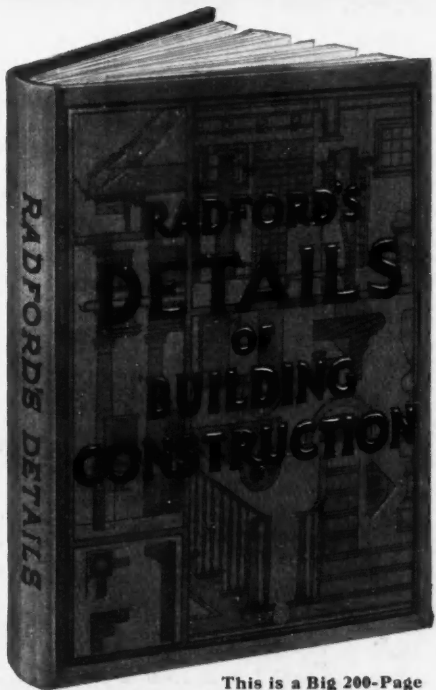


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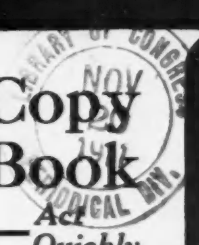
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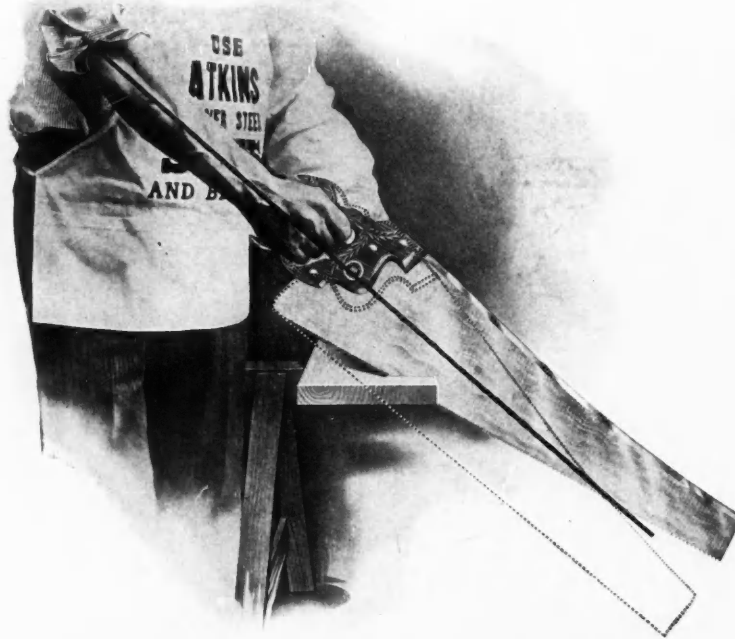
Since the offer made last month in this place, we have been deluged with orders for the American Carpenter & Builder and This BIG FREE PREMIUM BOOK

We don't want to disappoint anyone. For the benefit of *you and your friends* we are extending this offer for a limited time.

The wonderful reception given this book proves it to be just exactly what *all Carpenters, Contractors, Builders and Architects* have long wanted and needed, but never before have been able to secure.

Tell Your Friends About This Great Offer  
See Pages 127 and 128 for Full Particulars





*They  
Save  
Man  
Power*

## **ATKINS SILVER STEEL SAWS**

Here is a clear demonstration of only one of the scientific advantages of SILVER STEEL SAWS. In the picture you will see ATKINS Famous No. 53 with Perfection Handle. Follow the line down the man's arm and see where the **force** of the stroke is centralized. **On the saw teeth.** You know that you can push harder and easier from an elevation that is in a direct line. Just so with the Perfection Handle. What could be easier than the motion shown in the picture above? The Perfection Handle is the only shape of Handle that naturally places the saw blade in this position. That's why we recommend it.

### **NOW NOTE THE DOTTED LINE**

See how the straight handle throws the saw blade downward. See where the greatest force is exerted. On the back of the saw. Is this not energy wasted needlessly?

### **WE MAKE BOTH KINDS**

If you still prefer the old style straight handle, ask for the following **skew** back Saws: Nos. 51, 52, 66, or the following **straight** back Saws: Nos. 54, 55, 64 or 67.

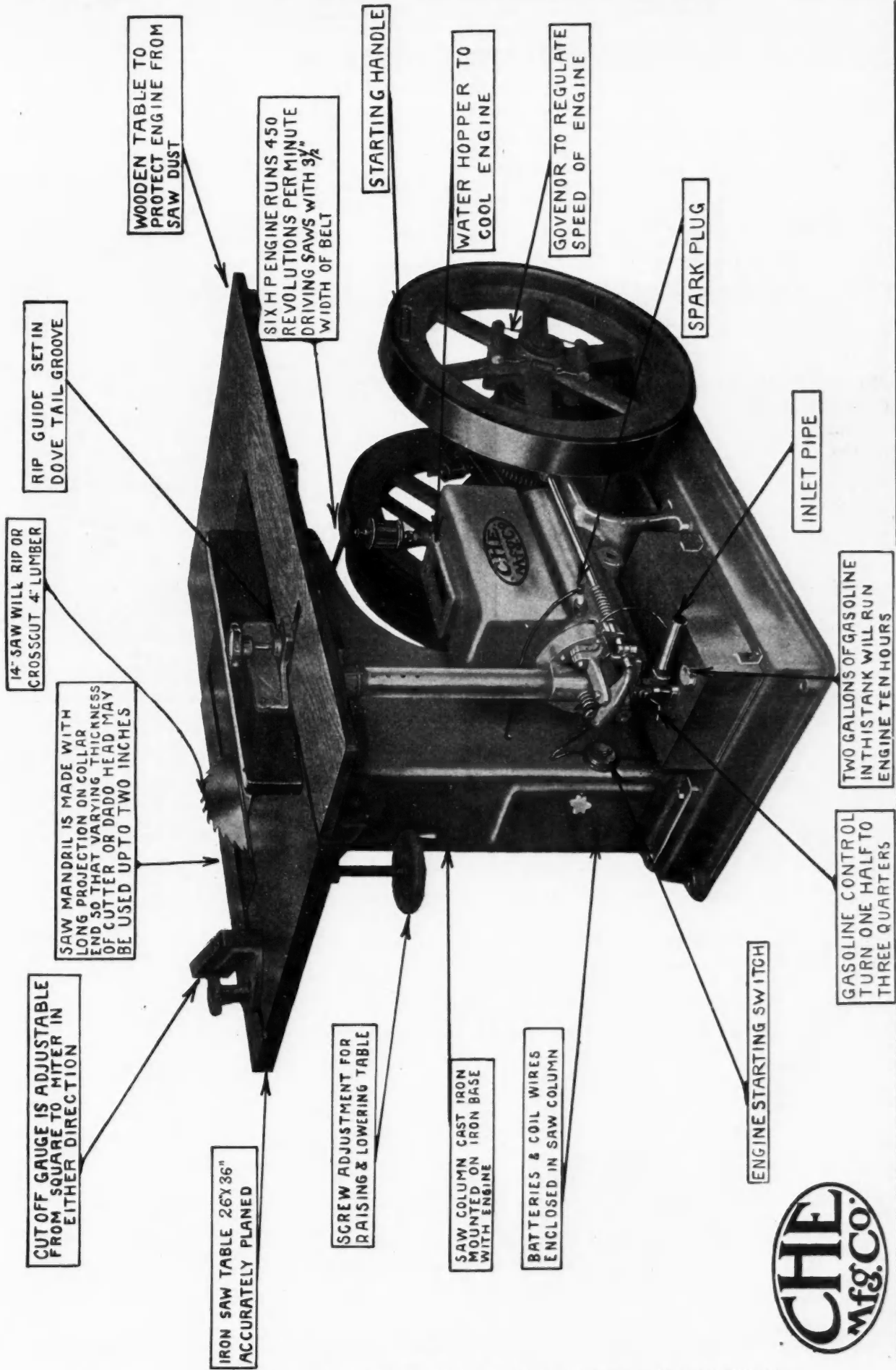
The following are the most popular Saws fitted with Perfection Handle. In **Skew** back, Nos. 400, 53, or 68. In **straight** back, Nos. 65 and 69.

