is to go up and being taken up to another place.

A La Plant outfit generally consists of three trucks of two,

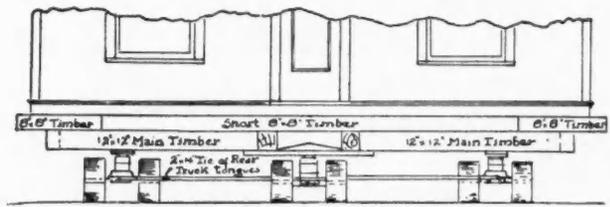
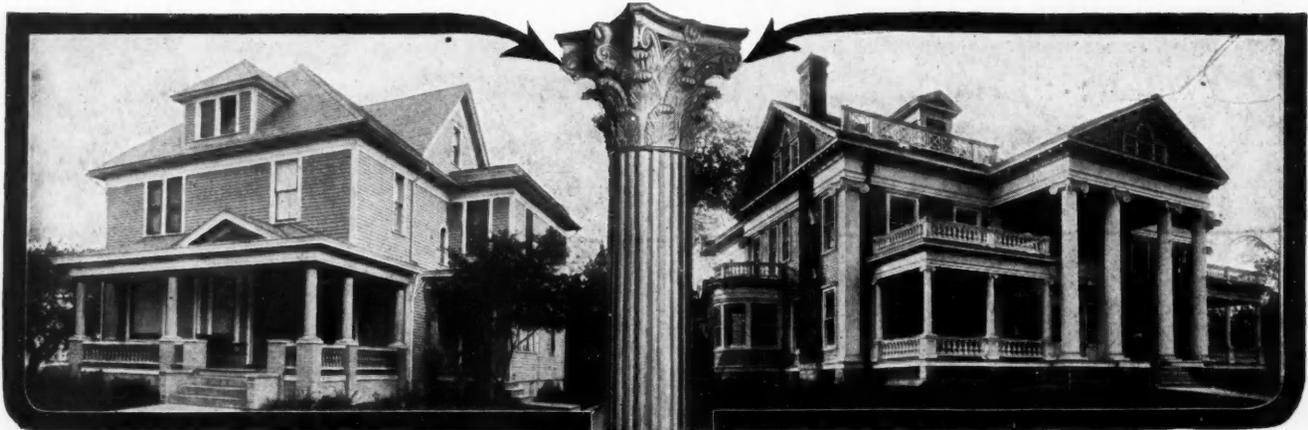


Fig. 3. End View

four or eight-wheel type, which are capable of moving a large sized building. The rear trucks have a short tongue 5 feet long and are kept together with 2 by 6 cross-ties to keep the trucks in line with each other and in proper relation to the front truck. Each rear tongue is hung to timbers above with chain or rope. The trucks are built on scientific



Residence of I. G. Tolerton, Alliance, Ohio.

Residence of W. J. Maddox, Jamestown, N. Y.

UNION METAL COLUMNS

(Patented)

Union Metal Columns are going to appeal to every man who is building a home because they architecturally meet all reasonable decorative requirements of this period.

They have durability that no other columns short of stone, marble or granite can approach. When you put them in place they are there to stay as long as your house can last—

They cannot split or rot; they cannot warp or open at the joints—

They cannot suffer any of the deteriorating

effects of climate or excessive weight to which wood columns are subjected—

Union Metal Columns are erected without the use of screws or nails and once in place cannot sag or get out of plumb.

Don't fail to write for the handsome new catalog with special proposition to builders and contractors.

The Union Metal Mfg. Co.

1400 MAPLE AVENUE

Canton Ohio

When Writing Advertisers Please Mention the American Carpenter and Builder.

The "ABC" of BEAVER BOARD Construction

The fifth of a series of twelve monthly talks to carpenters about the practical use of *Beaver Board*, the Pure-Wood-Fibre wall and ceiling material that is durable, economical, artistic; has none of the disadvantages of lath, plaster and wall-paper; and is appropriate to any type of building new or old.*

Beaver Board is essentially a proposition for Carpenters and Builders

CHAPTER V

BEAVER BOARD Advantages for Arched or Beamed Ceilings, Cove Work, Partitions, etc.

CARPENTERS often fail to understand that Beaver Board meets unusual wall and ceiling requirements as easily as ordinary ones. This is because they confuse it with plaster-board or some other material which is hard to handle.

It can not be too strongly emphasized that BEAVER BOARD is wood. It is made of Pure-Wood-Fibre, pressed into sheets or panels about $\frac{3}{16}$ " thick.

It seasons tough and hard like lumber, but is so elastic that it can be modeled to curved forms and when nailed in place presents a firm, stiff surface for painting. Thus it is ideal for arched ceilings and cove-work.

This same combination of lightness with strength makes it a most convenient material for permanent, temporary or movable partitions; for office-wallings, telephone-booths, closets, exhibition-booths, show-windows and so on.

You can enclose a stairway or put in a drop-ceiling quickly and economically.

You can cover an old, cracked plastered ceiling, add false beams and get a finer effect than with lumber.

Whether a wall is paneled, panel-and-wainscot, or panel-and-frieze makes no difference to BEAVER BOARD.

The work is done with saw, hammer and nails, and you always get the effect of a solid, unyielding wall.

At the same time the decoration is simple, artistic, sanitary and durable. *Beaver Board's unique pebbled surface, when painted, gives effects that you can't get either with lumber or wall paper.*

There Isn't Any Wall or Ceiling Problem without a Beaver Board Answer

Write our Architectural Department and they'll tell you how to handle any job you're not quite sure of. That doesn't mean you can do *everything* with Beaver Board, of course. We wouldn't advise you to paper over it, for instance, because painting is so much more practical, sanitary and good looking. But we'll tell you how to get results.

**These chapters began in the January number. If you missed back chapters, write us—we'll mail them to you*

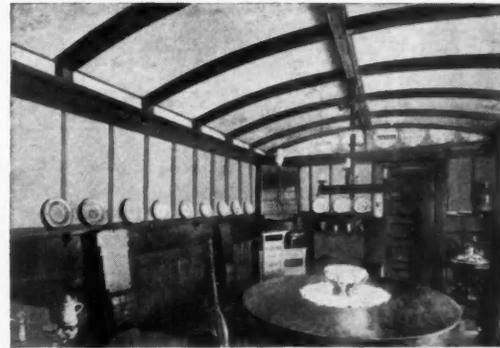
Beaver Board's endless possibilities for all kinds of uses are fully described in our free booklet "Beaver Board and Its Uses" with many pictures of different interiors. Write for it today.

The BEAVER COMPANY of BUFFALO
435 Beaver Road, Buffalo, N. Y., U. S. A

The BEAVER COMPANY, LIMITED
375 Beaver Avenue, Ottawa, Canada

16 Eastcheap, London, E. C

When Writing Advertisers Please Mention the American Carpenter and Builder.



Anna Katherine Green's dining room shows Beaver Board possibilities for arched ceilings and original wall-treatment.



Mr. Geo. W. Klewer has found that cove-work is anything but difficult with Beaver Board.



A. G. Spalding & Bros. Store — Beaver Board looks better and costs less than metal ceilings.



Mr. Reynolds, Ft. Erie, Ont. made this inglenook under the stairway attractive with Beaver Board.

These four illustrations are selected from scores of actual photographs, each showing some unusual or difficult problem easily solved by Beaver Board.

BEAVER BOARD

PURE-WOOD-FIBRE
Walls and Ceilings

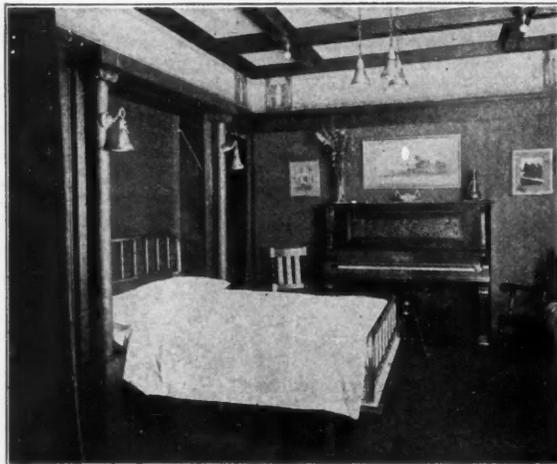
This trade-mark identifies the one genuine Pure-Wood-Fibre Beaver Board.



It is stamped on the back of every panel for your protection.

How to Utilize Every Inch of Space to
the Greatest Advantage

PERFECT WALL BEDS Solve the Space Question



Space utilization means increased area for the builder, consequently increased income. It means that the owner can provide a more attractive and convenient home for tenants with greater profits to him.

Three Rooms Equal to Five

Require less furnishing and are made more attractive by the richly finished console or side board which conceals the bed.



Ample ventilation is provided—More sanitary than the old style bed, for the reason that the space beneath can be kept clean without the laborious moving of the bed.

Prospective tenants will appreciate builders efforts to give them the best.

Builders:— Investigate before building. Let us plan for you how to utilize every inch.

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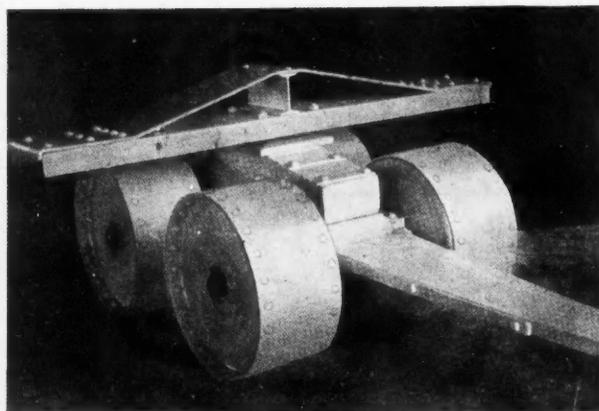


Fig. 4 Showing Steel Bolster on La Plant 4-Wheel Truck

lines that are both practical and mechanical. They are constructed on an interchangeable system whereby they may be worked singly, in pairs, or in fours, to meet the requirements of the job.

The contractors and builders who are now using the La



Fig. 5 House Being Easily Moved on La Plant Trucks

Plant Tool Company's outfits are very enthusiastic over them. Reading matter, showing many illustrations of houses being moved and views of these steel wheel trucks, can be had at once by writing the manufacturers at Marshalltown, Ia.

Urge Use of Metal Shingles

The Milwaukee Corrugating Company, of Milwaukee, Wis., with branch at Kansas City, Mo., manufacturers of "Titelock" metal shingles, are distributing miniature shingles $3\frac{1}{2}$ by 2 inches in size, which are in design and construction exact duplicates of the large "Titelock" shingles made for practical use.

This company is also carrying on an educational campaign, knowing that only by the most persistent efforts can a large proportion of the people be made to appreciate the importance as to why the wooden shingle should be relegated to the background, to make room for the shingle made from a good grade of metal, of popular style and design, with locking features to insure a water-proof roof.

Among authorities quoted is Frank Lock, United States manager Atlas Insurance Company, who, in an address before the Chamber of Commerce, Richmond, Va., said, in part: "If I were asked to name the one condensed evil, productive of the greatest fire loss, apart from the

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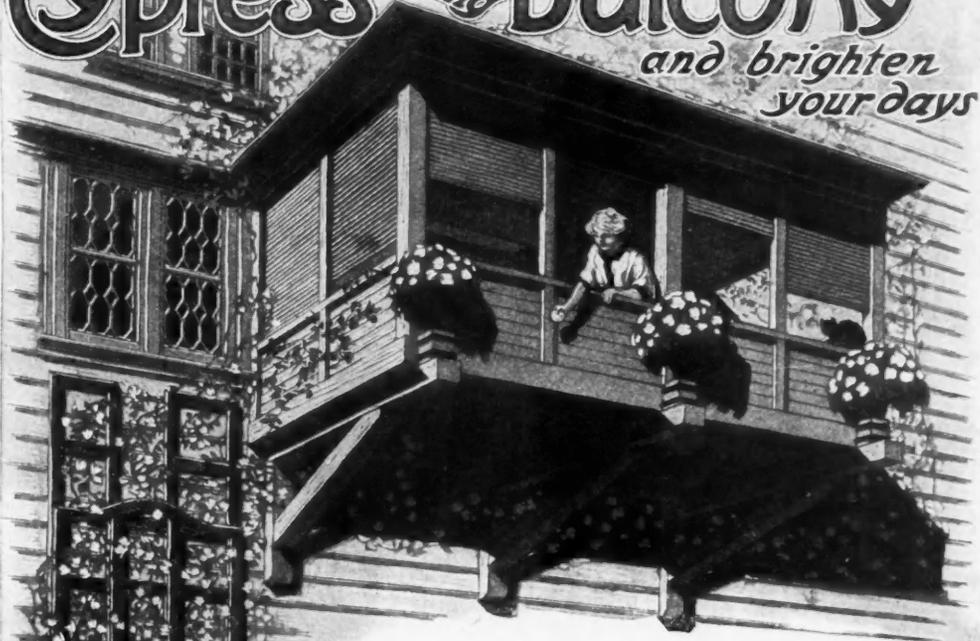
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are "the sanest enthusiasm America ever felt." You needn't build a new house—all you need is "a few sticks of the Wood Eternal," a hammer, a saw and some nails (or a good carpenter if you can get him) and—presto! you have multiplied the delights of the old home. The famous **CYPRESS POCKET LIBRARY** has again justified its status as an Authoritative Reference Work by the addition of the

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carelessness to which I have referred, I would name shingle roofs. They are wholly bad, and should not be tolerated in any state or city where they are on buildings within reasonable reach of any other building. Twenty-seven per cent of all fire losses are due to exposure; that is, they are spread from one building to another, and the main cause of exposure fires, apart from unprotected windows, is that of shingle roofs."

The fire insurance companies and their experts are very emphatic in their denunciation of the wooden shingle. The "Quarterly Bulletin" of the National Fire Protection Association says: "Wooden shingles are the principal American conflagration breeders. When dry, they ignite like tinder when flying sparks or brands alight upon them. Once a shingle roof is on fire the draught of the flame tears off the light shingles and carries them to other roofs, to be ignited in turn and in their turn furnish new flying brands."

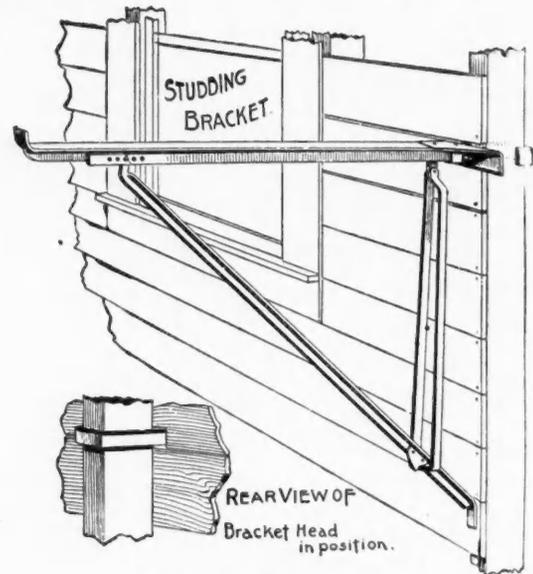
The experimental stage in metal shingles has now passed, as demonstrated by the samples that can be obtained from the Milwaukee Corrugating Company, and while it is unfortunate that so many dwellings in this country have wooden shingle roofs the situation will steadily improve, as architects and contractors are realizing that their patrons should be properly advised and if possible induced to protect their property against damage from fire.

+

"Detroit" Folding Scaffold Brackets

The days when wooden scaffolds are erected at each job are rapidly passing. In these days of increased cost of lumber, shorter working hours and higher wages of workmen, the steel scaffold brackets which will enable a complete scaffold to be set up in 15 minutes has the call over old

methods. The successful contractor is the one who takes advantage of every little opportunity to reduce cost, and it is to this class that these brackets appeal. It has been shown that the saving effected by this method is such that the



"Detroit" Studding Bracket

entire cost of a set of steel brackets will be saved on a single contract. The brackets can then be instantly taken down and taken to the next job.

Sometimes when a house is being built close to the lot line, the adjoining owner objects to the placing of scaffolding on his premises. In such case, the steel brackets furnishes a solution from a possibly awkward situation.

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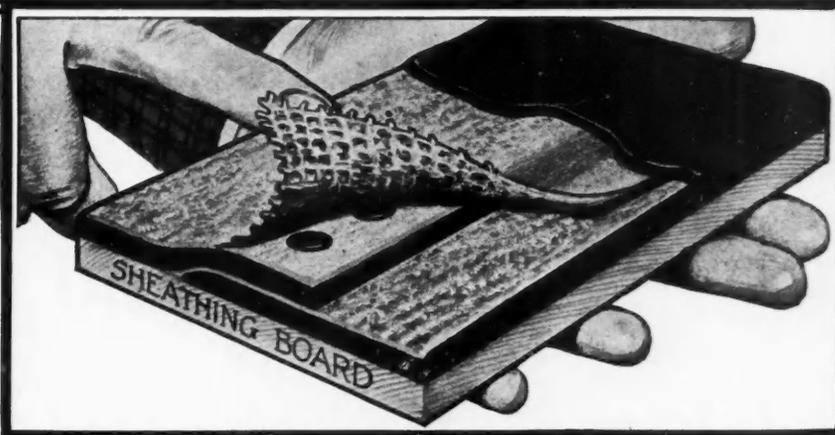
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**Here is the
Carey Patent Lap
that makes a
Carey Roof one
solid sheet over
the entire top of
a building.**



A roof is no stronger than its weakest part—which is the "join" in every composition roof except Carey's. The Carey Roof is *joinless* as a result of the Carey Patent Lap—a patented feature found only in this roof.

All other composition roofs are joined by overlapping the edges of the sheets and nailing through both sheets into the sheathing boards. A strip or cleat is sometimes placed over the nails in an effort to make the joints waterproof. It is only a question of time when the water will work under these strips and through these joints—when the nails will rust and work loose—when the action of the elements will take the life out of these roofs, causing them to crack, leak and become practically worthless.

The Carey Patent Lap *seals* over the joins of the sheets and makes the Carey Roof a *solid sheet* over the entire top of the building.

This Carey Patent Lap is formed by an extension of the burlap layer in the Carey Roof out along one side of each roll of roofing. When the Carey Roof is laid and

the rolls are overlapped and firmly nailed to the sheathing boards, this Burlap Extension is then *cemented down over the nails and join*, and is itself protected by being covered with a heavy layer of Asphalt Cement. As a result, the *nails can never rust—can never work loose* (being held down by the burlap) and there isn't a single seam *over the entire surface of a Carey Roof* for water to work through.

an outer covering of tough Calcutta Burlap. The Burlap gives the necessary tensile strength to the Carey Roof and is in turn protected by a layer of Asphalt Cement embedded in its meshes from the upper side. As a result of this superior construction in addition to the Carey Patent Lap, when the Carey Roof is laid, the *life and flexibility* of the Cement Body are *permanently preserved*

by being *hermetically sealed* from the action of the elements. All the wear comes upon the *outer surface* of Asphalt Compound.

That is why a Carey Roof *cannot* dry out, crack or deteriorate. That is why a Carey Roof *will last as long as the building it protects*. That is why you will find *17 to 20-year-old Carey Roofs* still giving perfect satisfaction on all kinds of buildings throughout the United States.

The Carey Roof is *complete* when it leaves the factory. Its construction cannot be altered in laying. It can be laid at once and requires no special skill. And once laid, *permanent satisfaction is insured*.

Carey's Flexible Cement Roofing

The Carey Patent Lap alone adds years of life to the Carey Roof, but in *every feature* of composition and construction the Carey Roof is superior to all others.

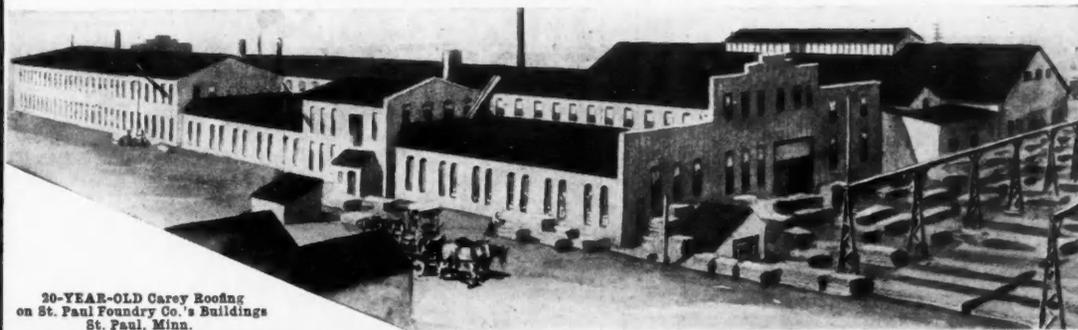
The "heart" of the Carey Roof—a heavy body of Flexible Cement—is protected between a foundation of strong Woolen Felt and

We invite and urge every building owner, architect or superintendent to make a thorough comparison of all other roofings with Carey's before reaching a decision. Our complete booklet, together with a generous sample of Carey's Flexible Cement Roofing, will be mailed you promptly on request.

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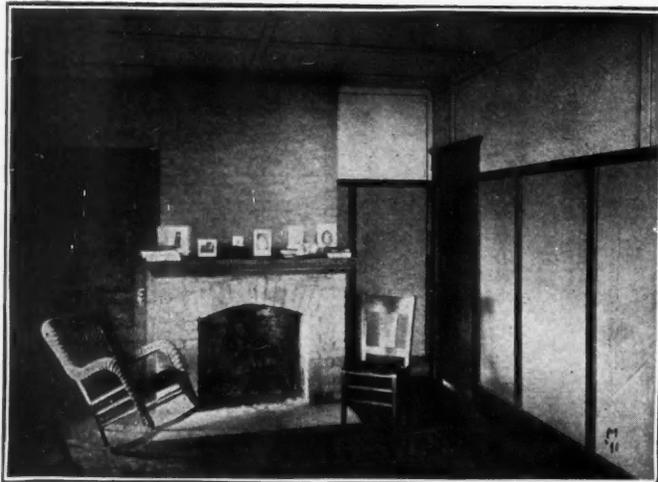
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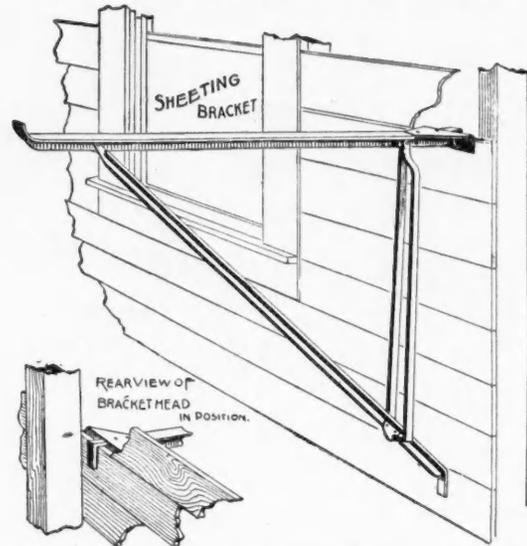
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The Folding Scaffold Bracket Co., 57 Fort St. W. Detroit, Mich., are in the market with a folding steel bracket that has several new and attractive features. In the first place, no bolts, screws or nails are required to attach them to the building. Each bracket is provided with a grip to fit over



Sheathing Bracket, Designed to Pull Down, not Out

the studding, adjustable for different sizes, and when the lower brace is brought into position, the grip automatically tightens, holding it firmly in its place. It is also provided with a wide shoulder against the building so there is absolutely no side-sway.

The feature, however, that the "Detroit" is claimed to have over other brackets is in the distribution of the load strain. The strain is communicated through the brace to a looped steel strap which is attached to the floor of the bracket three inches from the building. This fact causes the load strain to be downward, and not with the out-pull. A much greater load can thus be carried with safety.

Besides the studding bracket described, the company also manufactures a bracket for attaching to the sheathing.

It is in this style particularly, that the down-pull feature commends itself. The difficulty experienced with sheathing brackets is their liability to pull out, but the "Detroit" bracket, with the out-pull eliminated, is claimed to be perfectly safe.



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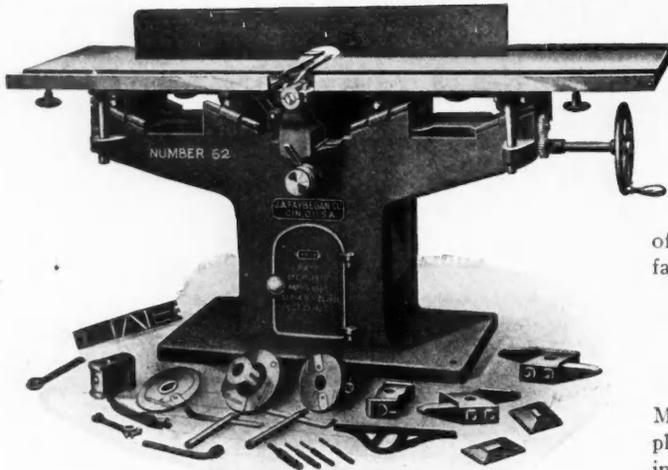
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are the manufacturers of this machine, which was, they claim, the really original universal type woodworker.

In the special woodworker catalog, issued by the J. A. Fay and Egan Company, sets of diagrams showing the many various operations of this machine, are reproduced. Among these are included box chamfering, plain chamfering, tapering, rabbetting, cornering, planing out of wind, jointing,



No. 62 Universal Woodworker

mitering, matching, rabbetting and jointing window blinds, making rule joints, plowing, squaring newels, raising door panels, gaining, making circular moldings, waved moldings, and rip sawing. In addition the machine has a boring attachment and will do straight surfacing, stick beads, tenon, joint and bead window blinds, cross-cut, work edge moldings, etc.

The No. 62 is not a makeshift affair which is continually in need of repairs and wears out quickly. It is built with the same care and attention that is given to the big fast feed machines made by the Fay & Egan Company.

Any carpenter, contractor or builder who puts in a Fay & Egan No. 62 Universal woodworker may rest assured that he has a machine ready to do his work at all times; a machine which can be easily and quickly adjusted for all kinds of work; a machine which consumes very little power and will stand up under hard service for many years.

J. A. Fay & Egan Co., issue a special catalog showing their complete line of machines adapted for use in the shops of carpenters, contractors and builders. Included in this catalog is the special woodworker section. The catalog will be sent free of charge to interested parties who will address the manufacturers at 545-565 West Front Street, Cincinnati, Ohio.

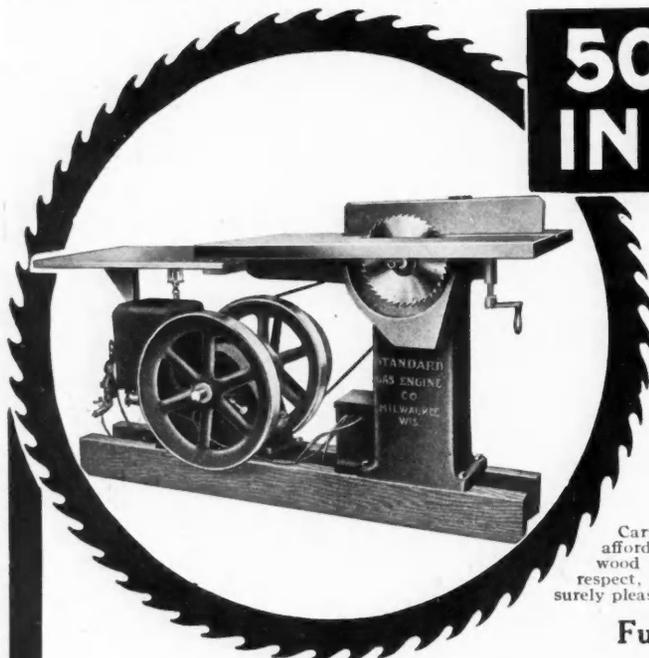


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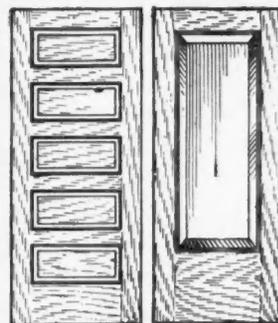
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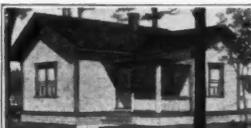
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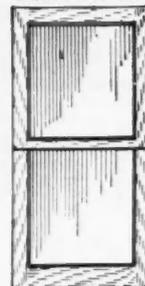
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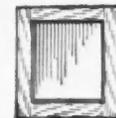


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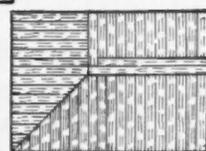


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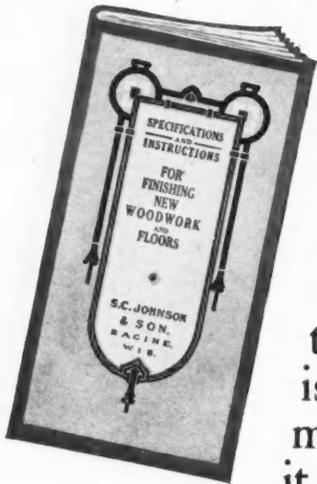
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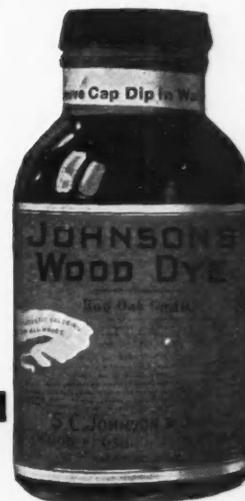
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Gallons \$3.00—Half-Gallons \$1.50

Test samples on any work you have in hand. Note how quickly Johnson's Wood Dye dries, so that dust and dirt have no chance to settle in the finish. Observe how it penetrates and brings out all the beauty of the grain without raising it in the slightest degree. In addition to this, the fastness of color, ease of application and practical economy will also appeal to you.

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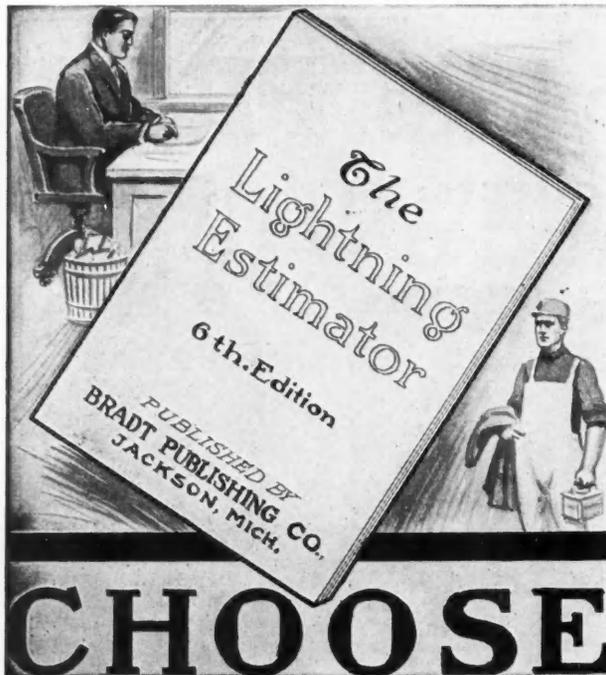
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The LIGHTNING ESTIMATOR

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 **Success** 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 any 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.

William Phyfe

We announce with deep regret the death of William Phyfe of P. & F. Corbin of New York. He was a loyal friend and employe, a salesman who represented the company as well as sold its goods, and a man of sterling character who won the respect and confidence of all with whom he came in contact.

He has been with the company since 1852, with the exception of one brief absence. As one of the pioneers in the field, he did his part to foster the growth of the hardware industry and as an honorable, kindly gentleman he made a record in his daily life of which those with whom he associated may well be proud.

P. & F. CORBIN.

✦ "Factors in Foreign Trade"—Valuable Book for Exporter

The Bureau of Manufacturers now has in press a bulletin that will no doubt find a permanent place on the desk of every manufacturer interested in foreign trade. In its 56 pages will be found answers to questions asked by every manufacturer sending out trade literature or opening correspondence with foreign firms: What language is it best to use? In what currency and what weights and measures should prices be quoted? What postage should be placed on the catalogue or the letter? Can I prepay a reply from the prospective customer? Is there a parcel post?

The bulletin answers these and other questions for each country in a concise manner, the reader can put his fingers on the information sought without hunting through a mass of detail that he does not want. Supplementing these statements are tables for converting the money of foreign countries into that of the United States; also a comparison of prices for countries in which both the monetary unit and the units of weight and measure differ from those used in the United States. For example, the latter tables show the reader at a glance what is the comparative price per meter in Mexican currency of a cloth quoted at 50 cents per yard in United States currency; or the price per pound in United States money of an article quoted at 30 francs per kilo in French currency.

Currency conversion tables and price comparisons are given for over 30 countries. Foreign postage rates and the parcels-post regulations are summarized, and a list is given of the countries in which international reply coupons are valid.

Copies of the bulletin which is entitled "Factors in Foreign Trade" will be available for distribution at an early date, and those desiring it should make application to the Bureau of Manufactures, Department of Commerce and Labor, Washington, D. C.

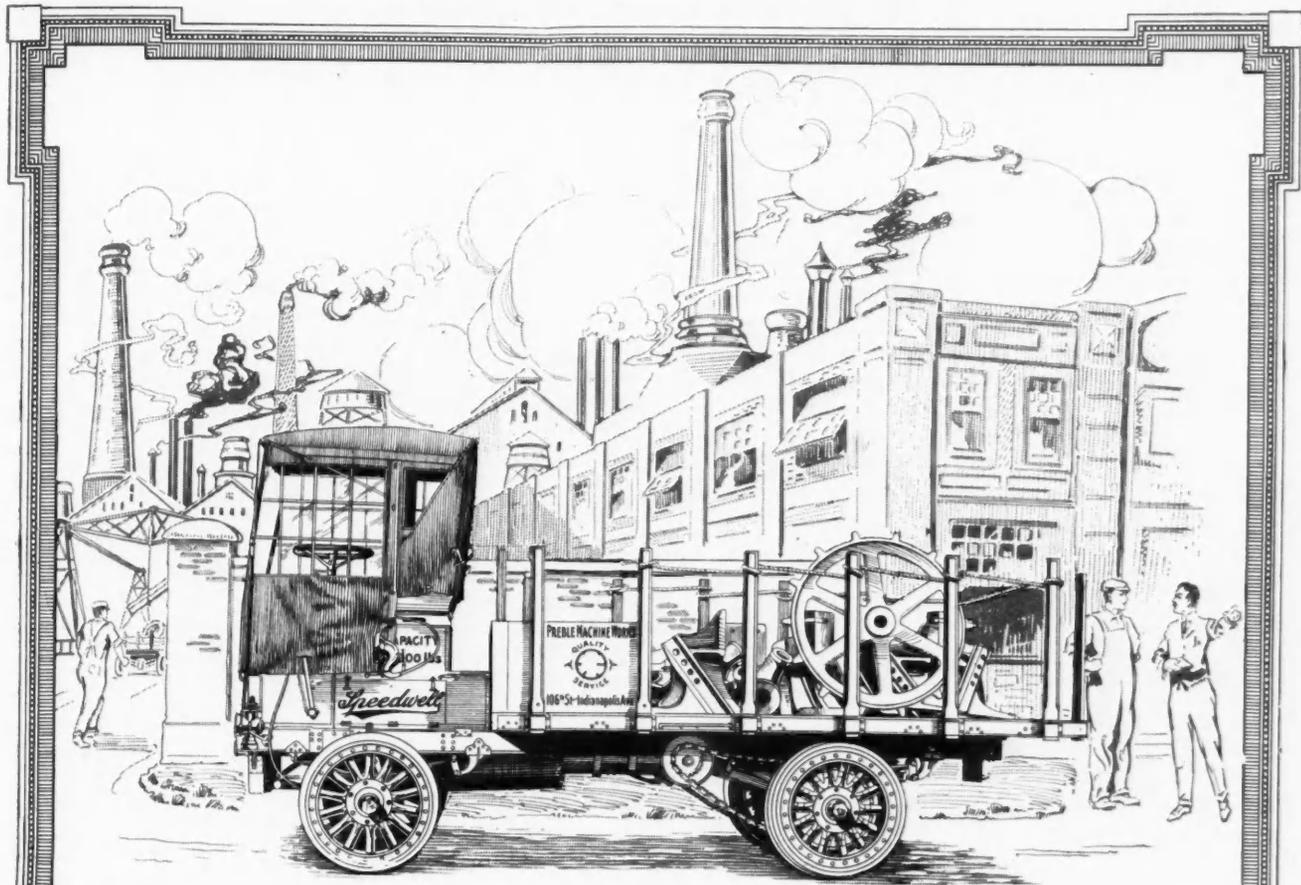
✦ Sears-Roebuck Select the American Carpenter and Builder

It is with considerable satisfaction that we call your attention to the fact that one of the largest merchandising organizations in the world have selected the AMERICAN CARPENTER AND BUILDER through which to announce their season's offerings to contractors, builders and carpenters.

Sears-Roebuck & Co., in using nine of our advertising pages—this issue, recognize the potency of the AMERICAN CARPENTER AND BUILDER as a business producer. They are further indicating a fact (which we have long since known) that our readers are collectively the most progressive, successful and prosperous body of building designers and constructors in the world.

This immense concern include in their season's announcement a very general line of building materials and supplies.

When Writing Advertisers Please Mention the American Carpenter and Builder.



Speedwell 4-Ton Truck in
Service of Preble Machine
Works, Chicago

Speedwell MOTOR TRUCKS SERVICE

Two
Four
Six Ton
Capacities

Speedwell Service is a big factor in the success Speedwell Trucks are enjoying.

A truck may be well built; use only high-grade materials; employ only the most skilled mechanics; but without good service to complement these necessary elements, it will not be a complete success.

Speedwell Service is rendered by our dealer as well as from our factory.

Our dealers are thoroughly trained in Speedwell methods, Speedwell construction and Speedwell service.

The dealers' service departments are just as important as their sales departments and insure to Speedwell owners continuous and maximum efficiency from their trucks.

LITERATURE UPON REQUEST

The Speedwell Motor Car Company, 610 Essex Ave, Dayton, Ohio

When Writing Advertisers Please Mention the American Carpenter and Builder.

Finishing Oak Floors

By W. L. Claffey

The finishing of an Oak Floor is a very important feature, upon which authorities fail to agree, but the question resolves itself into a matter of cost, as to the color or brilliancy of finish desired. Personal taste, artistic or decorative effects are the guide for the floor finisher.

The "Clear" grade of Oak Flooring should have a natural Oak filler—color of Oak. The "Select" and "Sap Clear" grades a light golden oak filler should be used, and after the floor is filled, it should be gone over with a little burnt umber mixed with turpentine to darken light streaks. This will make the "Select" and "Sap Clear" grades look like the "Clear" grade, except that it will be slightly darker in color. In filling the "No. 1 Common" grade, a dark golden oak filler should be employed, and the light streaks should be darkened in the same manner as the "Select" and "Sap Clear" grades. If a little care is used in laying this grade, splendid results can be obtained.

FIRST—Treat the floor with a paste filler of desired tone, to fill up the pores and crevices. To thin the filler for application, one has a choice of using turpentine, benzine, wood alcohol or gasoline to get the right consistency. When the gloss has left the filler, rub off with excelsior or cloth, rubbing against the grain of the wood. This will make a perfectly smooth and level surface. It keeps out dirt and forms a good foundation, which is the key note for successful treatment of floors. Allow the filler twelve hours to set or dry before applying a wax or varnish finish. Never use a liquid filler on any floor.

A wax or varnish finish can be used. The wax finish is preferred by many, due to economy and ease of renewing

places that show the wear. This renewing can be easily applied by housekeeper or servant.

WAX FINISH—The best method for applying the wax is to take cheesecloth and double it to get a little more thickness; then make it into a sort of bag. Put a handful of wax inside of this and go over the floor thoroughly. You will find that you can work the wax through the meshes of the cheesecloth to give an even coating over the floor. This prevents too much wax in spots and wasting it. After the floor has been gone over with the wax and allowed to dry say about twenty minutes, it is ready for polishing. Rub to a polish with a weighted floor brush, first across the grain of the wood, then with it. (A clean, soft cloth can be used in place of the brush if desired); then a piece of woolen felt or carpet should be placed under the brush to give the finishing gloss. After waiting an hour, a second coat of wax should be applied in the same way as the first and rubbed to a polish.

VARNISH FINISH—This is usually more expensive than the wax finish, but it gives a very hard surface, yet at the same time it is elastic. Two or three coats should be applied after the application of the paste filler. Each coat should be thoroughly rubbed with oil and pumice. Any of the standard Hardwood Flooring varnishes are recommended.

FLOOR OIL FINISH—When a high class finish is not desired, a very economical finish can be had by the use of a light flooring oil, that is made expressly for this purpose by many paint and varnish houses and oil makers; it serves as a filler as well as a finish and is strongly recommended for Oak Flooring in public institutions, office buildings and stores. This oil keeps the dust from rising and preserves the floor.

Electric Lighting and Power System for Country Homes and Farms

Every country home should be lighted by electricity and have power for water systems and other home conveniences.

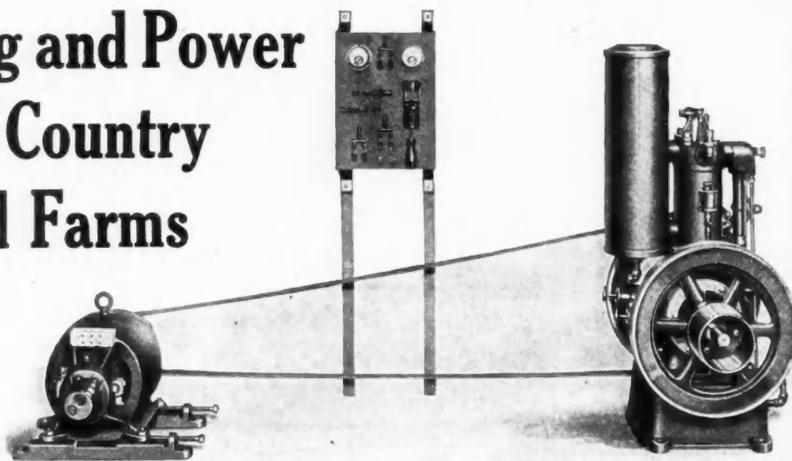
The plant as illustrated is our belt driven plant. If a gas or gasoline engine is already installed, the additional apparatus required for an electric lighting outfit can be purchased at very low cost.

The expense of producing electric light, operated with the new tungsten or Mazda high efficiency lamp, is cheaper than for any other system of artificial illumination.

We also manufacture a Direct Connected plant. The design and construction of our plants have Simplicity, Quality, and Durability as a prime requisite with the result that they will give the best of service, and they are guaranteed.

The information contained in our hand book on electric lighting and water supply systems is interesting and instructive. It will be mailed free upon application.

Contractors and builders should investigate at once.