**OUR FREE OFFER.** If there are any carpenters who have not as yet received one of our aprons free of charge, we will be glad to forward one upon receipt of ten cents to pay postage and will send with it full information in regard to High Grade Saws.

**HOW TO BUY THEM.** Your dealer most likely sells **Silver Steel Saws.** If not, he will be glad to order for you from his wholesale house. Specify **Atkins Silver Steel.** None genuine unless plainly marked "**SILVER STEEL**" on the blade. If your dealer won't supply you, write to us. We'll see that you are taken care of.

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





CUT OFF GAUGE IS ADJUSTABLE FROM SQUARE TO MITER IN EITHER DIRECTION

SAW MANDRIL IS MADE WITH LONG PROJECTION ON COLLAR END SO THAT VARYING THICKNESS OF CUTTER OR DADO HEAD MAY BE USED UP TO TWO INCHES

14" SAW WILL RIP OR CROSSCUT 4" LUMBER

RIIP GUIDE SET IN DOVE TAIL GROOVE

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SIX HP ENGINE RUNS 450 REVOLUTIONS PER MINUTE DRIVING SAWS WITH 3 1/2" WIDTH OF BELT

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SAW COLUMN CAST IRON MOUNTED ON IRON BASE WITH ENGINE

BATTERIES & COIL WIRES ENCLOSED IN SAW COLUMN

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ENGINE STARTING SWITCH

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TWO GALLONS OF GASOLINE IN THIS TANK WILL RUN ENGINE TEN HOURS

GASOLINE CONTROL TURN ONE HALF TO THREE QUARTERS

IRON SAW TABLE 26" X 36" ACCURATELY PLAINED



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**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.

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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  
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Doors  
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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.

### COMPLETE OUTFIT <sup>PRICE</sup> \$15.00 HAND AND FOOT-POWER MACHINERY

Our No. 7 Scroll Saw is warranted to be made of good material and workmanship, and to saw pine 3 inches thick at the rate of one foot a minute.

Send for Catalogue.

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### Do Your Next Job of Floor Scraping at Our Expense with a

## Little Giant Floor Scraper

Sold only on its merits. A request brings it to your door, freight prepaid. Try it out, if you are convinced it is the best floor scraper on the market, pay for it. If not, return it at our expense.

The **Little Giant** has scraped millions of square feet of floors. Cuts right up to the baseboard and into every corner. Easy to operate. Will scrape floors quicker, cleaner, and cheaper than any other machine on the market.

Ask us for our special price on this machine.

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### A Model Hand Planer or Jointer



The New Smith Hand Planer embodies important improvements which increase its capacity and reduce cost of operation.

The Box Form Frame is a single casting resting on three feet, and it cannot be twisted out of line by changing floors.

The New Round Safety Cutter-Head is made of high grade crucible steel, carries two self-hardening knives on two sides, and is slotted on the other two sides for projecting cutters. So far as we know, ours is the only Safety Cutter-Head made in this manner.

#### THE SMITH PLANER

HANDLES BOTH LONG AND SHORT MATERIAL  
WITH EQUAL FACILITY

Guide adjusts entirely across the table. Adjusts to an angle of 45 degrees for bevel planing and it may be set diagonally.

Write for descriptive circulars.

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79-2072



## New Modern Floor Surfacing and Polishing Machine

No other machine like it. It stands in a class by itself. Ball-bearing throughout.

**Operation Very Simple**  
Does not require a mechanical engineer to adjust it or run it.

**Ten Times** faster than blade machines.

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**Requires Very Little Power.**

**A RED-HOT MONEY MAKER**  
Install a "New Modern" and all the desirable work comes to you.

*Our agency proposition is very interesting. Write today.*

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OSKALOOSA, IOWA

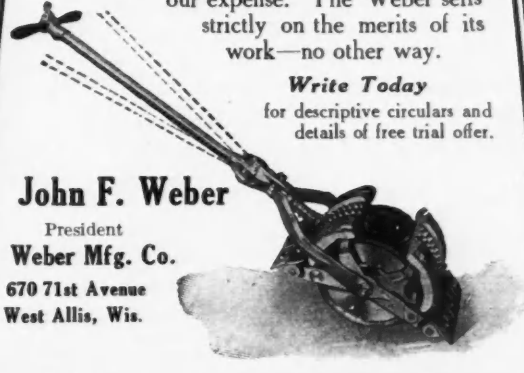
## The WEBER DOUBLE ACTING Floor Scraper

Be satisfied. Be sure you are. Know beyond question that the scraper **you** buy is good, sterling quality—every inch of it. That's the Weber, but

### Try It Yourself

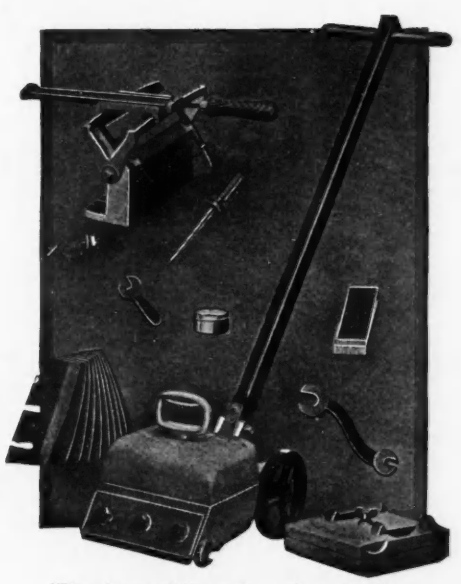
five days free—then you'll know. Give it the hardest test a scraper ever has to undergo. If its work isn't faster—smoother and done with less effort than is the case—with any other scraper made—return it at our expense. The Weber sells strictly on the merits of its work—no other way.

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and if the results are not satisfactory, box up the machines and send them back to me, and you will owe me nothing.

To any responsible contractor or carpenter I make this offer:

"I will ship the **Acme Floor Scraping Outfit** to your address on one week's free trial. You can work with the machines and test them out in every possible manner, and if at the end of the seven days you are not satisfied with the results, just return the outfit at my expense."

Thousands of contractors have accepted this liberal offer during the past five years and have convinced themselves of the labor-saving possibilities of my equipment. If you have not investigated, then the time to do so is now. Don't put it off any longer, but write me to-day for booklet and full particulars.

**JOSEPH MIOTKE**  
247 Lake Street :: MILWAUKEE, WIS.

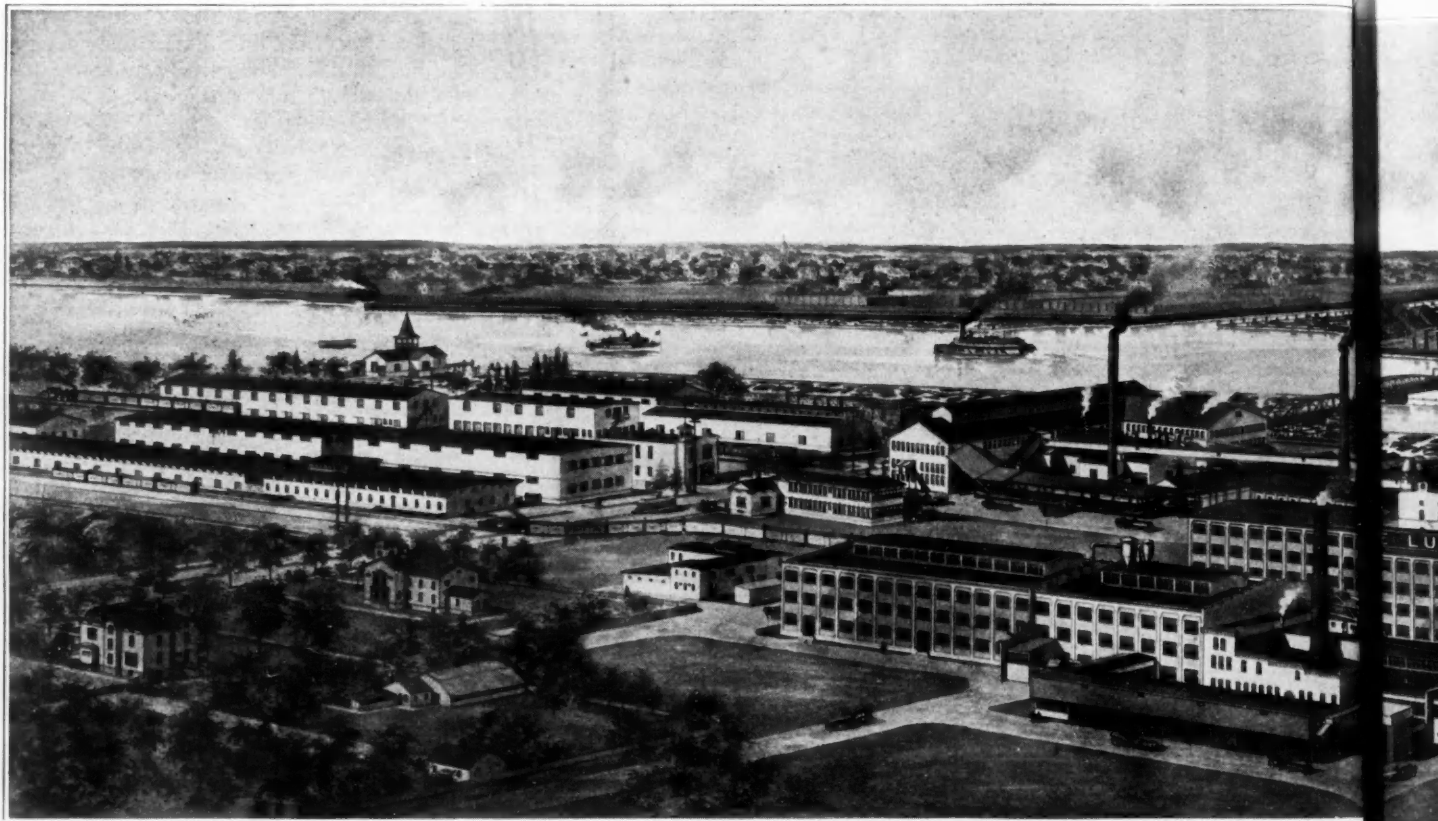
The Acme Floor Scraping Outfit.



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OSHKOSH, WISCONSIN, U. S. A.

These Plants Produce TWO THIRDS of All the



*We Make Everything in Milwaukee*

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## Korelock Veneered Doors

Cost but little more than Pine

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# PAINE LUMBER CO., LTD.

OSHKOSH, WISCONSIN, U. S. A.

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*Millwork in any Kind of Wood*

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Birch and Oak Doors Ready to Ship

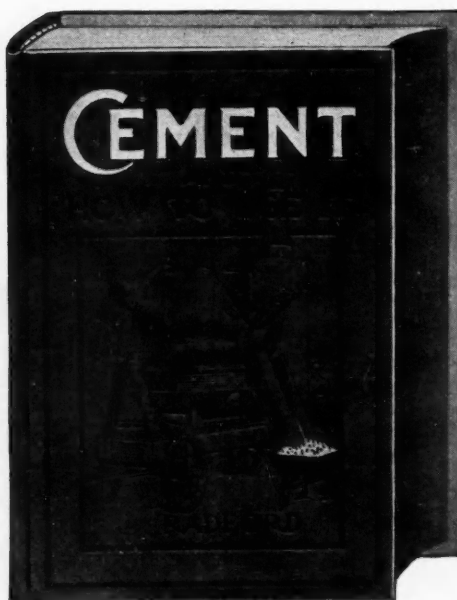
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# Big, Practical, Up-to-the-Minute Book

## For Contractors, Builders, Cement Men

"Cement and How to Use It" is a big, practical, up-to-the-minute book for the cement manufacturer, dealer and user, as well as the architect, draftsman, construction man, contractor, builder, carpenter and prospective home owner. This book contains the boiled-down essence of all the accurate information on the subject of "Cement and How to Use It" possible to obtain. It is indispensable to the man who in any way has anything to do with construction or the use of cement in any one of its multitude of applications.



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Every phase, part and use of this wonderful twentieth century building and paving material is treated fully and completely, with details showing each step to be taken.

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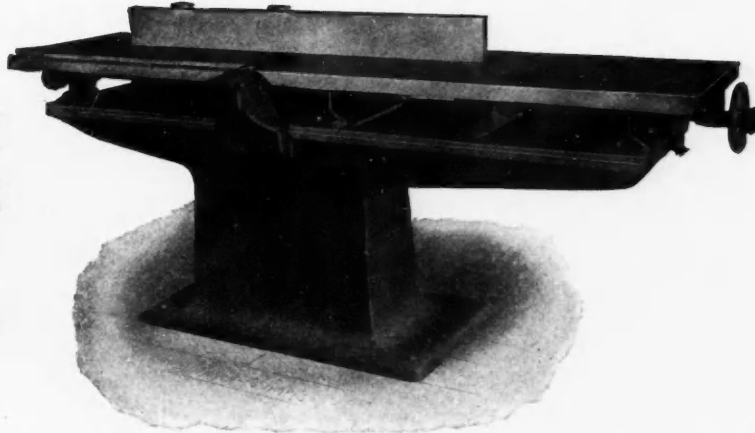
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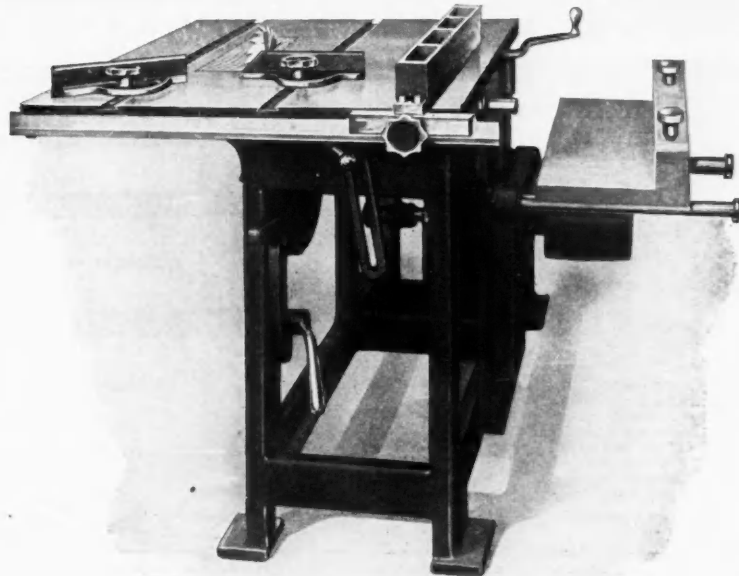
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JOINTER  
AND  
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**BOTH MACHINES FOR \$185.00**

Tilting Table, Saw Table  
with Raising and Lowering  
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We include in the above price countershafts, one pair Jointer Knives, one 14-inch Rip Saw, one 14-inch Cut-off Saw. All Gauges shown in picture.