THE WOOD & SPENCER ENGINEERING CO. Abbot Bldg., CLEVELAND, OHIO

When Writing Advertisers Please Mention the American Carpenter and Builder.

Don't Miss This Opportunity



We Want One Carpenter or Builder in Every Community to Demonstrate, Take Orders for and Apply Our EDWARDS METAL SPANISH TILE ROOFING on a Liberal Commission.

Here is a chance to build up an independent, profitable business for yourself right at home. Many carpenters are now devoting their entire time to selling our metal roofing. Others have made big profits simply devoting part of their time to selling and laying our Metal Spanish Tile.

Edwards Metal Spanish Tile

Is being advertised in the leading magazines and is now known to thousands of home builders and owners everywhere. Wherever it has been used it has made a decided "hit" because it shows off to good advantage on the roof and has numerous points of superiority over any other style of roofing.

Architects are specifying Edwards Metal Spanish Tile, for they know it will do away with roofing "troubles." Builders like it because of the finished appearance it gives any house on which it is used.

Our Metal Tile are stamped out of the highest quality Worcester terne plate in exact imitation of the most expensive Terra Cotta Spanish Tile. They come either "dip" painted or heavily galvanized size 10x14 inches. Our patented interlocking side lock makes it possible to make a perfectly moisture-proof roof without soldering. Edwards Metal Spanish Tile afford the fireroof advantages of Terra Cotta Tile, but are much lighter in weight, cost but a trifle more than ordinary roofing and will last a life time.

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 TO-DAY FOR OUR SPECIAL AGENTS' PROPOSITION.



Note the construction of patented interlocking device, protecting nail heads from weather and providing perfectly for expansion and contraction of the metal.

The Edwards Manufacturing Co.

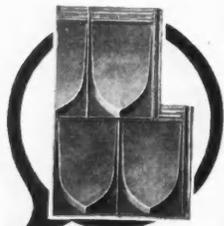
"THE SHEET METAL FOLKS"

401-417 Eggleston Ave.

CINCINNATI, OHIO

THE WORLD'S LARGEST METAL ROOFING, METAL SHINGLES AND METAL CEILING MANUFACTURERS

When Writing Advertisers Please Mention the American Carpenter and Builder.



"Finest Public School Building in The State"

says Mr. Talley, the Architect, and he gives the credit to

CORTRIGHT METAL SHINGLES

Read for yourself,

Jacksonville, Fla.
CORTRIGHT METAL ROOFING CO.,
Gentlemen:

I enclose a photo of the Orlando Public School Building at Orlando, Fla., this is the finest public school building in the state, and is covered with your Victoria Metal Shingles.

Yours truly,
W. B. TALLEY

Now the point we want to make with you Contractors and Builders is this—

Architects are specifying them in ever increasing numbers. Owners of buildings want them because they meet every condition of service. Now, it will not only pay you to advocate their use, but they will solve the problem you have been up against in getting good wood shingles.

Send for catalog and learn all particulars.

CORTRIGHT METAL ROOFING CO.
PHILADELPHIA and CHICAGO



MAIL US THIS COUPON NO W

Cortright Metal Roofing Co. Philadelphia, Pa.

You may send me book "Concerning that Roof" as advertised in American Carpenter and Builder.

Name.....

Street Address.....

City.....

Business.....

When Writing Advertisers Please Mention the American Carpenter and Builder.

An Effective Saw Campaign

Some exceptionally clever advertising is being done at the present time by the Simonds Manufacturing Company, of Fitchburg, Mass., makers of the Simonds saw.

This advertising is national in scope, copy having been run in various trade papers, one or two of the popular weekly papers and with the supplements of the larger newspapers' Sunday issues.

Following this campaigning, the company has incorporated several of the attractive advertisements used in a circular, which is being mailed to dealers. This circular covers the dealer's side of their proposition and supplies exact data concerning their extensive display advertising.

Workers generally are familiar with the Simonds saw and it requires no introduction. Since 1832 this Massachusetts company have been manufacturing various types of saws. Their circular, band and cross cut saws; hack saw blades and files are widely known and used.

The Simonds Manufacturing Co. will send their "Carpenters Guide Book"—free—to all interested in saws and desiring detailed information concerning the Simonds products. Address them at Fitchburg, Mass.



The Underfeed Principle in Furnace Operation

"That furnace question" is completely dealt with by the Peck-Williamson Heating and Ventilating Company of Cincinnati, Ohio, manufacturers of the Peck-Williamson Underfeed furnaces, in their latest catalog which is just off the press. This booklet—a neatly illustrated and printed affair—thoroughly explains the principle of Peck-Williamson furnace construction and operation.

These furnaces are in extensive and highly satisfactory use and the manufacturers claim for them that they are big fuel savers; require little attention; are not smoky and sooty and furnish a consistently clean, even and adequate heat, under the most severe conditions.

Peck-Williamson furnaces differ widely from the general plan of the commonly accepted furnace type in that they are fed from underneath, through a coal chute, and not on the top of the fire, as is always done in other types of furnaces.

This underfeed device consists of a hopper on the side of the furnace, the upper opening being outside, and a coal chute which passes through the ash-pit and curves upward to and has an opening on a level with and in the center of the furnace grate.

In the coal chute is a cast iron plunger which is operated by means of a wooden lever. Moving this lever up towards the furnace withdraws the plunger and permits the coal in the hopper to drop down in front of the plunger. Pushing the lever down forces, or pumps, the coal up the coal chute, through the grate opening and underneath the fire. This in effect causes the fire to be pushed outward as well as upward and brings the fire into direct contact with the sides of the fire-pot and doors. Its entire burning operation is similar to that of a candle or lamp—fuel under rather than above the fire.

The Peck-Williamson company build these furnaces in two styles and three sizes. One style have flat rotary grates and are intended more especially for the use of soft coal; the other style have the rocking and dumping type of grate and are for hard coal use. All the furnaces are built substantially throughout and include every feature which can insure satisfactory and economical heating results.

AMERICAN CARPENTER AND BUILDER Readers can obtain the Peck-Williamson complete catalog by simply addressing a request for same to their Cincinnati, Ohio, office—436 West Fifth Avenue.

THE HALL MARKS OF DOOR QUALITY

TRADE  MARK
QUALITY

DOORS de LUXE

WE are door makers. We concentrate on Doors—
Veneered Doors which are made by craftsmen who specialize
on doors and nothing else. Our Doors de Luxe are known as the
Max-Royal—the best and most popular hardwood veneered door
manufactured, the result of long experience in woodcraft, and the
latest and most approved machinery.



HOME OF THE MAX-ROYAL VENEERED DOORS

We make soft wood doors too, **PINE TREE BRAND**. They're good doors—
nothing to equal them at the prices we ask for them. We want to get our beautifully illustrated
DOOR BOOK into your hands so you can get posted on the McMILLEN GOOD DOORS—

Then you will know what to buy and where to buy it next time.

THE R. McMILLEN CO., Oshkosh, Wis.

*Established Thirty-five years—Pioneers in the making of
Oak and Birch Veneered Doors—Front Doors a Specialty*

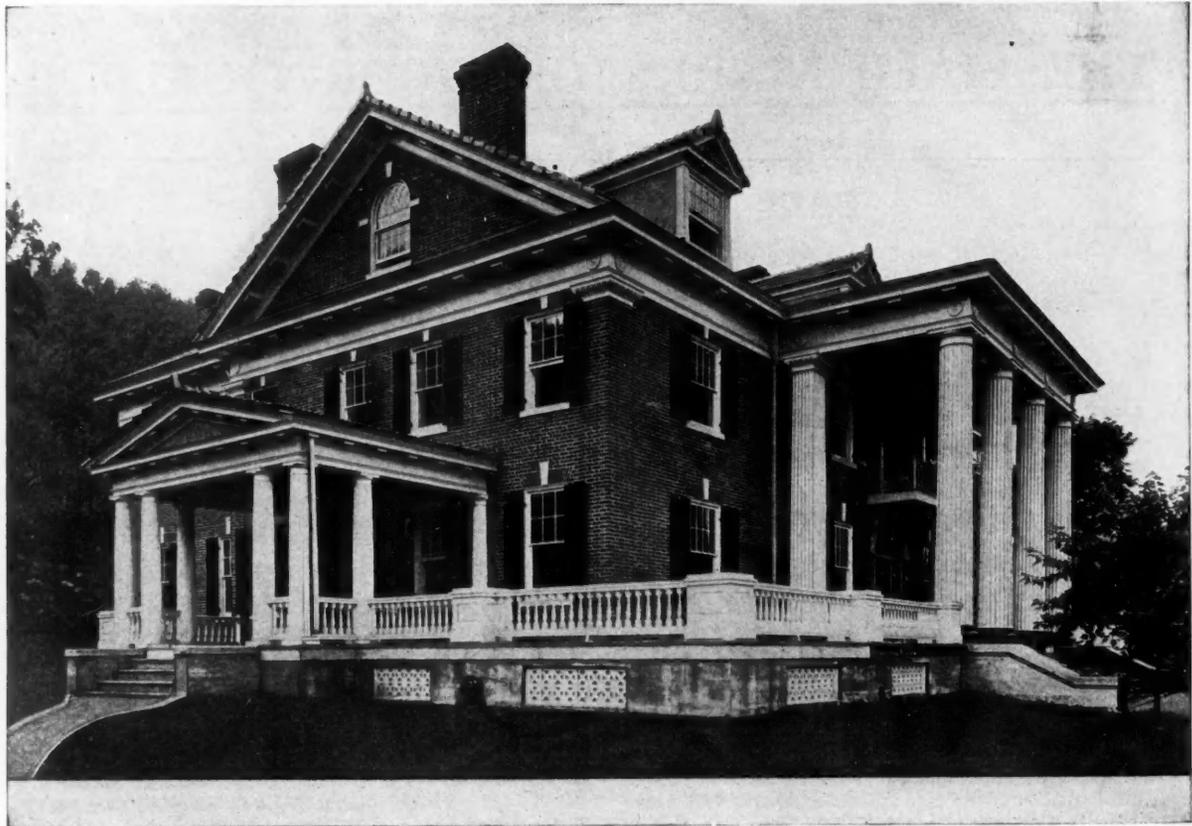
BRANCH OFFICES

CHICAGO, ILL.
Room 909 Stock Exchange Bldg.

WASHINGTON, D. C.
No. 1703 Kilbourne Place

NEW YORK CITY
No. 1123 Broadway

When Writing Advertisers Please Mention the American Carpenter and Builder.



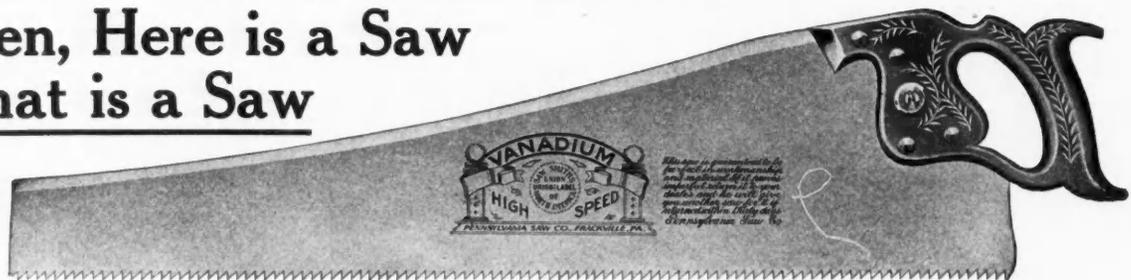
Residence of J. L. Vaughan, Shawsville, Va.—All Columns are Metal (Union Metal Mfg. Co.)

Union Metal Columns

Shown here is the residence of J. L. Vaughan, Shawsville, Va., upon the porch of which Union metal columns are in

service. These columns are manufactured by the Union Metal Manufacturing Company of Canton, Ohio, sole manufacturers of metal columns. (Continued to page 120)

**Men, Here is a Saw
That is a Saw**



The Vanadium High Speed Guaranteed Hand Saw

The carpenter who once uses our Vanadium Steel hand saw will never use any other. It is beautiful in appearance, will outwear any other saw, is easily filed and set, and is sold at a very moderate price.

It retains a keen cutting edge at least five times as long as a saw made from any other steel—and that means five times the service. It requires sharpening only one-half as often as a saw made from any other steel.

The steel in this saw is very close, tough and ductile and can be perfectly tempered. This insures against chance of kinking or fracturing the teeth while setting and gives permanency to the cutting edge.

This saw contains in perfect combination those greatest saw qualities—"Density, Elasticity and Ductility." There's a Reason—Vanadium and Our Process. Ask us about it.

We Challenge the World to Produce Its Equal!



This cut shows one of our Vanadium Steel Saw blades coiled in this position for 30 days. After releasing, it returns to its natural position—perfectly straight. Can you beat it?

We have a handsome new catalog describing and illustrating the various kinds of Vanadium High Speed steel saws made by us. Write us for this catalog. Ask your dealer to show you this saw. If he doesn't have it, send us his name and write us for prices.

Pennsylvania Saw Co.
25 Broad Mountain Ave.
FRACKVILLE, PA.



When Writing Advertisers Please Mention the American Carpenter and Builder.



Your Chance Awaits You Somewhere

This country abounds with opportunities—chances ready and waiting for the trained man.

Business men in all lines are seeking trained men—men that can “produce.” You may find your chance right in your own town if you have the training to “deliver the goods.” Training produces wealth, happiness, comforts, independence.

What the world wants of you is success. And what you want is success.

I. C. S. Courses have taken the pick out of the laborer’s hands and replaced it with the civil engineer’s transit; they have taken the lathe hand from behind his machine and placed him at the draftsman’s board; they have lifted the fireman from the boiler room and set him in the chief engineer’s chair; they have transformed carpenters into Architects; clerks into Advertising Managers; masons into Contractors; apprentices into Mining, Mechanical, and Electrical Engineers.

THE CHANCE THAT CAME TO SHAW

I was working by the day as a carpenter earning about \$40 in a month when I enrolled with the I. C. S. for the Complete Architectural Course. I was 21 years old at the time. I am very glad that I took up a Course in your Schools. Every lesson was a stepping-stone for me. While the I. C. S. is in existence no man can honestly say “I have never had a chance,” since the Schools place an opportunity constantly before every industrious person of average intelligence. I soon obtained a position in a planing mill because of what I had learned in my Course. Here I had a further chance to apply what I learned as I went on with the Course. The manager of the mill voluntarily recommended me without my knowledge to an architect who offered me my first position in the line of my present occupation. Four years later, on July 1, 1906, I opened an office of my own as architect in this city. I have made a specialty of designing public school buildings, having now four under construction, designing also office buildings, churches, and residences. I designed the new Enid high school, costing \$175,000, said by educators to be a building of unusual merit. My income now amounts to about \$4,000 a year.

ROY W. SHAW, Enid, Okla.

An I. C. S. Course will place you where you want to be, and where you ought to be.

Mark and mail the coupon. The I. C. S. will show you where to find your chance, and send you the names of men and women in your own vicinity who have won out through I. C. S. training.

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	Estimating Clerk	Automobile Running
Arch'l Draftsman	Civil Engineer	Foreman Machinist
Contract'g & Build.	Surveying	Sh.-Met. Pat. Drafts.
Building Inspector	Mining Engineering	Textile Manufact'g
Structural Engineer	Mechanical Engineer	Bookkeeper
Structural Draftsman	Mechanical Drafts.	Stenographer
Plum. & Heat. Con.	Stationary Engineer	Advertising Man
Supt. of Plumbing	Electrical Engineer	Window Trimming
Foreman Steam Fit.	Electric Lighting	Commerci'l Illustrat'g
Plumbing Inspector	Electric Railways	Civil Service Exams.
Heat. & Vent. Eng.	Concrete Construct'n	Chemist

Name _____

Street and No. _____

City _____ State _____

Present Occupation _____

When Writing Advertisers Please Mention the American Carpenter and Builder.



You can't do justice to yourself or the job if your tools are not in perfect condition—

Carborundum Sharpening Stones

Are helping more carpenters every day to do better, faster, cleaner work—A Carborundum Stone will keep every edge tool clean and smooth—It will give an edge that will stand up—

Carborundum Stones do not fill or slick over—They are always fast and free cutting, uniform, durable—There are several shapes and sizes for the carpenter's use—The Round Combination Bench Stone is just the thing for general work—

Carborundum Round Combination Stone, No. 107.....	\$1.00
Quartered oak box holder.....	.50
Carborundum Oblong Combination Stone.....	1.25
A handy little pocket stone in case.....	.35

From your hardware dealer or direct.

The Carborundum Company
Niagara Falls, N. Y.

In point of design Union metal columns follow the classic orders of architecture as closely as is practicable. In certain minor particulars slight departures are necessary in order to secure the other desirable features such as strength, clean cut appearance, etc., etc.

Union metal columns are now in actual use upon hundreds of structures, including all classes of buildings from the modest cottage to the elaborate mansion and public building. They have proven thoroughly practical for use in porch, pergola, interior and exterior construction. They are clean cut, highly ornamental and stately in appearance. They have an exceptional load carrying capacity. They are suitable for all climates and temperatures.

The steel which is used in making all shafts of Union metal columns is the best high-grade open hearth product. It is specially rolled and is tight coated with special spelter which adheres perfectly to the metal under all conditions, thus protecting the metal absolutely from the action of the elements. The shafts are painted with a coat of high-grade paint especially prepared to adhere to galvanized steel, thus insuring the finishing coats of paint against cracking or peeling off. The cast iron parts of the columns are also given a coat of best metallastic paint.

The seams of all Union metal column shafts are securely locked and are always turned on the inside of the shaft. This leaves the outside perfectly smooth with the exception of a very small crack or fissure which may be filled with putty before the finishing coat of paint is applied.

The shafts of all Union metal columns up to and including 14 inches in diameter at the base, are made of one ply of No. 24 gauge galvanized steel, and all shafts over 14 inches diameter are made of two ply of No. 24 gauge steel pressed and fluted together.

This company are also manufacturers of Union lamp standards, the ornamental lamp posts which are proving so popular and are being extensively used upon the streets of the leading cities.

Their special descriptive catalog upon their columns and lamp posts and detailing the various designs and styles they are manufactured in can be had upon request. Write the Union Metal Manufacturing Company, 1401 Maple Avenue, Canton, Ohio.

Floor Scraping and The Fox Scraper

However good material is furnished, there are many opportunities for producing an inferior floor. The material may be damaged by careless handling or exposure to the weather. Plasterers, masons, etc., may work over it and grind the sand and grit deep into the grain. Inferior workmanship may jamb the sharp corners, producing unsightly bruises, or the painter may save a few cents or a few minutes' time and so ruin the appearance. But probably the greatest opportunity for good or evil floor work lies in the scraping.



The Fox Floor Scraper

When Writing Advertisers Please Mention the American Carpenter and Builder.

Every House in this Modern Grand Rapids, Michigan, Street Is Built with Morgan Millwork

YOUR good furniture shows to best advantage against a background of distinctive Morgan Woodwork. Homes equipped with Morgan Woodwork are already more than half furnished, as a glance at the illustration will show. And the best of it all is, a Morgan-furnished home is a permanently furnished home. The finished skill of master craftsmen and the most advanced mechanical science are practically applied to the building of

**MORGAN
GUARANTEED PERFECT
HARDWOOD DOORS**

Our deluxe book, "Door Beautiful," tells all about them in detail, and contains many beautiful interior and exterior views, besides a wealth of necessary expert information of inestimable value to prospective builders and remodelers. Do not be misled by claims of "just as good"—there is no other door nearly as good. Get a free copy of "Door Beautiful" and learn the reason why. Fill in the coupon in upper right-hand corner, mail it today and receive the book by return mail.

MORGAN CO., Dept. B7, Oshkosh, Wis.
 Distributed by **Morgan Sash & Door Co., Chicago**
Morgan Millwork Co., Baltimore, Maryland
ARCHITECTS: Descriptive details of Morgan Doors may be found in Sweet's Index, Pages 910 and 911.

MORGAN YOU'LL KNOW THE GENUINE BY THE BRAND ON THE RAIL **MORGAN**
 MORGAN DEALERS DO NOT SUBSTITUTE

Dept. B7
Morgan Co.
Oshkosh, Wisconsin

I intend to build within the next _____ months. Kindly send me your full, free information for home builders. I am not obligating myself in any way by making this request.

Name _____
 Town _____
 Co. or St. No. _____
 State _____

Fill in, tear off and mail today

DON'T admire the pretty homes you see and envy the owners, and wonder where they got their ideas, and wish you knew how to build one like theirs, but learn the secret for yourself at first hand in our art book for home builders, "Door Beautiful." Don't think of building or remodeling without consulting this authority. It is educating hundreds each month. There's a copy for you—it's free. Write for it today.

Progressive architects everywhere specify, and dependable dealers always recommend, Morgan Doors and Millwork—dealers who do not substitute.

Send for the book now—before you forget.

MORGAN COMPANY Dept B7 **Oshkosh, Wis.**

Distributed by

Architects: Descriptive details of Morgan doors may be found in Sweet's Index, pages 910 and 911.

Morgan Sash & Door Co., Chicago, Ill.
Morgan Millwork Co., Baltimore, Md.

When Writing Advertisers Please Mention the American Carpenter and Builder.

A first-class mechanic appreciates quality in tools of every description, whether it is a saw, a chisel, a plane or a floor scraper. Not alone must the temper of the cutting edge be just right in the blade, but the very form, action and balance of the machine must be suited to the work. In the manufacture of floor scraping machines and blades, the workmanship must be such that accurate and rapid work is possible, and this calls for a high grade of workmanship as well as material.

The Fox floor scraper shown in the accompanying illustration combines all the essential elements: It is of few parts, yet perfect in every detail. The simplicity of its construction not only insures a minimum of breakage, but places a practical floor scraper on the market at a price that is attractive to every contractor and carpenter.

When in operation, 85 per cent of the weight of the Fox is resting on the blade—exactly where the weight is required. This tends to make the work of the machine purely automatic and requires no skill on the part of the operator. When not in operation the weight is so perfectly balanced on the wheels that it automatically raises the blade clear of the floor, eliminating all danger of marring or scratching the floor through carelessness.

The frame of this machine is carried on three rubber-tired wheels, two working independently on a roller bearing, the third wheel acting as a rest on the back stroke. A brush upon the forward stroke throws the shaving away from the knife, and also enables the operator to easily turn the machine in any direction and do perfect work in any position.

After this machine had been placed on the market it was improved to its present state of perfection and is now fully guaranteed by its manufacturers to do rapid and perfect work under all ordinary conditions. One of the marked improvements is the addition of a rubber pad, 3x9 inches, placed

over the knife, which consumes all the jars, protects the knife and insures a floor free from all waves and chatter.

The equipment furnished with the Fox includes 8 blades, 3 of which are specially tempered for roughing and dressing old floors; 5 finishing knives, size 3x9 inches and 1 polishing knife, 3x9 inches. This knife takes the place of sandpaper attachments and leaves a finer finish, as it cuts clean and smooth where sandpaper has a tendency to raise the fiber.

The manufacturers of this machine are the Fox Supply Company, 115 King Street, Brooklyn, Wisconsin, and full information concerning their scraper may be had by addressing them.



Parsons Co. Make New Siding Hook

What should prove to every carpenter a most useful and handy instrument is the new siding hook being manufactured by the Parsons Tool Manufacturing Company of Parsons, Kansas, manufacturers of the well known and much used Milks pocket miter box.

This siding hook—known as the Goode siding hook—is a tool that marks the siding absolutely correct, no matter what the level of the casing may be.

With the ordinary siding hook it is necessary to use a small block to get the required line. With this Goode hook no blocking is necessary.

Its manufacturers claim the Goode siding hook will save time, material and enable the worker to do better work under all conditions. They insist once any contractor or carpenter makes use of it they will never be without one. It is made in two sizes, for either $\frac{7}{8}$ or $1\frac{1}{8}$ inch casing.

The Parsons company are manufacturers of several very practical and at all times convenient tools for the carpenter worker or contractor. Their circulars describing these tools may be had upon request.



Condensation from Cold Water Pipes Causes Damage

Do not underestimate the property damage and financial loss which may be caused by condensation from cold water pipes in warm weather. Frequently the drippings from these pipes ruin draperies, furnishings, walls, carpets, paintings, stocks of merchandise, etc. The remedy lies in

J-M Anti-Sweat Pipe Covering

This covering prevents condensation by insulating the cold pipe against the higher temperature of the atmosphere. It is a sure preventative of "sweating"

Made of alternate layers of waterproof and insulating felts securely stitched together, this covering cannot become water-soaked through leaky joints and lose its efficiency. Comes in 3-foot lengths, $\frac{1}{2}$ inch, $\frac{3}{4}$ inch and 1 inch thick, to fit all standard sizes of pipes.

Write nearest Branch for booklet and price list

H. W. JOHNS-MANVILLE CO.

Manufacturers of Asbestos and Magnesia Products

ASBESTOS

Asbestos Roofings, Packings Electrical Supplies, etc.

Baltimore
Boston
Buffalo
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Dallas
Detroit

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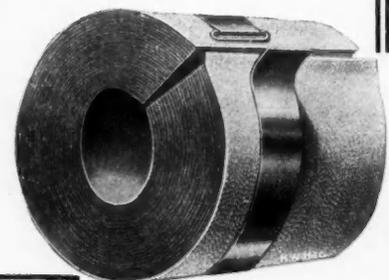
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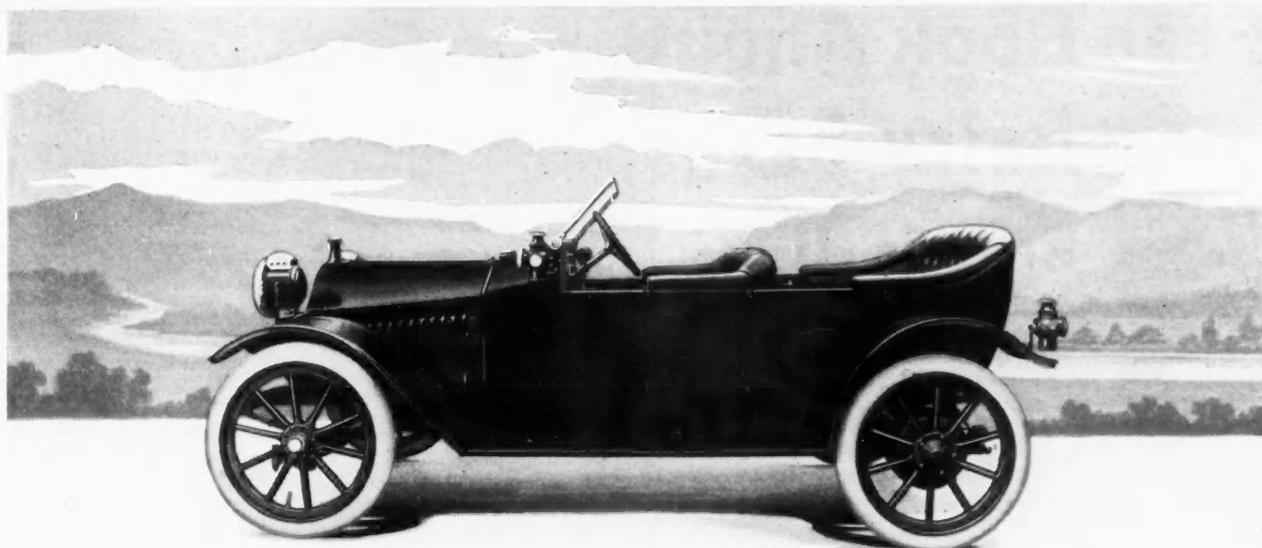
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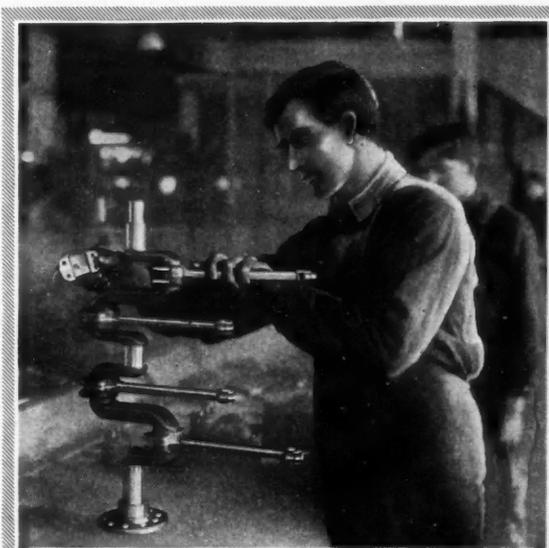


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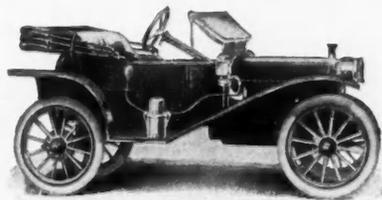


Long-Stroke "32" Touring Car, \$900

F. O. B. Detroit, including equipment of windshield, gas lamps, and generator, oil lamps, tools and horn. Three speeds forward and reverse; sliding gears. Four cylinder motor, 3 1/2-inch bore and 5 1/2-inch stroke. Bosch magneto. 106-inch wheelbase; 32x3 1/2-inch tires. Color, Standard Hupmobile Blue. **Roadster, \$900.**



Here is shown the assembly of crankshaft and connecting rods; and the careful adjustment of the connecting rod bearings. Please note the center main bearing and the extra-generous length of the two end bearings. A third crankshaft bearing is unusual in a motor cast in bloc, except in cars of \$2500 or higher. So, in the \$900 Hupmobile, the crankshaft has three instead of two supports to help it withstand the strains to which this part necessarily is subjected. Three main bearings give the shaft 50 per cent more support; they reduce friction, thereby promoting easy running and greater power development; they reduce very greatly the liability of bending and breaking the shaft. The adjustment of the connecting rod bearing takes place in importance with the machining and grinding of the cylinders, the careful scraping of the main bearings, the assembling and adjusting of the multiple disc clutch, the assembling of the three-speed transmission, and of the full-floating rear axle—all contributes to the smooth-running and the great power-efficiency of the long-stroke motor. And all through, each separate part is tested and inspected, inspected and tested: the motors tested and run in on the block; the chassis tested on the road. All this high grade construction, skilled workmanship, and vigilance to assure long service and satisfaction to the owner.



Standard 20 H. P. Runabout, \$750

F. O. B. Detroit, with same power plant that took the world-touring car around the world—4 cylinders, 20 H. P., sliding gear, Bosch magneto. Equipped with top, windshield, gas lamps, and generator, oil lamps and horn. Roadster, 110-inch wheel-base, \$850.

Hupmobile

We believe the Hupmobile to be, in its class, the best car in the world.

That this belief is justified, is proven by the large proportion of Hupmobile sales that comes through Hupmobile owners and their recommendations to others.

Evidently, no one has shown them a car as good or better in its class.

Hupp Motor Car Company
1255 Milwaukee Ave., Detroit, Mich.

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Free Book About Dairy Barns Write For It Now!

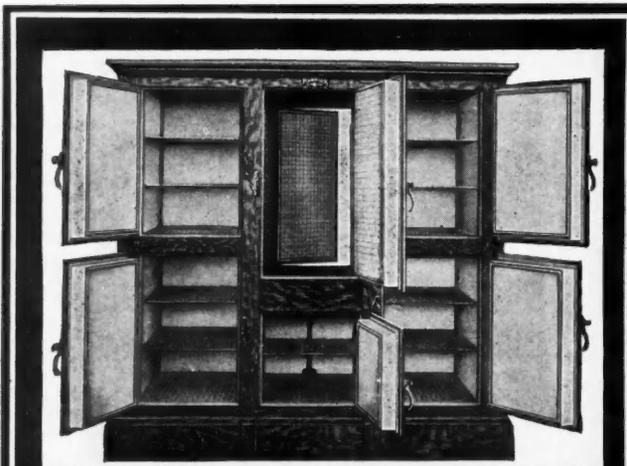
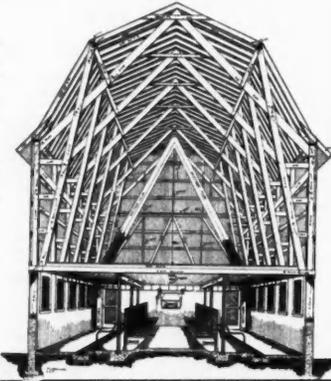


The world's greatest dairy barn expert will help you make more money.

He has written a book about essential features of dairy barns; plank frames; King system of ventilation; proper width and arrangement; lighting; stable floors; site, size, appearance, design, drainage and equipment; with floor plans. He also makes a special offer of complete working blueprints of dairy barns of various types and sizes, and tells how you may secure free the help of our architectural department.

Simply answer these few questions and "Helpful Hints for Barn Builders" will be mailed free. For whom do you expect to build or remodel dairy barns? (Give names and addresses.) When? For how many cows? Address

James Mfg. Co.
(Sanitary Dairy
Barn Equipment)
8475 Cane St.
Ft. Atkinson, Wis.



A Herrick Opal Glass Lined Refrigerator used in some of the finest homes.

Your clients will pay your price more cheerfully and appreciate your service greater if you save them all the trouble of the ice man's calls.

You can do this without cost to you by using the Herrick Outside Icing Refrigerator blue print book No. 41 - Free to Architects, Contractors and Builders. The new editions just off the press.

They can lock the house and know that the refrigerator will be iced.

There is no dirt left on the floors to clean up.

During cool weather this style Herrick saves the cost of icing.

Let us help you to give better service.

Drop a postal in mail today for No. 41. Free plan book.

Herrick Refrigerator Co.
WATERLOO, IOWA

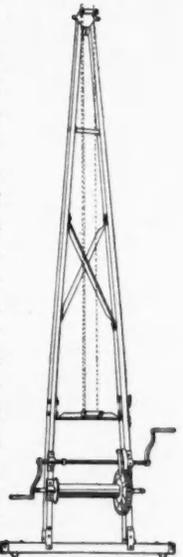
Sasgen Derricks

Derricks play an important part in construction work, generally, and as actually so much depends upon their reliable operation it is quite advisable that builders and contractors in their selection of a derrick bear in mind the particular class of work they will expect of the machine and its adaptability.

The Sasgen Bros.' derricks are well known and widely used among contractors and builders. They build a number of different type machines, each especially adaptable for a particular class of work.

Illustrated here are their stiff leg derrick and their top point setter derrick. This stiff leg derrick is built with a split mast and boom and fitted throughout with crucible steel fittings, making it light and very strong. It is built so that it may be operated by either steam, motor or hand power. It is especially handy for use on buildings. The gears and frame of the double drum hoisting winch of this derrick are made of crucible steel, which saves the breaking of gears.

In their top point setter derricks the top frames are made of the best malleable iron, equipped with two sheaves, and doing away with the block on top. This increases the hoisting height about two feet. They have lugs for guy lines in both front and back and also clamps for fastening extension pole. The top frames are extended forward which allows for hoisting of load without scraping the derrick. The shaft boxes are so arranged that the drum and gear shafts can be taken out without loosening bolts which hold the boxes. Bottom and side pieces are connected with two malleable castings, making a strong connection. Ends of gear and drum shafts are squared so that the handles can be used on either. By using a single block the fall line can be regulated to single, double or triple, according to work being done.



Setter Derrick

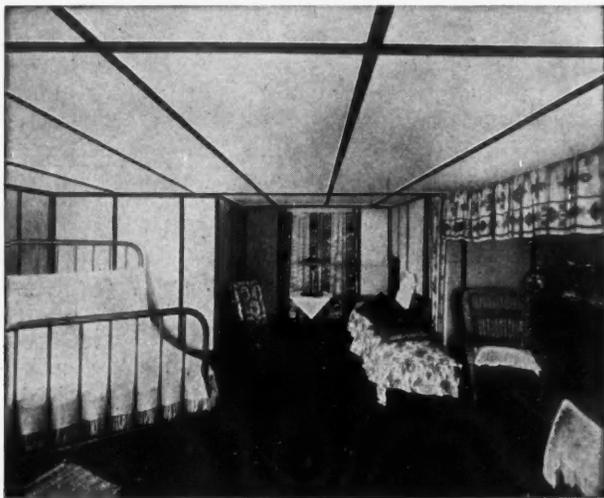


Sasgen Stiff Leg Derrick

In addition to the two types described and illustrated here the Sasgen Bros. are making circle swing, guy line, boom wheelbarrow, pole, setter and frame builders types of derricks. They also manufacture stone tongs, stone grab hooks and chain, cant hook, joist or timber tongs, grappling or lug hooks and lumber dollies.

Complete information concerning their derricks and other articles of making can be had by any AMERICAN CARPENTER AND BUILDER reader by addressing the Sasgen Bros., 2053 Racine Avenue, Chicago, Ill., for their catalog matter.

When Writing Advertisers Please Mention **the American Carpenter and Builder.**



Over ten thousand people have written for samples of **Utility Wall Board** during the last three months.

That simply illustrates the keen interest that exists throughout the country in this remarkable material.

The demand for it is growing so tremendously that we are going to have to double the capacity of our big factories before the summer is over.

Doesn't that prove to you that every carpenter and builder ought to be keenly alive to the bigness of this Utility Wall Board Proposition?

UTILITY WALL BOARD

is a strong, tough, durable fibre board—that does away entirely with the need for lath and plaster.

It is more easily applied than lath and plaster.

There is no muss or dirt, no tedious waiting for it to dry—It is more attractive—and more economical.

Utility Wall Board is attached direct to the studding and ceiling beams.

It can be put on by anyone who can use a saw or hammer.

And will last as long as the house stands.

It is moisture proof—will not warp or crack—Has a beautiful surface and may be decorated in any way desired.

In making over an old house it can be applied directly over the old plaster if desired.

Made in sheets of all sizes up to 4 by 16 feet.

Write today for a free sample and the handsome new book of home interiors.

The Heppes Company 4503 Fillmore St. —CHICAGO—



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.

Injunction Against Puritan Refused

From Louisville, Ky., comes word that the injunction prayed for by the Samson Cordage Works, of Boston, Mass., against the Puritan Cordage Mills of Louisville, Ky., was denied by Judge Evans of the Federal Court, sitting in the Kentucky city, on Saturday, March the 23rd.

The eastern concern sought to stop the Louisville company from twining into its ropes and cords "two blue strands," which was an identifying mark of the Puritan goods. The claim of the Samson company was that they had a trade-mark on their goods by using a one-strand color and that the Puritan company was infringing in using the double strand.

The case was begun last October when a suit for an injunction and for an accounting of profits was filed by the eastern company, but this was denied by the court in November. Judge Evan's decision rendered March 23, formally dismissed the Samson Company's complaint.

It is understood this decision has been taken on appeal to the United States Circuit Court of Appeals for the Louisville district.



"Better Buildings" Book

From the American Sheet and Tin Plate Company whose general offices are in the Frick Building, Pittsburgh, Pa., comes a booklet they have but recently issued—entitled "Better Buildings."

This work presents through description and illustration, in an attractive and interesting manner, full data and information on corrugated and formed roofing and siding sheets, together with instructions for measurements, directions for application and many plans and suggested uses.

Metal roofing and siding materials are generally becoming recognized as high grade building products worthy of the most favorable consideration.

Formed roofings and sidings are being extensively used and are proving to be an ideal material for most classes of buildings. They offer so many advantages that the careful builder and owner is giving them most thorough consideration now-a-days.

This company are now making all of their roofing terne plates, including their well known M. F. brand, exclusively from the best grade of copper bearing open hearth steel.

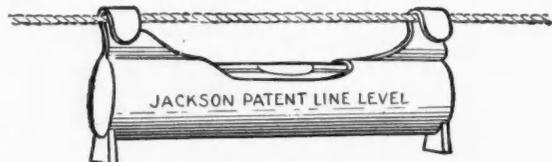
They inform us this metal has many advantages and so confident are they as to its great superiority that to demonstrate this fact in a thoroughly convincing manner they will supply any contractor, builder or dealer with a few full sized samples free of charge.

Samples of the metals of their manufacture and their various catalogs and bulletins descriptive of their varied lines can be obtained from the American Sheet and Tin Plate Company, by writing to their Pittsburgh, Pa., offices.



The Jackson Aluminum Line Level

Joseph Woodwell Company of Pittsburgh, Pa., are sole agents for this little time and labor saving device which is proving so popular with masons, bricklayers, carpenters, mill-



Cut Full Size

wrights, contractors, plasterers, architects, etc., etc.

This line level takes the place of the old sixteen foot



GOOD BYE THE
FRONT RANK'S
TOO HOT WE'RE
GOING HOME

HEAT SATISFACTION

When combined with low fuel consumption means a whole lot to the one who lives in the house—the man for whom you are building. The combination is found only in the

Front Rank Steel Furnace

These furnaces are constructed on correct principles. They are built with the idea in mind of giving the very greatest amount of heat. We found out by experience that

Cast Iron Is Not A Safe Material

From which to construct a furnace, inasmuch as the gases leak through cast iron into the outside casing. We use NOTHING BUT STEEL PLATES in all parts which enclose the fire.

Front Rank Furnaces Are Absolutely Gas Tight

It is impossible for gases to get into the outside casing or hot air ducts. There is not a feature of merit in any modern furnace that is not found in the construction of the FRONT RANK. There are, however, splendid features in the FRONT RANK that you will find in no other furnace on the market. THEY ALWAYS SATISFY.

The Front Rank is the Last Word in Furnace Perfection

Burns successfully any kind of wood or coal. Get in touch with us today. We have a splendid proposition for you.

HAYNES-LANGENBERG MFG. CO.

FOREST PARK BOULEVARD
ST. LOUIS, MISSOURI

When Writing Advertisers Please Mention the American Carpenter and Builder.



How Carpenters Can Make Money

A little **tall hustling** for a **day** will keep you busy for a week or two when other carpenters are **idle**

Every spring a lot of folks in your neighborhood put new screening into their windows, doors, porches.

Why don't you "corner" this business where you live?

Pearl Wire Cloth plus your own **reputation**, will enable you to do this **profitably**. If **regular** carpentering is a little quiet, **you** can keep **busy**.

Your friend the local hardware dealer will be glad to furnish you samples of this sanitary dust-proof screening and tell you its advantages.

Good tools, good workmanship and good **materials** mean **prosperity**. But it takes **action** to push them into **prominence**.

Go See What Your Dealer Says About Pearl Wire Cloth

If your hardware dealer does not keep Pearl Wire Cloth let us tell you where and how you can get it.