It will pay you to get our price on any machine.

**UNITED MACHINERY COMPANY**  
136 LIBERTY STREET      NEW YORK CITY

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## “45” Seven Tools in One

- 1.—Beading and center-beading Plane.
- 2.—Rabbit and Filletster Plane.
- 3.—Dado Plane.
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- 5.—Matching Plane.
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- 7.—Superior Slitting Plane.

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

Send for catalog giving complete description.

EVERY  
TOOL  
GUARANTEED

### Stanley Rule & Level Co.

NEW BRITAIN, CONN. U.S.A.

STANDARD  
THE WORLD  
OVER

**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
8 ".....	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, 3, 4 and 5 foot have... 1 1/2 x 1/2 inch bars.  
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.

**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.

L. S. STARRETT SAYS:

“If you find any tools better than Starrett Tools, buy them.”

Send for free Catalogue No. 186.

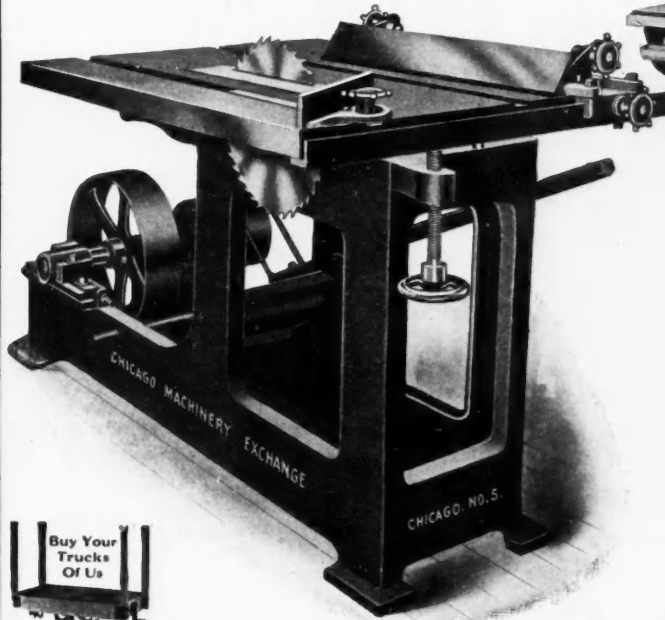
The L. S. Starrett Co., Athol, Mass., U. S. A.

Straight-grained cedar that cuts like cheese; smooth, tough leads that make clean-cut, strong marks—that's the way Dixon's Carpenter Pencils are described. Send 16c for generous sample lot 183 J.

JOSEPH DIXON CRUCIBLE CO.  
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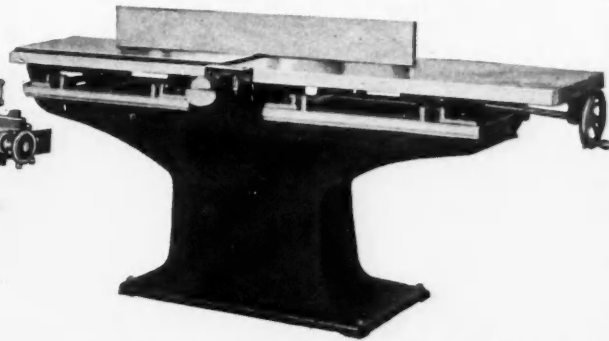
**DO YOU GET THE BIG PROFITS? (OR DOES THE MILLMAN)**

**MACHINE No. 1**  
Chicago No. 5 Combination Saw Table



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

**MACHINE No. 2**  
Chicago 12-Inch Jointer and Planer



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

**These Two Machines**

for \$170.00, including belt for saw arbor, countershafts, 1 12" rip saw, 1 12" cut-off saw, 5 boring bits— $\frac{1}{4}$ ",  $\frac{5}{16}$ ",  $\frac{3}{8}$ ",  $\frac{1}{2}$ ",  $\frac{3}{4}$ " and 1-inch pair of jointer knives. Ask for price on one if you cannot use both.

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

**THEY ARE ALWAYS READY FOR WORK.**  
(Not so with the Universal Wood Workers.)

**CHICAGO MACHINERY EXCHANGE**

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**THE FOLDING DRAW KNIFE**

It's the Autocrat of Draw Knives  
And it bears the WILKINSON brand;  
It's the Draw Knife that they call for  
And it's the standard in the land.

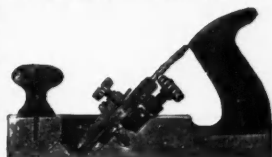


If your hardware dealer does not keep it, we will send it to your address postage paid. : :

**A. J. WILKINSON & CO., 180 to 188 Washington St., BOSTON, MASS.**

**INTRODUCTORY TRIAL OFFER**

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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, ealy, 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.

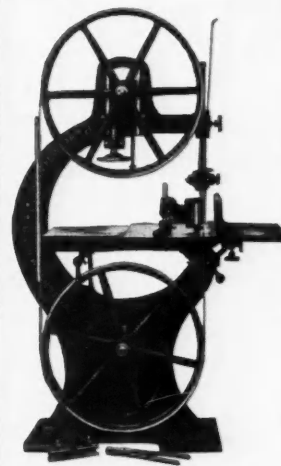
If you send us the addresses of ten carpenters, no matter where they live, we will send you another hard, tough carpenter's pencil.  
Give the SELF-SETTING PLANE a chance to PROVE ITS WORTH, if it FAILS, return it and we will return your money.

**GAGE TOOL CO., Vineland, N. J.**

**A Free Copy**

**Secrets of Successful Band Sawing by**

**Mr. Charles E. Wright,**  
The Acknowledged Exponent on Band Saw Talk.



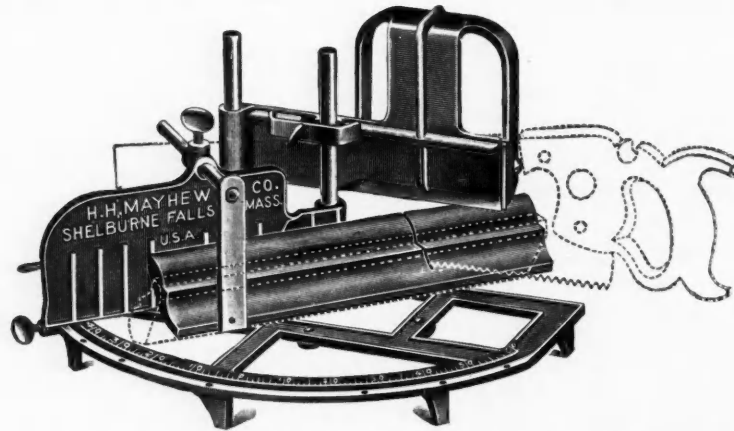
Would be mailed free. Send for a copy before our supply is exhausted. We illustrate fifteen new model machines. **Here is one, \$95 net,** complete with all improvements as shown in cut. If you want a

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.