The Gilbert & Bennett Manufacturing Co.
 Georgetown, Conn. Chicago, Ill. New York City Kansas City

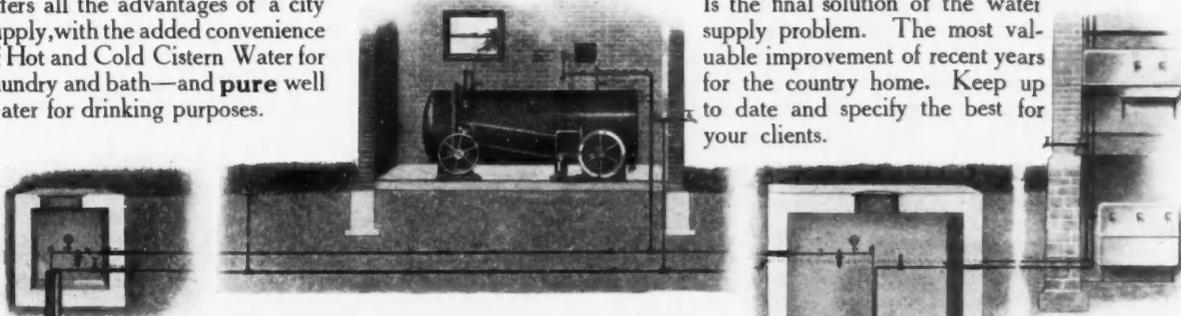
THE PERRY WATER SYSTEM

Will pull business your way—Help you to close complete building contracts—Satisfy your customers and increase your **profits**.

The System that Supplies Water Fresh from the Well

THE PERRY WATER SYSTEM offers all the advantages of a city supply, with the added convenience of Hot and Cold Cistern Water for laundry and bath—and **pure** well water for drinking purposes.

THE PERRY WATER SYSTEM Is the final solution of the water supply problem. The most valuable improvement of recent years for the country home. Keep up to date and specify the best for your clients.



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, ILLINOIS

Write for Free Catalog

When Writing Advertisers Please Mention the American Carpenter and Builder.



Builders Who Know This Modern Wall Lining Use No Other

M. Barry & Son, of Chicago, Ill., write: "Compo-Board is the best of its kind we have ever used. It is cheaper, cleaner and more easily put on than any material we know of." So say hundreds of others who know from experience. For instance: N. A. Beck, a contractor in Burlington, Ia., won the everlasting gratitude of a customer by using Compo-Board directly over a plaster ceiling that had begun to crack and fall off in spots. Thos. S. Whitbank, a real estate broker in Philadelphia, uses thousands of feet in remodeling houses. Woodruff Mfg. Co. of Washington, D. C., use many thousand feet in government contracts.

The exclusive features of Compo-Board make it the most satisfactory wall lining. The basis of its construction is a wooden slat, arranged so the grain of the wood runs in different directions, making it non-warpable. It is non-porous and air tight—hence impervious to cold, heat, moisture and vermin. Can be papered, painted or kalsomined more satisfactorily than plaster, with or without panels. Write for sample and interesting booklet containing many money making hints for contractors, builders, architects and home owners.

Northwestern Compo-Board Co.
5777 Lyndale Ave., No. Minneapolis, Minn



Every one in the Building Business From Architect to Carpenter



("Done in Plastergon, the efficient Wall Board")

Should get in touch with the Service Department of the Plastergon Wall Board Company, Tonawanda, New York,

BECAUSE

Plastergon is the only rigidly guaranteed Wall Board in the world.

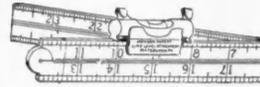
The moisture proof and fire retarding qualities of Plastergon are unequalled by any other board, for Plastergon is the *only* chemically treated pulp board manufactured.

Let us send you a sample and some convincing facts. Write today and be agreeably surprised with a Wall Board that does "stand up."

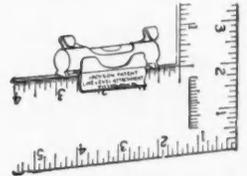
PLASTERGON WALL BOARD COMPANY
Department A, Tonawanda, N. Y.

straight edge in building construction and will take a level in less than half the time required with the old method and with a great deal less labor.

The line level weighs only one-fourth of an ounce. It is easily and quickly attached to a line. Levels can be accurately taken on a stretched line from one to forty feet. It



This cut shows the Line Level attached to a regular two-foot rule.



This cut shows the Line Level attached to the ordinary two-foot square.

will be found useful in the shop or factory for lining shafting, setting up machines, etc. In foundation, grading, road building and general work it will be found to be particularly adaptable. It may also be used as a pocket level and can easily be attached to any ordinary steel square or pocket rule.

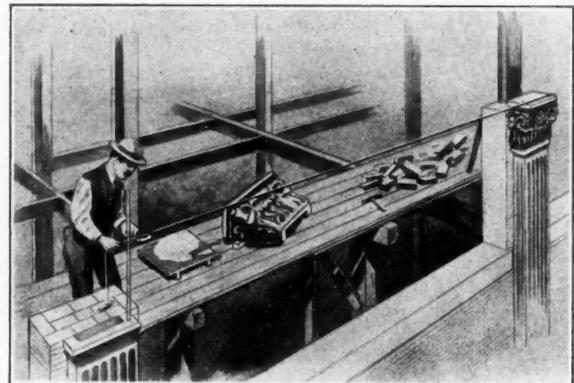
This handy tool is made of aluminum, finely finished, fitted with a proved level glass, and owing to its lightness is



This cut shows the old "straight edge" method. Two men. "Just a little short"

almost indestructible. It is tested and warranted to be perfect and accurate in every respect.

The Jackson aluminum line level outfit includes level, line, double clamp spring attachment and neat leatherette case,

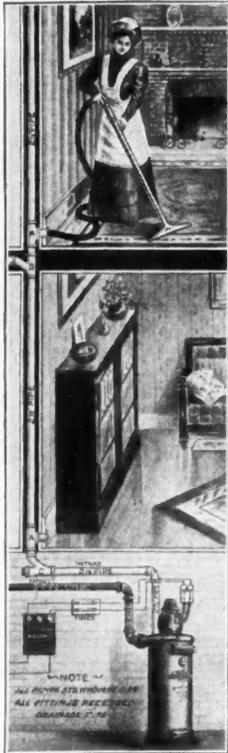


This cut shows "the new way" with the Aluminum Line Level one man "With line to spare"

suitable for the vest pocket. This case is especially for the protection of the line level when not in use.

Descriptive circular detailing this level completely may be obtained from the Joseph Woodwell Company, 201 Wood Street, Pittsburgh, Pa.

When Writing Advertisers Please Mention the American Carpenter and Builder.



Building for the Future

requires that you make provision for stationary vacuum cleaning precisely as you make provision for stationary heating, lighting and plumbing.

Really efficient air cleaning depends upon the volume of air moved in a given time, and this requires piping of ample capacity. Therefore you should always use $2\frac{1}{2}$ -inch pipe if you want to be able to install the most efficient and economical system of cleaning.

THE TUEC STATIONARY Air Cleaning System

operating in connection with piping of this size does the most effective work at the lowest cost. Competitive tests prove conclusively that the TUEC is superior to all other vacuum cleaning systems in the following particulars:

- 1—Greatest air capacity per minute at openings.
- 2—Sufficiency of vacuum inside every orifice.
- 3—Lowest cost of operation.
- 4—Simplicity of design and strength.

- 5—Nothing to wear out or make trouble.
- 6—Perfect lubrication.
- 7—Noiseless running.
- 8—Labor-saving tools.
- 9—Minimum floor space required.

More than two thousand buildings were equipped with TUEC systems during the past year and a thousand more, now in course of construction, are being piped for TUEC installation.

We make a special truck machine for buildings which cannot be piped.

Send for descriptive literature

THE UNITED ELECTRIC COMPANY, 30 Hurford Street
CANTON, OHIO
Tuec Companies in All Large Cities

Announcement

After a series of exhaustive service tests in various parts of the country, extending over a long period, we have pleasure in announcing that all of our **ROOFING TERNE PLATES**, including our well known MF brand, are now made exclusively from the best grade of

Copper Bearing Open Hearth Steel.

We might tell you the many advantages of this metal, but so many roofing products without merit are being advertised, that we desire to demonstrate the quality of our material in a more convincing manner by supplying a few full sized samples, free of charge. If you cannot procure these samples from your dealer, write to our nearest District Sales Office.

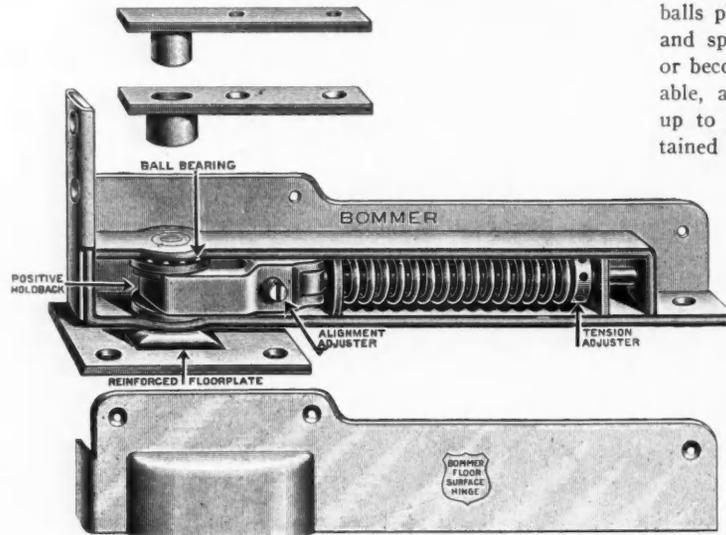
American Sheet and Tin Plate Company
General Offices: Frick Building, Pittsburgh, Pa.

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, Los Angeles, Portland, San Francisco, Seattle

When Writing Advertisers Please Mention the American Carpenter and Builder.

Bommer Ball Bearing Floor Spring Hinge

Bommer Brothers of Brooklyn, N. Y., are placing on the market a new ball bearing surface floor spring hinge, of the horizontal compression type. It fastens to the bottom corner of door and to the surface of floor. It is easy to apply, saves labor and admits of close fitting. No hanging strip



Bommer Ball Bearing Spring Floor Hinge

is required. The back edge of the door is rounded. It has a simple and efficient alignment feature by which the door can be adjusted after it is in place. It has a positive hold-back when the door is opened beyond 90 degrees which pre-

vents the door from closing suddenly when it is desired to let the door remain open.

The tension of the spring is adjustable. This spring is made of the best oil tempered steel wire. The floor plate is reinforced, eliminating a weak condition usually existing in this type of hinge. Bearing surfaces are case hardened. The weight of the door is carried on hardened tool steel balls placed at upper part of pintle away from dust and dirt and spaced by a ball retainer so that they cannot drop out or become displaced. This hinge is simple, compact and durable, and in workmanship, appearance and entire finish is up to the well known standard of excellence always maintained by Bommer Brothers.

Further information and prices may be obtained by addressing the manufacturers.



New Booklet from the L. Wolff Co.

The Chicago city hall public comfort station is illustrated and detailed in particular in an attractive booklet just issued by the L. Wolff Manufacturing Co., of Chicago, whose plumbing goods were used exclusively in the equipment of this station.

This public comfort station is located in the basement of the Chicago city hall, at the southwest corner of the building. The station was first opened to the public on October 16th, 1911. All the good and most approved features of the various types and designs have been embodied in the construction of this station—with the result that it is considered the most up-to-date comfort station yet completed.

"The Invincible" *Schacht*

Model No. 21---4 Ton Truck

Brief Specifications

Motor, 4½x5 in., 45-50 H. P., Four Cylinders. Length Frame, 217¾ inches. Width Frame, 38¾ inches. Wheel Base, 144 inches. Loading Space, 11 feet 5 inches back of seat on chassis frame. Drive, Propeller shaft to jack-shaft, double side chains, 1½ inch pitch to rear axle. Transmission selective sliding gear, 3 speeds forward and reverse. Speed 10 miles per hour on direct. With Full Equipment. All explained in our literature sent on request.

LUMBER TRUCKS

Big problems of lumbermen as to prompt and economical deliveries are being solved by our *Schacht Power Trucks*, as we will gladly prove to you by our literature if you will write to us.

The Invincible Schacht Line is complete—all capacities and prices—including

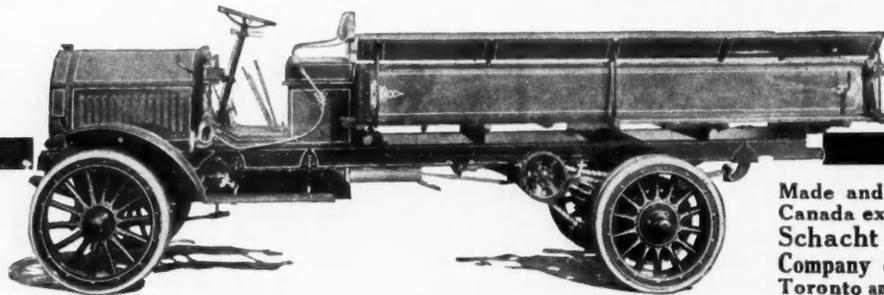
Also All Sizes for Builders

Schacht reputation for everything highest in motor-truck quality construction makes it good business for you to write and let us prove to you how a *Schacht Truck* can be a big dividend payer for you. Address for free literature, facts, figures and prompt attention.

Schacht Motor Car Co.

2846 Spring Grove Ave. Cincinnati, Ohio

Chicago Factory
Branch
1507 Michigan
Ave.



Bodies
Built to
Suit Your Needs

Made and Marketed in
Canada exclusively by the
Schacht Motor Car
Company of Canada, Ltd.,
Toronto and Hamilton, Ont.

When Writing Advertisers Please Mention the American Carpenter and Builder.

CARPENTERS! INCREASE YOUR PROFITS!

Let Sears, Roebuck and Co. Supply Your Building Material
IT WILL PAY YOU TO GIVE OUR MILL WORK AND LUMBER A FAIR TEST

HERE IS YOUR CHANCE TO HAMMER HIGH PRICES

The prices on guaranteed mill work quoted in the following pages are **FACTORY PRICES**, which mean that they are lower than the prices you are now paying. **USE THESE PAGES AS A CATALOG.** Send us an order made up from same and we will ship the material to your station in record breaking time. If you are not convinced that we have given you the **FINEST LOT OF MILL WORK YOU HAVE EVER SEEN**, ship it back at our expense and we will return every penny of your money. In your own interests we urge you to give us **JUST ONE TRIAL.**

In This Issue of The American Carpenter and Builder You Get **A MAGAZINE AND A MILL WORK CATALOG COMBINED**

For the first time in the history of magazine making, you are given what is practically a complete Mill Work Catalog incorporated with a regular issue of a monthly trade journal. Our proposition is to sell you high grade building material at the same prices you would have to pay if you could bring your wagon right up to the factory door and buy at wholesale prices just as your dealer does.

Our guarantee of satisfaction completely protects you. We will mail you with the bill of your order a binding Bond of Indemnity, a reduced facsimile of which we show below. This Bond of Indemnity provides that if you are not perfectly satisfied with the materials, if you do not think

the quality is of the very best and if you are not absolutely certain of a big saving, you can ship back the goods at our expense and we will return the entire purchase price. You will look in vain for a better proposition than this. It is meant to be, and it is, a straightforward, honest binding agreement entered into with you by a concern that enjoys a national reputation for fair dealing.

You are losing money on every job as long as you continue to pay retail prices. Every contract you lose proves that the successful bidder is purchasing material in the **wholesale way.** That is why he beats you. Send us an order today and let us put you on the right track.

SAFE DELIVERY GUARANTEED.

CAN YOU?

CAN YOU buy a solid yellow pine door in your local market for 95 cents?

CAN YOU buy a two-light window glazed and puttied, both sash for 55 cents?

CAN YOU buy 100 feet of quarter round molding for 25 cents?

CAN YOU buy solid fir porch newels for 31 cents each?

YOU CERTAINLY CANNOT if you are paying retail prices, but you certainly can if you will make up your order from the following pages.

HERE'S YOUR PROTECTION!

Remove This Bond of Indemnity With Your Order and Retention. We Will Return Our Order Number Upon Its Receipt. Make It BINDING, and Retain It With Your Bill.

IN CASE YOU FIND IT NECESSARY TO WRITE ABOUT THIS SUBJECT WE MUST BE SURE TO MENTION BOTH NUMBERS SHOWN ON THIS BOND OF INDEMNITY.

Our Order No. **READ THIS** Factory Order No.

BOND OF INDEMNITY

YOU CANT LOSE

WE GUARANTEE that the mill work specified and priced on this order, as well as every other item listed and illustrated in our Building Material and Mill Work Catalog, will be exactly as represented.

WE GUARANTEE that the mill work will be found upon examination and comparison with similar material to be STRICTLY UP TO OR BETTER than the official grades adopted by the Sash, Door and Blind Manufacturers' Association of the Northwest, and the lumber to be graded strictly in accordance with Manufacturers' Grading Rules. This means that our lumber will be found better, grade for grade, than the lumber sold by retail dealers.

WE GUARANTEE that it will be packed, crated or boxed in such a way that it will arrive at destination in FIRST CLASS CONDITION.

WE GUARANTEE to make IMMEDIATE SHIPMENT of this order, excepting such items as are termed "Special," which are not carried in stock and which must be made special to your order. Such items will be shipped in accordance with promise contained on face of estimate. We will follow up the order from the moment it is placed with our saw mills and factory until it reaches destination.

WE GUARANTEE that after this shipment has been examined, if the material does not come up to the purchaser's expectations in every respect, by notifying us in writing it can be shipped back AT OUR EXPENSE and we will promptly RETURN THE ENTIRE PURCHASE PRICE and freight charges that may have been paid by the purchaser.

WE GUARANTEE to replace any item that may be damaged in transit or otherwise considered unsatisfactory, or to return the price of such item, as the purchaser may direct, upon receipt of the paid freight expense bill with a notation by the freight agent showing the damage incurred.

Read the testimonials from satisfied customers printed on the other side of this Bond of Indemnity. They bear testimony to the high quality of our mill work, to the saving that we have enabled them to make and to the prompt manner in which we have handled their orders.

SEARS, ROEBUCK AND CO. CHICAGO, ILLINOIS

QUICK DELIVERY.

WILL YOU?

WILL YOU give us a chance to save you \$5.00, \$10.00 or \$25.00 on a little order?

WILL YOU let us ship your first order subject to approval?

WILL YOU stop throwing away the greater part of your legitimate profits?

WILL YOU buy mill work for the same prices that the retail dealer pays?

YOU CERTAINLY WILL if you want to get the finest mill work that can be produced, thereby pleasing your customers and saving money for yourself.

OUR TERMS

SEND CASH WITH YOUR ORDER. YOU MAY SEND EITHER THE FULL AMOUNT OR 10 PER CENT IN CASH AND THE BALANCE WILL BE COLLECTED ON THE USUAL C. O. D. TERMS.

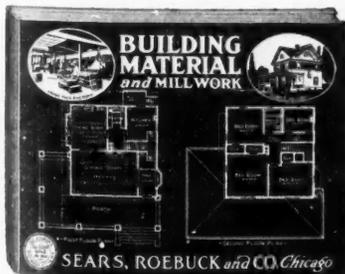
WE SHIP HIGH GRADE MILL WORK INTO EVERY STATE IN THE UNION. THREE REASONS WHY: (1) HIGH QUALITY, (2) QUICK SERVICE AND (3) LOW PRICES.

It is easy to order a bill of goods from the following pages. Simply take a plain sheet of paper, write down the catalog number of the article wanted, giving the quantity or number desired with correct sizes and allow the correct price. See form of order at the right.

We have shipped mill work as far West as Oregon, as far East as Maine, as far North as Montana and as far South as Florida. We could not have made this record if our prices did not represent a substantial saving. When sending in your first order ask us for our Book of Modern Homes, Building Material and Mill Work Catalog, and our Wholesale Lumber Price List. They will be mailed to you free and postpaid.

63R60	2	Doors 2' 8" x 6' 8"	Oak	9 40	18 80
63R64	6	" 2' 6" x 6' 8"	Y. P.	2 00	12 00
63R7126	5	Windows 24 x 28 1/2	2 lt. glazed	89	4 45
63R7241	3	Cellar Sash 12 x 14 1/2	glazed	43	1 29
63R7596	175	ft. Gaining 4 1/2"	Y. P.	1 65	2 89
63R8070	4	Porch Columns 8 dia 8		1 84	7 36
				Total 46 79	

Be sure to write your name and address plainly on your order. Always give width first.

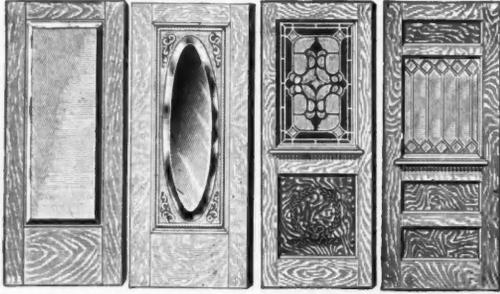


Save Money By Ordering Goods On This Page From SEARS, ROEBUCK AND CO., CHICAGO, ILL.

540 Kinds and Sizes of COTTAGE DOORS Carried in Stock.

We ship direct from our big factory in Eastern Iowa to you. You can depend upon receiving bright and clean materials. The prices printed on this and the following pages are the lowest wholesale prices. You are perfectly safe in ordering your mill work from these pages; we guarantee entire satisfaction and if we have not made you a big saving your money and freight charges will be cheerfully returned. However, if you are not in a hurry and intend to erect a new building of any kind we would recommend that you send for our special Building Material and Mill Work Catalog, which illustrates our entire line of mill work in large beautiful halftone illustrations and in colors and gives full and complete descriptions. Our special Building Material and Mill Work Catalog is free. Write for it today.

THESE HARDWOOD DOORS, 1 1/2 INCHES THICK.



MARS
Veneered Oak.
No. 63R60
Glazed bevel plate.

SUPERBA
Veneered Oak.
No. 63R95
Glazed bevel plate.

CIRCE
Veneered Oak.
No. 63R82
Leaded glass per cut.
Glazed bevel plate.

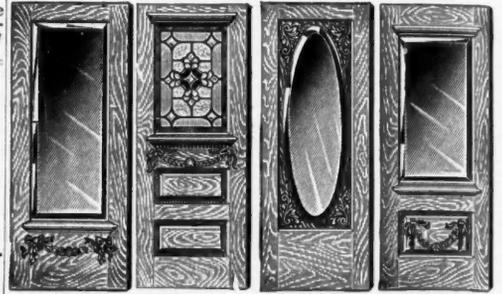
HAMILTON
Veneered Birch.
No. 63R89
Leaded glass per cut.
Glazed bevel plate.

HARDWOOD SASH DOORS.

Our hardwood veneered doors are guaranteed to be the very best. They are fit for a mansion. Manufactured from the highest grade of material. Very carefully crated. We guarantee safe delivery.

Catalog No.	Price, Each	Size, 2 ft. 8 in. by 6 ft. 8 in.	Size, 2 ft. 10 in. by 6 ft. 10 in.	Size, 2 ft. 10 in. by 7 feet	Size, 3 feet by 7 feet
		Price, Each	Price, Each	Price, Each	Price, Each
63R60	\$9.40				\$11.85
63R82	9.20				11.15
63R83	10.05				12.30
63R88	6.55				8.75
63R89	5.40				6.45
63R95	11.95				14.70

THESE NONA PINE DOORS, 1 1/2 INCHES THICK.



MAJESTIC
Nona Pine "A" Grade.
No. 63R101
Glazed bevel plate.

VICTORIA
Nona Pine "A" Grade.
No. 63R202
Plain D. S. glass.

JENKINS
Nona Pine "A" Grade.
No. 63R949
Glazed bevel plate.

EMPIRE
Nona Pine "A" Grade.
No. 63R333
Glazed bevel plate.

NONA PINE COTTAGE DOORS.

All of these doors are made from soft white pine. They are all highest "A" grade with exception of Buchanan, which is made in "B" or second quality. Our "A" grade doors are guaranteed equal to the best cottage doors made and are made from better and clearer lumber than is usually used by other factories. Safe delivery guaranteed.

Catalog No.	Price, Each	Size, 2 ft. 6 in. by 6 ft. 6 in.	Size, 2 ft. 8 in. by 6 ft. 8 in.	Size, 2 ft. 10 in. by 6 ft. 10 in.	Size, 2 ft. 8 in. by 7 feet	Size, 3 feet by 7 feet
		Price, Each	Price, Each	Price, Each	Price, Each	Price, Each
63R101	\$3.60				\$4.28	\$4.50
63R111	3.50				10.60	11.60
63R102	4.40					4.7
63R222	5.90				7.23	7.96
63R303	3.61					4.53
63R333	7.24					9.79
63R404	3.39					4.10
63R444	4.15					3.26
63R505	4.15					3.26
63R555	3.39					4.18
63R566	3.42					4.19
63R566	5.07					7.49
63R707	3.88					3.96
63R777	3.90					3.96
63R837	3.90					3.96
63R847	3.70					3.76
63R870	3.06					3.16
63R880	2.88					2.96
63R890	5.40					6.24
63R900	5.30					6.24
63R909	5.39					6.28
63R949	9.10				10.55	11.90
63R999	5.60				6.25	6.50

NONA PINE DOORS, 1 1/2 INCHES THICK.



TAYLOR
Nona Pine "A" Grade.
No. 63R506
Glass per cut.

METROPOLE
Nona Pine "A" Grade.
No. 63R777
Glass per cut.

HARRISON
Nona Pine "A" Grade.
No. 63R870
Glass per cut.

JACKSON
Nona Pine "A" Grade.
No. 63R890
Glass per cut.

NONA PINE DOORS, 1 1/2 INCHES THICK.



JULIEN
Nona Pine "A" Grade.
No. 63R999
Glass per cut.

LOUISE
Nona Pine "A" Grade.
No. 63R555
Glass per cut.

WINDSOR
Nona Pine "A" Grade.
No. 63R444
Glass per cut.

BUCHANAN
Nona Pine "B" Grade.
No. 63R837
Glass per cut.

PAINTED AND GRAINED DOORS, 1 1/2 INCHES THICK.



POTTAWATOMIE
Painted Standard.
No. 63R600
Plain S. S. glass.

CHOCTAW
Painted High Grade.
No. 63R691
Glass per cut.

PENOBSCOT
Painted and Grained.
No. 63R632
Glass per cut.

SIoux
Painted and Grained.
No. 63R638
Glass per cut.

PAINTED AND GRAINED DOORS.

Made from low grade lumber painted two coats of paint besides graining coat. We guarantee them better than the kind usually furnished, except No. 63R6700, which is same as other concerns sell.

Catalog No.	Price, Each	Size, 2 ft. 6 in. wide, 6 ft. 6 in. high.	Size, 2 ft. 8 in. wide, 6 ft. 8 in. high.	Size, 2 ft. 10 in. wide, 6 ft. 10 in. high.	Size, 3 feet wide, 7 feet high.
		Price, Each	Price, Each	Price, Each	Price, Each
63R6632	\$2.65				\$3.14
63R6633	2.50				3.08
63R6638	2.70				3.26
63R6639	2.51				3.01
63R6690	2.18				2.66
63R6691	2.33				2.83
63R6699	2.34				2.85
63R6700	2.84				3.22
63R6762	2.18				2.18
63R6771	2.54				3.05
63R6800	2.02				2.10
63R6801	2.21				2.30
63R6806	1.45				1.67
63R6807	1.65				1.69

SASH DOORS, 1 1/2 INCHES THICK.



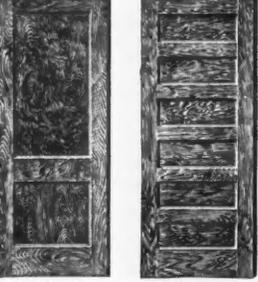
DELTA
Painted.
No. 63R6762
Plain S. S. glass.

OMEGA
Painted and Grained.
No. 63R6771
Glass per cut.

ZERO
Painted.
No. 63R6806
Painted and Grained.

MEDICINE HAT
Painted.
No. 63R6800
Painted and Grained.

OAK AND BIRCH DOORS



WILCOX
Highest quality of oak and birch veneered paneled doors. Will not check and warp like solid hardwood doors, and are as light in weight as soft wood doors. Made with rotary cut veneers.

COLONIAL AND QUEEN ANNE WINDOWS.

1 1/2 inches thick, check rail.
No. 63R152 glazed with single strength glass. No. 63R153 glazed with double strength glass. Furnished in sizes listed under Nos. 63R7186 and 63R7187 at an advance of \$1.05 over the price of Nos. 63R7186 and 63R7187 on second page following.
No. 63R154 glazed with single strength glass. No. 63R155 glazed with double strength glass. Furnished for windows with glass up to 26 inches wide add \$1.07, up to 32 inches wide add \$1.65, up to 40 inches wide add \$2.10 over the price of Nos. 63R7186 and 63R7187 shown on second page following.

We can furnish cottage windows of the sizes listed below; you have your choice of any of these five designs of special glass for the top light. The prices in the columns below the headings Gem, Crescent, Crystal, Bay View and Rex include the two pieces of sash, bottom sash glazed with double strength glass, "A" grade, and the top light glazed with fancy glass as shown in illustrations. The glass is put in the sash and carefully packed to avoid breakage when shipped.



Size Opening	Top Glass		Bottom Glass		No. 63R7142 Top and Bottom Sash Glazed D. S. Glass	GEM No. 63R7100 Glazed as Illustrated	CRES-CENT No. 63R7106 as Illustrated	CRYSTAL No. 63R7118 as Illustrated	BAY VIEW No. 63R7136 as Illustrated	REX No. 63R7136 as Illustrated	PLATE GLASS Add extra if Bottom Sash is Glazed With Plain Plate Glass
	Width, Ft. In.	Height, Ft. In.	Width, Inches	Height, Inches							
3 8	5 0	40	14	40	40	\$2.64	\$4.45	\$3.42	\$2.83	\$2.88	\$6.50 extra
3 8	5 2	40	14	40	42	2.68	4.70	3.66	3.08	3.12	6.80 extra
3 8	5 4	40	14	40	44	2.94	5.01	3.72	3.13	3.20	7.20 extra
3 8	5 6	40	14	40	46	3.01	5.15	3.79	3.13	3.25	7.50 extra
3 8	5 10	40	16	40	48	3.12	5.15	3.97	3.13	3.25	7.85 extra
4 0	5 2	44	16	44	40	3.10	5.35	4.05	3.32	3.35	7.20 extra
4 0	5 6	44	16	44	44	3.33	5.55	4.28	3.54	3.58	7.90 extra
4 0	5 10	44	16	44	48	3.84	6.05	4.79	4.04	4.09	8.25 extra
4 4	5 6	48	18	48	42	3.59	6.30	4.70	3.72	3.77	8.25 extra
4 4	5 10	48	18	48	46	4.09	6.80	5.19	4.22	4.25	9.10 extra
4 4	6 0	48	18	48	48	4.50	6.80	5.62	4.63	4.68	9.50 extra
4 4	6 2	48	18	48	50	4.55	7.20	5.67	4.68	4.73	10.15 extra

If top and bottom lights are wanted both in the same sash add 45 cents and mark order "Sash."

Save Money By Ordering Goods On This Page From SEARS, ROEBUCK AND CO., CHICAGO, ILL.

600 KINDS AND SIZES OF PANEL DOORS READY FOR SHIPMENT

The day we receive your order. When sending us your order you are dealing direct with one of the largest mill work manufacturers in the world. See what our "From stump to consumer method" means to you. We save you 35 per cent or more and guarantee to furnish a better grade of goods and can ship at once. Make up your mill work order from these pages; we guarantee you entire satisfaction, but if you

are not in a hurry or if you are a carpenter or contractor and require building material from time to time be sure to send for our 121-page Mill Work Catalog. While the prices in both catalogs are the same, the large halftone illustrations and full descriptions in our Special Mill Work and Building Material Catalog are of special interest to carpenters and builders. Please send for our Special Building Material Catalog today. It is free.

SOLID YELLOW PINE DOORS.

Our Yellow Pine Doors are all made with bevel raised panels and O. G. sticking. Carried in stock in No. 1 grade, which is practically free of all defects and an unusually high class door. Also No. 2 grade which is of the next lower grade and contains stock which is not good enough to be in the No. 1 grade. Carefully sanded and smoothed and packed for shipment.

NONA PINE FRAME, YELLOW PINE PANELS. Strictly No. 1 grade, which is the highest grade usually furnished. Panels are all bevel raised and the sticking O. G. design. Carefully sanded and smoothed and packed for shipment. Panels are yellow pine. Balance of door soft Nona pine.

SINGLE SLIDING DOORS. Made to represent two five-cross panel doors. Ten heavy panels bevel raised two sides. Solid sticking O. G. design.



SIZES		No. 638677	No. 638674	No. 638676	No. 638680	No. 638675	No. 638682	No. 638678	No. 638684	No. 638682
Width Ft. In.	Height Ft. In.	No. 2 Grade 1/2 inch Thick	No. 1 Grade 1 1/2 inch Thick	No. 2 Grade 1 1/2 inch Thick	No. 1 Grade 1 1/2 inch Thick	No. 2 Grade 1 1/2 inch Thick	No. 1 Grade 1 1/2 inch Thick	No. 2 Grade 1 1/2 inch Thick	No. 1 Grade 1 1/2 inch Thick	No. 2 Grade 1 1/2 inch Thick
2 0	6 0	\$0.95	\$1.39	\$1.11	\$1.55	\$1.24	\$1.64	\$1.44	\$1.72	\$1.50
2 6	6 0	.....	1.62	1.29	1.79	1.43	.....	.....	.....	.....
2 4	6 4	.....	.....	1.21	1.66	1.34	.....	.....	.....	.....
2 0	6 6	.....	1.52	1.22	1.68	1.35	1.84	1.62	1.92	1.68
2 4	6 6	.....	1.61	1.29	1.78	1.43	1.87	1.65	1.95	1.71
2 0	6 8	.....	.....	.....	1.75	1.45	1.88	1.67	1.97	1.72
2 4	6 8	.....	1.64	1.31	1.82	1.45	1.89	1.68	2.00	1.75
2 8	6 8	1.20	1.65	1.33	1.84	1.47	1.92	1.69	2.01	1.75
2 10	6 10	.....	2.11	1.68	2.21	1.77	2.32	2.03	2.39	2.08
2 0	7 0	.....	.....	.....	2.13	1.70	2.22	1.95	2.30	1.99
2 6	7 0	.....	2.10	1.67	2.13	1.70	2.21	1.95	2.30	1.99
2 8	7 0	.....	.....	.....	2.16	1.75	2.20	1.95	2.30	1.99
3 0	7 0	.....	2.26	1.79	2.36	1.89	2.44	2.16	2.53	2.20



SIZES		No. 638680	No. 638681	No. 638682
Width Ft. In.	Height Ft. In.	No. 1 Grade 1 1/2 inch Thick	No. 1 Grade 1 1/2 inch Thick	No. 1 Grade 1 1/2 inch Thick
2 0	6 0	\$1.59	\$1.68	\$1.77
2 6	6 0	1.83	1.92	2.01
2 4	6 4	1.71	1.80	1.89
2 0	6 6	1.73	1.82	1.91
2 4	6 6	1.83	1.92	2.01
2 0	6 8	1.76	1.85	1.94
2 4	6 8	1.80	1.89	1.98
2 8	6 8	1.89	1.98	2.07
2 10	6 10	2.27	2.36	2.45
2 0	7 0	.....	.....	.....
2 6	7 0	.....	.....	.....
2 8	7 0	.....	.....	.....
3 0	7 0	2.42	2.51	2.60



No. 6386972 Size, 5x7 feet; 1 1/2 inches thick. Nona soft pine. Each \$7.15

No. 6386973 Size, 5x7 feet; 1 1/2 in. thick. Nona soft pine

stiles and rails, yellow pine panels. Each \$7.20

CUPBOARD DOORS.

Our Cupboard Doors are carefully manufactured and are made with raised panels on both sides. These doors are not rabbeted.

1 1/2 Inches Thick. Made of the best grade yellow pine.

Catalog No.	SIZES		Th. In.	Price, Each
	Width Ft. In.	Height Ft. In.		
6386965	1 6	2 6	1 1/2	\$5.57
6386965	1 8	2 6	1 1/2	6.63
6386965	1 6	4 0	1 1/2	9.93
6386965	1 8	4 0	1 1/2	11.98

SOLID NONA PINE DOORS.

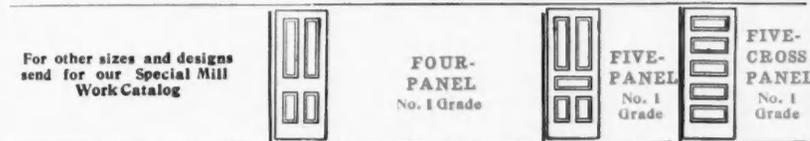
These doors are carried in No. 1 grade only, which is the highest grade usually furnished. All made with bevel raised panels, two sides. Sticking O. G. design. Carefully sanded and smoothed and packed for shipment. Nona pine is white, soft and easily worked, and contains no defects than other kinds of pine.

Solid Cypress Doors.

No. 1 grade only, the highest grade usually furnished. Made with O. G. sticking and bevel raised panels, two sides. Carefully sanded and smoothed and packed for shipment.

TRANSOMS.

Glazed with Plain Glass. 1 1/2 Inches Thick.



SIZES		No. 6386903	No. 6386902	No. 6386901	No. 6386900	No. 6386905	No. 6386904	No. 6386908	No. 6386909
Width Ft. In.	Height Ft. In.	1 1/2 inch Thick							
2 0	6 0	\$1.24	\$1.38	\$1.54	.....	\$1.62	.....	\$1.71	.....
2 6	6 0	.....	1.35	1.50	1.65	.....	.....	.....	.....
2 4	6 4	1.36	1.51	1.67	.....	1.82	.....	1.91	.....
2 0	6 6	.....	1.44	1.60	1.77	1.85	2.74	1.94	2.82
2 4	6 6	.....	.....	.....	1.82	1.91	.....	2.00	.....
2 0	6 8	.....	1.44	1.60	1.77	1.85	2.74	1.94	2.82
2 4	6 8	.....	.....	.....	1.82	1.91	.....	2.00	.....
2 0	6 10	.....	2.09	2.19	3.29	2.28	3.38	2.37	3.46
2 6	7 0	.....	2.08	2.11	3.16	2.19	3.28	2.28	3.33
2 8	7 0	.....	.....	2.17	3.25	2.28	3.34	2.34	3.42
3 0	7 0	.....	2.24	2.34	3.51	2.42	3.59	2.51	3.67



SIZES		No. 6386817	No. 6386819
Width Ft. In.	Height Ft. In.	1 1/2 inch Thick	1 1/2 inch Thick
2 0	6 0	\$1.88	\$1.98
2 6	6 0	.....	.....
2 4	6 4	2.12	2.22
2 0	6 6	2.15	2.25
2 4	6 6	2.17	2.27
2 0	6 8	2.20	2.30
2 4	6 8	2.22	2.32
2 0	6 10	2.65	2.75
2 6	7 0	2.55	2.65
2 8	7 0	2.61	2.71
3 0	7 0	2.81	2.91

Size of Sash		No. 6387251	Weight, per Transom, Glazed S. S. Glass
Width Ft. In.	Height Ft. In.	Price, Each	Pounds
2 0	6 x 10	33c	6
2 6	6 x 12	34c	6
2 4	6 x 14	36c	6
2 0	6 x 16	40c	6
2 6	6 x 18	34c	6
2 4	8 x 12	35c	6
2 0	8 x 14	40c	7
2 6	8 x 16	42c	7
2 4	8 x 18	47c	8
2 0	8 x 20	55c	8
2 6	10 x 14	47c	8
2 4	10 x 16	47c	8
2 0	10 x 18	50c	8
2 6	10 x 18	47c	8
2 4	10 x 16	52c	8
2 0	10 x 18	55c	8
2 6	10 x 20	61c	9

THREE-LIGHT CELLAR SASH, 1 1/2 INCHES THICK.

SIZE OF GLASS	SIZE OF SASH	No. 6387245	Weight, Glazed
Inches	Ft. In. Ft. In.	Price, Glazed Plain Glass	Pounds
8x10	2 4 x 1 2	35c	6
9x12	2 7 x 1 4	41c	6
9x14	2 7 x 1 6	43c	7
10x12	2 10 x 1 4	44c	7
10x14	2 10 x 1 6	48c	8
10x16	2 10 x 1 8	54c	8

PAINTED AND GRAINED DOORS. Our painted and grained doors are all made with bevel raised panels and O. G. sticking. Manufactured from low grade lumber, but no defects which seriously affect the wearing qualities. The doors are painted two coats and the grained doors two coats besides the graining coat, all painted by hand. Carried in stock in two grades, Standard Grade, which is the low grade usually furnished by other concerns, and the Special High Grade, which is a door very much better than the average and which is sold and furnished by us only. We recommend the high grade door.

TWO-LIGHT CELLAR SASH, 1 1/2 INCHES THICK.

SIZE OF GLASS	SIZE OF SASH	Price, per Sash, Glazed S. S. Glass	Wgt. per Sash, Glaz'd S. S. Glass
In.	Ft. In. Ft. In.	No. 6387241	Lbs.
10x12	2 1 1/2 x 1 1/4	34c	6
10x14	2 1 x 1 1/2	36c	7
10x16	2 1 x 1 3/4	42c	7
10x18	2 1 x 1 10	47c	8
12x14	2 5 x 1 6	43c	8
12x16	2 5 x 1 8	46c	9
12x18	2 5 x 1 10	49c	9
12x24	2 5 x 2 4	66c	11
14x16	2 9 x 1 8	66c	9
14x18	2 9 x 1 10	66c	9
14x20	2 9 x 2 0	64c	11

FOUR-LIGHT BARN SASH, 1 1/2 IN. THICK.

SIZE OF GLASS	Price, per Sash, Glazed Plain Glass	Weight
Inches	Price, Each	Pounds
8x10	34c	5
9x12	40c	6
9x14	43c	7
10x12	41c	7
10x14	48c	10



SIZES		No. 6386928	No. 6386927	No. 6386926	No. 6386934	No. 6386933	No. 6386929	No. 6386937	No. 6386936	No. 6386945	No. 6386941	No. 6386940	No. 6386949	No. 6386946
Width Ft. In.	Height Ft. In.	1/2 in. Thick, Painted, Standard Grade	1 1/2 in. Thick, Painted, Standard Grade	1 1/2 in. Thick, Painted, Standard Grade	1 1/2 in. Thick, Painted, High Grade	1 1/2 in. Thick, Painted, High Grade	1 1/2 in. Thick, Painted, Standard Grade	1 1/2 in. Thick, Painted, High Grade	1 1/2 in. Thick, Painted, High Grade	1 1/2 in. Thick, Grained, High Grade				
2 0	6 0	\$0.87	\$0.94	\$1.01	\$1.16	\$1.25	\$1.07	\$1.22	\$1.31	\$1.25	\$1.33	\$1.42	\$1.39	\$1.48
2 6	6 6	.....	.94	1.02	1.11	1.37	1.17	1.33	1.43	1.33	1.43	1.54	1.50	1.60
2 4	6 8	.....	1.07	1.17	1.31	1.43	1.23	1.38	1.50	1.38	1.48	1.60	1.55	1.67
2 10	6 10	.....	.....	1.33	1.49	1.62	.....	1.55	1.69	1.66	1.79	1.72	1.86	.....

INSIDE DOOR JAMBS 1 1/2 x 5 1/2 INCHES. NO STOPS INCLUDED.

No. 6387950 Soft Pine. For door, 3x7 feet, or smaller. Price.....75c

No. 6387951 Yellow Pine. For door, 3x7 feet, or smaller. Price.....50c

No. 6387952 Plain Red Oak. For door, 3x7 feet, or smaller. Price.....87c

No. 6387957 Cypress. For door, 3x7 feet, or smaller. Price.....75c

For other sizes see Mill Work Catalog.

Twelve-Light Windows.

Prices include two sash 1 1/2 inches thick and 12 lights of single strength glass puttled in sash.

SIZE OF GLASS	No. 6387180	No. 6387947
	Sash Opening Size Ft. In. Ft. In.	Sash Opening Size Ft. In. Ft. In.
7 x 9	\$0.67	\$1.36
8x10	1.38
8x12	1.40
9x12	1.50
9x13	1.50
9x14	1.52
10x12	1.58
10x14	1.60
10x16	1.62

Window Frames.

Jambs 5 1/2 inches including blind stop. Outside casing 1 1/2 x 4 1/2 inches. Plain drip cap. Sill, 1 1/2 x 7 1/2 inches.

SIZE OF GLASS	No. 6387338
	Per Pair
8x10	\$0.95
8x12
9x12
9x14
10x12
10x14
10x16

Blinds.

1 1/2-In. Thick Rolling Slats Per Pair

SIZE OF GLASS	No. 6387178	No. 6387944
	Sash Opening Size Ft. In. Ft. In.	Sash Opening Size Ft. In. Ft. In.
8x10	\$0.44	\$1.34
8x12	1.37
9x12	1.39
9x14	1.39
10x12	1.38
10x14	1.40
10x16	1.57
12x14	1.42

Eight-Light Windows.

Prices include two sash 1 1/2 in. thick and eight lights of single strength glass puttled in sash.

SIZE OF GLASS	No. 6387178	No. 6387944
	Sash Opening Size Ft. In. Ft. In.	Sash Opening Size Ft. In. Ft. In.
8x10	\$0.44	\$1.34
8x12	.....	1.37
9x12	.....	1.39

Save Money By Ordering Goods On This Page From SEARS, ROEBUCK AND CO., CHICAGO, ILL.
STAIRWORK, PORCHWORK, MOLDINGS, ETC. For other designs write for our BUILDING MATERIAL CATALOG. Items shown on this page represent only a small part of our immense line. We carry many other sizes, styles and designs, all of which are shown in our Building Material Catalog.

ALL MATERIAL ON THIS PAGE IS SHIPPED FROM FACTORY IN EASTERN IOWA.

STARTING NEWELS.
Trimmed with egg and dart molding under the cap. Size of shaft, 6 inches square. Base, 8 inches square and 18 inches high. Height of post, 4 feet.

STARTING NEWELS.
This paneled newel has shaft 6 inches square. Base, 8 inches square, 18 inches high. Height of post, 4 feet. Paneled on four sides below and on three sides above.

STARTING NEWELS.
Shaft is 5 inches square; height, 4 feet. First class in every way. Fluted on four sides.

No. 63R8304 Plain Sawed Red Oak...\$2.54
No. 63R8305 Yellow Pine...\$2.29
No. 63R8308 Plain Sawed Red Oak...\$2.96
No. 63R8309 Yellow Pine...\$2.85
No. 63R8300 Plain Sawed Red Oak...\$2.21
No. 63R8301 Yellow Pine...\$1.98
No. 63R8320 Plain Sawed Red Oak...\$1.70
No. 63R8321 Yellow Pine...\$1.50

ANGLE NEWELS.
The shaft is 5 inches square. Length, 5 feet 6 inches (not measuring the ornamental at bottom). Cap is molded with egg and dart design molding.

No. 63R8320 Plain Sawed Red Oak...\$1.70
No. 63R8321 Yellow Pine...\$1.50

MOLDING WALL STRING.
We furnish Treads and Risers in 3-foot 5-inch lengths. Made in yellow pine or plain red oak. Absolutely clear. The treads and risers may be made narrower to fit any height or length of run.

No. 63R8281 Stair Treads, 1 1/2 x 11...49c
No. 63R8282 Stair Treads, 1 1/2 x 11 inches, Yellow Pine, Price, each...36c
No. 63R8285 Stair Risers, 3/4 x 7 1/2 inches, Plain Red Oak, Price, each...22c
No. 63R8286 Stair Risers, 3/4 x 7 1/2 inches, Yellow Pine, Price, each...17c
No. 63R7819 Stair Cove, 3/4 x 1/2 inch, Plain Red Oak, Price, per 100 feet...68c
No. 63R7817 Stair Cove, 3/4 x 1/2 inch, Yellow Pine, Price, per 100 feet...30c
For Circle End Treads and Risers, see our Special Mill Work Catalog.

STAIR BALUSTERS.
These balusters are very carefully turned and sand-papered and are high class in every respect.

No. 63R8364 Plain Red Oak, Each...9c
1 1/2 x 28 inches, Price, 9c
1 1/2 x 32 inches, Price, 9 1/2c
No. 63R8365 Yellow Pine, Each...8c
1 1/2 x 28 inches, Price, 8c
1 1/2 x 32 inches, Price, 8 1/2c
No. 63R8366 Plain Red Oak, Each...9c
1 1/2 x 28 inches, Price, each, 9 1/2c
1 1/2 x 32 inches, Price, each, 10c
No. 63R8367 Yellow Pine, (See illustration at right.)
1 1/2 x 28 inches, Price, each, 9c
1 1/2 x 32 inches, Price, each, 9 1/2c
Special Mill Work Catalog.

STAIR RAIL.
Size, 2 1/2 x 3 1/2 inches, plowed for 1 1/2-inch balusters. Made from selected kiln dried stock and hand smoothed. We charge 1 cent extra per lineal foot for fillet.

No. 63R8351 Yellow Pine, Price, per foot...10c
No. 63R8350 Plain Red Oak, Price, per foot...12c
No. 63R8349 Fillet to match, Price, per foot, 1c

SHOE RAIL.
With fillet, Size, 13-16x2 1/2 inches. Rabbeted for 1 1/2-inch balusters.

No. 63R8353 Yellow Pine, Price, per foot...4c
No. 63R8352 Plain Red Oak, Price, per foot...5c

STAIR RAIL.
Size, 1 1/2 x 3 1/2 inches.

No. 63R8359 Yellow Pine, Price, per foot...6c
No. 63R8358 Plain Red Oak, Price, per foot...9c

STRING BOARD.
Sizes, 5/8 x 11 inches. To be used along the wall and below the balusters.

No. 63R8376 Yellow Pine, Price, per foot...7c
No. 63R8377 Plain Red Oak, Price, per foot...11c

COLONIAL BOTTOM PORCH RAIL.
Size, 1 1/2 x 3 1/4 inches.

No. 63R8159 Yellow Pine, Price, per lineal foot...3 1/4c

COLONIAL BUILT-UP COLUMNS. LOCK JOINT.
Our special lock joint prevents cracking and warping. Made of selected soft wood, practically clear and smoothly finished. Strictly high class columns, not painted. 10c extra for splitting.

COLONIAL PEDES TAL BUILT-UP COLUMNS.
Fluted Shaft Lock Joint.

SOLID FIR PORCH COLUMNS.
Made from the highest grades of fir and very carefully turned. A small hole is bored in the center of this column to prevent checking and warping. 5 cents extra for splitting.

No. 63R8175 Yellow Pine, Price, per lineal foot...10c

COLONIAL TOP PORCH RAIL.
Size, 2 1/2 x 3 1/2 inches.

No. 63R8155 Yellow Pine, Price, per lineal foot...7c

Diameter of Shaft at Base	Height Over All	No. 63R8070 Clear in the White	No. 63R8073 Clear in the White
6 inches	6 feet	\$1.27	\$1.77
6 inches	8 feet	1.44	1.95
6 inches	9 feet	1.53	2.05
8 inches	6 feet	1.84	2.35
8 inches	8 feet	2.05	2.68
8 inches	9 feet	2.20	2.93
10 inches	6 feet	2.18	3.07
10 inches	8 feet	2.89	3.78
10 inches	9 feet	3.05	3.98

COLONIAL PEDES TAL BUILT-UP COLUMNS.
Fluted Shaft Lock Joint.

Size, Inches	Length, Feet	Price, Each	Wt., Lbs.
4x4	8	\$0.51	20
4x4	9	.62	21
4x4	8	.62	27
5x5	9	.94	37
5x5	10	1.08	42
6x6	8	1.19	48
6x6	9	1.35	54
6x6	10	1.60	60

TOP PORCH RAIL.
Size, 1 1/2 x 3 inches.

No. 63R8191 Yellow Pine, Price, per foot...3c

BOTTOM PORCH RAIL.
Size, 1 1/2 x 3 inches.

No. 63R8193 Yellow Pine, Price, per foot...3c

FOR OTHER STYLES AND SIZES SEE OUR LARGE SPECIAL MILL WORK CATALOG.

SCROLL SAWED BALUSTER.
Size, 1 1/2 x 5 1/2 inches.

No. 63R8222 Length, 20 in. Price...6c
No. 63R8223 Length, 24 in. Price...7c

PORCH NEWELS.
Our porch newels are furnished in fir, which is the best known wood for porch material. Carefully turned and smooth.

PORCH NEWEL.
No. 63R8150

TURNED PORCH BALUSTERS.
Carried in stock in following sizes

PORCH BRACKETS.
1 1/2 inches thick.

No. 63R8243 6 1/2 x 8 1/2 x 12 1/4 Price, each...6 1/2c
No. 63R8244 6 1/2 x 8 1/2 x 12 1/4 Price, each...7c

Size, Shaft	Length, Feet	No. 63R8180 Price, Each	No. 63R8182 Price, Each
4x4	4	36c	3c
6x6	4	44c	4c
6x6	4	68c	62c

Diameter of Shaft at Base	Length, Feet	No. 63R8150 Price, Each	Weight, Pounds
7 in.	4	\$1.32	23

Catalog No.	Size in Inches	Price, Each	Crate of 50
63R8212	1 1/2 x 20	4 1/2c	\$1.98
63R8212	1 1/2 x 24	4 1/2c	1.99
63R8163	2 1/2 x 20	12 1/2c	6.15
63R8163	2 1/2 x 24	13c	6.40

CROWN MOLDINGS.
Prices are per 100 lineal feet in random lengths. Sizes, inches.

1 1/2 x 2 1/4	1 1/2 x 3 1/4	1 1/2 x 3 3/4	1 1/2 x 4 1/4	1 1/2 x 4 3/4
\$1.04	\$1.21	\$1.39	\$1.57	\$1.78

CASINGS.
Price, per 100 lineal feet in random lengths:

THREE-MEMBER BASE.
9 1/2 INCHES OVER ALL.

BED MOLDING.
No. 63R7926 Clear Soft Wood, Size, 13-16x2 1/2 inches. Price, per 100 lineal feet...\$0.91
No. 63R7927 Clear Soft Wood, Size, 13-16x2 1/2 inches. Price, per 100 lineal feet...89c
No. 63R7928 Clear Soft Wood, Size, 13-16x2 1/2 inches. Price, per 100 lineal feet...\$1.07

QUAER ROUND MOLDING.
Prices are for 100 lineal feet in random lengths:

No.	Material	Price, per 100 lineal feet
No. 63R7594	Clear Soft Wood	\$1.45
No. 63R7595	Nona Soft Pine	1.81
No. 63R7596	Yellow Pine	1.49
No. 63R7597	Plain Red Oak	3.10
No. 63R7600	Cypress	1.89

No.	Material	Price, per 100 lineal feet
No. 63R7499	Clear Soft Wood	\$0.91
No. 63R7500	Nona Soft Pine	1.19
No. 63R7501	Yellow Pine	.93
No. 63R7502	Plain Red Oak	1.93
No. 63R7505	Cypress	1.24

LATTICE SOFT WOOD.
No. 63R7916 Size, 5-16x1 1/2 inches. Price, per 100 lineal feet...25c
No. 63R7917 Size, 5-16x1 1/2 inches. Price, per 100 lineal feet...30c
No. 63R7918 Size, 5-16x1 1/2 inches. Price, per 100 lineal feet...40c

Size, Inches	No. 63R7775 Nona Soft Pine	No. 63R7776 Yellow Pine	No. 63R7778 Plain Red Oak	No. 63R7790 Cypress
3/4 x 1 1/2	40c	30c	\$0.70	41c
1 x 1 1/2	47c	36c	1.07	48c
1 1/2 x 2	63c	48c	1.35	64c
2 x 2	77c	65c	1.60	78c

No.	Material	Price, per 100 lineal feet
No. 63R7609	Clear Soft Wood	\$1.64
No. 63R7610	Nona Soft Pine	2.05
No. 63R7611	Yellow Pine	1.71
No. 63R7612	Plain Red Oak	3.50
No. 63R7614	Cypress	2.15

No.	Material	Price, per 100 lineal feet
No. 63R7529	Clear Soft Wood	29c
No. 63R7530	Nona Soft Pine	40c
No. 63R7531	Yellow Pine	30c
No. 63R7532	Plain Red Oak	67c
No. 63R7535	Cypress	40c

COVE MOLDINGS.
Prices are for 100 lineal feet in random lengths:

No. 63R7817 Yellow Pine, Size, 3/4 x 1/2 inch, Price...30c
No. 63R7815 Clear Soft Wood, Size, 13-16x1 1/2 inches, Price...37c
No. 63R7827 Nona Soft Pine, Size, 13-16x1 1/2 inches, Price...50c
No. 63R7829 Yellow Pine, Size, 13-16x1 1/2 inches, Price...38c

TOP AND BOTTOM PORCH RAIL.
No. 63R8187 Top Porch Rail, Size, 1 1/2 x 3 inches. Rabbeted for 3/4-inch sawed balusters. Price, per foot...3c
No. 63R8189 Bottom Porch Rail, For 3/4-inch scroll sawed balusters. Size, 13-16x3 inches. Price, per foot...1 1/2c

No.	Material	Price, per 100 lineal feet
No. 63R7584	Clear Soft Wood	\$1.65
No. 63R7585	Nona Soft Pine	2.06
No. 63R7586	Yellow Pine	1.71
No. 63R7589	Cypress	2.16

No.	Material	Price, per 100 lineal feet
No. 63R7545	Nona Soft Pine	\$3.41
No. 63R7546	Yellow Pine	\$2.77
No. 63R7548	Plain Red Oak	\$5.75
No. 63R7550	Cypress	3.56

DOOR AND WINDOW STOP.
Prices are for 100 lineal feet in random lengths.

Size, Inches	No. 63R7775 Nona Soft Pine	No. 63R7776 Yellow Pine	No. 63R7778 Plain Red Oak	No. 63R7790 Cypress
3/4 x 1 1/2	40c	30c	\$0.70	41c
1 x 1 1/2	47c	36c	1.07	48c
1 1/2 x 2	63c	48c	1.35	64c
2 x 2	77c	65c	1.60	78c

No.	Material	Price, per 100 lineal feet
No. 63R7694	Clear Soft Wood	\$2.46
No. 63R7695	Nona Soft Pine	3.20
No. 63R7696	Yellow Pine	2.60
No. 63R7697	Plain Red Oak	6.36
No. 63R7700	Cypress	3.35

No.	Material	Price, per 100 lineal feet
No. 63R7621	Yellow Pine	1.90
No. 63R7622	Plain Red Oak	3.90
No. 63R7625	Cypress	2.45

CAP MOLDING.
Size, 1 1/2 x 2 1/2 inches. Price, per 100 lineal feet...\$1.80
No. 63R7619 Clear Soft Wood...\$1.80
No. 63R7620 Nona Soft Pine...2.35
No. 63R7621 Yellow Pine...1.90
No. 63R7622 Plain Red Oak...3.90
No. 63R7625 Cypress...2.45

Size, Inches	No. 63R7775 Nona Soft Pine	No. 63R7776 Yellow Pine	No. 63R7778 Plain Red Oak	No. 63R7790 Cypress
3/4 x 1 1/2	40c	30c	\$0.70	41c
1 x 1 1/2	47c	36c	1.07	48c
1 1/2 x 2	63c	48c	1.35	64c
2 x 2	77c	65c	1.60	78c

No.	Material	Price, per 100 lineal feet
No. 63R7719	Clear Soft Wood	\$1.39
No. 63R7720	Nona Soft Pine	1.81
No. 63R7721	Yellow Pine	1.45
No. 63R7722	Plain Red Oak	2.95
No. 63R7725	Cypress	1.89

No.	Material	Price, per 100 lineal feet
No. 63R7634	Clear Soft Wood	\$1.72
No. 63R7635	Nona Soft Pine	2.15
No. 63R7636	Yellow Pine	1.75
No. 63R7637	Plain Red Oak	3.55
No. 63R7640	Cypress	2.25

CORNER BLOCKS.
No. 63R7732 Nona Pine 2c
63R7733 Yellow Pine 2c
63R7737 Cypress 2 1/2c

| Size, 1 1/2 inches thick |
|--------------------------|--------------------------|--------------------------|--------------------------|
| No. 63R7763 Nona Pine | No. 63R7764 Nona Pine | No. 63R7765 Nona Pine | No. 63R7766 Cypress |
| 4c | 4c | 4c | 5c |

No.	Material	Price, per 100 lineal feet
No. 63R7559	Clear Soft Wood	\$1.64
No. 63R7560	Nona Soft Pine	2.05
No. 63R7561	Yellow Pine	1.69
No. 63R7563	Cypress	\$2.14

No.	Material	Price, per 100 lineal feet
No. 63R7646	Nona Soft Pine	45c
No. 63R7647	Yellow Pine	35c
No. 63R7648	Plain Red Oak	77c
No. 63R7651	Cypress	46c

BASE BLOCKS.
No. 63R7753 Nona Pine 4c
No. 63R7754 Yellow Pine 4c
No. 63R7755 Red Oak 6c
No. 63R7758 Cypress 5c

Size, 1 1/2 inches thick	Size, 1 1/2 inches thick	Size, 1 1/2 inches thick
No. 63R7742 Nona Pine	No. 63R7743 Yellow Pine	No. 63R7747 Cypress
4c	4c	5c

No.	Material	Price, per 100 lineal feet
No. 63R7797	Clear Soft Wood	\$0.58
No. 63R7798	Nona Soft Pine	.79
No. 63R7799	Yellow Pine	.60
No. 63R7800	Plain Red Oak	1.35
No. 63R7803	Cypress	.80

No.	Material	Price, per 100 lineal feet
No. 63R7809	Clear Soft Wood	34c
No. 63R7810	Nona Soft Pine	23c
No. 63R7811	Yellow Pine	16c
No. 63R7812	Cypress	\$1.49

WAINSCOTING CAP.
Size, 13-16x2 1/2 inches. Price, per 100 lineal feet...\$1.42
No. 63R7809 Clear Soft Wood...34c
No. 63R7810 Nona Soft Pine...23c
No. 63R7811 Yellow Pine...16c
No. 63R7812 Cypress...\$1.49

Size, 1 1/2 inches thick	Size, 1 1/2 inches thick	Size, 1 1/2 inches thick
No. 63R7753 Nona Pine	No. 63R7754 Yellow Pine	No. 63R7755 Red Oak
4c	4c	6c

Save Money By Ordering Goods On This Page From SEARS, ROEBUCK AND CO., CHICAGO. ILL.

Yellow Pine Plate Rail Molding



Made of two members. Furnished in woods listed below. Projects 3 1/2 inches; width on wall, 4 1/4 inches. Price quoted is for one lineal foot made up of both members. No extra charge for specified lengths.

No. 63R7855 Yellow Pine. Per Ft. 4c
No. 63R7854 Plain Red Oak. 7 1/2c

GABLE ORNAMENTS.

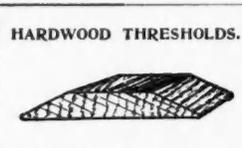
Suitable for any pitch of roof on old or new buildings. Shipped knocked down.



75c
No. 63R8270 Made of 1 1/4-inch soft wood. Extends 4 feet down gable. Price.....75c

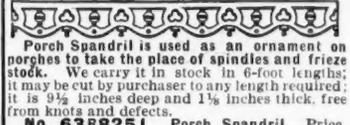


\$1.05
No. 63R8273 Made of 1 1/4-inch soft wood. Extends 5 feet down gable. Price.....\$1.05



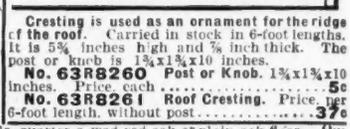
HARDWOOD THRESHOLDS.
No. 63R7890 Size, 3/4x3 1/4 inches by 3 feet. Price.....4c

PORCH SPANDRIL.



Porch Spandril is used as an ornament on porches to take the place of spindles and frieze stock. We carry it in stock in 6-foot lengths; it may be cut by purchaser to any length required; it is 9 1/2 inches deep and 1 1/2 inches thick, free from knots and defects.
No. 63R8251 Porch Spandril. Price, per 6-foot piece.....90c
No. 63R8252 Porch Spandril. Price, per crate of six pieces 6 feet long.....\$5.25

ROOF CRESTING.



Cresting is used as an ornament for the ridge of the roof. Carried in stock in 6-foot lengths. It is 5 1/2 inches high and 3/4 inch thick. The post or knob is 1 1/2x1 1/2x10 inches. Price each.....5c
No. 63R8261 Roof Cresting. Price, per 6-foot length, without post.....37c

HARDWOOD FLOORING

WE FURNISH ROYAL ACME FLOORING IN TWO GRADES

Our Clear Grade is free of knots and imperfections in manufacture. Furnished in random lengths from 2 to 16 feet inclusive. Not over 8 per cent of lengths 4 feet long and under. Our Select Grade is the kind most dealers sell as clear or high grade. This grade is not so clear as our clear grade, but will lay with but little waste and allows but few defects. Furnished in random lengths from 1 1/2 to 16 feet inclusive. Oak and maple flooring is not sorted to color.



WHEN ORDERING, bear in mind with 2-inch face is figured as 2 1/2 inches wide, and flooring with 2 1/4-inch face is figured as 3 inches wide, to allow for tongue and groove. When making up your order increase the amount about 30 per cent more than the actual measurement of the surface to be covered, also allow a few feet additional for waste. To illustrate: A room 10x12 feet equals 120 square feet. If flooring 2-inch face is ordered add 30 per cent (36 to 40 feet); order about 160 square feet. The same rule applies no matter from whom you buy your floor.

ROYAL ACME OAK AND MAPLE FLOORING, the highest grade of flooring made. At these low prices anyone can afford to have the highest grade of maple, quarter sawed red oak or plain oak floor. Our prices are but little higher than the retail lumberman charges for common soft wood flooring.

STEEL POLISHED AND END MATCHED.

Royal Acme Flooring in either maple, oak or quarter sawed oak is scientifically treated, cured in kilns at a temperature of 212 degrees Fahrenheit. Every foot is steel polished; every piece is end matched. The 3/4-inch is hollow backed and bored for blind nailing. Shipped from Chicago factory or from our big lumber yards in Southern Illinois.

QUARTER SAWED RED OAK FLOORING.

Catalog No.	Grade	Thickness	Size of Face, Inches	Shipping Wt., per 100 Ft.	Price, per 1,000 Feet
63R7427	Select	3/4 in.	1 1/2 or 2	100 lbs.	\$39.60
63R7426	Clear	3/4 in.	1 1/2 or 2	100 lbs.	62.40
63R7431	Clear	3/4 in.	2 1/4	200 lbs.	86.30

PLAIN SAWED OAK FLOORING.

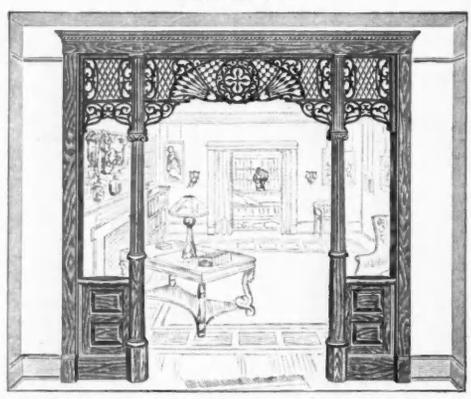
Catalog No.	Grade	Thickness	Size of Face, Inches	Shipping Wt., per 100 Feet	Price, per 1,000 Feet
63R7429	Select	3/4 in.	1 1/2 or 2	100 lbs.	\$31.20
63R7428	Clear	3/4 in.	1 1/2 or 2	100 lbs.	45.60
63R7433	Clear	3/4 in.	2 1/4	220 lbs.	69.50
63R7434	Select	3/4 in.	2 1/4	220 lbs.	49.00

MAPLE FLOORING.

Catalog No.	Grade	Thickness	Size of Face, Inches	Shipping Wt., per 100 Ft.	Price, per 1,000 Feet
63R7441	Select	3/4 in.	1 1/2 or 2	100 lbs.	\$24.00
63R7440	Clear	3/4 in.	1 1/2 or 2	100 lbs.	33.60
63R7442	Clear	3/4 in.	2 1/4	200 lbs.	49.00
63R7443	Select	3/4 in.	2 1/4	200 lbs.	38.50

Hardwood flooring is shipped from our Chicago factory.

\$15.95 Buys This Elegant Colonnade and Grille.



Made of the same high grade material and careful workmanship as used in our higher priced grilles, the only difference being that it is not nearly so massive. Base of column opposite shelf 4 1/2 inches in diameter; two-panel wainscoting measures 30 inches from top of shelf to the floor; columns formed by octagon, 6 inches in diameter; plain turned part, 4 1/2 inches; fluted columns, 4 inches in diameter. Trimmed with genuine carved ornaments. Wainscoting measures 16 inches from the inside of post to jamb.
No. 63R8456 Colonnade and Grille for opening 8 feet wide by 8 feet 6 inches high or less furnished in oak, birch, yellow pine or cypress (in the white). Price.....\$15.95
If filled, shellaced and varnished, add \$4.25 extra. For grilles larger than the above mentioned size, add for each additional foot or fraction thereof \$1.50. Shipping weight, 150 pounds.
The Price Quoted Does Not Include Casing, Jambs, Base Blocks nor Cap Trim.

GRILLES AND COLONNADES

ON THIS PAGE we show three of the latest and best selling patterns of Grilles and Colonnades. Choose any one of them. All are wonderful values. Designs and finish are sure to please you, but if you want a bigger line to select from, then send for our Special Building Material and Mill Work Catalog, which shows our big complete line of about fifteen different styles.
All Grilles under 4 feet will be charged as if 4 feet long.

If Grille No. 63R8436 is wanted finished, that is, shellaced and varnished, add 15 cents per lineal foot to the price in the white and write the word "finished" after the catalog number. To insure a perfect match to your woodwork, state whether light or dark finish is wanted and, if possible, enclose a sample showing the grain and color.

Extends down 10 inches at ends.



No. 63R8436
Made in oak, birch, yellow pine or cypress (in the white). Price, per lineal foot.....60c

GRILLES AND COLONNADES are made special to your order. When ordering be sure to plainly state the exact size of the opening, also state whether oak, birch, yellow pine or cypress is wanted. We ship grilles finished, that is, filled and varnished, when so ordered, at the additional price printed on this page. Not oiled or varnished unless specified.

A \$35.00 Colonnade for \$17.50.

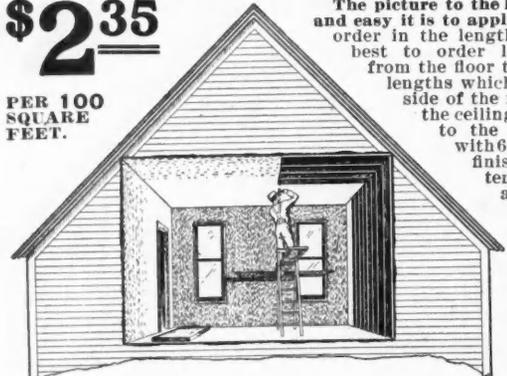


Made of the finest selected material by the highest class grille maker. Columns made with special lock joint; all joints carefully mitered, smoothed and sanded by hand. Octagon base of columns, 7 1/2 inches in diameter opposite panels; base at floor, 9 1/4 inches in diameter; caps at top of column, 10 inches in diameter; columns above pedestal, 6 inches at the base, tapering to 5 inches at the top; panel work between column and casing, 16 inches; side shelf, 30 inches above floor line; columns ornamented by finest quality composition caps.
No. 63R8400 Colonnade includes two columns, pedestals and panel wainscoting for opening 8 feet 6 inches in height or less, furnished in oak, birch, yellow pine or cypress (in the white). Price.....\$17.50
If shellaced and varnished, add \$4.00 to the above price. Shipping weight, 200 pounds.
The Price Quoted Does Not Include Casing, Jambs, Base Blocks nor Cap Trim.

PEERLESS WALL BOARD AS A SUBSTITUTE FOR LATH AND PLASTER HAS NO EQUAL

\$2.35

PER 100 SQUARE FEET.

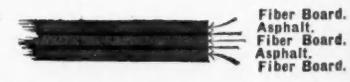


The picture to the left shows how simple and easy it is to apply wall board; simply order in the lengths required, it being best to order lengths which reach from the floor to the ceiling and also lengths which will reach from one side of the room to the other for the ceiling. Nail the wall board to the studding and joists with 6-penny wire nails. Use finishing nails if you intend to cover your walls and ceiling with wall paper, and flat head nails when you use molding or casing over the joints. When the last sheet is applied room is ready for occupancy.
Peerless Wall Board is now being used in buildings of all descriptions, including residences, summer homes, cottages, factories and office buildings, garages, portable

houses and even in barns and chicken houses. For repair work it cannot be beaten. It will enable you to finish your garret, changing it from an unsightly storeroom to a valuable extra room. It will also enable you to divide large rooms into smaller rooms at little expense without having the annoyance of lathers and plasterers and without the muss and dirt that is inevitable when the old fashioned plastering is done.

Most pleasing and satisfactory results can be had by using Peerless Wall Board with panel work, as shown in the lower illustration. When applied in this manner all cracks or joints are concealed by molding, and it can be painted or kalsomined with good results. If Peerless Wall Board is used with wall paper, fill joints where the sheets come together with Peerless putty, then shellac the joints. One pound can of Peerless putty is necessary for each 150 lineal feet of an ordinary house. The illustration above shows the actual thickness of Peerless Wall Board. It shows how the three plies of heavy fiber board are cemented together into one solid piece with two heavy layers of refined asphalt.

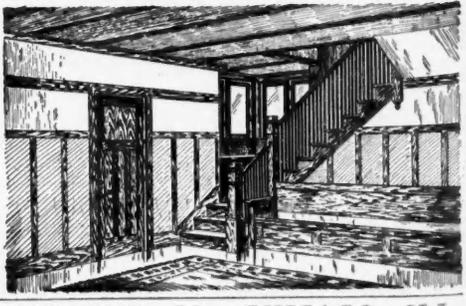
PEERLESS WALL BOARD is carefully packed in wood crates, thus insuring our customers of receiving it in perfect, clean condition. Shipped direct from Chicago factory.



SOLD IN THE FOLLOWING SIZES ONLY. WHEN ORDERING GIVE LENGTH OF SHEETS.

Catalog No.	Length, Feet	Width, Inches	Number of Square Feet to the Sheet	Shipping Wt., per Sheet, Crated	Price, per Sheet	Price per Sheet in Lots of 60 Sheets or More
63R3010	8	32	21 1/3	16 lbs.	50c	47c
	9	32	24	18 lbs.	55c	53c
	10	32	26 2/3	20 lbs.	65c	62c
	11	32	29 1/3	22 lbs.	70c	66c
	12	32	32	24 lbs.	75c	72c

No. 63R3058 Peerless Putty. Price, per can.....23c
No. 63R3059 Peerless Shellac. Price, per pint.....27c
1-Lb. Cans 5-Lb. Cans 10-Lb. Cans 20-Lb. Cans
90c \$1.62 \$2.70
Price, per quart......47



Save Money By Ordering Goods On This Page From SEARS, ROEBUCK AND CO., CHICAGO. ILL.



ornament on
dies and frieze
6-foot lengths;
length required;
inches thick. free

andril. Price,
90c
andril. Price,
5c
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37c
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pping. Price, per
1,000 feet
0 ft.

10 lbs. \$24.00

15 lbs. 33.60

20 lbs. 49.00

25 lbs. 59.50

\$17.50.



ighest class grille
all joints carefully
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diameter; columns
to 5 inches at the
inches; side shelf.

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Save Money By Ordering Goods On This Page From SEARS, ROEBUCK AND CO., CHICAGO, ILL.

Rubber Roofing - Flint Sand Coated Roofing

We Offer Under the Trade Name of

Composition Rubber Roofing

The "rubber" referred to in the description of this roofing is merely the trade name for a mineral substance that looks like rubber and feels like rubber, but, unlike rubber, it will never rot and is not affected by moisture.



Composition Roofing is sold by us for the purpose of meeting the demand of those who want ready roofing because it is low in price and who are not so particular about its wearing qualities. While this roofing is widely advertised by its manufacturer under various names to wear from five to ten years, we hesitate to recommend or guarantee it for this period because it contains low grade asphalts and crude oil which, according to best authorities, lack the wearing qualities such as are found in our Oriental Slate Surfaced Roofing on following page and Flint Surfaced Asphalt Roofing shown at bottom of this page.

OUR POLICY. Roofing which is recommended to wear a given time as printed in connection with our prices is backed by our binding guarantee; **IF IT DOES NOT LAST THE FULL LENGTH OF TIME WE CLAIM IT SHOULD WEAR, WE WILL REPLACE IT BY FURNISHING NEW ROOFING.** We can make no claims as to the length of time Composition Roofing will wear, but believe that it is a remarkably good bargain at the prices we quote here. We would, however, advise you to be careful in selecting your roofing, or you may buy this very same make of roofing and pay double our prices for it. Composition Roofing is made of standard felt, saturated with an asphaltic composition and is finished on one side with a smooth mineral asphalt coating and on the other side coated with fine sand. This roofing may be used with either side up, according to the wishes of the purchaser.

Composition Roofing is shipped direct from our Chicago factory or from our Chicago store. Composition Roofing is made 32 inches wide and is put up in rolls containing 108 square feet, or enough material to cover a square of 100 square feet, furnished complete with nails and cement inside the rolls.

**FLINT COATED on one side.
RUBBER FINISHED on opposite side.**

For the BEST roofing made see our Oriental Slate Surfaced Roofing on following page.

We guarantee these prices to be far below what others charge for the very same roofing which they sell under various trade names.

Why not buy the best roofing, such as Oriental Slate Surfaced, or Flint Surfaced Asphalt Roofing? The above named roofings will wear many years longer than Composition Roofing or other makes and the price of these high grade fully guaranteed roofings is only a little higher than the cheaper grades. However, if you want a cheap roofing to last a short time, then buy our Composition Roofing.

ONE-PLY	TWO-PLY	THREE-PLY
108 Square Feet. Weight, 35 Lbs. 32 Inches Wide. No. 63R3111 Shipped from Chicago, at	108 Square Feet. Weight, 45 Lbs. 32 Inches Wide. No. 63R3112 Shipped from Chicago, at	108 Square Feet. Weight, 55 Lbs. 32 Inches Wide. No. 63R3113 Shipped from Chicago, at
75c Per Roll	90c Per Roll	\$1.05 Per Roll

We will ship from warehouses at Pittsburgh, Penn.; Cincinnati, Ohio, or Kansas City, Mo., at 10 cents per roll added to the above prices.



The BEST flint surfaced roofing made is listed below.

FLINT SURFACED ASPHALT ROOFING



Heavier by a Half Ply Than Other Flint Surfaced Asphalt Roofing.

Our Flint Surfaced Asphalt Roofing is heavily surfaced on both sides with clean flint sand, adding much to its fireproof qualities. Being flint sanded on the under side as well as on the top side makes it especially fireproof, because flying embers or coals are not likely to set it on fire from the top, while the same coating of flint sand on the under side acts as a resistance against fire from the inside of the building. Flint Surfaced Asphalt Roofing is 32 inches wide. It is guaranteed to be made from a long fiber pure wool felt and saturated with the highest grade of asphalts and double coated with highest grade pure mineral asphalt. It is absolutely free from animal oil and is guaranteed not to melt or run in summer, or crack or break in winter. It is the best fire resisting asphalt roofing on the market.

This is an asphalt roofing; there is positively no coal tar used in its manufacture. This fact alone helps to make it fireproof and the waterproofing qualities of our coating give it a good heavy body, making it very strong and flexible. We absolutely guarantee our Flint Surfaced Asphalt Roofing to be the heaviest sanded asphalt roofing ever made.

Please compare the thickness, weight, strength and quality of materials used in our Flint Surfaced Asphalt Roofing with other makes of flint coated roofing and the result will be that you will order from us. Made of the high grade of wool felt and asphalts.

Flint Surfaced Asphalt Roofing Requires No Coating When First Put On the Building.

3/2-PLY ROOFING specified by architects for the higher class of buildings such as residences, schoolhouses, factory buildings or wherever a high class, long wearing roofing is required. Will wear 12 years.

2 1/2-PLY ROOFING. Used on residences, barns, public buildings and if not abused will wear 9 years.

1 1/2-PLY ROOFING. Used on buildings of every description and with good care will last 7 years.

1-PLY ROOFING is intended for use on temporary buildings, sheds, etc., and will last 5 years. We furnish free with every roll of our Flint Surfaced Asphalt Roofing plenty of large headed galvanized barbed roofing nails and sufficient cement, with all necessary directions for laying. We use large headed galvanized nails in place of tin caps because they more firmly secure the roofing and do not rust out as tin caps do.

Quicker delivery and lower freight charges are assured by shipping direct from our factories and warehouses near you. Large orders going to Eastern points will be shipped from warehouse in Cincinnati, Ohio, or Pittsburgh, Penn. Orders to Southern points will be shipped from warehouse in Atlanta, Ga. Orders to Western and Southwestern points will be shipped from our warehouse in Kansas City, Mo. We also ship from Chicago factory, and small orders going with other goods will be shipped from our Chicago store. Remember, it costs you no more for the roofing shipped from any of these points, but it enables us to reduce the freight charges to almost nothing.



1-PLY 108 Square Ft. Weight, 50 Lbs. 32 Inches Wide No. 63R3018 95c Per Roll Standard Grade. Guaranteed to Wear 5 Years.	1 1/2-PLY 108 Square Ft. Weight, 60 Lbs. 32 Inches Wide No. 63R3016 \$1.20 Per Roll Medium Grade. Guaranteed to Wear 7 Years.	2 1/2-PLY 108 Square Ft. Weight, 70 Lbs. 32 Inches Wide No. 63R3015 \$1.45 Per Roll Heavy Grade. Guaranteed to Wear 9 Years.	3 1/2-PLY 108 Square Ft. Weight, 80 Lbs. 32 Inches Wide No. 63R3011 \$1.70 Per Roll Extra Heavy Grade. Guaranteed to Wear 12 Years.
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Save Money By Ordering Goods On This Page From SEARS, ROEBUCK AND CO., CHICAGO, ILL.



\$2.25
PER
ROLL

ORIENTAL SLATE SURFACED ROOFING

FURNISHED IN TWO COLORS, RED AND GREENISH GRAY.
GUARANTEED TO WEAR FIFTEEN YEARS. COLORS WILL NOT FADE.



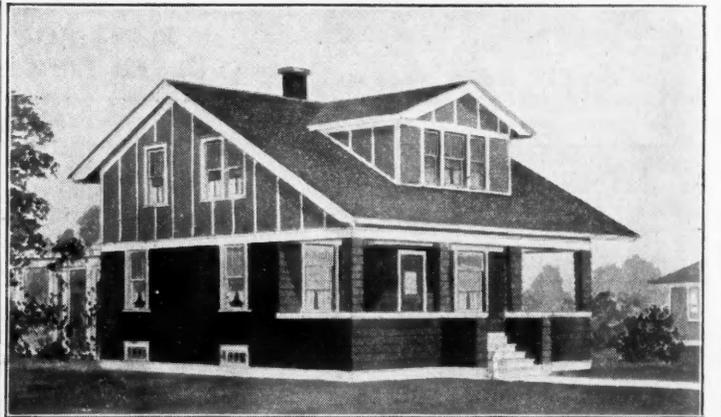
ORIENTAL SLATE SURFACED ROOFING is the most beautiful roofing made. Its color is permanent. Fine enough for the most expensive residence, yet low enough in price for the most humble cottage. Made from a long fiber pure wool felt, saturated with an asphalt composition and heavily coated with hard asphalt in which the crushed slate is thoroughly embedded. We guarantee the high quality of every ingredient used in making this roofing. It positively needs no coating nor attention after it is laid. It is fire resisting and for this reason makes an excellent roofing for buildings near factories and foundries, as it will not catch fire from flying embers.

It is furnished in two colors, red and greenish gray. These colors are permanent, as they are the natural colors of the slate just as it is quarried.

MAKES A BEAUTIFUL ROOF. Red Slate Surfaced Roofing is a dull rich red and makes a beautiful roof for any building.

FOR SIDING OF HOUSES AND OTHER STRUCTURES IT CAN'T BE BEAT. Gray Slate Surfaced Roofing is a greenish gray color, having just a slight tinge of green. This roofing makes an excellent siding when battens are used over the joints and cannot be distinguished from stucco or cement. Used as a roofing and siding with very pleasing effects.

Here's a chance to reduce the cost of your building, adding to its beauty, reducing its cost of upkeep, as no painting is ever required and with the satisfaction of knowing that it will wear equally as long as wood siding. We recommend using Red and Greenish Gray Slate Roofing together, the red for roofing and the greenish gray for siding, as pretty a color combination as can be had and you have the satisfaction of knowing that the colors are permanent and that neither roofing nor siding need be touched for at least fifteen years. Anyone can lay it. Complete directions go with every roll.



By using Oriental Roofing you save \$62.25 on an average roof of 16 squares. Roofing and labor amount to \$44.00. Shingles and cost of laying shingles amount to \$106.25, a clear saving of \$62.25, and you have a roof that is guaranteed to wear fifteen years without any attention whatever, which is worth more to you than the saving.

WE FURNISH FREE with every roll large headed galvanized roofing nails and plenty of cement for lapping seams or joints. Note that we furnish a galvanized nail with large head which costs 100 per cent more than the old style roofing or shingle nails and tin caps. We know that a good roof depends on its being firmly secured to the roof boards. Galvanized nails will never rust, hence will last for many years.

Price of Red and Greenish Gray Slate Surfaced Roofing.
No. 63R3063 Red Slate Surfaced Roofing, 108 square feet. Weight, 80 pounds. Price, per roll, \$2.25
No. 63R3062 Greenish Gray Slate Surfaced Roofing, 108 square feet. Weight, 80 pounds. Price, per roll, \$2.25
TO REDUCE YOUR FREIGHT CHARGES AND TO AVOID DELAYS IN TRANSIT, we will ship your order from our factory in Chicago or the one of our warehouses nearest you. Warehouses in Cincinnati, Ohio; Pittsburgh, Penn.; Atlanta, Ga., and Kansas City, Mo. The price is the same no matter from which point your roofing is shipped.
Samples will be mailed free on request.