# 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.

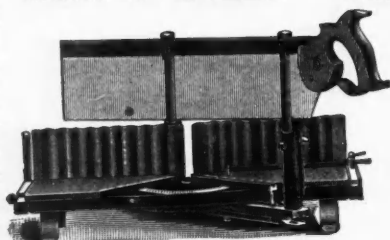
Extreme mitre to 60° without makeshift. May be used as a stationary or pivot box by use of the pin posts.  
 In mitering duplicate cuts there is no restriction on length.  
 Will cut compound mitre.  
 Parts take down into space 10x10x4 inches.  
 Weight 15 lbs. complete.  
 Box contains full directions for use.

PRICE EACH, \$10.00

**H. H. MAYHEW COMPANY, SHELBURNE FALLS, MASS.**

## GOODELL MITRE BOX

Made of STEEL - Cannot Break



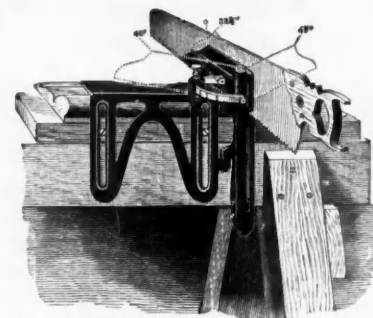
First in Quality and Improvements  
 Automatic Stops for holding up saw.  
 Corrugated Backs Graduated.  
 Gauge for duplicate cuts and many other features  
 Send for Circular "C"

GOODELL MFG. CO., Greenfield Mass.

**"Red Devil"**  
 Carpenter's Tools  
 Glaziers' Tools  
 Electricians' Tools  
**ARE THE BEST TOOLS MADE**

"Red Devil" Seavey Mitre Box

Cuts any Angle



Weights 2 Pounds

Portable — can be carried in the Tool Kit.

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

—We Make—  
 Pliers Hack Saw  
 Frames, and all "Red Devil" Tools.

**Smith & Hemenway Co.**

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Tapes & Rules

are Standards of Accuracy, Durability and Workmanship.

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**THE LUFKIN RULE CO.**

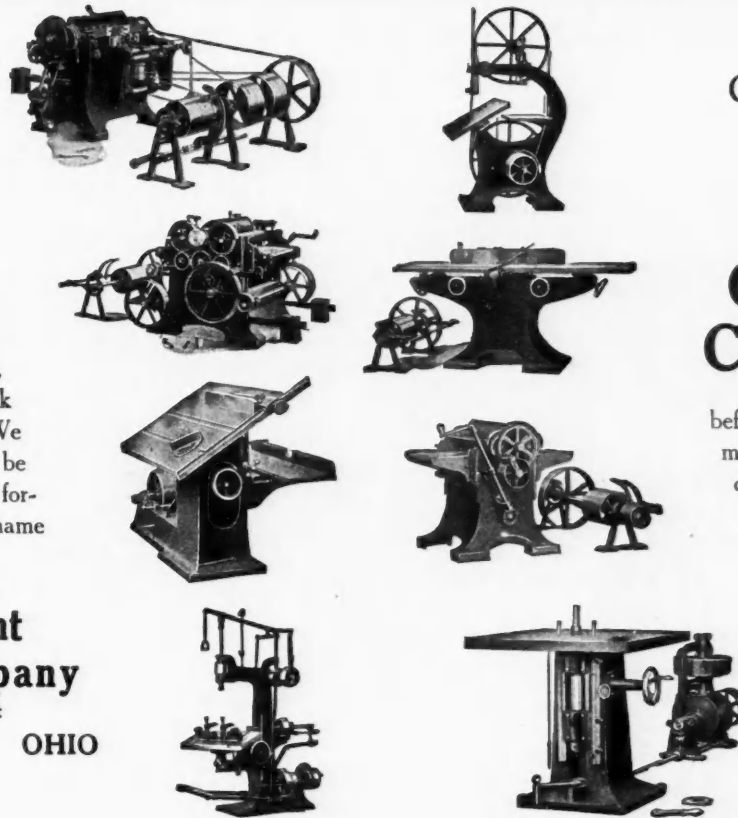
SAGINAW, MICH.

NEW YORK  
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The information about Horse-power required for driving the different machines should be especially valuable to you. It tells all about our line of Band Saws, Saw Tables, Shapers, Jointers, Variety Wood Workers, Planers, Swing Saws, Disk Grinders, and Bores. We have a copy all ready to be sent to you and it will go forward on receipt of your name and address.

**The Crescent Machine Company**  
 224 Main Street  
 LEETONIA :: OHIO



Get a Copy  
 of the  
**1912 Crescent Catalogue**

before you buy wood working machinery. The book contains 112 pages of information of interest to every user of wood working machinery.

**The GRIMM WOODWORKER**  
 PORTABLE

Type "A" with 4 H. P. Gasoline Engine, showing Rip Saw. Weight equipped for work 350 lbs.

**NINE MACHINES IN ONE**

Grimm Mfg. Co.,  
 Gentlemen:—Just received the extra saws and Panel-raiser thank you for same. I find the GRIMM WOODWORKER the cheapest man in my shop.

Respectfully Yours,  
 (Signed) Wm. P. Jones.

Write for descriptive booklet and selling plans.

**Grimm Manufacturing Co.**  
 46 Erie Street - BUFFALO, N. Y.

**In This Improved Swing Saw Machine the Saw Arbor Travels in a Perfectly Straight Line**

**PRYIBIL No. 5 Parallel Swing Saw**

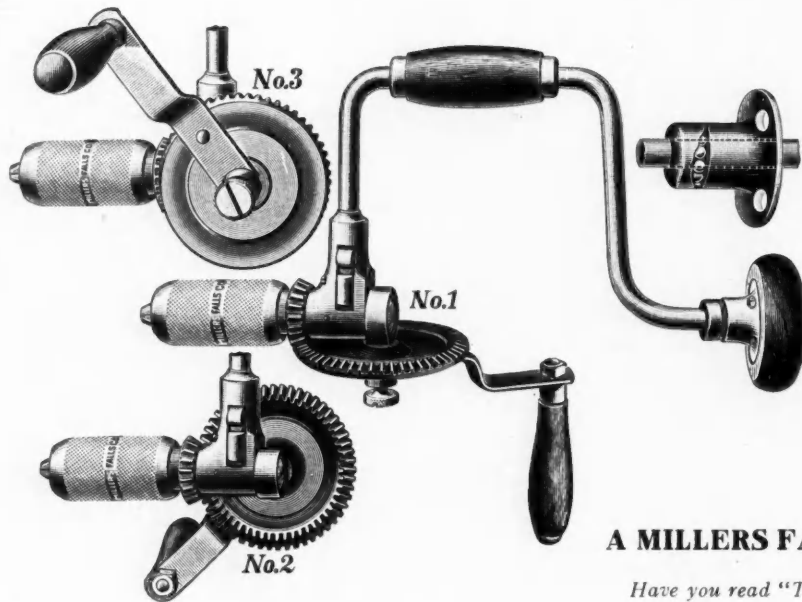
Also for grooving, gaining, rabbeting, tenoning, etc. Send for prices and catalog.

**P. PRYIBIL**  
 520 W. 41 St.  
 NEW YORK



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

# DRILL BRACE No. 192



The gear, as shown by illustration, is attached or detached by a turn of a thumb screw, but what is not shown is that when set it is as rigid as if keyed on. Its possible adjustment to three positions gives the user 100% efficiency in any corner or in any position or angle.