Handsome New Catalog of Modern Lighting Fixtures.

Newest Ideas at a Large Money Saving For You.



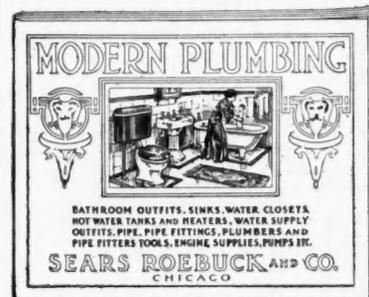
Write for this catalog. It is now ready. Every home owner, builder and contractor should have a copy.

We have just organized a new department to handle the output of a great modern factory making a complete line of gas and electric fixtures of the newest designs and of the very best quality and finest workmanship. To introduce this new department we have published a handsome catalog of its entire line of electric, gas and combination fixtures of every style, pattern and finish, over 300 lighting fixtures are illustrated by fine halftone illustrations, while many fixtures and lamps are reproduced in their actual colors. This book will be mailed free promptly upon request. We know you cannot buy the equal of any fixture in this catalog elsewhere without paying 20 to 50 per cent more than our prices. This brand new line of fixtures includes showers of 2, 3, 4, 5 and 6 lights, with crystal or beautiful stained glass work; leaded art glass dome tops, artistic 2, 3 and 4-light chandeliers, brackets, pendants, porch lights and ceiling lights. These fixtures are made for either electricity, gas (upright or inverted) or combination (both gas and electric). Our new department includes everything necessary for a complete installation of new fixtures throughout the house.

Be up to date. Before you place any orders for fixtures for your home or other buildings get this catalog. It shows the very latest ideas in modern lighting and means a large money saving for you.

Are you going to buy or build a new residence? Do you realize that the value and attractiveness of any house, new or old, can be wonderfully increased at very small cost by means of new and modern lighting fixtures? Your home may be out of date in a dozen of its features, but new lighting fixtures of the latest 1912 designs would make it look like a new building. If you want to rent or sell your house, modern lighting fixtures will get you a much better price.

LARGE SAVING ON MODERN PLUMBING.



We own and operate one of the largest plumbing and enameling plants in the world and can therefore offer our customers a complete line of high grade plumbing material at prices that represent the actual cost to manufacture with one profit added. To prove this statement we show herewith our Perfection Bathroom Outfit, an outfit manufactured from the highest grade material throughout, one in keeping with the finest bathroom.

Compare our price of \$37.30 with prices quoted by others and you will find that they ask from \$25.00 to \$30.00 more for outfits not of such high quality.

Write for our Catalog of Modern Plumbing wherein we show a complete line of plumbing material at prices that will surprise you.

PERFECTION BATHROOM OUTFIT.

Consists of one 5-foot tub, one wall lavatory with high back and deep apron, one siphon wash down closet outfit with grain sawed tank and seat, together with all necessary fittings to floor or wall as desired. Bath tub and lavatory are made of high grade cast iron, enameled inside with white porcelain enamel and painted outside. Furnished complete with brass, nickel plated trimmings with supply to floor or wall, as desired. Closet bowl is of best quality vitreous porcelain. Absolutely sanitary seat is of grain sawed oak, as is also closet tank. Tank is of low down type fitted complete with rubber ball valve and ball cock supply. Closet outfit is fitted with all brass, nickel plated trimmings with supply to floor or wall as desired.
No. 42R214 1/2 Perfection Bathroom Outfit. Price, complete, \$37.30

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VOID DELAYS IN
Chicago or the one of
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PLUMBING.

and operate one of
plumbing and enamel-
in the world and can
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line of high grade
material at prices that
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Perfection Bathroom
outfit manufactured
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our price of \$37.30
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our Catalog of Mod-
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TFIT.

soak and deep apron,
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plete.....\$37.30
CAGO. ILL.

The L. & I. J. White Company
Buffalo, N. Y.

Please send me particulars of your proposition for Carpenters and Builders.

Name.....
Address.....
Occupation.....

The Greatest Opportunity of 1912

¶ We want one Carpenter or Builder in every community in the country to demonstrate and take orders for our celebrated High Grade Tools on a liberal commission. Sign and mail the coupon today.

¶ We have been making Quality Tools for 75 years, and our goods are known all over the world, for their excellence of material, temper and finish. To use them is to save money. Every article guaranteed.

*"This is the brand
By which we stand"*

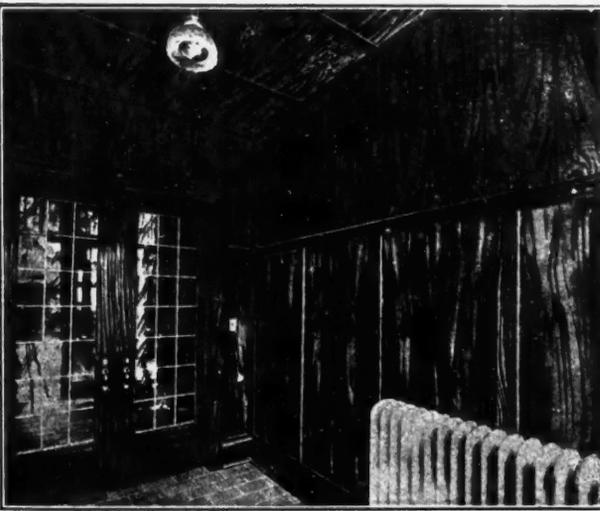


¶ This Trade Mark on a tool means both **insurance** and **assurance** — insurance against tool troubles, and assurance of the most tool satisfaction. Use the coupon and receive interesting information.

The L. & I. J. White Company
Edge Tools and Machine Knives

Main Office and Works **BUFFALO, N. Y.**
Branch Offices:
CHICAGO NEW YORK NEW ORLEANS
SAN FRANCISCO

Save 60% on Wood Paneling— Use DECO-VENEER (Thin Veneer of REAL WOOD) Mounted on Pulp Board



DECO-VENEER has demonstrated to Contractors, Builders and Architects in all parts of the country that it is possible to buy panels in all kinds of domestic and foreign woods that are superior in character and more beautiful than ply veneer stock at lower cost.

**For Wainscots, Columns, etc.,
Deco-Veneer has no equal**

We manufacture a full line of stock sizes in all foreign and domestic woods from selected stock only. Strips, cap and base complete; ready for immediate installation at a total cost far below ply panels. No mill or cabinet work required.

You simply send us the total lineal feet to cover space. State height from floor to top of cap, wood desired and whether finished or unfinished. Stock widths, 12-16-18-20-24 inches;

Descriptive and illustrated booklet on request.
Local Agencies Desired in Unoccupied Territory

DECO-VENEER CO.
442 W. 10th Street - Indianapolis, Ind.

A Sun Room in Circassian Walnut DECO-VENEER—Equally beautiful effects in Plain Ash, Red Oak, Plain Walnut, Plain Maple, Cypress, Magnolia, White Oak, Curly Maple, Curly Birch, Select Mahogany, East India Mahogany, Extra Select Mahogany, Peruvian Mahogany, Silver Gray Maple, Plain Mahogany, Plain Birch, Prima Vera, Figured Walnut, Rosewood, Satinwood and Quartered Oak DECO-VENEER—all at a saving of 60 per cent.

When Writing Advertisers Please Mention the American Carpenter and Builder.

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\$2.25
PER ROLL

ORIENTAL SLATE SURFACED ROOFING

FURNISHED IN TWO COLORS, RED AND GREENISH GRAY.
GUARANTEED TO WEAR FIFTEEN YEARS. COLORS WILL NOT FADE.



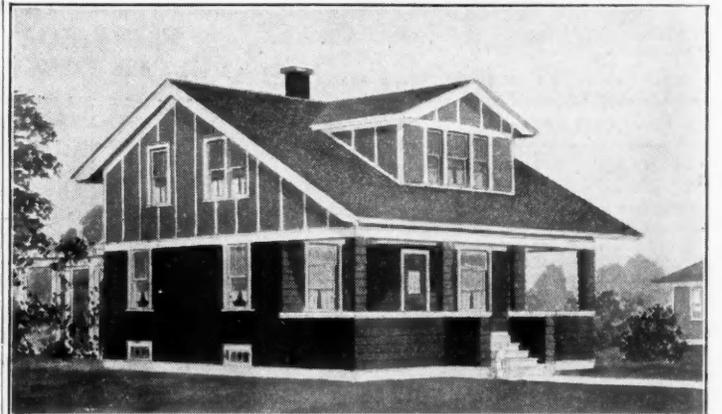
ORIENTAL SLATE SURFACED ROOFING is the most beautiful roofing made. Its color is permanent. Fine enough for the most expensive residence, yet low enough in price for the most humble cottage. Made from a long fiber pure wool felt, saturated with an asphalt composition and heavily coated with hard asphalt in which the crushed slate is thoroughly embedded. We guarantee the high quality of every ingredient used in making this roofing. It positively needs no coating nor attention after it is laid. It is fire resisting and for this reason makes an excellent roofing for buildings near factories and foundries, as it will not catch fire from flying embers.

It is furnished in two colors, red and greenish gray. These colors are permanent, as they are the natural colors of the slate just as it is quarried.

MAKES A BEAUTIFUL ROOF. Red Slate Surfaced Roofing is a dull rich red and makes a beautiful roof for any building.

FOR SIDING OF HOUSES AND OTHER STRUCTURES IT CAN'T BE BEAT. Gray Slate Surfaced Roofing is a greenish gray color, having just a slight tinge of green. This roofing makes an excellent siding when battens are used over the joints and cannot be distinguished from stucco or cement. Used as a roofing and siding with very pleasing effects.

Here's a chance to reduce the cost of your building, adding to its beauty, reducing its cost of upkeep, as no painting is ever required and with the satisfaction of knowing that it will wear equally as long as wood siding. We recommend using Red and Greenish Gray Slate Roofing together, the red for roofing and the greenish gray for siding, as pretty a color combination as can be had and you have the satisfaction of knowing that the colors are permanent and that neither roofing nor siding need be touched for at least fifteen years. Anyone can lay it. Complete directions go with every roll.

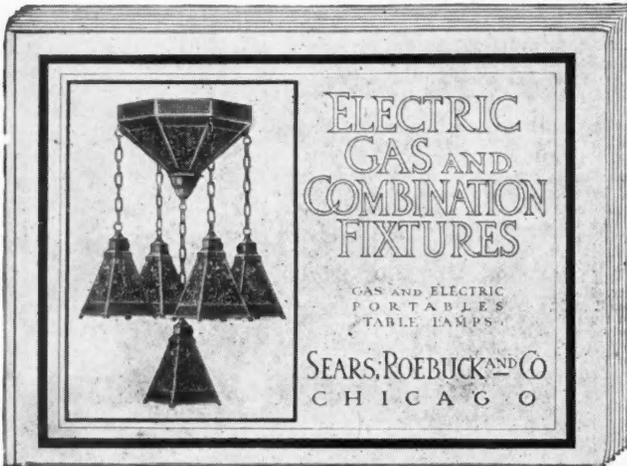


By using Oriental Roofing you save \$62.25 on an average roof of 16 squares. Roofing and labor amount to \$44.00. Shingles and cost of laying shingles amount to \$106.25, a clear saving of \$62.25, and you have a roof that is guaranteed to wear fifteen years without any attention whatever, which is worth more to you than the saving.

WE FURNISH FREE with every roll large headed galvanized roofing nails and plenty of cement for lapping seams or joints. Note that we furnish a galvanized nail with large head which costs 100 per cent more than the old style roofing or shingle nails and tin caps. We know that a good roof depends on its being firmly secured to the roof boards. Galvanized nails will never rust, hence will last for many years.

Price of Red and Greenish Gray Slate Surfaced Roofing.
No. 63R3063 Red Slate Surfaced Roofing, 108 square feet. Weight, 80 pounds. Price, per roll, \$2.25
No. 63R3062 Greenish Gray Slate Surfaced Roofing, 108 square feet. Weight, 80 pounds. Price, per roll, \$2.25
TO REDUCE YOUR FREIGHT CHARGES AND TO AVOID DELAYS IN TRANSIT, we will ship your order from our factory in Chicago or the one of our warehouses nearest you. Warehouses in Cincinnati, Ohio; Pittsburgh, Penn.; Atlanta, Ga., and Kansas City, Mo. The price is the same no matter from which point your roofing is shipped.
Samples will be mailed free on request.

Handsome New Catalog of Modern Lighting Fixtures. Newest Ideas at a Large Money Saving For You.



Write for this catalog. It is now ready. Every home owner, builder and contractor should have a copy.

We have just organized a new department to handle the output of a great modern factory making a complete line of gas and electric fixtures of the newest designs and of the very best quality and finest workmanship. To introduce this new department we have published a handsome catalog of its entire line of electric, gas and combination fixtures of every style, pattern and finish, over 300 lighting fixtures are illustrated by fine halftone illustrations, while many fixtures and lamps are reproduced in their actual colors. This book will be mailed free promptly upon request. We know you cannot buy the equal of any fixture in this catalog elsewhere without paying 20 to 50 per cent more than our prices. This brand new line of fixtures includes showers of 2, 3, 4, 5 and 6 lights, with crystal or beautiful stained glass work; leaded art glass dome tops, artistic 2, 3 and 4-light chandeliers, brackets, pendants, porch lights and ceiling lights. These fixtures are made for either electricity, gas (upright or inverted) or combination (both gas and electric). Our new department includes everything necessary for a complete installation of new fixtures throughout the house.

Be up to date. Before you place any orders for fixtures for your home or other buildings get this catalog. It shows the very latest ideas in modern lighting and means a large money saving for you.

Are you going to buy or build a new residence? Do you realize that the value and attractiveness of any house, new or old, can be wonderfully increased at very small cost by means of new and modern lighting fixtures? Your home may be out of date in a dozen of its features, but new lighting fixtures of the latest 1912 designs would make it look like a new building. If you want to rent or sell your house, modern lighting fixtures will get you a much better price.

LARGE SAVING ON MODERN PLUMBING.



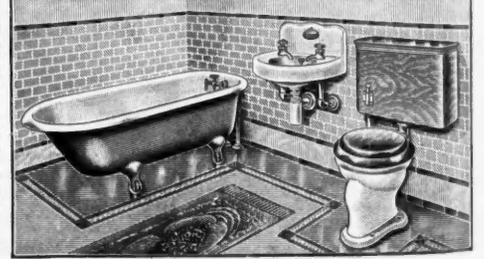
We own and operate one of the largest plumbing and enameling plants in the world and can therefore offer our customers a complete line of high grade plumbing material at prices that represent the actual cost to manufacture with one profit added. To prove this statement we show herewith our Perfection Bathroom Outfit, an outfit manufactured from the highest grade material throughout, one in keeping with the finest bathroom.

Compare our price of \$37.30 with prices quoted by others and you will find that they ask from \$25.00 to \$30.00 more for outfits not of such high quality.

Write for our Catalog of Modern Plumbing wherein we show a complete line of plumbing material at prices that will surprise you.

PERFECTION BATHROOM OUTFIT.

Consists of one 5-foot tub, one wall lavatory with high back and deep apron, one siphon wash down closet outfit with grain sawed tank and seat, together with all necessary fittings to floor or wall as desired. Bath tub and lavatory are made of high grade cast iron, enameled inside with white porcelain enamel and painted outside. Furnished complete with brass, nickel plated trimmings with supply to floor or wall, as desired. Closet bowl is of best quality vitreous porcelain. Absolutely sanitary seat is of grain sawed oak, as is also closet tank. Tank is of low down type fitted complete with rubber ball valve and ball cock supply. Closet outfit is fitted with all brass, nickel plated trimmings with supply to floor or wall as desired.



No. 42R21 4/3 Perfection Bathroom Outfit. Price, complete, \$37.30

Save Money By Ordering Goods On This Page From SEARS, ROEBUCK AND CO., CHICAGO, ILL.



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GO. ILL.

THE L. & I. J. WHITE COMPANY
Buffalo, N. Y.

Please send me particulars of
your proposition for Carpenters and
Builders.

Name.....

Address.....

Occupation.....

The Greatest Opportunity of 1912

¶ We want one Carpenter or Builder in every community in the country to demonstrate and take orders for our celebrated High Grade Tools on a liberal commission. Sign and mail the coupon today.

¶ We have been making Quality Tools for 75 years, and our goods are known all over the world, for their excellence of material, temper and finish. To use them is to save money. Every article guaranteed.



“This is the brand
By which we stand”

¶ This Trade Mark on a tool means both **insurance** and **assurance**—insurance against tool troubles, and assurance of the most tool satisfaction. Use the coupon and receive interesting information.

The L. & I. J. White Company

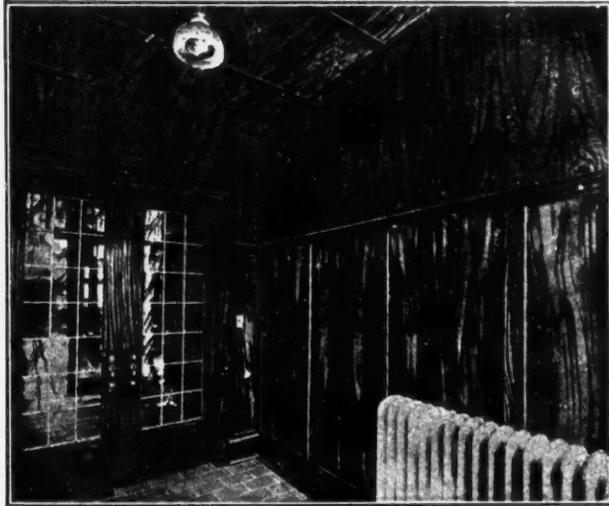
Edge Tools and Machine Knives

Main Office
and Works

BUFFALO, N. Y.

Branch Offices:
NEW YORK NEW ORLEANS
CHICAGO SAN FRANCISCO

Save 60% on Wood Paneling— Use DECO-VENEER (Thin Veneer of REAL WOOD) Mounted on Pulp Board)



DECO-VENEER has demonstrated to Contractors, Builders and Architects in all parts of the country that it is possible to buy panels in all kinds of domestic and foreign woods that are superior in character and more beautiful than ply veneer stock **at lower cost.**

**For Wainscots, Columns, etc.,
Deco-Veneer has no equal**

We manufacture a full line of stock sizes in all foreign and domestic woods from selected stock only. Strips, cap and base complete; ready for immediate installation at a total cost far below ply panels. No mill or cabinet work required.

You simply send us the total lineal feet to cover space. State height from floor to top of cap, wood desired and whether finished or unfinished. Stock widths, 12-16-18-20-24 inches;

Descriptive and illustrated booklet on request.

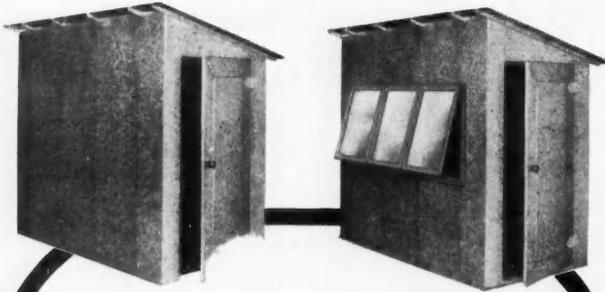
Local Agencies Desired in Unoccupied Territory

DECO-VENEER CO.

442 W. 10th Street - Indianapolis, Ind.

A Sun Room in Circassian Walnut DECO-VENEER—Equally beautiful effects in Plain Ash, Red Oak, Plain Walnut, Plain Maple, Cypress, Magnolia, White Oak, Curly Maple, Curly Birch, Select Mahogany, East India Mahogany, Extra Select Mahogany, Peruvian Mahogany, Silver Gray Maple, Plain Mahogany, Plain Birch, Prima Vera, Figured Walnut, Rosewood, Satinwood and Quartered Oak DECO-VENEER—all at a saving of 60 per cent.

When Writing Advertisers Please Mention the American Carpenter and Builder.



Portable Job Offices For Contractors

Fireproof, and Quickly Erected—\$45 Up

Here is a job office that is as easily put up, taken down and moved as a tent. At the same time it is exceedingly strong, and durable—everlasting, in fact. Nothing in it that can burn, warp, rot or decay. Made entirely of galvanized, self-structuring steel units. 7 ft. front wall, 6 ft. back wall. Prices for complete buildings, f. o. b. St. Paul, \$45 up. Write for folder and prices. Already over 250 contractors are handling

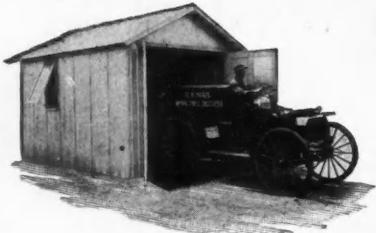
Pruden System

buildings with great satisfaction to themselves and customers. They are strong, durable and handsome as masonry, at **one-third the cost or less.** Widely known and in great demand because of our advertising. You can erect a Pruden Building complete in the time it takes to set up forms for cement or to get ready to build with masonry. Quick and liberal profits. Write for full particulars.

Metal Shelter Company
9-90 W. Water St., St. Paul, Minn.

Prudential Portable Steel Shelters

(Patented)



"Made in Baltimore"

Sheds, Boat Houses, Outing Cottages.

Anyone Can Erect Them

They require no frame, no woodwork, nor any foundation.

When put up they are very rigid, sanitary, weather-proof and fire-proof. They will not rust and when dissembled occupy very compact space.



Contractors and Builders! The erection and sale of these buildings open a new and profitable field for you.

Write for prices, catalogues and discounts.

G. D. PRUDEN & CO., SOLE MANUFACTURERS
BALTIMORE, MD., U. S. A.

A "Fly-Time" Circular

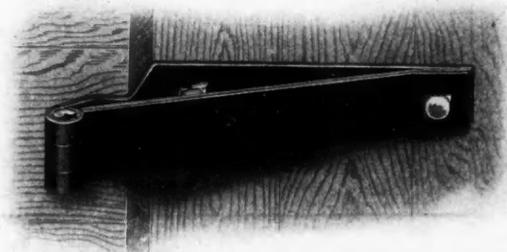
Swat-the-fly time is approaching and the National Manufacturing Company, of Sterling, Illinois, are fore-warning against the advent of the summer pest, with a most clever "Fly-Time" circular, which is being sent out among the builders' hardware trade.

It will undoubtedly awaken the traders to the close proximity of the fly and stimulate them in providing for the certain rush for screens and accessories, which will overtake them in but a few weeks.

The folder is a 24x10" four fold affair, attractively worked up in blue and black. It features the company's No. 80 screen and storm sash hanger—an automatic hanger for full length screens and storm sash; also their No. 90 screen and storm door set and their No. 195 screen door turnbuckle.

The National company have once again added another item to their extensive stock. They term the newcomer their No. 16 barn door bumper. This bumper is shown here.

It is made of 1½x5/32 inch steel and is attached to the building 3 inches above the center of the door, with two 2x7/16 inch lag-screws. It has a hinged joint, which allows the first lag-screw to be inserted easily. It is so constructed



New Barn Door Bumper

that it will hold the door close in against the building. This bumper will save the time and labor required to make an inferior article of wood and will be found a most useful and practical addition to every pair of hangers.

Any not thoroughly familiar with the big National Mfg. Co. line can obtain the company's general catalog or descriptive matter upon special features by addressing their general offices at Sterling, Ill.



A Safety Screw Driver

It is probably true that a great number of lesser accidents and injuries occur to workers in many trades, which, while not of sufficient magnitude to incapacitate them entirely, cause delay and bring about an inefficient condition of affairs.

If traced to their source, these minor injuries are found, in many instances, to have originated in poorly designed or cheaply constructed tools; and when we realize that it is through these instruments that the work is actually accomplished, we begin to appreciate the necessity for care in their manufacture.

It is of interest, therefore, to note an apparently successful attempt to combine in what is probably the most universally used of all hand tools—the screw driver—factors of safety and convenience that are very evident in use and desirable in almost every class of work.

This is being done by the Benjamin-Sellar Manufacturing Co., of Chicago, in the making of their new Benjamin friction drive screw driver.

The construction of this screw driver is such that the butt of the handle that normally rests against the palm of the hand is free to revolve with the hand, except when the natural pressure is applied as in driving a wood screw, when grooved frictional surfaces engage and transmit the required

When Writing Advertisers Please Mention the American Carpenter and Builder.

NORTHWESTERN

the Big Line of

Concrete Machinery

Northwestern prices are from 15 to 50 per cent lower than on any other standard line of concrete machinery, tools and appliances. Everything guaranteed and returnable at our expense if not absolutely satisfactory. No money down—10 days' trial. No slighting of quality is possible under such a guarantee. Low prices are the result of the greatest facilities for building concrete machinery in the world, and the greatest output, which results in big manufacturing economics. No matter what you need for any kind of cement or concrete work, you will find it in the Northwestern line, at a money-saving price.

GET THE CATALOGS—and see the substantial money-saving on anything you need—machines, moulds, tools or accessories. It costs nothing and puts you under no obligation to buy. Write today for catalog, stating what machines or moulds you are interested in, so we can send full information.

Northwestern Steel & Iron Works

1075 Spring St.

EAU CLAIRE, WIS.

Wholesale Prices

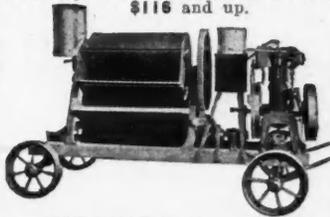
Block Machines, \$10 to \$250; Brick Machines, \$22 to \$75; Mixers, \$24 to \$1000; Porch Column and Baluster Outfits, \$15 to \$75; Cap and Sill Moulds, \$12 to \$35; Lawn Vases, \$15 to \$25; Ball Moulds, \$2 to \$17; Grave Stone Moulds, \$7 to \$69; Well Curbing Moulds, \$4 to \$7; Drain and Sewer Tile Moulds, \$6 to \$53; Block Cars, \$11 to \$17; Fence Posts Moulds, \$7 to \$12; Sill Moulds, \$14 to \$150; Coping Moulds, \$18; Hitching Post Moulds, \$20; Baluster Moulds, \$6 to \$18; Jardinieres, \$12; Special Gate Post Moulds, \$10 to \$30; Newel Post Moulds, \$14; Grave Markers, \$7; Burial Vaults, \$90.

Complete line of—Cinder Crushers, Rock Crushers, Sand and Gravel Elevators, Sand Screens in both Revolving and Stationary Type, Mortar Gauges, Wheelbarrows, Jointers, Groovers, Edgers, Corner Tools, Curb and Gutter Tools, Corrugating and Radius Tools, Roller Jointers, Brick Tonges, Curb Clamps, Curbing Edgers, Hawks, Floats, Line and Indentation Rollers, Tampers, Rammers, Name Stamps, Indentation Letters, Wall Plugs, Expanded Metal and Water Proofing, Flower Pots, etc.

Write telling us what you are interested in so we can send full information.

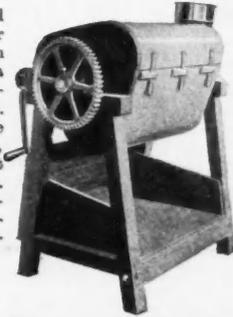
Triangular Sidewalk Mixer

A compact portable machine for sidewalks and foundations. A very low price speedy machine easily moved—can be fastened to wagon and moved from job to job. Exceptional mixing qualities, well made and very desirable for medium work. \$116 and up.



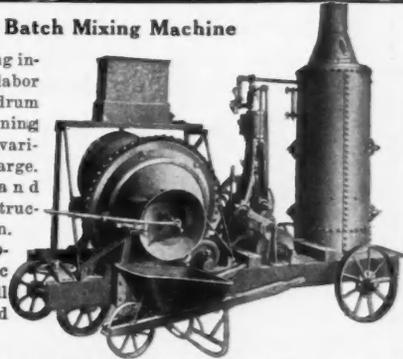
Wood Frame Batch Mixing Machine

Low priced machine for use of the man who needs a mixer for occasional jobs. A minute batch mixer, handling wet or dry mix. Strongly constructed—gives excellent service. \$24.



Cone Batch Mixing Machine

Low loading intake cuts labor costs—open drum—self-cleaning features—variable discharge. Strongest and simplest construction known. Steam, gasoline or electric motor. All sizes and prices.



FAR CHEAPER THAN WOOD

VAN WIE TUBES

The Carpenter-Contractors Best Opportunity

The simplicity of the Van Wie Tubes—the one piece throughout for corners and everything—their interlocking feature, their certainty in time saving, make them *practical for the carpenter to use.*

Van Wie Tubes, made of burnt clay, are used for foundations, or for entire walls.

They are very unlike bricks, or blocks, in construction, as no mortar is used between them when setting them up, and until the plasterer commences, the carpenter may do all the work in connection with them.

Common labor is all that is necessary in placing them. The carpenter directs the work only and keeps the lines true.

There is no time lost. There is no mason-work on the job. The foundation can be made ready without waiting; there is no trouble or delay in putting up joints, plates, etc., as the work goes right on in a practical, economical way.

Buildings so constructed have been long tried out with results that have established entire certainty as to their desirability. The finished building, with its hollow wall, is strong and durable at moderate cost.

The field for this construction is large, the possibilities are great, the opportunity is **YOURS.**

Carpenters, Contractors and others interested in building should write for further particulars. Useful and valuable information will be cheerfully furnished.

ELMER E. VAN WIE, - - Kenosha, Wisconsin

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torque. The handle proper is also an interesting development, it being constructed of hard moulded rubber with deep flutes or grooves so that the fingers and thumb obtain a firm and sure grip. In the electrician's type, the rubber moulding said to be capable of standing up under 11,000 volts, runs the length of the blade.

The friction butt cap exerts a constant slight pressure on the screw through a small helical spring, and tends to keep the blade in the screw slot. It also allows of one hand work in cramped or dangerous places, the other hand being free for protection or support. As the cap revolves with the hand, no blisters or sore spots can develop, and machine screws, for instance, can be quickly run in with the thumb and fingers.

The Benjamin friction drive screw driver is made in several different types particularly adapted for certain work. It is of the highest quality in every detail. High grade crucible steel is used and the blade is carefully forged, tempered and polished. The handle of black insulating material is moulded to the blade, making them practically one piece. The blade can not work loose.

Full particulars concerning these Benjamin friction drive screw drivers can be had by addressing the Benjamin-Sellar Mfg. Co., 557 W. Quincy Street, Chicago, Ill.



Willis Skylights and Ventilators

A catalog every contractor and builder ought to have is that issued by the Willis Manufacturing Company of Galesburg, Ill. This company are extensive manufacturers of architectural sheet metal work, all of which is fully illustrated and described in this No. 6 catalog number. Every item of their making is a necessary adjunct in construction work at one time or another and contractors and builders, generally, will find it a great practical convenience to have so complete a catalog covering metal work, for ready use.

Among this company's varied line, and a field that they specialize in, is the making of skylights and ventilators. They manufacture many different styles of skylights and can furnish such equipment adaptable for practically any light or ventilating effect desired.

All of their skylights are provided with condensation gutters and bars and are guaranteed not to leak. The company can make their skylights knocked down and recommend that they be shipped that way, as the freight charges, also chances of damage will be greatly reduced thereby. Any one with the aid of a hammer and screwdriver can set up a skylight easily. Every part will be found to fit perfectly, as before the shipment all knockdown skylights are set up and properly fitted at factory.

The Willis people usually use ribbed wire glass in their skylight work, as it is fire-proof, not easily broken, and when broken does not fall out or drop. A large glass area is always had with their type of construction. All ridge and gutter bars are so formed that it is impossible for them to sag, buckle or spread.

Willis ventilators are very simple in construction, there being practically no mechanism in their make-up to get out of order. All dampers are perfectly balanced on pivots, closing by gravity. In the design of these ventilators every provision has been made to guard against the entrance of all storms and at the same time to quickly exhaust excessive heat, fumes, smoke, steam, etc. These ventilators can be furnished in different styles, with or without bases and roof shields. Louvred ventilators in several styles for warehouse, barn and similar building use, are also manufactured by this company.

Write to the Willis Manufacturing Company, Galesburg, Illinois, for their catalog No. 6 and further descriptive matter concerning their skylights, ventilators, automatic skylight lifter and lock, wire skylight guards, weathervanes, etc.

SARGENT
V-B-M

PITCH		2	3	4	5	6	7	8
12-4	1/6	2	1	4	3	1	11	
12-6	1/4	2	2	10	3	4	3	
12-8	1/3	2	4	11	3	7	3	
12-10	5/12	2	7	3	3	4	5	8
12-12	1/2	2	9	11	3	10	10	
12-15	5/8	3	2	5	4	2	4	
12-18	3/4	3	7	3	4	9	8	

Standard Steel Squares

Made of tool steel. Strong at the joint where the greatest strain comes, tapering evenly towards the ends of the body and tongue. Graduated by dies with machinery. Famed for accuracy and careful smithing. For full description see the Sargent Tool Book, sent free on request; explains also the Sargent Rafter Square.

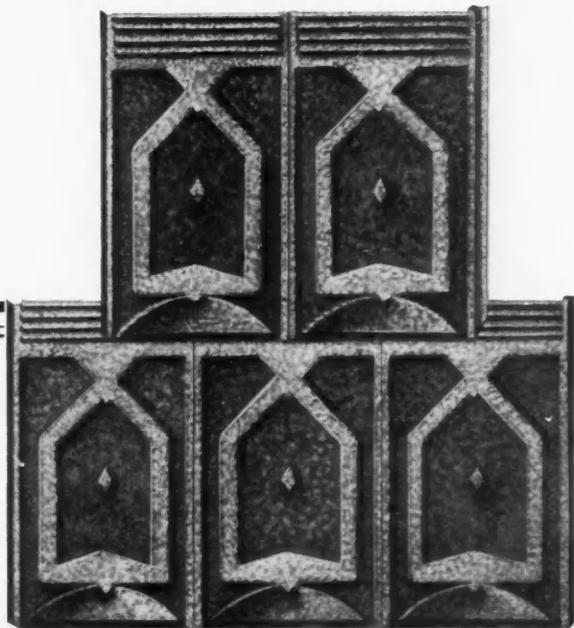
SARGENT & COMPANY
Manufacturers, 1149 Leonard St., New York

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STANDARD

Lock-Joint

Metal Shingles



Are the quickest laid shingles made, Mr. Contractor and Builder, and they give absolute satisfaction and service. These are proven facts and don't ignore them.

Our metal shingle are made in either

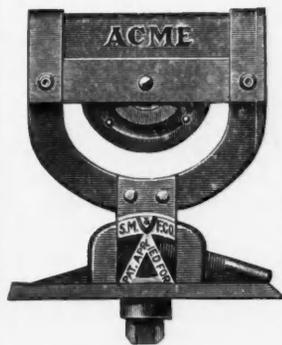
Painted Tin
or **Galvanized**

They are twice as quickly applied as those of any other make. In using them you are saving time and saving time means saving money. Can you afford NOT to investigate them.

Our Standard Lock-Joint Metal Shingles have a continuous seal at end of side-lock. It is impossible for rain, snow or sleet to blow up under them. Our's is the only shingle made having this feature. And they lock—lock so that they will always keep in one, and only one, position. Another feature that you will not find on other shingles.

Let us send you our general instruction roofing booklet. You'll find it very handy to have and it explains all about our Standard Metal Shingles. Drop us a line about it. It's free. Further: We have an attractive proposition to make to agents in territory in which we are not represented. Write us regarding terms, etc., etc.

The Moeschl-Edwards Corrugating Co., COVINGTON, KY.
(Opposite Cincinnati)



ACME PARLOR DOOR HANGER

Ball Bearing
Easy Running
Fibre Tread
Noiseless
Adjustable



ADJUSTABLE TRACK

Only Parlor Door Track on the market permitting the Pocket End to be adjusted from center of opening. Track attached to Board ready for use.

Get Our Catalogues

1. Hardware; 2. Registers; 3. Hay Tools;
4. Wire Workers Goods; 5. Door Hangers and Rail;
6. Wagon and Carriage Malleable Hardware; A. Fire Door Fixtures.

STOWELL MFG. & FDY. CO.
51 Madison Ave. SO. MILWAUKEE, WIS.



Builder's LEVEL With Tripod and Level Rod Complete \$15.00

This is a level built especially for builders and contractors. It will do your work as quickly and as accurately as the most expensive engineer's level. It can't be beat for all kind of foundation work, getting angles, ditching and laying walks. Has high grade achromatic telescope giving sights up to 1200 feet. Equipped with very sensitive ground level vial—silver circle graduated to degrees. Solidly constructed hard wood tripod with steel points. Hardwood rod, 5 feet closed, extending to 9½ feet, with sliding target. Rod graduated to feet—_inches and ¼ inches.

A complete leveling outfit for building use. Level, Tripod, Rod, Carrying Box and accessories. **\$15.00**
Outfit complete. only

Send for this level outfit today. We guarantee you will be satisfied. If you are not more than pleased we will return your money.

A. S. ALOE CO.
513 Olive St., St. Louis, Mo.

When Writing Advertisers Please Mention the American Carpenter and Builder.

Amatite ROOFING



**Mineral Surfaced—
Needs No Painting**

EVERYTHING about Amatite appeals to the man with common sense. He can see its superiority at once—the real mineral surface which never needs painting; the two layers of Pitch which is the greatest water-proofing material known; the two layers of heavy Tarred Felt—all these contribute to the popularity of Amatite.

We can make Amatite better and cheaper than anyone else on account of our greater facilities, and consequently we sell it at a surprisingly low figure.

Simply the fact that it needs no painting is enough to make a man sit up and take notice—especially the man who has spent time and money in painting and repainting smooth surfaced roofings.

Write to-day for further information.

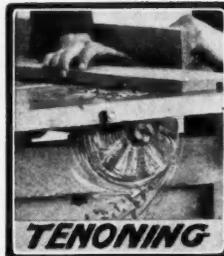
BARRETT MANUFACTURING COMPANY

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| New York | Boston | Pittsburgh | Minneapolis |
| Chicago | St. Louis | Cincinnati | New Orleans |
| Philadelphia | Cleveland | Kansas City | Seattle |
| | London, Eng. | | |

This Machine Does "Hand Work"

Cuts Stair Joists, Makes Accurate Miters, and Makes Cross-Grain Dado-Cutting Seem Easy

Experience has taught a great many carpenter-builders and contractors that it pays big to turn over the bulk of their sawing jobs to the compact machine known as the "Eveready" which is the portable saw-rig outfit popularized by the Oshkosh Manufacturing Company, Oshkosh, Wis. Retail lumbermen, as well as the biggest of the wholesalers, found out some time ago that this machine will rip and cross-cut dimension lumber far more cheaply than the work can be done by hand; and it has been no rare thing for the "Eveready" to make a saving of \$20 and more a day on work of this kind. As it does six men's work with a carpenter and helper as operators, even a saving as big as that is not its limit by any means.



But the special utility of this "portable private planing mill," as one of our readers terms it, lies in its ability to handle the kind of work usually done only by specially-skilled hand-labor, and thus done at a considerable cost. Sawing stair-joists, for example, is not a pastime even for a veteran carpenter. Neither is a long and wearisome job of cutting maple flooring to true miters for diagonal laying. Both of these troublesome and expensive tasks, and others as hard are done by the "Eveready" at a very low cost, because the machine is fitted with special attachments that handle a great many kinds of difficult or slow-moving "hand jobs" and get them done in quick time.



One of the attachments which is furnished free of cost to the buyer of an "Eveready" portable saw rig is a mitre device of unique design and great adaptability. Being 33 inches in length and adjustable to any angle, its ample surface and flexibility enable the operator to put through the most tedious and exacting mitering job with confidence and speed. The saw gauge which is part of this device, 18 inches long, is so adjustable as to permit cutting a bevel of any degree without a chance of irregularity.



Another "Eveready" free attachment comprises a 6½-inch dado or groover head, with which is supplied two extra cutter-blades for grooving different sizes. This equipment is of special design, and will work smoothly and cut evenly either with the grain or across it. Many "Eveready" owners among our carpenter friends cut their own window frames with it, and it has proved specially useful on odd-sized casement and transom jobs.

The "Eveready" extras—which are, as we have remarked, really "extras" because they are supplied without cost to the "Eveready" purchaser—include a cleverly-designed jointer with a 2½-inch head, which is so equipped with an adjustable plate that it will do the work of a modern and high-priced planer. There is also a jig-saw attachment of the finest quality, with 33-inch rock maple arms, adjustable by a turn-buckle, making a jigsawing outfit that no carpenter can help praising once he has seen the work it does and figured the time, trouble and money it will save.

Besides this array of special attachments, the "Eveready"



is for a large, high room, but we have others for smaller rooms.

Ceilings in **Stamped Steel** for Public or Commercial buildings. Ceilings of modern refined designs for private residences. Tilings in **Steel**, for Bathrooms and Kitchens.

Half the labor of erecting a metal ceiling is strictly Carpenters' work, that is, the scaffolding and furring. Once started, they can finish it as well or better than anyone else. Secure our agency and push them.

Catalogue on request

Northrop, Coburn & Dodge Co.

No. 29 Cherry St. NEW YORK

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Metal Ceilings and Sidewall---



Metal Sidewall

The most artistic and best metal ceiling on the market. Beautiful designs,—double beaded, invisible, dust proof joint,—easiest ceiling to apply, and costs no more than the other kind.

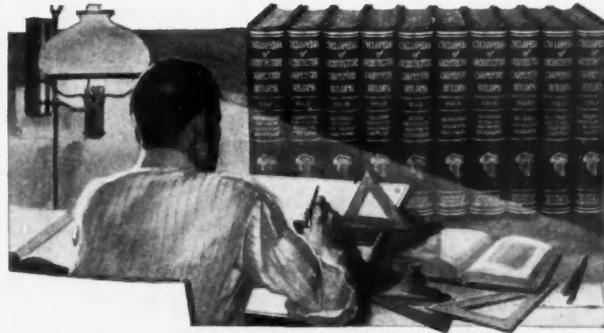
Let us convince you. Send us dimensions of surface to be covered and we will submit plans and prices that will interest you. If you are in need of good goods at a moderate price write to us for our catalogue "B" before placing your order.

The Tiffin Art Metal Co.

—MAKERS OF—

Metallic Shingles, Painted and Galvanized Corrugated and V Crimp Roofings, Eaves Trough, Conductor Pipe, Ridge Roll, etc.

Broad and Second Ave.
TIFFIN, OHIO



LEARN MORE AND EARN MORE

Don't be satisfied with merely pushing a saw and driving nails. Learn to PLAN as well as to work—to use your BRAIN with the same skill that you use your hands.

Learn to fill a BIG-SALARIED job—the kind of a job that hundreds of other men, with no more natural ability than you, are filling with ease and success.

AN HOUR A DAY WILL DO

An hour a day spent in careful study will enable you to MASTER EVERY DETAIL of your line of work. EVERY BRANCH of building construction, EVERY ANGLE of architecture and carpentry. You can have the knowledge and experience of over FOUR SCORE EXPERTS at your command ready for instant use whenever you want it—can fit yourself to fill any first-class position above you that you desire—simply by allowing us to place in your hands this great ten-volume set, without your sending us one cent in advance.

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is the most exhaustive, comprehensive and practical work on the building trades that has ever been published. It covers every detail of building construction from foundation to roof, from common carpenter work to reinforced concrete and steel, from masonry to heating and ventilation; from specifications and estimates to building laws and superintendence. It covers all the PRACTICAL things that you WANT TO know, all the things that you've GOT to know if you're going to be a success. It contains over 4,000 drawings, full page plates, diagrams, etc., has 4,760 pages, is bound in handsome half morocco and printed on special paper in large clear type. No CARPENTER, CONTRACTOR or BUILDING OWNER can afford to be without it a single day.

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just what they are before you send us a single cent. Look them over carefully at your leisure. Keep them for seven days before you decide whether you want them or not, and then if you don't believe that each volume is actually worth more to you than the price of the entire set, send them back at our expense and the transaction won't cost you one penny. If you do decide to keep them, our charge will only be \$24.80, spread out thin in easy payments of only \$2.00 a month. We don't ask you to buy these books from our description of them. We don't ask you to trust our judgment. We simply ask you to get the books and see for yourself. We'll send the entire set, express prepaid.

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With each set we include a year's Consulting Membership entitling you to the advice of our business, engineering and law experts free. This will give you practical help in handling working problems which are too specific to be taken up in detail in the Cyclopedic. There will be no limit to this service. A single problem solved for you might be worth more than first cost of the books. Order the books now.

American School of Correspondence CHICAGO, U. S. A.

FREE EXAMINATION COUPON

American School of Correspondence, Chicago, U. S. A.
Please send set of Cyclopedic of Architecture, Carpentry and Building for seven days' free examination. I will send \$2.00 within seven days and \$2.00 a month until I have paid \$24.80, or notify you and hold the books subject to your order. Title not to pass until fully paid. Am. Carp. & Bldr. 5-12

NAME
ADDRESS
OCCUPATION
REFERENCES

Mr. Contractor:

Are you sure that the Roofing you are now using is giving your customer the satisfaction you would expect were you in his place?

Are you sure that the house supplying you is protecting you in your territory?

Does it stand ready to guarantee the roofing that it is putting out and to stand by that guarantee?

Are you using the most valuable roofing, that is the roofing that will give the desired protection at the lowest service cost?

These are serious questions—answered completely, when you are using and recommending MASTIC ROOFING, by the simple word "yes."

MASTIC ROOFING is made of the best materials to be had. They have been fully tried out in all kinds of service and in all climates; they are properly proportioned, and the result is a tough, durable, asphalt concrete mixture. The burlap base gives strength to withstand ordinary strains, as well as expansion and contraction, and the weathering action of the mixture is a combination of a paving and a paint. The saturated felt back prevents damage through sweating or condensation; the mica and sand surface finish protects the wearing side and presents a slightly appearance.

Our many years experience has taught us how to make roofing that lasts.

MASTIC is the RESULT. Requires no coating or painting—is a finished product when it reaches you. Write for sample and details of our special proposition to contractors.

NATIONAL ROOFING MATERIALS COMPANY
Office and Factory, EDWARDSVILLE, ILL.



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outfit is made even more complete by a high-grade attachment, an improved sander, an emery wheel equipment for tool-sharpening, and the regulation rip and cross-cut saws. Considering that the whole outfit, with all its attachments and their labor-saving and money-making possibilities, sells for a most moderate price and is "guaranteed for life," as the makers put it, there is good reason for the rapid and rising favor this portable saw-rig—which is so much more than any mere saw-rig—is finding everywhere in the active branches of the building trades.

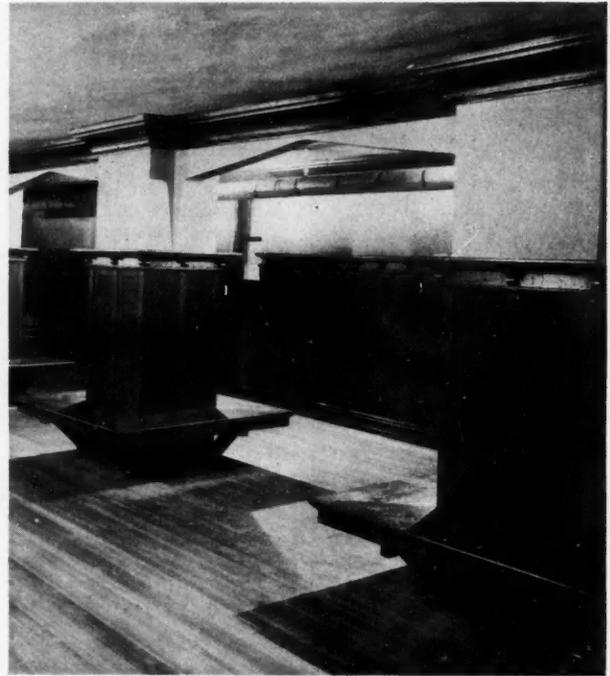


The Problem of Damp Walls

Many builders and building owners have been puzzled over the problem of how to avoid the bad effects of dampness on plaster and decorations. Often in the case of a basement room the moisture destroys the plaster, the paint and the varnish in a very short time and no repairing or redecorating is reasonably lasting. The dampness makes the paint peel and the plaster fall off or stain.

In this connection it is interesting to know that many are getting admirable results from the "Utility" wall board, manufactured by the Heppes Company of Chicago. Their product was used to solve just such a problem as has been described in Trinity Church, Toledo. The trouble was in the basement room of the church, pictured here. There are only electric lights in this room. Wet walls caused the paint and varnish of every kind to loosen from the walls. After paneling the walls to a height of about five feet with "Utility" wall board, as shown in the picture, the difficulty was eliminated. The wall board was left in its original finish and it makes a very neat room.

The Heppes product gets these results because it is moisture proof, being made of several layers of board and asphalt rolled by a special machine with an ingenious series of heavy



Basement in Trinity Church, Toledo, Ohio, Finished with "Utility" Wall Board

rollers. It is also a non-conductor of heat and cold and deadens sound. In addition to its general utility and economy, it is very easy to handle as it is nailed directly on the studing or joists and can be applied over old plaster if desired. It is neat in its original appearance and lends itself easily to decorations, no sizing or preparation being necessary.

Our Window-Chute

is a Real window as well as a perfect chute.

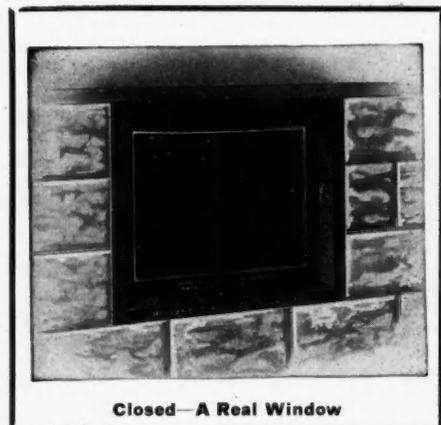
- ☐ It saves an extra window frame and sash.
- ☐ It is not a disfigurement to the wall—but an attractive looking basement window without hinges, bolts, etc., etc., showing on the outside.
- ☐ It is absolutely burglar proof—locks automatically when closed and can be opened only from inside.
- ☐ It is the only REAL window, combination hopper, coal chute. When opened and in use a heavy steel sheet completely covers and absolutely protects the glass.
- ☐ It is easy to set. It is rust-proof. It will not buckle under wall.
- ☐ It is entirely suitable for either frame, brick, stone or concrete walls.

Sizes

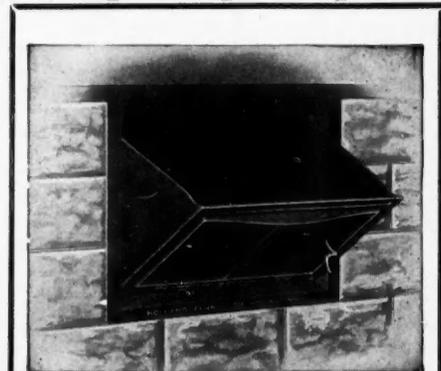
Size "B" 18" wide by 22 $\frac{3}{4}$ " deep, 1 Light 14x16
Size "E" 24" " " 22 $\frac{3}{4}$ " " 2 " 10x16

Be sure you get our Window-Chute folder before deciding to install any certain chute. Ask us to mail you one.

HOLLAND FURNACE COMPANY
HOLLAND - - MICHIGAN

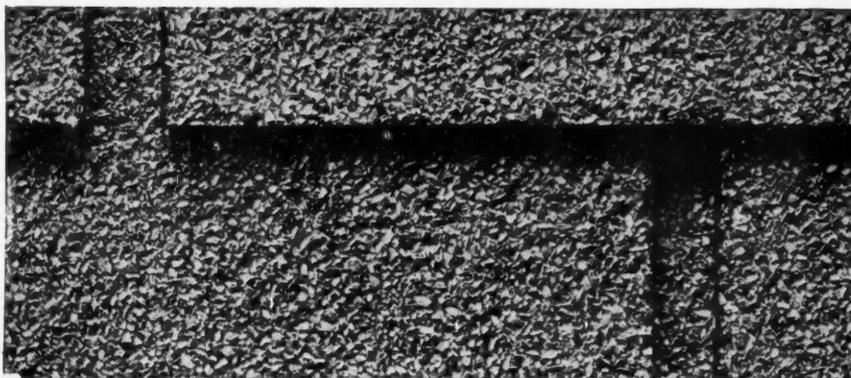


Closed—A Real Window



Open—A Perfect Chute

When Writing Advertisers Please Mention the American Carpenter and Builder.



We have a free sample of this remarkable new roofing material for every carpenter and builder in the country—

Have you had yours?

This Cut Shows the surface of Flex-A-Tile Shingles—Beautiful, Convenient, Durable.

FLEX-A-TILE ASPHALT SHINGLES

Are made of solid asphalt into the surface of which is imbedded chipped slate and granite—It is rolled in so substantially that it becomes an actual part of it—It can't come out—and as it is natural slate and granite it can't fade or discolor—The colors are deep red, green gray, silver gray or brown.

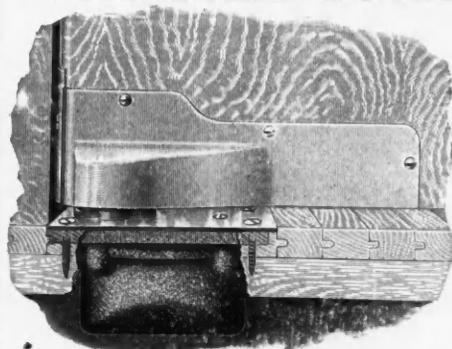
Flex-a-tile shingles are cheaper than wood shingles that have been stained—They are easier to lay—and they will last as long as the house lasts—

Flex-a-tile comes in rolls as well as in shingle form

Write to-day for your Sample—and for the Flex-a-tile Book.

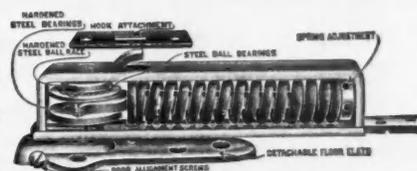
THE HEPPE'S COMPANY, 1010 Forty-Fifth Ave., Chicago, Ill.

STANDARD DOUBLE ACTING SPRING FLOOR HINGES



CHECKING.

- It is a door check and hinge combined.
- It automatically closes the door without a slam.
- It prevents children from being knocked down.
- It prevents injury to hands if caught when door is closing.
- It stops door exactly at center.
- It holds door open automatically when desired.
- It renders the action of door absolutely noiseless.
- It will outwear three of the spring hinges now in common use.



UNCONTROLLED KIND

We also make pivot check for double-acting doors.

Sold by the Hardware Trade.

THE STANDARD MFG. CO.
SHELBY, OHIO, U. S. A.

Wonderful Handy Lamp

Gasoline Lighting System.
Equal to a Private Gas Plant

Entirely under your control; so simple any one can operate it.

Saves You Half

your lighting expense. Just push the lever and down comes a flood of 300 candle power shadowless light. Push it back and down goes the light to a mere glimmer which can be instantly turned up. Better light than gas, kerosene or electricity, at half the cost. For Home, Store, Church, Factory, etc. Write for A. C. B. Catalog. It's free. We have 5 other lines.

Brilliant Gas Lamp Co.

182 No. State St., Dept. 20 CHICAGO, ILL.



Sea Green and Purple Roofing Slate

is the finest slate produced for medium priced dwellings, barns, and factories. It never wears out. Write to us immediately for delivered prices on all grades of Roofing Slate, Slaters' Tools and Supplies. We are the oldest and largest roofing slate concern in the U. S. Send 50c for our 96 page Slate Manual full of rules, tables and instructions. Invaluable to Roofers and Architects. There is a big demand for slate roofs. Get after this profitable business.

Write for prices today—NOW.

THE AULD & CONGER CO.
150 Prospect Ave. Cleveland, Ohio

**SLATE
ROOFS
NEVER
WEAR
OUT**

When Writing Advertisers Please Mention the American Carpenter and Builder.

Granite
TRADE MARK
ROOFING



SIX INCH SOLID LAP
SAFEGUARD

A six-inch lap is better than a three-inch lap. It gives better satisfaction against leaks and permits nailing down on the under sheet only, so that no nail heads appear on the surface. Otherwise this is the same Granite Roofing that we have sold for 26 years for use on great factories. It is immune from damage by coal smoke or cinders, and it has a sea grit surface which makes painting entirely needless. Behind it is a reputation that has Passed the Quarter Century Mark.

EASTERN GRANITE ROOFING CO.
19 Battery Place, New York

Chicago Pittsburgh



Post-paid
\$3.50
per pair,
including
Pocket
Pump

If your work renders this position necessary, you can't afford to be without a pair of "Kneematics." Fit the knee perfectly and weigh but six oz. Made of finest and toughest leather fitted with heavy inner tubes. Pump them as you would a tire. Will save four times their price in overalls and trousers in a year.

*Don't abuse your delicate knee cap tissues.
Rest on air.*

M. M. M. M. Co., Inc.
MARSHALLTOWN, IOWA

Roofing Evidence and Advice from the Barrett Company

A word to Architects, Engineers and Roofers, is the title of a booklet, recently issued by the Barrett Manufacturing Company of New York. It is a most attractive issue of 16 pages and cover—devoted entirely to the Barrett Specification for roofing and indicating the campaign this company is following in its notable efforts to promote good roofs.

Just what the Barrett Specification aims to do for slag and gravel roofs, is first dealt with, and recommended practice presented as follows:

NOTICE—Special attention is called to the revised wording of this specification. The changes have been made at the request of architects and engineers, but in no way do they affect materials or method heretofore used.

Incline—This specification should not be used where roof incline exceeds three (3) inches to one (1) foot.

Tracing—Tracing of roofing details is provided, so that same may be inserted in plans.

SPECIFICATIONS FOR USE OVER BOARD SHEATHING

Roofing—**FIRST**—Lay one (1) thickness of sheathing paper or unsaturated felt, weighing not less than five (5) pounds per hundred (100) square feet, lapping the sheets at least (1) inch.

SECOND—Over the entire surface lay two (2) plies of specification tarred felt lapping, each sheet seventeen (17) inches over preceding one and nail as often as is necessary to hold in place until remaining felt is laid.

THIRD—Coat the entire surface uniformly with specification pitch.

FOURTH—Over the entire surface lay three (3) plies of specification tarred felt, lapping each

sheet twenty-two (22) inches over preceding one, mopping with specification pitch the full twenty-two (22) inches on each sheet, so that in no place shall felt touch felt. Such nailing as is necessary shall be done so that all nails will be covered by not less than two (2) plies of felt.

FIFTH—Spread over the entire surface a uniform coating of specification pitch, into which, while hot, embed not less than four hundred (400) pounds of gravel or three hundred (300) pounds of slag to each one hundred (100) square feet. The gravel or slag shall be from one-quarter ($\frac{1}{4}$) to five-eighths ($\frac{5}{8}$) inch in size, dry and free from dirt.

Flashings—Flashings shall be constructed as shown in detail drawings.

Inspection—The roof may be inspected before the gravel or slag is applied, by cutting a slit not less than three (3) feet long at right angles to the way the felt is laid. All felt and pitch shall bear the manufacturer's label.

Note—The Barrett specification for use over concrete, will be mailed free, on application.

Complete information concerning the Barrett specification materials may be obtained from any of the company's numerous branch offices as well as from the general office in New York City.

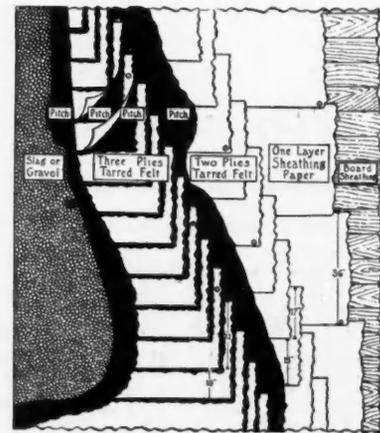


Diagram of Barrett Spec. Roof

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Residence of W. T. DURRETT, Audubon Park, Louisville, Ky.—roofed with Asbestos "Century" Shingles. Architect, Henry Walter.

The finest and most durable roofing in the world is cement-asbestos shingles when properly made and homogeneous. They are absolutely fire-proof and indestructible. But how can you be sure they are properly made? You can insist on getting

Asbestos "Century" Shingles
"The Roof that Outlives the Building"

They are truly homogeneous—not a weak spot anywhere to break down. The reinforced asbestos fibers are evenly distributed through the cement—interlacing in every direction. They will save your client the cost and annoyance of repairs and painting.

They will give him positive fire-protection—minimum insurance rates. Specify Asbestos "Century" Shingles by name. See that you get them.

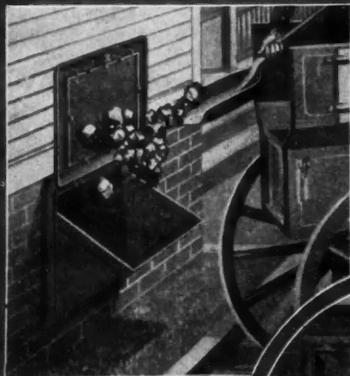
Our nearest representative will supply you—numerous shapes and sizes, in three colors: Newport Gray (silver gray), Slate (blue black) and Indian Red.

WRITE US for Booklet "EVERLASTING 1912."

Keasbey & Mattison Company, Factors
 Ambler, Pennsylvania

Branch Offices in Principal Cities of the United States

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 1/4-inch wire glass or steel panel in door.

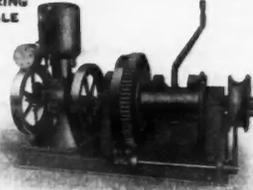
Write for circular and address of nearest dealer.

MAJESTIC FURNACE CO.

995 to 1001 Sixth Avenue Huntington, Indiana

NO LANK
 NO FAN
 NO FREEZING
 TROUBLE

Cut Down Operating Expenses

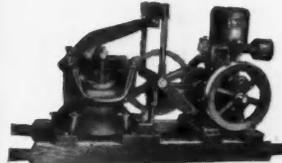


Novo Hoisting Outfit

Novo Hoisting and Pumping Outfits will enable any contractor to cut down his power cost to a minimum.

NOVO ENGINE

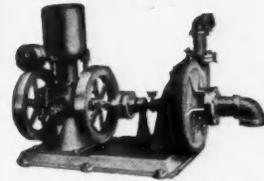
"The Engine for Every Purpose"



Novo Contractor's Trench Pump Outfit

give power cheaper than either steam or electricity. It eliminates the licensed engineer, expensive wiring, electric current and coal; occupies a minimum of space. The Novo is simple, reliable, very readily portable—the lightest engine for power developed.

Everything is self-contained—fuel in base, cooling system above. Cooling system is guaranteed against freezing damage. Made in eight sizes—1 to 10 H. P.



Novo Engine and Centrifugal Pump Direct-Connected

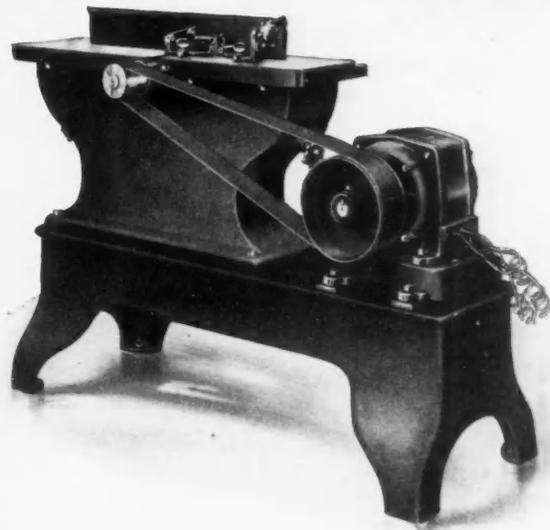
Novo Hoisting Outfits have strong gears, liberal bearings, two clutches with a single lever, reliable foot-control brakes. Like the engine itself, they are built for long, hard service. Novo Pumping Outfits do the work of many men, quicker and better.

Send for Novo Equipment Catalog and investigate for yourself. Ask us to prove our claims.

Novo Engine Co., CLARENCE E. BEMET
 236 Willow St. Sec'y and Gen'l Mgr.
 - Lansing, Mich.

We can offer an exceptional dealer's proposition in new territory. Write us for facts and figures.

THE PORTER 5" JOINTER



Is used for Jointing, Planing, Moulding, Beveling, Rabbeting, Grooving, and any other work that any Jointer can be used for. We furnish it with or without countershaft, bench or motor. Just as you desire. The **Best** machine for the money on the market. We make 6 larger sizes, and Wood Lathes, Shapers, Planers, Cut-off Saws, Band Saws and Saw Tables.

C. O. Porter Machinery Co.

666-668 Front Ave., N. W., Grand Rapids, Mich.

When Writing Advertisers Please Mention the American Carpenter and Builder.

Many Advantages Claimed for "Bishopric"

Just as electricity has superseded candles so is wall board relegating the old fashioned lath and plaster to a rapidly vanishing place.

Carpenters and builders today demand materials that save time, money, and annoyance in handling—materials that resist destruction from any cause except the professional building-wrecker.

Plastered walls can be properly made only in "good building weather," and by skilled workmen. Then there is the long



wait until the walls "dry out" before they can be decorated.

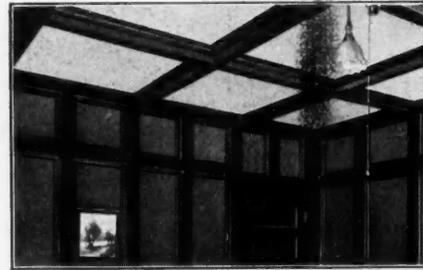
Whether brand new or old, lime plastered walls are liable to crack or crumble—vermin lodge in them—they fall rapidly in case of fire—and any vibration or shock makes them a menace to the lives of those near.

Remodeling a plastered house has always been a bugbear both to the builder and to those attempting to live in the house while the work was going on.

Many a house-owner has done without desired changes, simply because of the unbearable nuisance of having old

plaster dragged out or new plaster dragged in to his house.

All these things are unknown now when "Bishopric" wall board is used on a building—and by the way carpenters and builders are using "Bishopric" for every kind of building,



Ceiling and Side Walls Paneled with "Bishopric"

from a "sky-scraper" to a poultry house.

"Bishopric" wall board is made of asphalt powerfully toughened called asphalt-mastic. Into this lath is imbedded as closely as it is ordinarily nailed to studding. The reverse (or outside) of the wall board is heavy high grade card board, thoroughly sized.

Asphalt-mastic does not burn. It makes a fire-resisting wall.

"Bishopric" wall board is nailed to the studding—a nail through each lath—so that it is held absolutely rigid through all changes of temperature, "settling" of the building, leaks of roof, steam in kitchen or laundry, etc.

It is air-tight and moisture-proof, and is said to make the warmest of buildings in winter and coolest in summer.

NOW is Furnace Time for YOU --- Mr. Contractor and Builder

It is the time you should investigate the Schill New Idea Furnace.

Why? Because —

It is the time to decide the furnace you are going to install in the new home-building and remodeling work you will do this season.

Be certain you make no mistake in your selection.

You want a furnace—that is thoroughly reliable and efficient under the most severe conditions. That is an economical coal burner—not a coal eater. That is substantially built and easy to erect. That will give complete satisfaction for years to come.

The Schill New Idea Furnace is just such a furnace. It is time tried and proven—having given continuous satisfactory service for over twenty years.

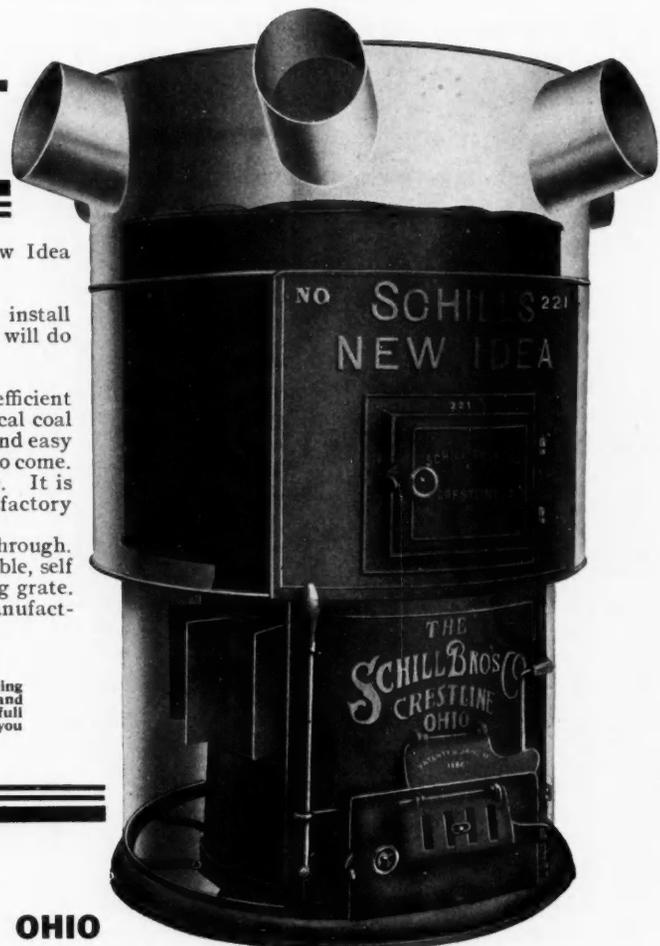
The Schill New Idea Furnace is built right all the way through. It has—a specially adapted double fire-pot; a large, double, self cleaning radiator; our famous drop center roller bearing grate.

We back this furnace with twenty years furnace manufacturing experience.

Be Certain You Investigate Schill Furnaces

Before deciding upon any particular furnace find out all concerning Schill Furnaces. We want to tell you in detail about the New Idea and the other five furnaces we build. Write us today that you want full information. It is to your own interest to do this. Let us prove to you just why you should select Schill Furnaces.

GET OUR FURNACE CATALOGUE



The Schill Bros. Co.

CRESTLINE

OHIO

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**"I TELL YOU BOYS
The FORD Twist
SAVES
THE WRIST."**



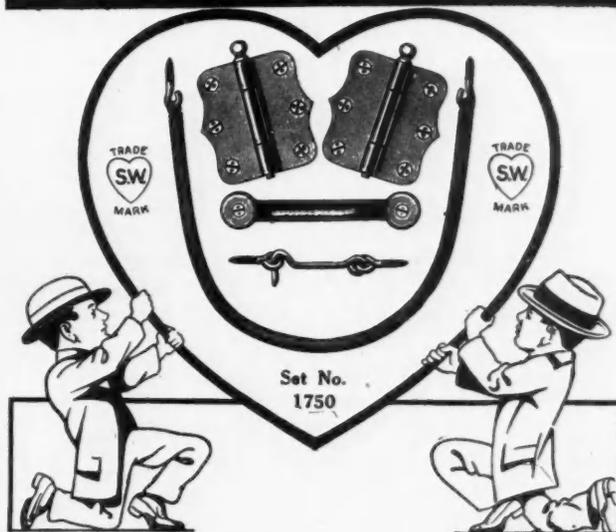
"It's a wonderful bit this FORD Single Lip. Beats any I ever used. Bores half again as easy as any other bit. You ought to see how the screw draws in—why if the hole was big enough 'twould draw you right in after it. And listen! You can bore straight through any wood. Yes, sir it's a fact. Saves me lots of time I'll tell you. Bores end grain and Lignum vitae too.

Nothing to the imitations though. They don't do the trick like the GENUINE FORD—don't last as long either.

Wish you try a FORD, I'll warrant you'll never use any other. If your dealer doesn't carry it he can easily get one for you."

"If you want to know more about this splendid bit drop a line to the
FORD AUGER BIT CO.
Holyoke, Mass.
Address Dept. 1C, and they'll send you circulars, and a handy pocket memo book."

STANLEY'S



SCREEN DOOR HARDWARE

Each Set in a separate box complete with screws
Well made of high grade Wrought Steel and handsomely finished in Japan, Antique Copper or Dull Brass, or the "Stanley" Sherardized rust proof finish.

Write for Circular "A" giving full information

THE STANLEY WORKS

New York NEW BRITAIN, CONN. Chicago

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

Contractors for Tile and Marble Work

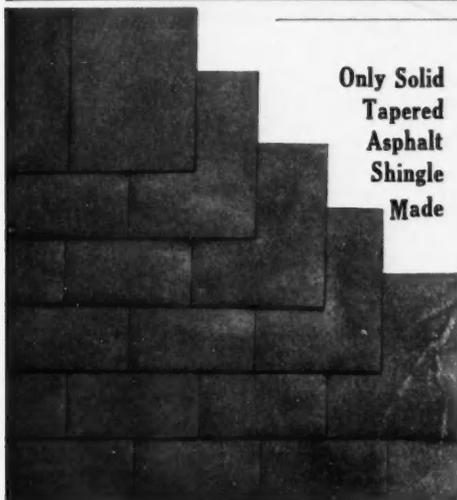


For interior and exterior purposes in public and private buildings.

Send your plans and receive promptly our estimate and designs.

Write for free catalog of Hardwood, Brick and Tile Mantels, Fire-place Fixtures, etc.

Heitland Grate & Mantel Co. 121 1/2 N. Fifth St. Quincy, Ill.



Only Solid
Tapered
Asphalt
Shingle
Made

IT'S TAPERED

Here's a shingle to make your heart glad—The durability of Asphalt—The fine appearance of slate—The light weight and small cost of wood

WINTHROP ASPHALT SHINGLES

are not made of ready roofing—The Asphalt is put where it is needed—on the exposed butt of the shingle—This feature is patented—No other maker can use it.

Colors are Red, Green and Natural Slate

GET A SAMPLE—WRITE TODAY

The Winthrop Asphalt Shingle Co., 8 61st St., Argo, Ill.

Home, Office or Shop

There are a thousand uses for this same Auger Bit

the standby of experts. So standard in quality imitations have grown numerous. Imitations in name and looks only. There is but one bit for best work—faster work—longest service. Experts know it. If not an expert let our Money-back Guarantee influence you to buy a genuine

IRWIN Auger Bit

It takes 50 distinct handlings to produce an IRWIN. Tempered by a secret process that no imitators have mastered. There's a deep difference. You can't always see it on the surface but it's there—it shows in your work—we guarantee it.

Price promptly refunded if the IRWIN fails to give satisfaction
—the only solid-center-stem bit made in all styles and sizes for every use.

The IRWIN Bit
Reg. U.S. Pat. Office

Be sure this identical brand is on the bit you buy



IRWIN AUGER BIT CO.
Largest in the World
Station E18
Wilmington :: Ohio

Irwin dealers everywhere. If you can't get the genuine Guaranteed IRWIN write us.

THE STRONGEST

the easiest boring auger bit made



Absolutely guaranteed. Any auger bit made by us not found perfect in every particular will be replaced with a new bit or money refunded. If your dealer does not handle these goods, write us direct for catalogue and prices.

Jackson Manufacturing Co.
Jackson, Ohio

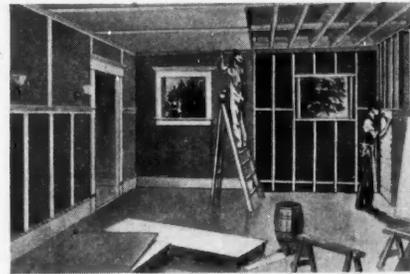
Rats and mice cannot penetrate it—the asphalt mastic coating gums their teeth, and causes them to seek other haunts. And another good thing is that "Bishopric" wall board is a sound deadener to a remarkable degree.

It is easily put on, for it comes in sheets 4 feet square, and a whole room—walls and ceiling—can be quickly handled and finished by anyone who can drive a nail.

The sheets meet evenly at the edges, forming a smooth surface over the entire wall.

As soon as "Bishopric" wall board is nailed in place, it is ready for any kind of decoration—paper, paint, frescoing, burlap—anything that is used as a wall decoration.

The wall board itself is of a soft silver grey, dull finish, and when the joinings at the edges are covered by thin



Nailing "Bishopric" in Place

strips of wood nailed on, the result is a paneled wall of artistic beauty, durability, and modest cost.

By using "Bishopric" wall board, it is a quick, clean, easy, and inexpensive matter to partition off a cozy bedroom in the attic—or a separate storage room in the basement—or change a room or hall in any part of the house.

For rougher use than inside walls, the same company make "Bishopric" sheathing. This is exactly like "Bishopric" wall board, only it is not so finely finished.

"Bishopric" sheathing is being widely used for the walls of garages, barns, stables, poultry houses, milk houses, and other farm buildings, and under flooring in houses and buildings of all kinds, where protection from cold, heat, or damp-



Living Room Complete

ness is desired; or sounds are to be hushed.

If this sheathing is nailed to the joists overhead in the cellar, the rooms above will be made warm and dry and comfortable on far less fuel than was before necessary.

This sheathing is also in great demand as a foundation for outside stucco work or cement work. It forms an airtight, moisture proof, fire-resisting wall—and the rough lath is a good foundation for holding rigid the cement coat.

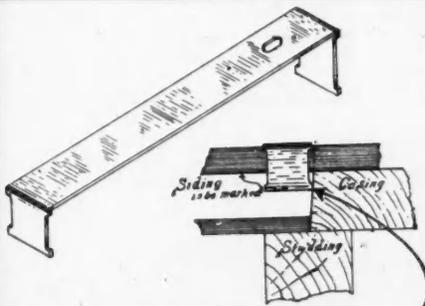
It is estimated that fully a month's time is saved in building a house, when the builder uses "Bishopric" wall board and "Bishopric" sheathing in place of the old time, slow drying lath and plaster.

Further than that the owner of the building is continually pleased with the many advantages gained, and is quick to commend the good judgment of the carpenter who advised

When Writing Advertisers Please Mention the American Carpenter and Builder.

THE GOODE SIDING HOOK

saves you time in siding work. It is a practical, handy tool marking the siding absolutely correct regardless of what the bevel of the casing may be. Note from the dotted lines in cut where any other siding hook would mark the siding and where the Goode Siding Hook does mark the siding.



Here Is Exactly the Point

that the Goode Siding Hook takes its measurements from.

This Goode Siding Hook saves material and enables you to do better work under all conditions. Made for $\frac{1}{2}$ and $1\frac{1}{2}$ inch casing. We guarantee them. 25 cents—prepaid.

State size wanted when ordering.

Milks Pocket Miter Box

can be used many ways. It is absolutely accurate. Made of aluminum and can not break. Requires no bench to be used upon. Always in your pocket and ready for use. Cut while holding material. Use any fine saw you have—no need for extra saw.



Buy it of your dealer or from us for \$1.00. Sent on one weeks trial. Money back if not satisfied.

THE PARSONS TOOL MFG. CO.
21st and Corning PARSONS, KANSAS

Attention Carpenters Contractors Builders

BETTER LUMBER-LOWER PRICES PROMPT SHIPMENTS

The prejudice among contractors and builders against Mail Order Houses is justified in some cases; but *we will prove to you that it is not justified* in our case, if you will give us a chance.

The next time you want as much as a car of lumber come to **Dubuque at our expense**. Your hotel bill and railroad fare will be paid both ways. *We will save you from 20 to 50 per cent* and give you a higher grading than you get from local dealers; because we make our own lumber and grading, and sell direct to you—cutting out all middlemen's profits.

There's 20,000,000 feet in our yards for you to pick from—everything you need. *We guarantee every shipment.*

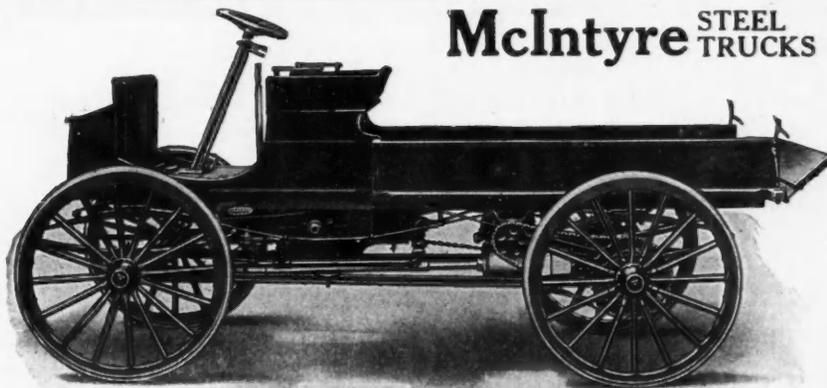
**Come to Dubuque
At Our Expense
and see it
Before You
Buy**

DUX-BAK ROOFING is not equalled, even by some that sell at from 30 to 70 per cent higher. Write us for books and prices. Let's get acquainted.

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LUMBER CO.,**

212 S. Locust St.
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McIntyre STEEL TRUCKS

WILL SAVE YOU MONEY

- By Keeping Material on the Job.
 - By Reducing Running Time to the Work.
 - By Enabling You to Oversee More Work.
 - By Giving You a Reputation for Prompt Service.
- ALL THIS AT LESS EXPENSE.**

It's cheaper to feed gasoline to a McIntyre than oats to a horse.

TRUCK CAPACITIES 600 LBS. TO 3 TONS.
CHASSIS' PRICES \$600 TO \$3,000.

Learn how to add to your profits and convenience by sending for catalogue AC to 14301 W-7th St., Auburn, Ind.

W. H. McIntyre Co.

Vehicle building since 1869.
We also build pleasure cars.



SENSATIONAL NEW LEVEL

THE LEVEL THAT TALKS. Yes, it almost talks out loud. Your old spirit level registers that you're off "about so much," a regular "by guess and by golly" proposition. The U. S. Gravity Level says "Hold on, Jim, your off just $\frac{1}{16}$ of an inch to the foot." It doesn't leave you to guess how much—the dial registers it unerringly. You shift your job $\frac{1}{16}$ and it's level—you know it—you don't have to use the level again to test; thus you save valuable time. When you see the "U. S." you'll dump your spirit level as cheerfully as you cast aside iron nails for wire ones. Write today for full size picture of level and complete descriptive matter.

THE U. S. GRAVITY LEVEL COMPANY, Dept. H., 1341-48 Nicholas Bldg., Toledo, Ohio

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the use of "Bishopric" wall board.

Builders, carpenters, and building owners are all deeply interested in learning about this article, and will be glad to know that the manufacturers of "Bishopric" will be pleased to send to anyone who requests it, a simple method of determining just how much wall board or sheathing is necessary for any purpose. They also offer a free sample of the wall board, as well as a beautiful art catalog demonstrating and suggesting its various uses. Address The Mastic Wall Board and Roofing Manufacturing Company, 340 Este Ave., Cincinnati, O.



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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.

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Sandow \$4250

2 1/2 H. P. STATIONARY ENGINE—COMPLETE

Gives ample power for all farm uses. Only three moving parts—no cams, no gears, no valves—can't get out of order. Perfect governor—ideal cooling system. Uses kerosene (coal oil), gasoline, alcohol, distillate or gas. Sold on 15 days' trial. **YOUR MONEY BACK IF YOU ARE NOT SATISFIED.** Five-year ironclad guarantee. Sizes 2 1/2 to 20 H. P., at proportionate prices, in stock, ready to ship. Postal brings full particulars free. Write for proposition on first engine in your locality. (160)



Detroit Motor Car Supply Co.
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BEST FOR ALL WALLS

TAPESTROLEA

BURLAPS AND CANVASES

Recommended by Architects, Builders, Decorators, Owners.
Illustrated Booklet and Samples on Application.

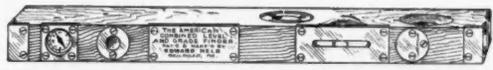
RICHTER MFG. CO. TENAFLY, N. J.

The American Combined Level and Grade Finder

SIDE VIEW



TOP VIEW



All progressive and up-to-date Carpenters, Contractors and Mechanics are getting one of our levels and grade finders. An instrument with which at one glance you can get the true slant on any line or grade, either in degrees, inches or percentage, or all at one time, and will at once give the exact distance needed to plumb up to a true level. The longitudinal recess shown in cut is well worth the low price of the instrument. Note the additional level glass, now placed in middle of instrument, giving with pointer or hand on dial three guides for leveling. The most practicable, durable and convenient instrument of the day. Write at once for large list of testimonials and special introductory price given only to first applicants with privilege of taking agency.

American Level & Grade Finder Co., Box 255, RAILROAD, PA.

Cast Iron Chimney Top Protectors

For New and Old Chimneys



Simple device for prolonging the lives of chimneys. Made from cast iron.

When placed on the chimney and filled with cement, a permanent and lasting top is secured.

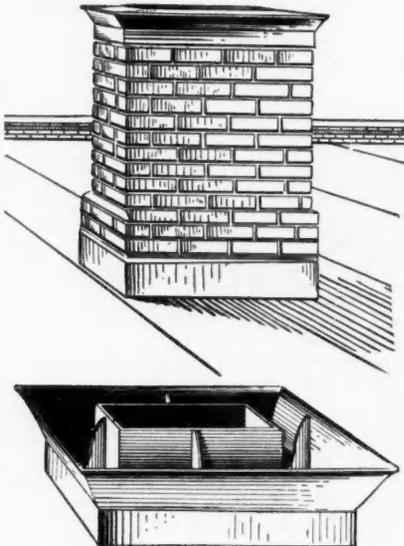
Does not deteriorate from the effects of the weather, and will last practically forever.

Easy to put on—artistic in appearance—and low in cost.