The ratchet is an improved device, so arranged that both dogs can be thrown out of mesh at the same time, allowing free operation of drill gears.

With drill gear detached, the brace is our regular 10-inch Sweep tool with all its patented improvements—universal chuck, taking all sizes and shapes of shanks, patent ratchet, non-splitting free-acting center handle and ball bearing head.

This Drill Brace looks and works better than the description sounds.

## A MILLERS FALLS EFFICIENCY TOOL

*Have you read "Tool Practice", our FREE Booklet?*

**MILLERS FALLS CO.**

**28 Warren Street,**

**NEW YORK**



Chief Floor Hinge

### TO APPLY THE SHELBY "CHIEF"

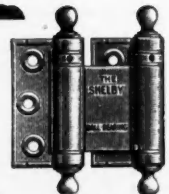
#### Double-Acting Ball-Bearing Floor Hinge

You simply take your saw, screw-driver, and chisel, saw notch in bottom of door and apply hinge. Then mortise in top of door for pivot and socket, place the door in position and screw floor plate to floor. Easy isn't it? Of course that is the kind you are looking for.

Ask your dealer or write us to tell you more about The Shelby Chief.

**THE SHELBY SPRING HINGE CO.**

**Shelby, Ohio.**



Spring Butt



# "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

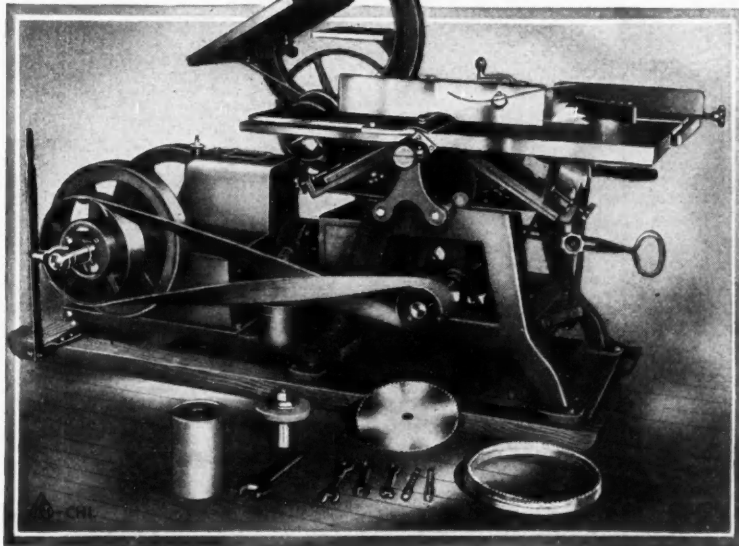


BRACE BIT

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN CARPENTER AND BUILDER



This is a front view of the FAMOUS Portable Woodworker and shows the machine with all attachments.



## A Number of Machines in One

The FAMOUS Portable Woodworker consists of:

8" Jointer.	Mitering attachment.
20" Band Saw.	Cut-off and Ripping
Saw Table (carrying a	Gauge.
14" Saw Blade) with	Emery Grinder.
raising and lowering	Disc Sander.
arbor.	

With the outfit is included: 12" Rip Saw, 12" Cut-off Saw,  $\frac{3}{8}$ " and  $\frac{3}{4}$ " Band Saw Blades,  $\frac{3}{8}$ ",  $\frac{1}{2}$ " and  $\frac{3}{4}$ " Boring Bits, set of Planer Knives, Sand Drum, Emery Stub (equipped with 6" emery wheel).

### Every Contractor Can Afford One

It's *not* a question of expense, but of *investment*. Don't think you cannot afford it—you cannot afford to do without it! Think of the convenience—think of the time, trouble and dollars you can save!

Illustration shows the woodworker mounted on skids which permit it to be pulled around easily. The machine can also be placed on a specially manufactured wheeled truck, which we furnish at a small additional cost.

### Don't Forget to Write for Particulars

The price is so low that it is a good investment for *every* contractor. Write to-day and get full particulars. Remember, we are making a conservative statement when we say the FAMOUS is so far superior to other types of portable woodworkers as to be *beyond comparison*.

Send us a letter or postcard *to-day* for full details—get educated to the real advantages we offer.

## A Remarkable New Portable Woodworker

—called the "FAMOUS"

Imagine *one piece of machinery* that does all kinds of ripping and cutting off, dadoing, surfacing and edging, circular band saw work, boring, grinding and sanding

—a *complete machine shop*, in fact!

Then imagine such a machine *equipped with its own power plant*—a compact and sturdy three horse-power gasoline engine, complete with batteries and all belts necessary to operate the machine!

On top of this imagine this machine constructed so that it *can be moved from place to place*—wherever your work is—with practically no trouble and little cost!

Imagine all these and you will understand the advantages offered in the embodiment of the above features—the FAMOUS Portable Universal Woodworker.

### 800 Famous Universal Woodworkers in Use

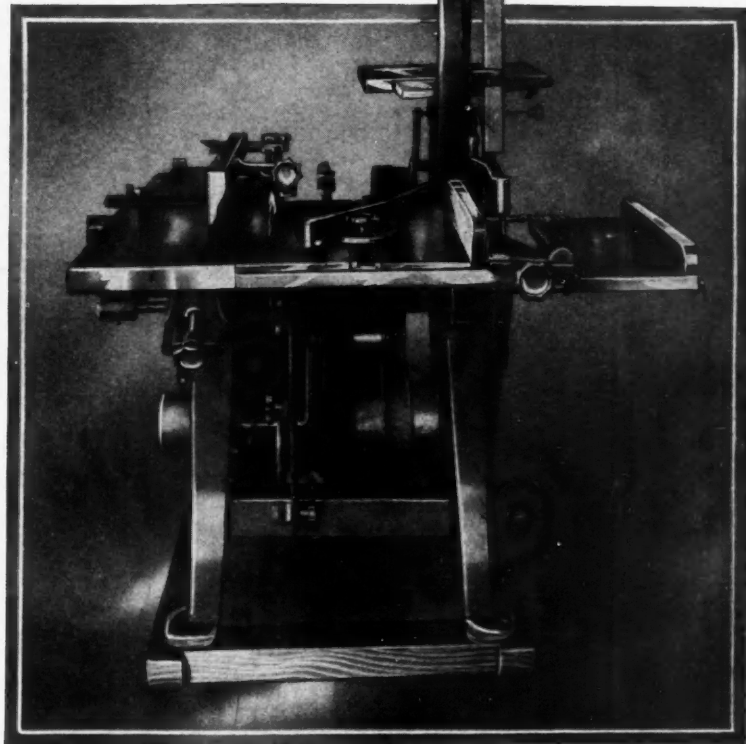
We have been perfecting this machine for the past two years—studying contractors' needs and shaping our plans accordingly. Today we offer a portable woodworker that we *know* is the *only one worth while*.

This new machine is backed by the experience and reputation of The Sidney Tool Co. who have built and sold *over eight hundred* Universal Woodworkers. That's why there's *nothing experimental* about it.

THE SIDNEY  
TOOL CO.