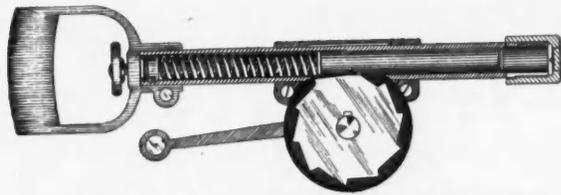
Made for all sizes of chimneys.

Write us for circular and price list.

The Waterloo Register Co.
Waterloo, Iowa



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PHILLIPS' SPRING HAMMER

For Drilling Holes in

**Stone, Concrete, Brick,
Marble, Tile Conduit, etc.**

Will drill 10 times faster than by hand, strikes 800 to 2000 blows per minute.

An indispensable tool for Carpenters, Steam Fitters, Plumbers, Stone Masons and Electricians.

Simple in construction and action. Fully guaranteed.

You turn the crank, the spring does the work. Makes perfectly round and straight hole $\frac{3}{8}$ " to $1\frac{1}{2}$ " in diameter, true to size from start to finish.

Write for prices and full particulars today

ORR & LOCKETT
Established 1872 **L. HARDWARE CO.**
14-16 West Randolph St. - CHICAGO

**The Way
to tell**

a good bit is to
look for the name

RUSSELL JENNINGS

stamped on the round. That insures a bit with the proper double twist, accurate size, and moreover absolutely guarantees quality.

Then if you want a bit easy to place or remove from the brace chuck and which will stay put when placed, look for the Precision turned shank. You'll never know bit satisfaction until you get it.

Russell Jennings Mfg. Co.
Chester, Conn.



21-88

Why Waste Time and Money

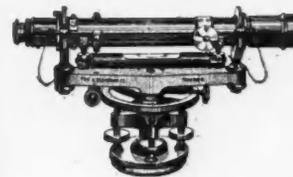


when you can save both by using a WHITE'S IMPROVED LEVEL. This Instrument is inexpensive and efficient, and is made to meet all the requirements of the General Contractor. Full particulars and catalogue sent on request.

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

Our Guarantee is Your
Protection

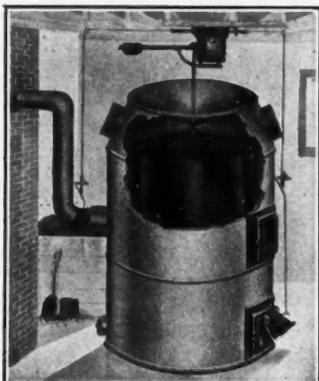
Beckmann Levels



ARE ALL GUARANTEED
Price Low :: Quality High

Our reputation is backed by 38 years of experience. Send for Circular Y.

The L. Beckmann Company
500 Adams Street TOLEDO, OHIO



**A PAYING SIDE
LINE FOR YOU**

The Kees Regulator

works the drafts of a hot air furnace automatically, so as to keep the temperature even. It prevents waste of fuel through overheating, makes the home more comfortable and healthful and practically "runs" the furnace. Every furnace owner needs one. The price is moderate.

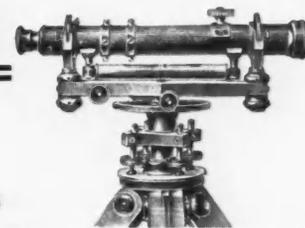
You can make a good many extra dollars this fall selling and installing them.

Drop us a card for full particulars.

F. D. Kees Mfg. Co.
Box 552, Beatrice, Neb.

LEVEL WORK

**Architects
Builders
Contractors**



insure against mistakes in leveling by using our Architects and Builders Level. We make a specialty of this instrument. It will give positive, accurate service. Saves its cost in a short time.

We manufacture a complete line of surveying instruments in various sizes and at a wide range of price. 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 & CO.
Surveying Instrument Makers. Established 1885.
138 Fulton St. - NEW YORK

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Want Help, Agents, or a Situation? Use our

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RATES 5 CENTS A WORD. CASH WITH ORDER

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WANTED.—A man who can do all kinds of carpenter work. Steady work. Address. W. W. Tapscott, Gilmore City, Iowa.

CARPENTERS NOTICE—We want a carpenter in every town and community to sell our Ever Ready Door Clamp on commission. Send \$1.75 for sample clamp today, and receive our guarantee and protection to you as our local agent. 40 per cent profit for you on each sale. WILLSHIRE CLAMP CO., Willshire, Ohio.

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FOR SALE.—Moving picture films, 1c per foot. Machines, \$40. H. Davis, Watertown, Wis.

PATENT FOR SALE on Automatic Street Car Indicator No. 1,013, 485 just issued, the world wonder. See machine, this will beat the Bell Telephone. Robert Ekron, 110 So. Hoyne Ave., Chicago, Ill.

WANTED TO EXCHANGE.—New Concrete Machinery for either Iron or Wood Lathe. Keller Concrete Machinery Co., Kearney, Nebr.

PATENTED Burglar-proof Window Lock for sale. Can be manufactured cheap. Address F. T. Feicht, 802 Louis Ave., Canton, Ohio.

LOOK HERE.—100 letterheads, 100 envelopes, 100 return envelopes or business cards, printed for \$1, postpaid; 500 of each by express prepaid, \$4. WALDEN PRESS, Roxbury, Mass.

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THERE ARE HUNDREDS OF SMALL TOWNS in your vicinity to which you could sell either a hand-drawn or horse-drawn Chemical Fire Engine, and thousands of factories, country estates and other buildings which should be protected with hand fire extinguishers, or other apparatus we make. No 'piker' business but dignified; no capital or previous experience required, liberal commissions and exclusive territory if you write now. Ajax Fire Engine Works, 95B Liberty St., New York.

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C. L. PARKER, Patent Attorney, 920 G Street, Washington, D. C. Write for inventor's handbook.

Business Opportunities

\$1,000 YEARLY PROFIT FROM YOUR BACK YARD.—Complete illustrated plan (170 pages), \$2. Free for ten stamped envelopes addressed to ambitious people and 10c. Circulars free. Scientific Institution, Englewood, Chicago.

WE WILL SEND BLUE-PRINT and 2,200-word description on how to build and operate an incubator. Costs less than \$1,000 to build. Anyone can make it. Send 35c to R. T. Kalb, 2631 Sutton Ave., Maplewood, Mo.

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BIG MONEY WRITING SONGS.—Hundreds of dollars have been made by writers of successful words or music. Past experience unnecessary. Send us your song poems, with or without music, or write for free particulars. ACCEPTANCE GUARANTEED IF AVAILABLE. Washington only place to secure copyright. H. Kirkus Dugdale Co., Dept. 738, Washington, D. C.

15 FASCINATING PHOTOS of beautiful women 25c, 5 for 10c. Real classy. National Novelty Co., 421 East 77th St., New York City. Dept. C.

BE A BUILDER OF THE RUN DOWN HUMAN SYSTEM.—Study Chiropractic. Course short and inexpensive. Field unlimited and unopposed. Day and evening classes. ANTIGO SCHOOL OF CHIROPRACTIC, Antigo, Wis.

MY PERFECT POULTRY HOUSE—How to build—Complete plans and specifications. Albert Sawyer, Forest Park, Ill., Box 3.

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By getting a work bench like this you will be able to do most any kind of work around the house. The bench is 4½ ft. long, 22 inches wide and 32 inches high, made of hard maple, has 2 Patent Wood Screw Vises, and will be shipped you at once on receipt of **\$7.00**

C. CHRISTIANSEN, Manufacturer
2219 Grand Ave., CHICAGO, ILL.

THE ZIMMERMAN IRON BASE

is the ONLY BASE having a CENTER BEARING.

It carries the required weight with out allowing the corner supports to sink into the floor and prevents the base of column and floor from rotting.

See "SWEET'S" page 876.

Write for Circular E.

Syracuse Corner Block Factory, Syracuse, N. Y.



Bottom View of Patent Iron Base Showing Center Bearing

Only Line Holding Pencils Any Length and Various Shapes



Peerless 3½-Inch Scriber, Pat'd. Broad point for plaster walls, fine woodwork, etc. Sharp point for quirks and mouldings. Adapted for extra close scribing. Steel points can be moved up or down to suit pencil.

No. 30, Polished Steel 30c. No. 35, Nickel-Plated 35c. Also made in 5½ in. size. This size is furnished with steel point, which can be inserted in place of pencil, if desired. No. 37, Nickel-Plated 60c.

PEERLESS FLEXIBLE BIT GAUGE

A time-saver for mortise locks. Nickel-Plated, 30c. Post-Paid. No. 55 Peerless "Storks Beak" 5½ inch combined compass and scriber. Nickel-Plated 50c. All Goods Fully Warranted. Dealers referred to Sargent & Co. Order tools by number. U. S. stamps accepted.

POTTER BROS., 610 West 110th Street, NEW YORK CITY

STEEL FORMS

Sidewalk Forms—Curb and Gutter Forms

Write for illustrated Hand-Book and catalogs. Do it to-day.

Ubbink Steel Form Co. 214-216 Pier St. Port Washington, Wis.

MONARCH METAL WALL PLUG



The lowest priced, standard plug on the market. Has a positive grip on the nail, and a definite key in the mortar.

Sample Free.

Monarch Mfg. Co.
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A Complete List of Technical Books published on Architecture, Building Construction, Design, Structural Engineering, Concrete, Plumbing, etc.

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Lathing Hatchet No. 140

Oval Head. 144 Points. Extra Quality Tool Steel.

Warranted against all defects. Send \$1.60 for sample. Express Paid.

L. A. SAYRE & SON
8 Oliver St. NEWARK, N. J.

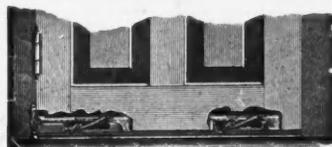
CARPENTERS' TOOL SATCHEL



Especially adapted for jobbing trips. Made of heavy canvas with steel frame for lock and key, leather handles and straps. Contains 5 saw pockets, bit and chisel rolls. Can't rip. Durable and convenient. Send for Catalog showing our line of Mechanic Tool Bags.

EXCELSIOR BAG & MFG. CO., Inc.
TROY, N. Y.

Carpenter's Tool Satchel.



INTROSTILE

A Crack Sealer which almost hermetically seals the apertures under doors and windows. A handsome, sanitary, permanent fixture whose installation makes no perceptible alterations. Automatic, noiseless, invisible. It

BANISHES INDOOR THRESHOLDS leaving floors unbroken. Write for Catalog. **The Introstile & Novelty Co., Marietta, Ohio**

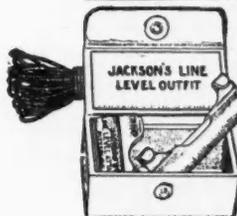


THE COLUMBIA

DUMB WAITERS ELEVATORS
CELLAR HOISTS
JUMPER DISAPPEARING DUMB
WAITERS

SEND FOR CATALOGUE.

J. G. SPIEDEL, Reading, Pa.



A UNIQUE TIME SAVER.
The Jackson Aluminum Line Level is a mighty small device but it 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.

"Reliable Erie" Portable Contractors' Hoists



Are simple, compact, absolutely reliable and easy to handle. Sold with or without long frame on which you can mount gasoline engine or motor. A High Grade Hoist at a price that will surprise you. For operating material elevators, pile drivers, hoisting timbers and general construction work. We furnish hoists complete with our "Economy" Portable Gasoline engines, rope, tackle blocks etc. They pay for themselves on a single contract. Write today for Catalogue H44.

Erie Clutch & Pulley Co.
Friction Clutches, Cut-off Couplings, Pulleys
415 ERIE, PA., U. S. A.

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



We Ship on Approval

without a cent deposit, prepay the freight and allow 10 DAYS FREE TRIAL on every bicycle. IT ONLY COSTS one cent to learn our unheard of prices and marvelous offers on highest grade 1912 models.

FACTORY PRICES Do not buy a bicycle or a pair of tires from anyone at any price until you write for our new large Art Catalog and learn our wonderful proposition on the first sample bicycle going to your town.

RIDER AGENTS everywhere are making big money exhibiting and selling our bicycles. We sell cheaper than any other factory.

TIRES, Coaster-Brake rear wheels, lamps, repairs and sundries at half usual prices. Do Not Wait; write today for our latest special offer on "Ranger" bicycle.
MEAD CYCLE CO. Dept. S-122 - CHICAGO

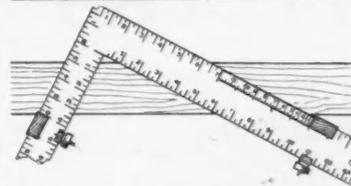


NEW-DEPARTURE

FACE DOWN Block Machine

The best and by far the fastest machine on the market for the money. An ideal contractors machine. Write today.

NEW-DEPARTURE BLOCK MACHINE CO.
Indianapolis, Ind.



For Roof-framing

This gauge is the easiest and quickest tool or method in existence. Any one of 100 pitches in 5 minutes. Is unexcelled as Stair Gauge. Sent prepaid for \$1.50. Returnable with money back. Full description free. Good terms to good Agents.

JOHN PARKHILL
Rochester - Minn.

"One Great Objection to the Others was the *Balling* of the *Dry Mix* which the Coltrin Does Not Do"



NO. 12 COLTRIN

A. F. GEORGE CO.
Los Angeles, Cal.

Gentlemen:

Replying to your favor of the 7th we are glad to state that the No. 12 Coltrin Mixer continues to perform the quality of work which led us to select it in preference to two other makes of mixers. One great objection to the others was the **balling** of the Dry Mix, which the Coltrin **does not do** to any appreciable extent.

It **mixes thoroughly** and this coupled with **accurate proportioning**, continuous feed, and **better control of the tempering**, tell the story. With best wishes I remain

Yours truly, **GEO. E. QUIGLEY**

The Coltrin Continuous-Batch Mixers

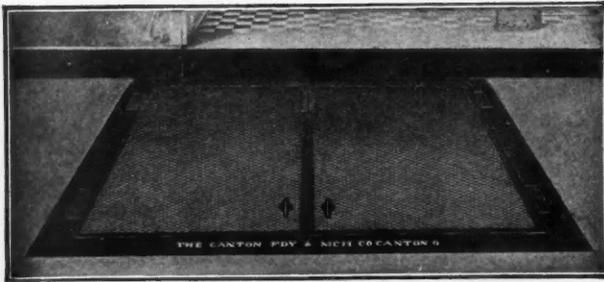
Shipped Anywhere on Five Days Trial

THE KNICKERBOCKER CO. - JACKSON, MICHIGAN

WRITE FOR 1912 CATALOG.

When Writing Advertisers Please Mention the American Carpenter and Builder.

SIDEWALK DOORS THAT ARE FLUSH, FIRM AND NEAT



Made in 45 Sizes

THE CANTON FOUNDRY & MACHINE CO., Canton, Ohio

Are a credit to any building and an everlasting advertisement to the Contractor who installs them.

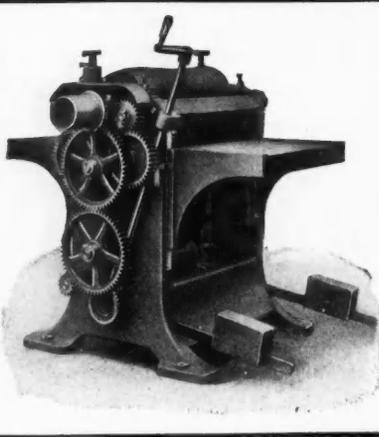
OUR SOLID IRON AND STEEL DOORS

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.



Royal Standard SURFACER

A new pattern, general purpose surfacer for every woodworking shop. It is adaptable for light and medium planing. Convenient and always useful. Easy to operate. Practically built—strong, heavy and durable. Run by motor, steam or other power.

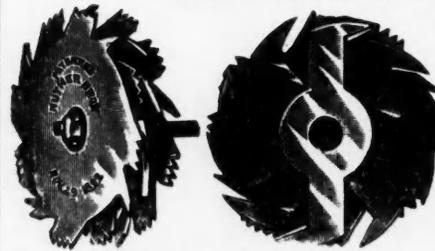
Let us send you our descriptive matter about this surfacer. Ask for circular K.

Cordesman-Rechtin Co.

215 Butler St.
CINCINNATI - OHIO

Huther Bros. Patent Groover or Dado Head

Will save it's cost in three days' time



Showing Arrangement of Cutters

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

Try our Scraper Blades and you will use no others.
HUTHER BROS. SAW MFG. CO.
1000 University Ave. ROCHESTER, N. Y.

MONITOR SASH LOCKS



(PATENTED)

NEVER BREAK

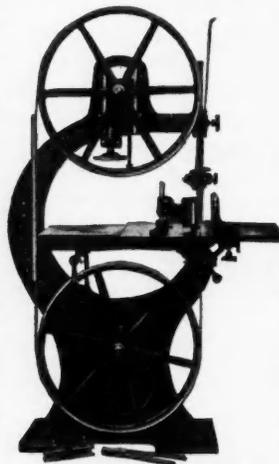
BECAUSE THEY ARE MADE OF VERY HEAVY GAUGE METAL AND PERFECTLY CONSTRUCTED.

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

A Free Copy



Secrets of Successful Band Sawing by

Mr. Charles E. Wright,
The Acknowledged Exponent on Band Saw Talk.

Would be mailed free. Send for a copy before our supply is exhausted.

We illustrate fifteen new model machines. **Here is one, \$95 net,** complete with all improvements as shown in cut. If you want a

machine to show economy in the general wear and breakage of saws **here you are.** Our catalog will tell you all about it.

The Chas. E. Wright Co.
317 Boulevard, Kenilworth, N. J.



A Handy Drill for Every Use

A quality tool that will perform good service always—

Hand Drill No. 3

is 11 inches long and has a chuck that holds from 0 to 3-16 inch drills. Entire weight 21 ounces. Has hollow handle to hold drill points with a unique, quick and convenient method of removing and attaching handle to get at drills.

Write for our catalog and instructive book "Tool Practice"—both FREE.



Millers Falls Co.

28 Warren Street - New York City

"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.

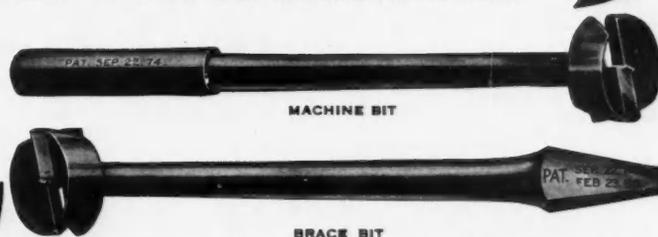
Doesn't matter how hard the wood is, no consequence whether it is full of knots, or the grain awkward to negotiate. The Forstner Bit works with equal smoothness under any condition and leaves a true polished surface on every job.

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.



MACHINE BIT

BRACE BIT



MARVEL
CELLAR CHUTE
PROTECTS
WALLS.

The Marvel locks shut automatically, is burglar proof, and ornamental. Is made of heavy wrought steel plates.

Circular for the asking.

INTERSTATE MFG. CO.
OSKALOOSA - IOWA



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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.

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WILLIS SELF-INSTALLING SKYLIGHTS



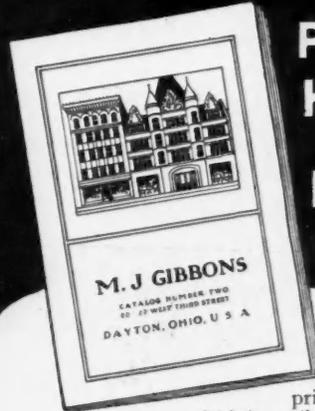
From Our Factory Direct To You,

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. Designed to give the greatest amount of glass area. The ridge and gutter bars cannot sag, buckle or spread.

WILLIS MANUFACTURING CO.
GALESBURG, ILL.

Send us your plans for estimate on sheet metal work. Our catalog No. 6 showing full line of sheet metal building material sent on receipt of request.

SAVE 1/3 TO 1/2 ON PLUMBING HEATING AND LIGHTING OUTFITS!



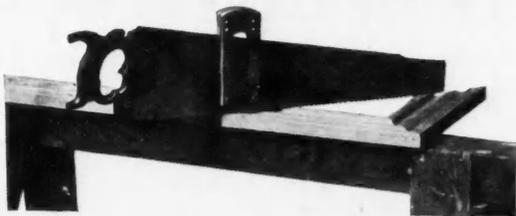
Write today for this big free catalog. You will be astonished at my low prices on the hundreds of high grade

- Bathroom Outfits
- Running Water Systems
- Steam and Hot Water Heating Plants
- Gasoline Engines, Hydraulic Rams
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which it illustrates and describes. I cut out all agents' and dealers' commissions and sell direct to you at wholesale prices. Every article guaranteed. Full instructions for installing free! Enormous stock, unsurpassed quality, rock bottom prices! Don't think of buying till you have seen this catalog. Write for it today.

M. J. GIBBONS DEPT. B
DAYTON, O.

THE CROWN SAW GAUGE



Is compact, light, convenient, up-to-date and accurate. Use any saw, for all kinds of work can be used on the scaffold for weatherboarding; also cornice work around bay windows and corners on all kinds of crown moulding—none better—should be in every carpenter's tool-box. Sent on receipt of \$2.50.

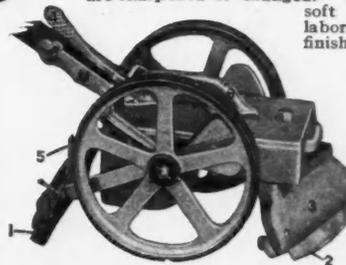
GEM M'F'G CO.
L. R. BENDER, Mgr. - - ELIZABETHVILLE, PA.

THE RAPID FLOOR SCRAPER



Large Wheels—easy motion. Automatic brush, sweeps floor ahead of knife. Knives sharpened in machine. No bolts to loosen when knives are sharpened or changed. Scrapes hard or soft wood. Saves labor of 3 men. Does a finished job. With the **RAPID KNIFE SHARPENER (INCLUDED FREE) ANY MAN CAN SHARPEN KNIVES.**

SEND FOR CATALOG — AND — **FREE TRIAL OFFER**



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



Dust Proof
Eight Different Sizes

Honey-Comb Mitre Box

Combines greatest strength with extreme lightness. **Back Detachable**—the only way in which boxes can be made mechanically perfect for all time. 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. **THE LEVER LOCKS AT ANY DEGREE OR FRACTION OF DEGREE.** The lock is positive, working on the principle of an eccentric—no springs used. As shown in cut, the length and clamp gauges are subject to thousands of variations, always assuring a perfect clamp on the material. Easily moved from place to place. Will stand securely without fastening. **ALL WEARING PARTS MADE OF MALLEABLE STEEL.**

Special prices to contractors and carpenters in localities where our tools are not handled.

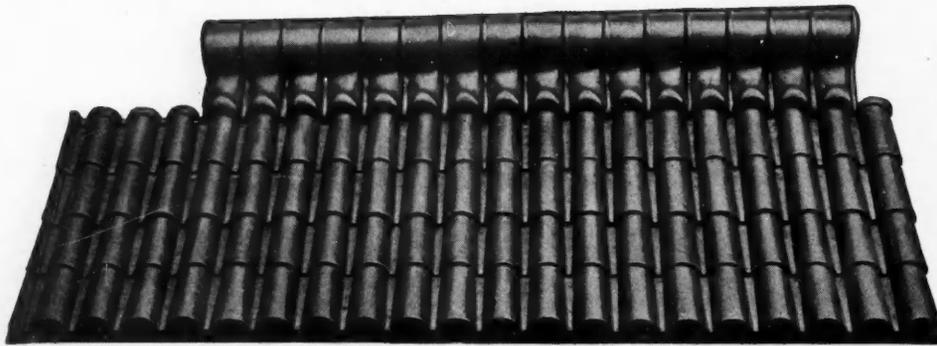
Rockford Mitre Box Co., Rockford, Ill.

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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

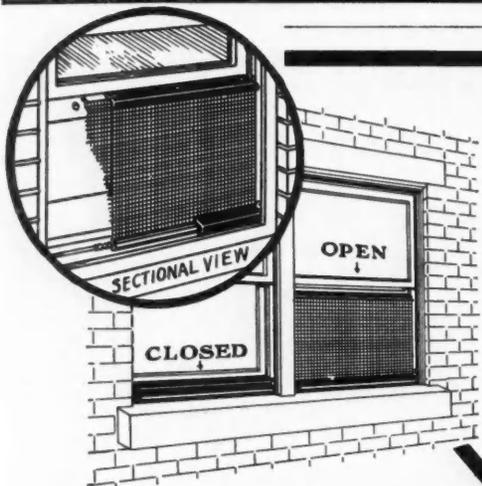
only the finest materials. Every artisan in our employ is a masterhand. Our prices are attractive, our services prompt. Glad to submit quick estimates on special jobs.

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

The W. H. Mullins Co.

214 Franklin St.

SALEM, O.



The Screen You Will Eventually Specify

No matter how elaborate or simple a house you may build you will find that its appearance will be greatly improved and its value enhanced if you will recommend Rust Proof Roller Window Screens.

Fasten to either top or bottom of window frame. Work like an ordinary window blind—raise automatically when the sash is raised. They are never before the window, giving unobstructed view when the window is closed.

RPR
SCREENS

Made of finest copper wire. Guaranteed not to rust. Can be left on all winter. Look better, last longer and cost no more than ordinary screens which keep out the light and require painting or replacing every year.

Write today for our special proposition for carpenters and contractors.

The Rust Proof Roller Window Screen Company Dept. B Clyde, Ohio

True Your Saw Teeth

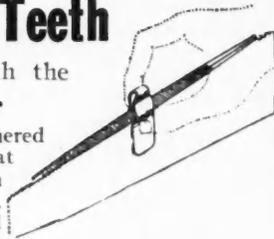
True your saw teeth with the **Campagna Jointer**

—it holds and guides any 3-cornered 6" x 5/16" file so thoroughly that even an inexperienced person can accurately true up his saw.

The Jointer can also be used as a **pencil gauge**, by inserting the pencil through the loop in the top. Carry it in your vest pocket.

The complete Combined Saw Jointer and Pencil Gauge will be sent postpaid by mail on receipt of twenty-five cents (25c). (Money order or silver preferred.)

Agents Wanted **Campagna Saw Jointer Co., Randolph, Mass.**



The Universal Sash Bar

Holds with a Grip of Iron, yet with a Touch of Velvet

Makes any angle. Allows for expansion and contraction of glass and for settling of building.

The only Flexible setting for Plate Glass

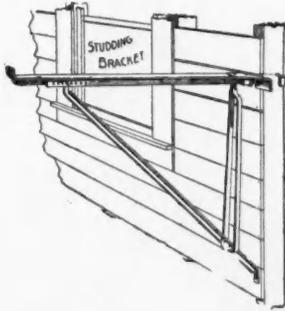
VOLTZ MFG. CO.



Glass set from the outside

1101-1103 Seneca Street ST. JOSEPH, MO.

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The "Detroit" Folding Scaffold Bracket

requires NO NAILS or SCREWS. It is attached with an automatic and positive grip, permitting no sideway. It can be put up INSTANTLY and the saving of time will pay the cost of a set of brackets on a single contract.

Special Feature.

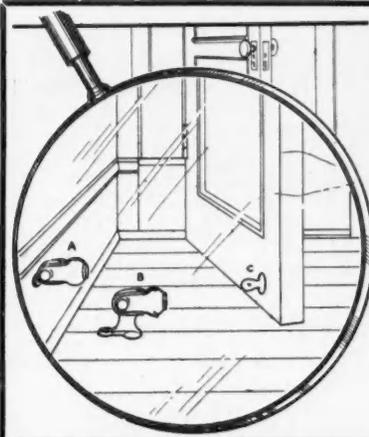
The "Detroit" is the only bracket so constructed that the entire strain is DOWNWARD and not outward.

Made in various sizes for attaching to either STUDDING or SHEATHING. *Send for special introductory offer.*

FOLDING SCAFFOLD BRACKET CO.

59 Fort Street West

DETROIT, MICH.



Adele Automatic Door Stop and Holder

is a simply constructed device, neat in appearance and absolutely durable, having no part that can wear out. It does the work of the old wooden door stop, and of the various devices for holding the door back, such as hooks, weights, wedges, chairs, etc. What is more it works automatically; when the door is thrown back it catches it and holds it fast without you having to touch it; preventing the door from striking anything that may be behind it or from slamming closed again. When you want to close your door, do so as if the *Automatic Door Stop and Holder* was not there—all you need do is to shut it; you do not have to release it—why, it works automatically.

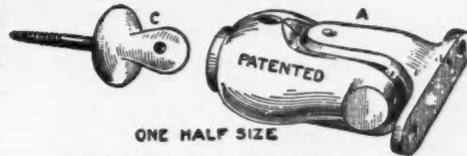
Can be used on any door with or without spring and can be attached to Wood, Marble, Stone or Tiling. Made with either wall or floor attachment.

Stop That Banging Door!

The builder can use this device as a talking point for an up-to-date house. It is an article that's exposed—it "shows up." Finished in any style. Write for circular and prices

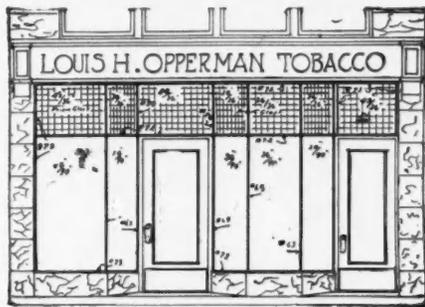
Agents Wanted

ADELE MFG. CO., 313 Grand Av., Brooklyn, N.Y.



ONE HALF SIZE

Style No. 1. For Attachment to Wall.



FRONT ELEVATION.

This is the Bar for that New Store Front

It's mighty important for you to choose Petz Bars for that new store front. By remembering that word, and insisting on Petz Bars, you are assured of handsome appearance, long life, and perfect ventilation for your store front, and perfect safety to your glass.

Easy to Install

Our booklet "Metal Store Front Construction" tells the whole story, and illustrates the different types of bars that we make. We will send you a copy promptly on request.

DETROIT SHOW CASE CO.

Sole Makers.

491 Fort Street West, DETROIT, MICH.

PARKS Woodworking Machines

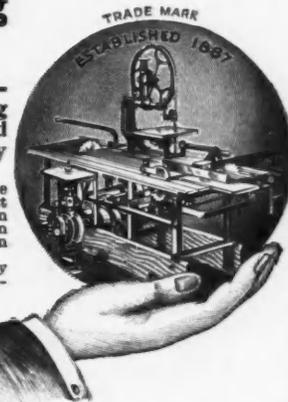
Circular Saw, Jointer, Moulder, Band Saw, Shaper, Swing Cut Off Saw, Groover and Boring Machine—all set ready for Use.

It is PARKS who, for twenty-five years, has been putting out the most practical Combinations—convenient in operation and most effective in Use—in large quantities, at a price you can afford to pay.

Ask for Catalogues and see the many designs of Foot, Hand, and Belt Power—also our Portable Outfit.

PARKS' BALL BEARING MACHINE COMPANY

Fergus St. & C. H. & D. Ry. CINCINNATI, OHIO, U. S. A.



TRADE MARK
ESTABLISHED 1887

SASGEN REINFORCED CIRCLE SWING DERRICK

\$45.00 complete ready for use with geared winch, 150 ft. cable and block. 2500 lbs. Capacity.



LIGHT STRONG STIFF LEG DERRICK

All crucible steel fittings with split mast and boom.

SASGEN BROS.

2053-57 Racine Ave. CHICAGO, ILL.
NEW YORK OFFICE, 103 Park Ave.
Write for Illustrated Catalog No. 2.

**Sears, Roebuck
and Co.'s
Big 1912
Concrete
Machinery
Catalog**



**GET A
COPY!**

Our Big, New 1912 Concrete Machinery Catalog No. 69C95 is just off the press, and displays the largest and most complete line of high grade concrete machinery ever assembled. We want every builder, contractor and, in fact, every reader of the American Carpenter and Builder to send for a copy of this big book. We will gladly forward it to you, free and postpaid. Simply send your name and address.

Our prices on concrete machinery are **EVEN LOWER** this year than ever before, and we have always quoted the lowest prices of any concern on this line of machinery. We take the entire output of the world's largest concrete machinery factory, and our enormous direct-to-the-consumer business enables us to quote surprisingly low figures on the very best quality of machinery.

We list machines and molds for making concrete building blocks, brick, tile, silo blocks, well curbing, porch material of all kinds, window sills, caps, steps, chimneys, sewer pipe, fence posts, etc. Also concrete mixers of the batch and continuous types, in hand or power driven styles.

Everything shipped direct from the factory, and with the distinct understanding that you are to be perfectly satisfied in every respect, as to price, quality of material and efficiency. In case you are not more than pleased with your purchase, you can return the machinery to us at our expense, and your money will be returned to you, together with any freight charges you may have paid. We make this sweeping unconditional guarantee because we know we are handling the most durable, perfect running concrete machinery on the market today.

You owe it to yourself to get this big Concrete Machinery Catalog whether you are thinking of buying concrete machinery right now or not. It contains many things about concrete that every builder should know. It is just the book you should have on hand for ready reference. Send your name and address **AT ONCE**, and we will forward this catalog to you without delay. In writing be sure to mention Book No. 69C95.

Sears, Roebuck and Co., Chicago

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Largest Apartment Building in the World, "THE BELNORD," New York. Oak Flooring Used.

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 $\frac{3}{4}$ inch thickness by $1\frac{1}{2}$ 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 $\frac{3}{4}$ 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 Catalog

THE OAK FLOORING BUREAU, 876 Hammond Bldg., DETROIT, MICH.

A Revolution in Screw Drivers

Don't abuse your hands any longer with an old fashioned screw driver

Get a Benjamin Friction Drive Screw Driver with the revolving cap.

Friction cap prevents blisters. Insulated handle prevents shock.

PRICE LIST

Length Blade	3-16 in. Dia.	$\frac{1}{4}$ in. Dia.
3"	.30	.35
4"	.35	.40
5"	.40	.45
6"	.45	.50
8"	.50	.55

3-16 in. dia. with straight blade for countersunk work if ordered



Always Ready—Better than Ratchet Driver—Nothing to Adjust—Friction Grip Works in Either Direction

Sent postpaid to any address on receipt of price. If your dealer does not carry, write to us.

BENJAMIN-SELLAR MFG. CO.

557 Quincy St.

Chicago, Ill.





FREE

Book of Plans

Carpenters, Contractors and Builders will be especially interested in this free book, as it contains designs and floor plans of Bungalows, Cement Houses and Cottages. Complete description of books on Architecture, Masonry, Concrete, Carpentry, Brick-laying, Plumbing, Heating, Painting, Estimating, etc., are also given.

Simply send us a postal today and receive this FREE BOOK

INDUSTRIAL BOOK CO., 178 Fulton St., NEW YORK

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Imperial "Spiral" American Ingot Iron Lath

The Most Superior Rust-Resisting

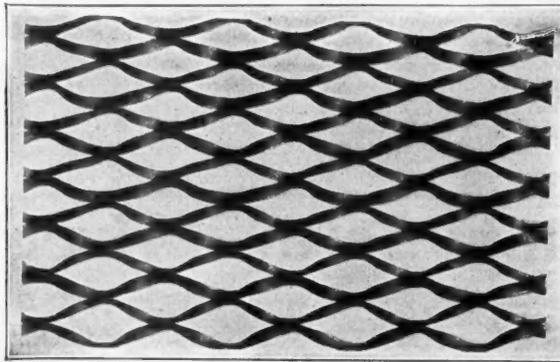
**Government Approves It---Architects Specify It
Contractors Demand It**

Rust-Resisting

Made from

**"AMERICAN
INGOT IRON"**

*The Attainment of the
Highest Purity in Iron*



"Imperial Spiral"

Fireproof

*Equal Distribution of
the Metal giving Maxi-
mum Rigidity*

Is unequalled by any expanded lath made, NOTE that "Spiral" Twist. SAVING OF THREE to FOUR CENTS PER YARD IN LABOR AND PLASTER. Made in 26 and 24 gauges, one Standard Size, 16½x96 inches.

Samples and Prices Furnished on Request

WRITE LATH DEPT.

THE AMERICAN ROLLING MILL CO.

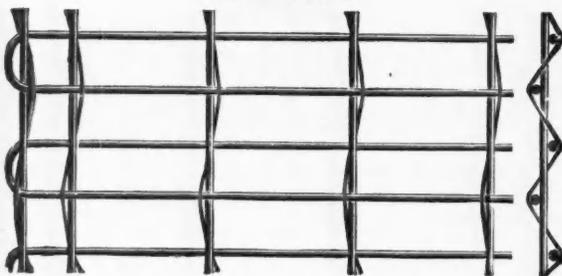
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Middletown, Ohio

WIRE LATHING

(GREENING'S)

**PATENT TRUSSED STEEL WIRE
LATHING**



ELIMINATES ONE-HALF OF INSTALLATION COST, owing to its Truss formation, which makes it possible to staple or nail it directly to studs or joists without furring.

It will take sharp corners without cutting, and has a sustaining power of three and one-half times greater than square mesh lathing of equal weight. IT EMBEDS ITSELF COMPLETELY in the mortar and is thus secured from the corrosive action of the atmosphere, and WILL NOT RUST.

Another feature of this Wire Lathing is the fact that rust will not attack the smooth round wires, as it does the thin cut edges of the metal fabric. Walls or ceilings plastered on this lathing will never crack or drop off, the key being so firm.

Send for our Booklet No. 6 AA on Wire Lathing for further information.

We are also manufacturers of GRIMM'S CORRUGATED GALVANIZED WIRE LATHING.

BUFFALO WIRE WORKS CO.

(Formerly Scheeler's Sons)

BUFFALO, N. Y.

NEW YORK OFFICE: 30 Church Street



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.**



Mr. Builder:— 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

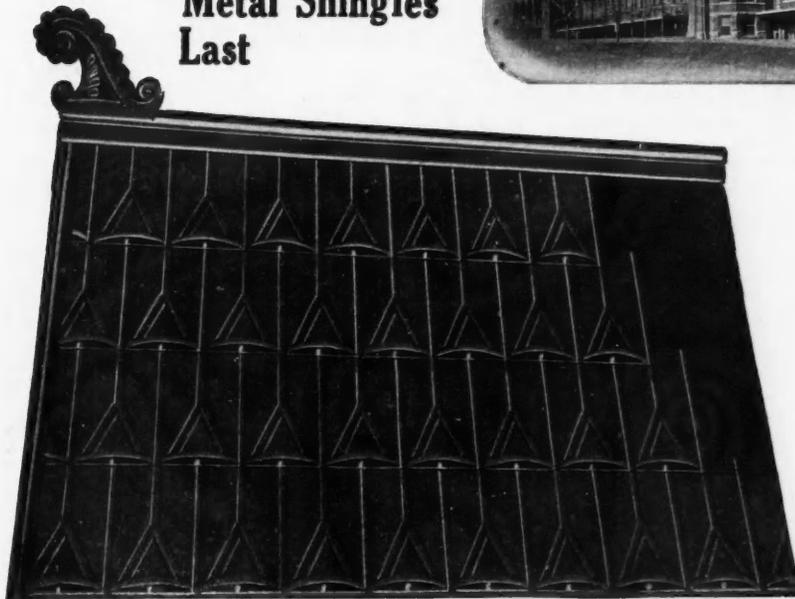
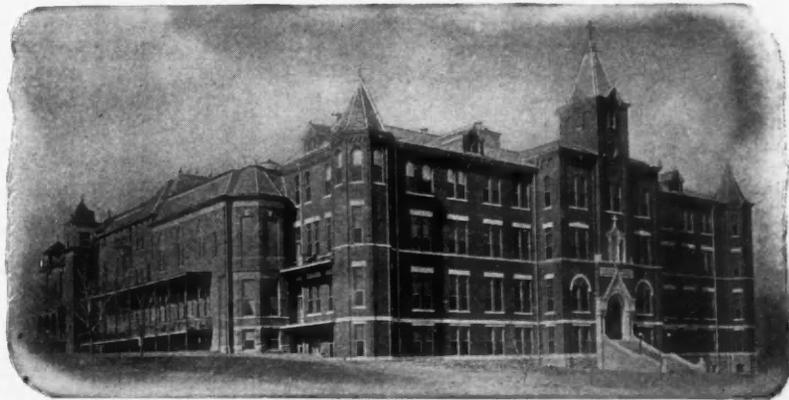
Incorporated

Louisville, Kentucky

When Writing Advertisers Please Mention the American Carpenter and Builder.

ST. FRANCIS HOSPITAL, Colorado Springs, Colorado, is a very fine building, as this photograph shows. No expense or care was spared to make it **THE BEST AND MOST SANITARY** hospital in the West. After exhaustive competitive tests, the authorities decided to roof it with **THE BEST COVERING FOR ROOFS KNOWN**—for

Walter's Galvanized Metal Shingles Last



INVENTED AND PLACED ON SALE BY THIS COMPANY IN 1885

Here is a sample of the roofing accepted by this Hospital and by thousands of other public and private builders. IT WAS THE ORIGINAL DESIGN OF THE INVENTOR IN 1885 AND IS THE FIRST SHINGLE COATED WITH PURE ZINC EVER MADE. Hand dipped so that every crevice is FILLED. No chance for rust to creep in EVER. Send for free sample and confidential information. Might as well have THE BEST.

NATIONAL SHEET METAL ROOFING COMPANY

Inventors of the **FIRST Metal Shingle**
JERSEY CITY, NEW JERSEY



"Everybody's Doin' It Now!"

At least, all of the best builders are.

Doin' What?
Why!
Specifying

GILT EDGE Furnaces and Boilers

They have found it is easier to sell houses with a heating plant of established merit.

If you are going to build either a house or a hotel, it is worth \$\$\$ to you to get the Gilt Edge catalogue.

Write the manufacturers

R. J. Schwab & Sons Co.,
295 Clinton Street
MILWAUKEE WIS.



FOR CANVAS ROOFS



Order the Scientifically Prepared—

BAYONNE ROOF AND DECK CLOTH

Easiest to lay—
Lasts longest.
Requires but ONE COAT OF PAINT. The treatment permeates the fabric and preserves the fibre.

BEST FOR PIAZZA ROOFS AND PORCH FLOORS

Ask for Sample Book A-6 and Prices

JOHN BOYLE & CO., 112-114 Duane Street New York
70-72 Rende Street
202 and 204 Market Street, ST. LOUIS

The Standard Brand of White Canvas
All Widths—All Weights—Any Quality

Our co-operative department gives complete instruction for laying
BAYONNE or GULF STREAM

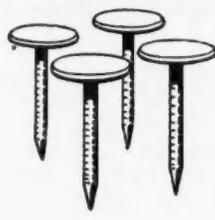
John Boyle & Co.'s Awning Stripes have been the Standard for fifty years



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ONE = FOUR



TRADE **SIMPLEX** MARK

Reg. U. S. Pat. Office

Order your prepared roofing to contain **SIMPLEX NAILS** One **SIMPLEX NAIL** has as much head surface as four so-called large headed nails

Sold by Jobbers *Head Surface Tells*

Manufactured by **H. B. SHERMAN MFG. CO.,** Battle Creek, Michigan

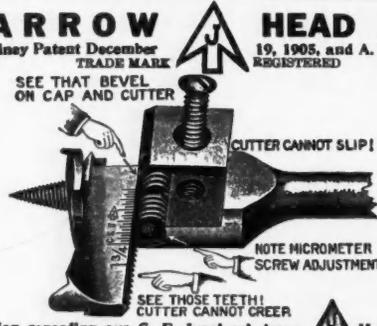
C. E. JENNINGS' ARROW HEAD EXPANSIVE BITS

Steel's Patent April 1, 1884; Jennings-McElroy Patent December 19, 1905, and A. B. Jennings' Patent March 1, 1910

TRADE MARK REGISTERED

After once setting the cutter for any given sized hole, the mechanic can bore Any Number of Holes and Every hole will be the Same Size.