Sidney, Ohio

This shows an  
end view of the  
FAMOUS  
Portable Woodworker



**"YANKEE"**  
No. 1530

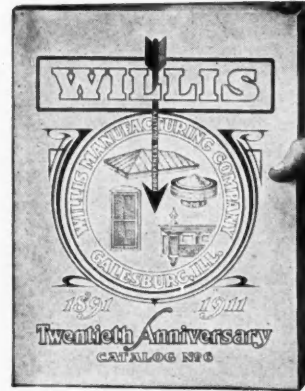


The Newest  
**"YANKEE"**  
Hand Drill No. 1530  
A Tool for every Mechanic

Has the same unique ratchet movement used in our popular Breast Drills, the little slide between the gears changing it instantly from a plain drill to a right and left hand ratchet; or a double ratchet where any movement of the crank forward or backward causes the drill to cut continually. A great convenience when working at close quarters where a full revolution of crank cannot be obtained. Takes round shank drills 3-16" and smaller. Drill Points carried in the handle.

Send for Tool Book (Free)  
Tells About 35 Styles. 75 Sizes  
*Your dealer sells the "YANKEE"*

**NORTH BROS. MFG. CO.**  
Dept. A PHILADELPHIA, PA.

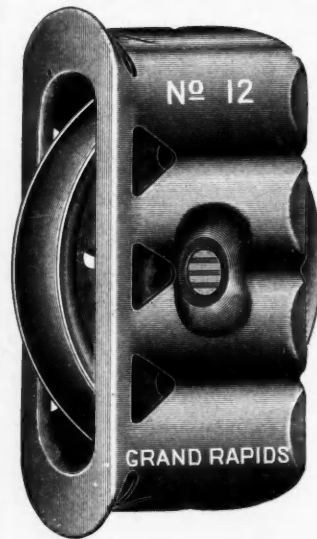


WE take the pleasure of offering to Architects and Builders our Catalog No. 6, just received from the printer, containing 180 pages, which fully describes and illustrates the most complete line of Architectural Sheet Metal Building Material.

*Cornices, Store Fronts, Steel Ceilings, Deck Railings, Crestings, Etc.*

**WILLIS MANUFACTURING CO.**  
GALESBURG, ILL

Manufacturers of the FAMOUS Willis Skylights and Ventilators



**"GRAND RAPIDS"**  
ALL STEEL  
SASH PULLEYS

No Nails No Screws  
Just Bore 4 Holes

The time saved by the "Grand Rapids" will actually pay for the pulleys.

You can't afford to use old style pulleys.

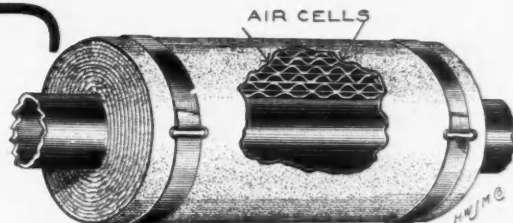
Write for free samples and prices.



**Grand Rapids Hardware Co.**  
Manufacturers  
158 11th Street, GRAND RAPIDS, MICH.

This fastening is more secure than any number of screws or nails could make it. Saves about 15 per cent, too. **S C R E W S COST MONEY**

## IMPROPERLY COVERED STEAM PIPES CAUSE FIRES!



**J-M ASBESTOCEL**

The following, which appeared in a recent issue of a leading engineering magazine, shows the importance of covering steam and hot water pipes with fireproof covering, to prevent them setting fire to building:

"If the contact of wood with a heated surface is continued sufficiently long, the temperature of a few degrees only above the boiling point of water is enough to produce a semi-carbonized film on the wood, which will start smoldering at a very low temperature. The heat arising from an oil or gas flame some distance away is sufficient to start the smoldering combustion. The temperature of a steam or hot water pipe has often been found sufficient to cause ignition, due probably to the long continued heat generating certain hydro-carbons of low ignition point, which remain occluded in the pores of the semi-charred wood and are brought into close contact with the occluded oxygen. In fact, a constant draught, or even a sudden rush of air, coming in contact with highly carbonized wood, is sufficient to cause serious conflagration."

J-M Asbestocel Pipe Covering is made of Asbestos and cannot burn. It is not only a positive protection against fire from heated pipes, but the most efficient and durable pipe covering on the market. A postal request will bring the proof to you.

### H. W. JOHNS-MANVILLE CO.

Manufacturers of Asbestos and Magnesia Products **ASBESTOS** Asbestos Roofings, Packings, Electrical Supplies, Etc.

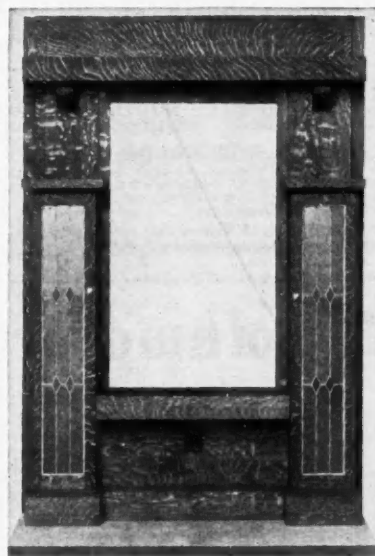
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For Canada—THE CANADIAN H. W. JOHNS-MANVILLE CO., LIMITED

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## CONSOLES Columns and Grilles



*In quality and price our work is not surpassed*

You will make no mistake in writing us before ordering elsewhere.

**Send for 36-page Catalog  
— No. 16 —**

It contains many fine designs of modern Grilles, Columns and Consoles.

### Northwestern Grille Works

Incorporated  
CHRISTENSEN BROS., Managers. 1820-26 Milwaukee Ave., Chicago

### Don't Ask the Dealer for Sash Cord. Ask for "SILVER LAKE"

and see that he gives it to you. It is impossible to



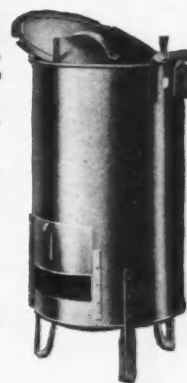
substitute, as our name is stamped on every foot of cord. Silver Lake Sash Cord is the Original Solid Braided Cotton Sash Cord, and has been the standard since 1868. No other is just as good.

## SALAMANDER

FOR DRYING PLASTER

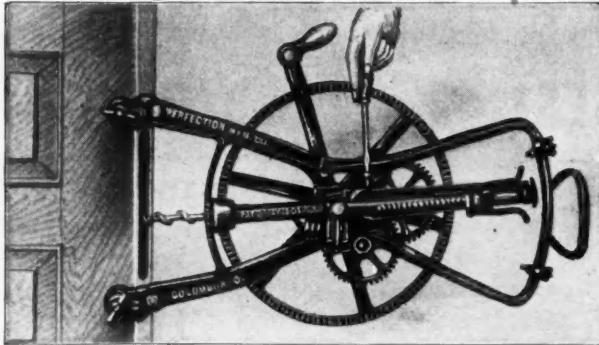
With or Without Brick Lining  
Has Dumping Grate

Write for Circular and Prices  
The S. M. HOWES CO.  
40-46 Union Street  
BOSTON





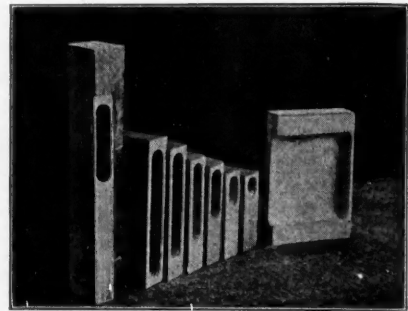
## The Improved Perfection Mortiser



This bit moves up and down while boring.

For Door Locks, Sash, Sash Pulleys, Screen Frames and Cabinet work. Instantly changed from round hole to ANY size mortise up to 6 1/2 in. Finished perfect WITHOUT THE USE OF BRACE OR CHISEL.