By means of the micrometer screw the cutter can be instantly adjusted to one thousandth of an inch.



SEE THAT BEVEL ON CAP AND CUTTER

CUTTER CANNOT SLIP!

NOTE MICROMETER SCREW ADJUSTMENT.

SEE THOSE TEETH! CUTTER CANNOT CREEP

PRICE INCLUDING TWO CUTTERS AS FOLLOWS:

No. 11 1/4 Bit (Large) with Nos. 3 and 4 Cutters, cutting from 1/4 to 1 1/4 and from 1 1/4 to 2 inches **\$2.00 each**

No. 12 1/4 Bit (Small) with Nos. 1 and 2 Cutters, cutting from 1/8 to 1 1/4 and from 1 1/4 to 1 3/4 inches **1.75 each**

Our No. 1 Bit will take the place of 35 Auger Bits Costing \$35.00.

When you cannot procure from your local Hardware Dealer, we will mail, prepaid, on receipt of P. O. order, for above price.

These Bits are put up in a neat waterproof canvas Scabbard with extra pocket for cutters.

Special Information regarding our C. E. Jennings' Arrow Head Expansive Bits. The cutters are graduated in 32nds of an inch. By moving the cutter 1-32 in. the diameter of the hole is increased 1-16 inch; or one-half turn of the micrometer adjusting screw will move the cutter 1-32 in., and increase the size of the hole 1-16 in. To bore a perfectly smooth hole, remove the bit as soon as the screw point pricks through; insert the screw point into this prick-mark from the opposite side from which the hole was started and bore until the hole is finished.

C. E. JENNINGS & CO., : : **Sole Manufacturers** : : **42 MURRAY STREET, NEW YORK**

1810 THE JAMES SWAN COMPANY 1912

SEYMOUR, CONN.

Manufacturers of

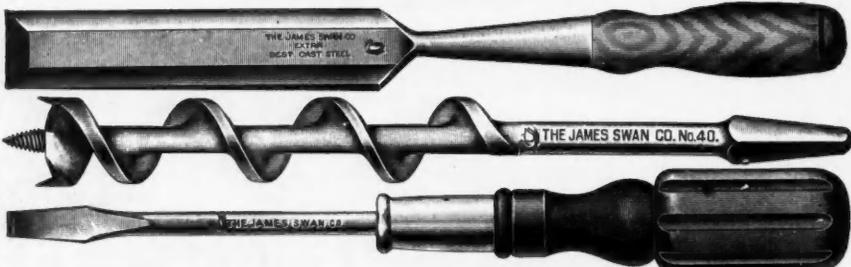
Mechanics' Tools, Augers, Auger Bits, Draw Knives, Chisels, Hollow Augers, Gimlets, Boring Machines, Gouges, Screw Drivers, etc.

Send for Catalogue



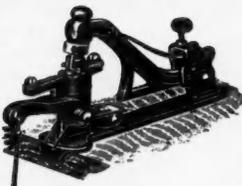
TRADE MARK

Inquiries Solicited



When looking for quality buy goods with the "Swan" trade mark.

Buckeye Foot Power Hammer Saw Set

This Saw Set is so constructed that a uniform blow is given to each tooth, as it works on the trip hammer principle, thus insuring a perfectly even set throughout the blade. No danger of breaking the points of the most highly tempered saws. A novice can set a saw as perfectly as a mechanic with this set, as there is no guesswork as to the amount of set to be given. It is adjustable to any amount of set desired, and will set the finest tooth to the two man cross cut saw as perfectly as when the saw was new. Being operated by foot power, there is no strain on the wrist and no guess work as to the degree of set to be given and leaves both hands free to guide the saw. Ask your dealer to get it for you, or will be sent direct to any address on receipt of \$1.50, express prepaid. We also manufacture the New and Easiest Adjustable Plane on the Market, the "BUCKEYE IRON PLANE." Write for circular.

BUCKEYE SAW VISE CO., Sole manufacturers, 2044-50 W. 55th St., Cleveland, Ohio

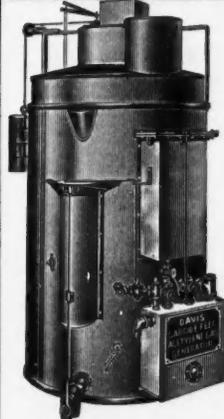
GENUINE BANGOR

Roofing Slate
Structural Slate
Blackboards

Large Facilities, Prompt Deliveries

EAST BANGOR CONSOLIDATED SLATE CO. - - - East Bangor, Pa.

When Writing Advertisers Please Mention the American Carpenter and Builder.



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.

This Tool Will "Pry" Into Anything

It has the strength and leverage for safely opening packing cases, taking up floors, removing scaffolding and other like jobs that carpenters, plumbers and electricians come up against every day. Sizes 14 and 23 inches. Drop forged from special formula steel.

"BONNER" Pry Bars

are about the handiest things a mechanic or electrician can keep in his kit. They are the only tools that will do fast housewrecking and save lumber. The only Pry Bar that will pull a nail as high as a man can reach. Dealers make money handling Bonner Pry Bars.

C. E. BONNER MFG. CO., Champaign, Ill.



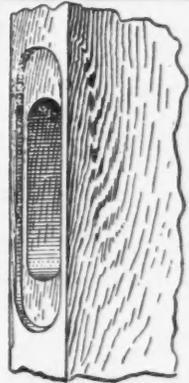
UNIVERSAL LOCK MORTISER

In use in all large cities. No builder should be without one



Will cut lock mortises, including setting in of face plate, in any desired size, in hard, soft or cross-grained wood of every description, in from 3 to 6 minutes. No boring or chiseling required. Every machine guaranteed. Makes a perfect job. Easily operated. Agents wanted where not represented. Testimonials and descriptive booklets furnished on application to

UNIVERSAL LOCK MORTISER CO.
GEO. O. ROGERS, Sales Manager
3400 ALLIQUIPPA STREET PITTSBURGH, PA.



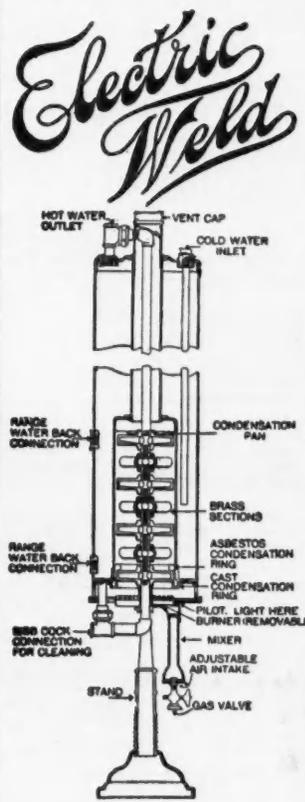
Showing lock mortise cut, including face plate setting

Electric Weld

Combination Boiler and Gas Water Heater

The self-contained storage system. Illustration shows arrangement of enclosed Heating Chamber, Vent, and parts. The advantages of this Type are many, in addition to the maximum efficiency thus obtained. Adapted to Large or Small requirements, without change in design of fixtures or method of installing.

Widest choice as to location of fixture.
Economy of space.
Absence of delicate or intricate parts.
No special Meters or Service pipes required.
Lowest possible maintenance cost.
Moderate initial cost.
Minimum cost of operation (service considered).
Double Circulation.
Primary Circulation equal to other types.
Secondary Circulation equal to thirty-five per cent of total efficiency—together absent in other types.
Automatic or Intermittent Service optional, without adjustment of parts or breaking connections.
Range or Furnace Connections provided for.
Auxiliary Steam Coil, for High or Low Steam Pressure, if desired.
This type represents one-twentieth of total number of Gas Water Heaters in service, and is essential if water heaters are to be popularized.



Labels in diagram: HOT WATER OUTLET, VENT CAP, COLD WATER INLET, RANGE WATER BACK CONNECTION, CONDENSATION PAN, BRASS SECTIONS, ASBESTOS CONDENSATION RING, CAST CONDENSATION RING, PILOT LIGHT HERE BURNER REMOVABLE, MIXER, ADJUSTABLE AIR INTAKE, GAS VALVE, STAND, GAS COCK CONNECTION FOR CLEANING.

JOHN WOOD MFG. CO., Conshohocken, Pa.
Branches Throughout United States

\$ HULTZ WINDOW BARS

WRITE FOR FULLY ILLUSTRATED CATALOGUE FOR STORE FRONTS

SHULTZ'S ALL STEEL CORNER POST CO. ST. JOSEPH, MO.

Handsomest, Strongest, and most Practical Bar on the Market. Long Life—nothing to rot out. Glass bedded on Spanish Cork preventing cracking or crushing of glass. No putty, yet Absolutely Water and Dustproof. Simply incomparable with old fashioned styles. They add immensely to the Beauty, Utility and Rental Values of Buildings.

ARE LOW IN COST

Architects, Contractors and Owners are invited to write me for descriptive literature, prices or estimates.
All Steel Cork Bedded and Ventilated Bottom Bar.
Also Shultz Patent Burglar Proof Coal Chute.

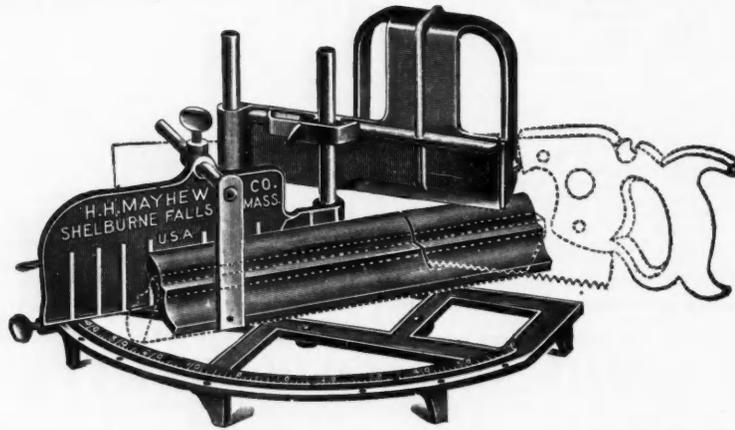
ALL-STEEL BURGLAR-PROOF COAL CHUTE

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.

MAYHEW 60° MITRE BOX



This box embodies more distinctive features than any other made
 Designed for Simplicity, Accuracy, and Durability.
 Strictly a right hand tool for mitring.
 Box embodies a new feature in reversing the principle commonly used on other boxes.
 Any of three saws may be used — Panel — Hand or Back saw.
 Saw guide adjustable for any thickness of saw.

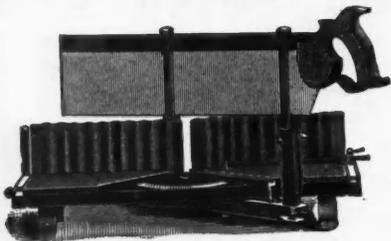
Extreme mitre to 60° without makeshift. May be used as a stationary or pivot box by use of the pin posts.
 In mitring duplicate cuts there is no restriction on length.
 Will cut compound mitre.
 Parts take down into space 10x10x4 inches.
 Weight 15 lbs. complete.
 Box contains full directions for use.

PRICE EACH, \$10.00

H. H. MAYHEW COMPANY, SHELBURNE FALLS, MASS.

GOODSELL 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"

GOODSELL MFG. CO., Greenfield Mass.

BOVEE FURNACES at Manufacturer's Prices

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.

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.



Use KEROSENE Engine Free!

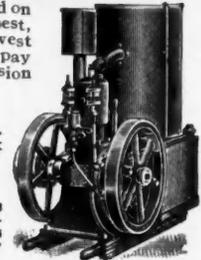
Amazing "DETROIT" Kerosene Engine shipped on 15 days' FREE Trial, proves kerosene cheapest, safest, most powerful fuel. If satisfied, pay lowest price ever given on reliable farm engine; if not, pay nothing. No waste, no evaporation, no explosion from coal oil.

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.

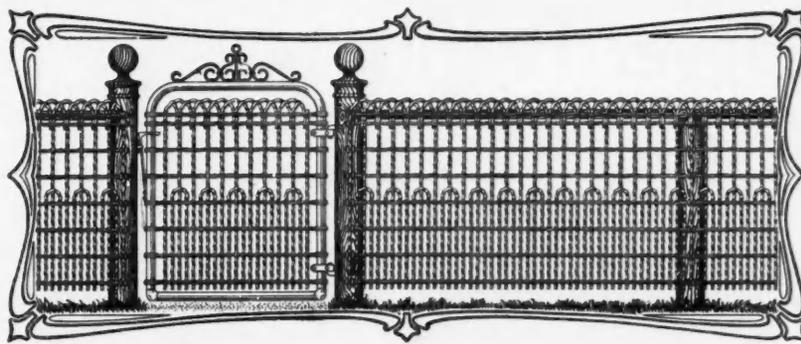
Amazing "DETROIT"

—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 carbonize. 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! (138)



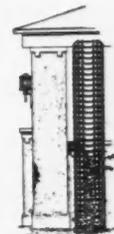
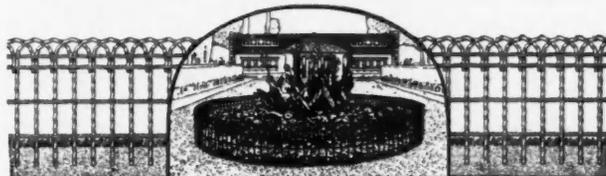
Detroit Engine Works, 495 Bellevue Ave., Detroit, Mich.

When Writing Advertisers Please Mention the American Carpenter and Builder.

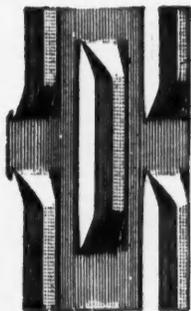


CYCLONE LAWN FENCING is chosen by the most particular buyers because of its design and by the most careful because it out-lasts any other. At a small cost this fencing will add more to the value of the home than any other improvement that can be made and provides positive and permanent protection for lawns and gardens. Being uniformly made, our products are easy to erect straight and tight. Complete catalog is yours for the asking.

Many porches and lawns can be wonderfully improved by the use of our Trellis Wires and Flower Bed Fabrics.



CYCLONE FENCE CO., Dept. A. C. **WAUKEGAN, ILL.**



Easily Erected
A Great
Plaster Saver

**WHEN
YOU
NEED**

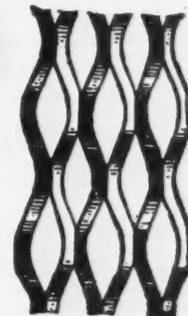
METAL LATH

("Sykes Trough") Either Sheet or Expanded and Want the best Manufactured ("Expanded Cup")

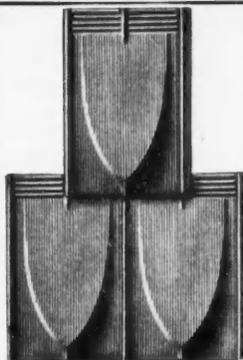
Made in all gauges from all kinds of sheets,
"Anti-Rust" "Painted" "Galvanized."

Address

Sykes Metal Lath and Roofing Company
NILES, OHIO



The Best for
Stucco or Cement
No furring
strips required



Style "B"—Showing Method of Laying

PLACE YOURSELF ABOVE YOUR COMPETITOR

AND SELL **"TITELOCK"** THE BEST

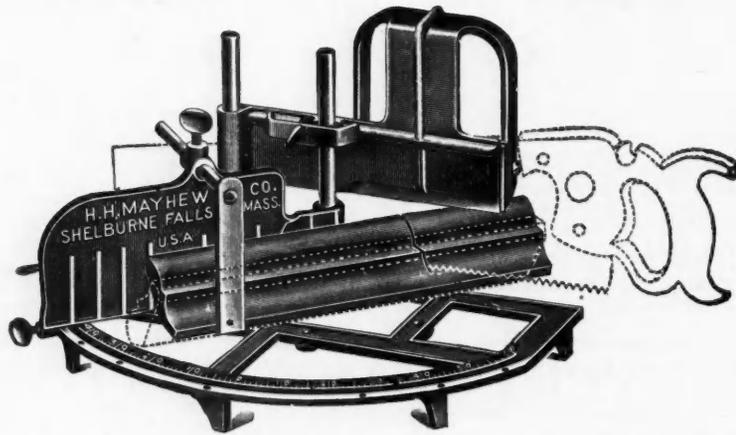
METAL SHINGLES made. They are business-getters and money makers. **FIRE, WATER AND LIGHTNING PROOF.**

Write for Samples and Prices

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

When Writing Advertisers Please Mention the American Carpenter and Builder.

MAYHEW 60° MITRE BOX



This box embodies more distinctive features than any other made
 Designed for Simplicity, Accuracy, and Durability. Strictly a right hand tool for mitering.
 Box embodies a new feature in reversing the principle commonly used on other boxes.
 Any of three saws may be used — Panel — Hand or Back saw.
 Saw guide adjustable for any thickness of saw.

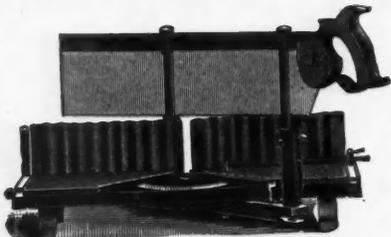
Extreme mitre to 60° without makeshift. May be used as a stationary or pivot box by use of the pin posts.
 In mitering duplicate cuts there is no restriction on length.
 Will cut compound mitre.
 Parts take down into space 10x10x4 inches.
 Weight 15 lbs. complete.
 Box contains full directions for use.

PRICE EACH, \$10.00

H. H. MAYHEW COMPANY, SHELburne FALLS, MASS.

GOODSELL 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"

GOODSELL MFG. CO., Greenfield Mass.

BOVEE FURNACES at Manufacturer's Prices

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

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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.

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.

Use KEROSENE Engine Free!

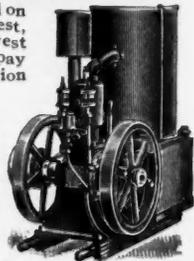
Amazing "DETROIT" Kerosene Engine shipped on 15 days' FREE Trial, proves kerosene cheapest, safest, most powerful fuel. If satisfied, pay lowest price ever given on reliable farm engine; if not, pay nothing. No waste, no evaporation, no explosion from coal oil.

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.

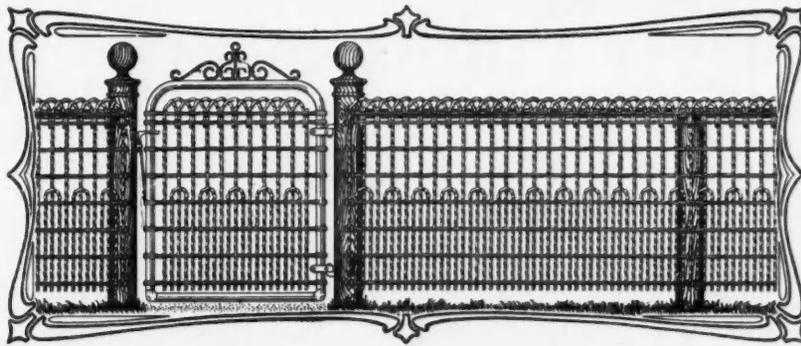
Amazing "DETROIT"

—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. 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! (138)

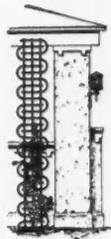


Detroit Engine Works, 495 Bellevue Ave., Detroit, Mich.

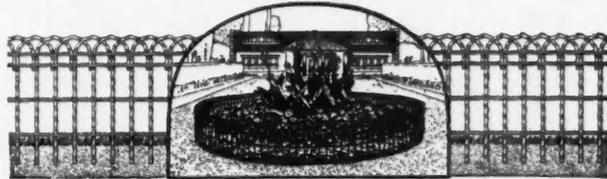
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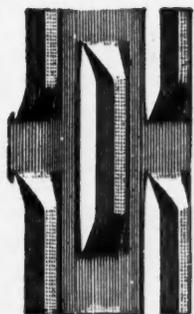
CYCLONE LAWN FENCING is chosen by the most particular buyers because of its design and by the most careful because it out-lasts any other. At a small cost this fencing will add more to the value of the home than any other improvement that can be made and provides positive and permanent protection for lawns and gardens. Being uniformly made, our products are easy to erect straight and tight.
Complete catalog is yours for the asking.



Many porches and lawns can be wonderfully improved by the use of our Trellis Wires and Flower Bed Fabrics.



CYCLONE FENCE CO., Dept. **WAUKEGAN, ILL.**
A. C.



Easily Erected
A Great
Plaster Saver

**WHEN
YOU
NEED**

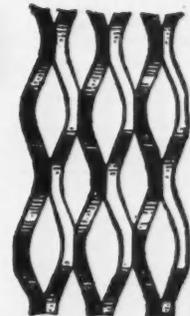
METAL LATH

(“Sykes Trough”) Either Sheet or Expanded
and Want the best
Manufactured (“Expanded Cup”)

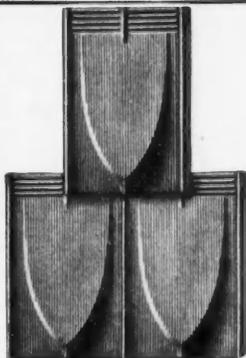
Made in all gauges from all kinds of sheets,
“Anti-Rust” “Painted” “Galvanized.”

Address

Sykes Metal Lath and Roofing Company
NILES, OHIO



The Best for
Stucco or Cement
No furring
strips required



Style “P” — Showing Method of Laying

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.**

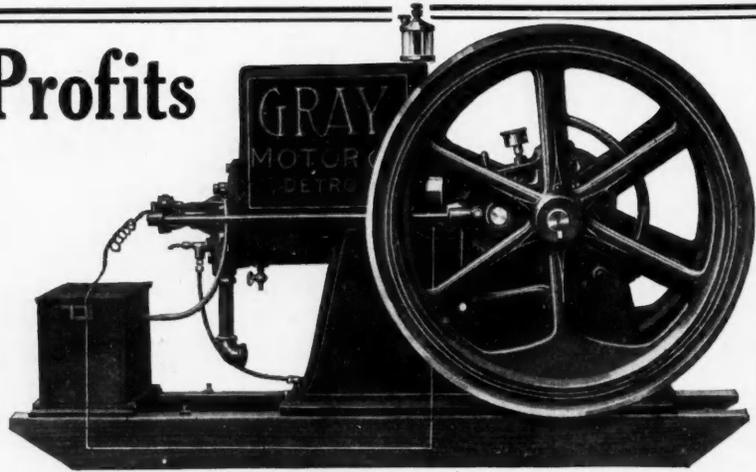
Write for Samples and Prices

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

When Writing Advertisers Please Mention the American Carpenter and Builder.

Make Bigger Profits On Every Job

Here's the ideal gasoline engine for the carpenter and builder. It could not be better adapted to the requirements of the average man in this business if it were made especially to order for his particular needs. It's a time saver and a money maker. It's the engine that will plug along from morning till night without a let up.



Works All Day For A Few Cents

The first cost of this high grade—guaranteed engine is only a small consideration—they make a paying investment.

The cost for fuel is very small—will run *all day*, doing the work of from 2 to 4 men at a cost of from 20 to 40 cents, depending upon the work to be done and the power needed.

Will run the band saw, emery wheel, cutoff saw, jig saw, combination wood-worker, hoisting rigs, cement mixers, etc.

Ask for information and prices on our complete hoisting rigs.

Use it in the shop or out of doors—makes an ideal portable outfit to take around to the different jobs.

Runs in any kind of weather—requires very little attention—furnishes *big* power or little power as required—the automatic governor works perfectly.

30 Day Trial

Let us ship you one of these engines to try at your own work—give it hard jobs to do every day—test it out thoroughly—if it is not all we claim for it and does not prove a money making investment for you, we take the engine back and pay the freight—no strings to this offer—no red tape—no obligations.

Write today for our big engine catalog and ask for special information about trial offer.

GRAY MOTOR COMPANY, 561 U. S. Motor Bldg., Detroit, Mich.

Add This Profitable Line to Your Business **MONTROSS METAL SHINGLES**

Handling Montrose Metal Shingles is a solid proposition. They're easy to sell—for every claim you make is backed by 23 years' reputation. They're adapted to every need and are the cheapest and most economical roofing you can buy.

Made of prime tin plates, heavily embossed and then galvanized or painted. Easy to lay—no soldering. Patented side-lock allows for expansion and contraction. Lasts as long as the building.

This is an opportunity to make big money. Write at once for illustrated catalog, price-list, testimonials, etc.

Exclusive Territory Given

MONTROSS METAL SHINGLE COMPANY

Second and Erie Sts., Camden, N. J

Live Agents Wanted



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.

ARE YOU IN THE RUT ?

Are you losing ground using out-of-date machinery, or, worse still—no concrete machinery at all? I want you to know about four big money getters, whether used separately, or collectively. These machines are "the last words in up-to-date-ness." I want you to know what my machines are doing for hundreds of others.

"Crescent" Sewer Pipe and Tile Molds, all sizes, from 4" to 48", straight, bell-end, tongue-and-groove, also Y and T connections.

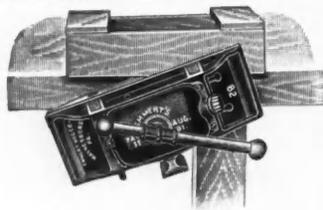
"Crescent" Continuous Concrete Mixer, for the big and little fellow. The big "hit" at all cement shows.

"Crescent" Vertical Tamping Brick Machine, with combination hopper and stripper, and patent facing plate. These are marvelous improvements and inventions.

"Crescent" Power Tile Machine, for tile 3" to 10". The price is low. A big money maker in itself.

Get my Free Literature. See my Machines at all Cement Shows

RABER & LANG MFG. CO.
O. P. RABER, Pres. 810 Mill St., Kendallville, Ind., U. S. A.

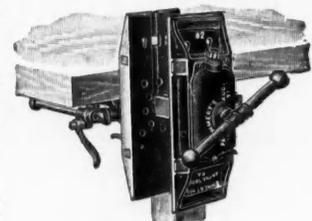


EMMERT UNIVERSAL VISES

are recognized as the greatest Time-Savers and conveniences ever offered the woodworker. Convenient and easy in operation. Will hold work in any desired position. More than 50,000 in use today. Sold on approval and guaranteed satisfactory.

Write for full description and prices.

EMMERT MFG. CO., Dept. C. WAYNESBORO, PA.



When Writing Advertisers Please Mention the American Carpenter and Builder.



The New "Complete" Saw Set

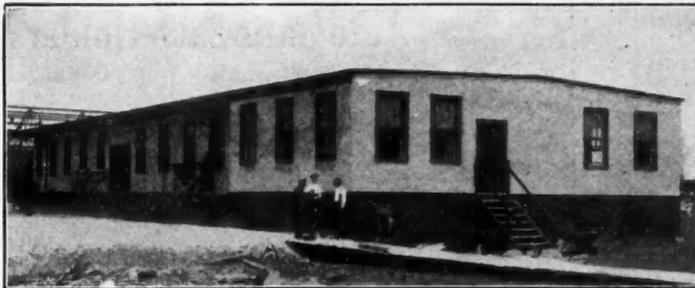
Every practical, common sense feature is embodied in this tool.

A few of which are:
Adjustable side gauge which brings the point of each tooth under the anvil. Top Clamp Screw when adjusted, regulates the amount of set. The setting or wearing surfaces are made of Tool Steel and carefully hardened. Front Screw holds down Saw, allowing free use of left hand. Ask your dealer to procure them for you.

BLACK, 75 Cents. NICKEL, \$1.00.

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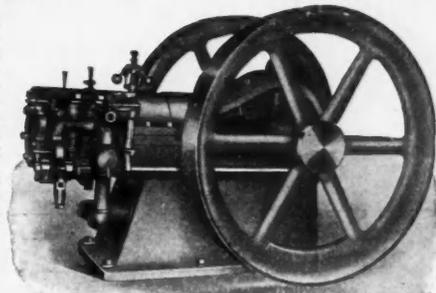
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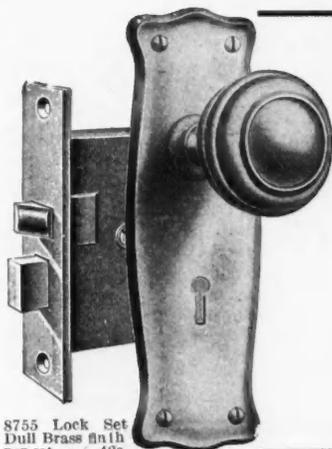
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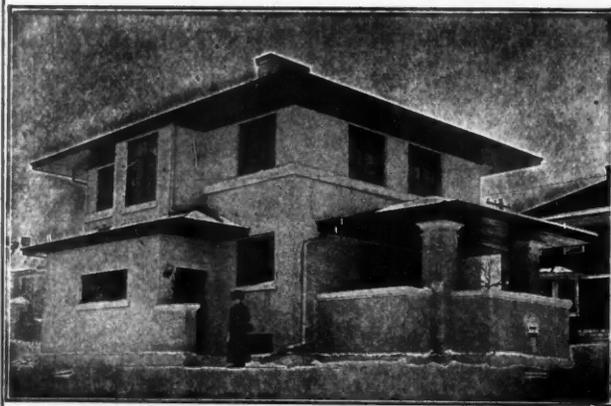


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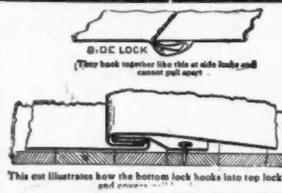
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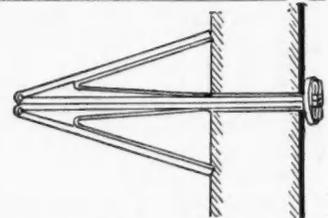
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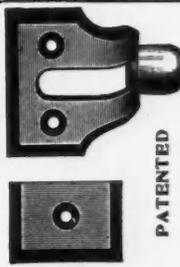
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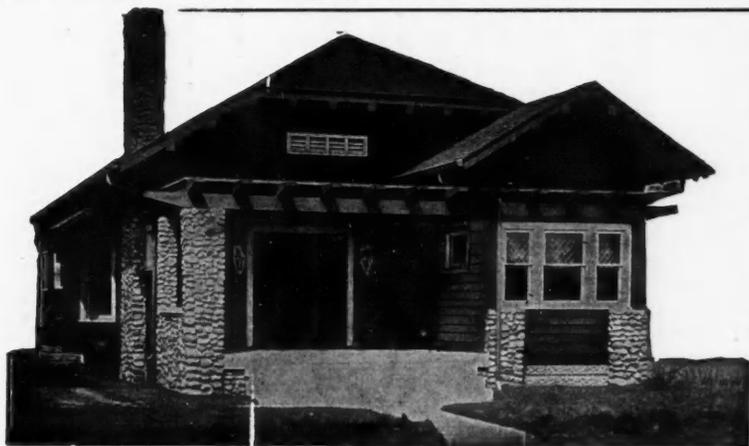
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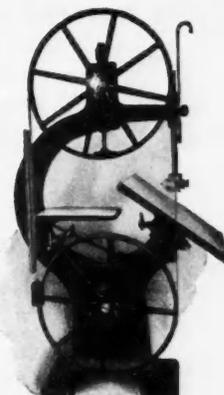
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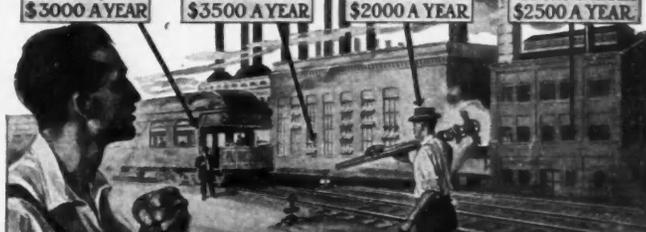
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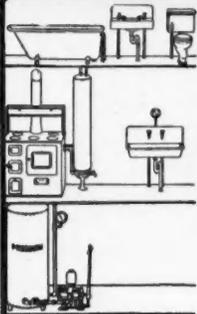


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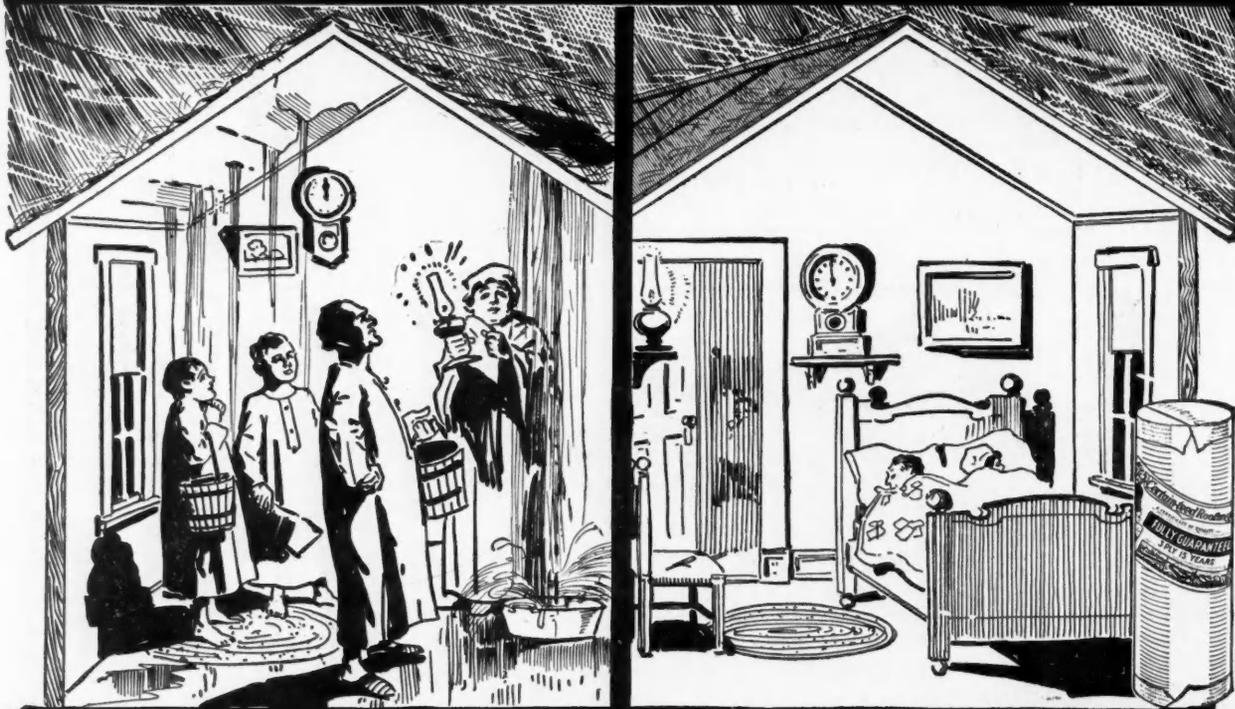
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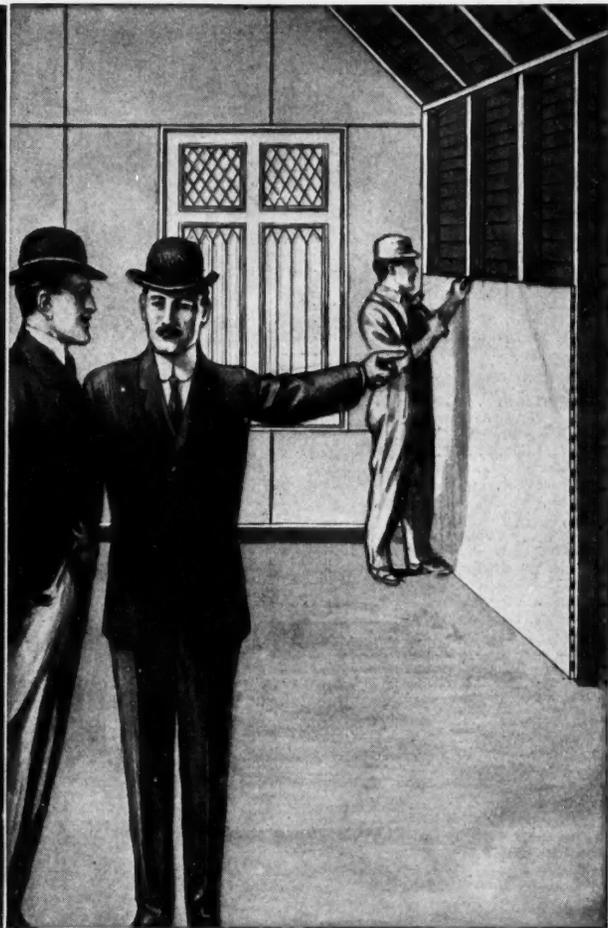
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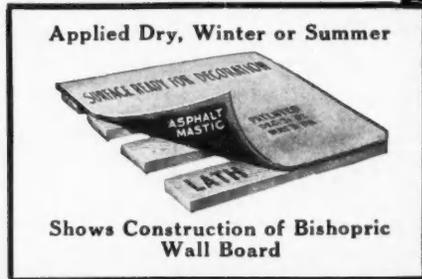
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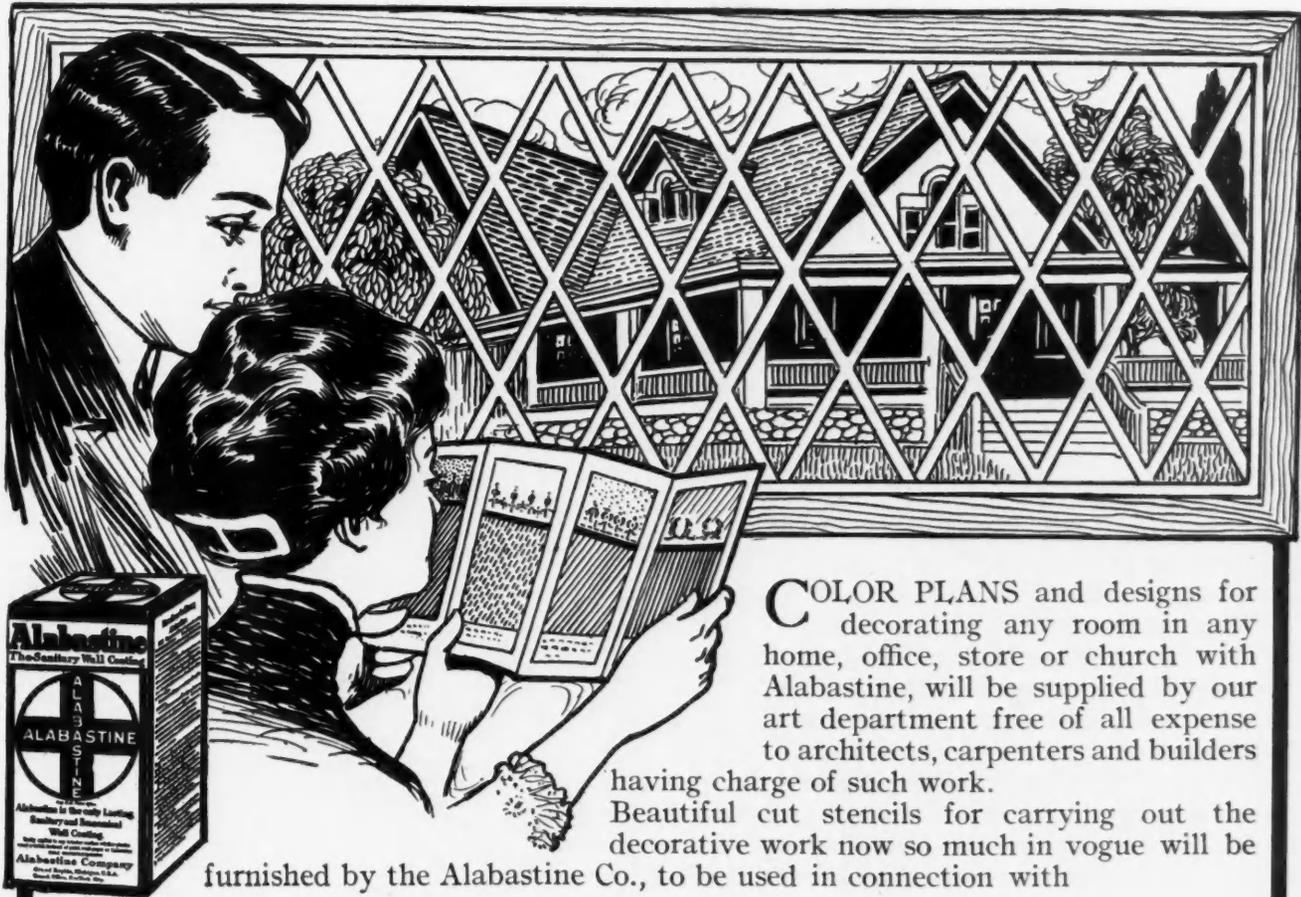
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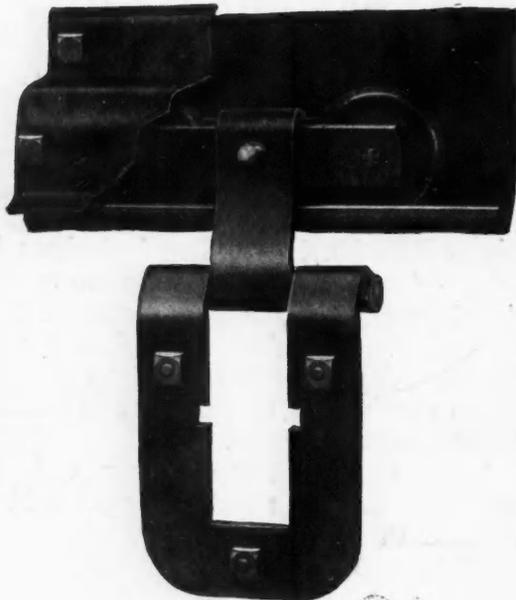
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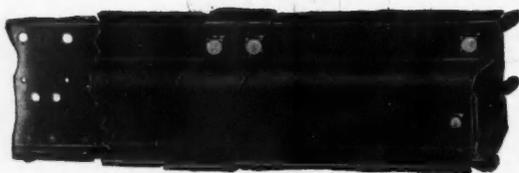
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