Made of Malleable. Automatic and ball bearing.



MANUFACTURED BY **PERFECTION MFG. CO.**  
COLUMBUS, OHIO

Write for prices and full details.

## INVESTIGATION OF ALL ROOFINGS EMPHASIZES G F T SUPERIORITY

When discriminating buyers want a roof that never fades—never wears out—never needs any preservative and never absorbs any water, they always insist on getting

### 'GENUINE FRANKLIN TUNNEL SLATE'

THE EXPERIENCE OF MORE THAN 59 YEARS HAS PROVEN THAT THEIR COST PER YEAR OF SERVICE IS LOWER THAN ANY OTHER ROOFING. Our 72-page Slate Book tells a score of facts which should be known to everybody living under a roof. IT POINTS THE WAY TO IMMENSE ROOF SAVING.

Write for the book To-Day. It is sent FREE

**Slatington Slate Co.** Established 1852 **Slatington, Pa.**

## 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.

### GASOLINE GOING UP!

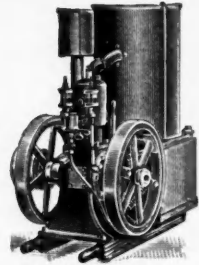
Automobile owners are burning up so much gasoline that the world's supply is running short. Gasoline is 9c to 15c higher than coal oil. Still going up. Two pints of coal oil do work of three pints gasoline. No waste, no evaporation, no explosion from coal oil.

### Amazing "DETROIT"

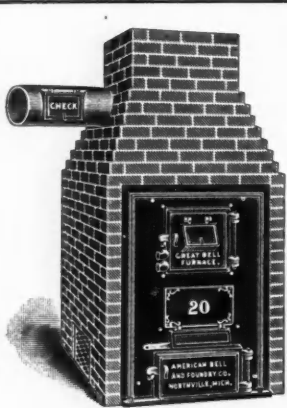
The "DETROIT" is the only engine that handles coal oil successfully; uses alcohol, gasoline and benzine, too. Starts without cranking. Basic patent—only three moving parts—no cams—no sprockets—no gears—no valves—the utmost in simplicity, power and strength. Mounted on skids. All sizes, 2 to 20 h. p., in stock ready to ship. Complete engine tested just before crating. Comes all ready to run. Pumps, saws, threshes, churns, separates milk, grinds feed, shells corn, runs home electric-lighting plant. Prices (stripped), \$29.50 up.

Sent any place on 15 days' Free Trial. Don't buy an engine till you investigate amazing, money-saving, power-saving "DETROIT." Thousands in use. Costs only postal to find out. If you are first in your neighborhood to write, we will allow you Special Extra-Low Introductory price. Write!

**DETROIT ENGINE WORKS** 495 Bellevue Ave., Detroit, Mich.



Cylinders cannot carbonize.



### A HOT AIR FURNACE

For Less than \$50 Complete

For 5 and 8 Room Dwellings

An unheard of Price and a most Remarkable and Indestructible Furnace

No Pipes No Lost Heat

**AMERICAN BELL AND FOUNDRY CO.**

**NORTHVILLE - MICH.**

## PHOENIX INSIDE SLIDING BLINDS

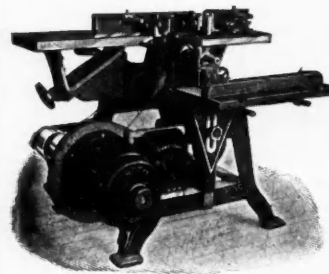
WILKES BARRE, PA.

The Phoenix Sliding Blind Co. Enclosed find my check for blinds. I am pleased with them and sorry I did not have them put throughout the whole house. C. W. BURT.

**Comfort!**  
**Economy!**  
**Convenience!** PHOENIX SLIDING BLIND CO.  
BRIDGE & CANAL STS. PHOENIX, N. Y.

The lately improved springs and corrugated steel rods put the "PHOENIX" far in lead of less improved styles. Write for Catalogue "C" and free samples, showing construction.

## Next machine you buy, order a—Rothmotor



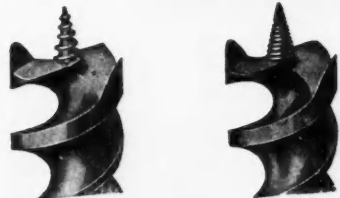
to drive it individually. You will be pleased. You will be gaining some profitable experience in economy.

Ask **ROTH BROS. & CO.**  
1422 West Adams Street,  
CHICAGO, ILL.

FOR MORTISING DOORS  
AND SIMILAR WORK

**RUSSELL**

**JENNINGS**



**AUGER BITS**

are now put up in new sets.

**22½ Quarters**

contain 11 bits: 4, 5, 6, 7, 8, 9, 10, 11, and 12 sixteenths, standard thread, and 8 and 10 sixteenths, quick-boring threads, for end-grain boring and gummy woods.

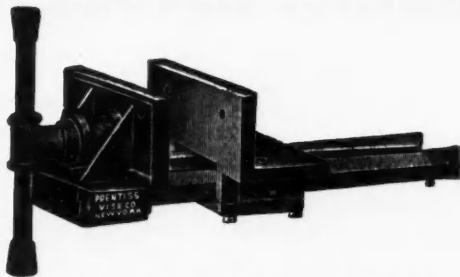
**RUSSELL JENNINGS MFG. CO.**  
CHESTER, CONN, U. S. A. 21-42



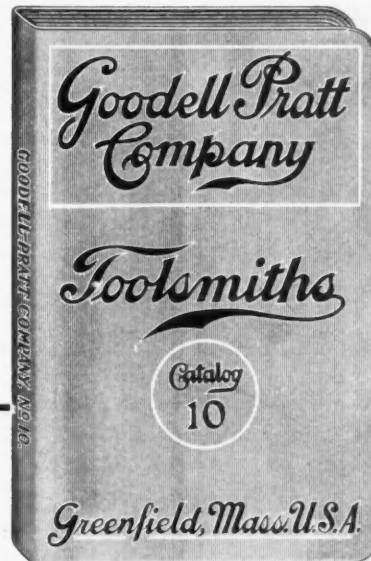
**THE ABOVE SCAFFOLD BRACKETS** have a capacity of 1,000 pounds each. Only ten minutes are required to scaffold the side of a house

**ELITE MFG. CO., Ashland, Ohio**

**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.



**FREE  
CATALOG  
OF TOOLS**

Our Pocket Catalog, which has now reached its 10th edition, we are offering free to every reader of this magazine.

This book of 304 pages describes more than 1,000 tools and labor-saving devices.

Every man who works with tools should have a copy. It will not only suggest useful tools to him, but will assist him when purchasing.

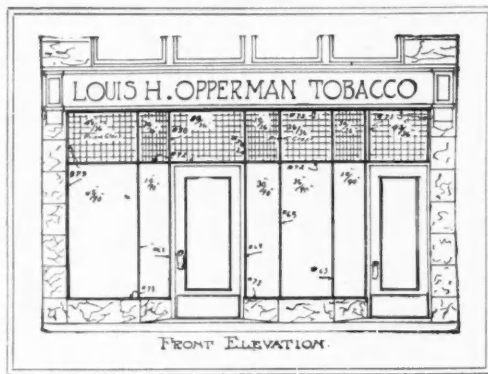
It costs but a postal to get this book which may offer suggestions worth many dollars to you.

**SEND FOR IT**

**Goodell-Pratt Company**

*Toolsmiths*

**Greenfield, Mass., U. S. A.**

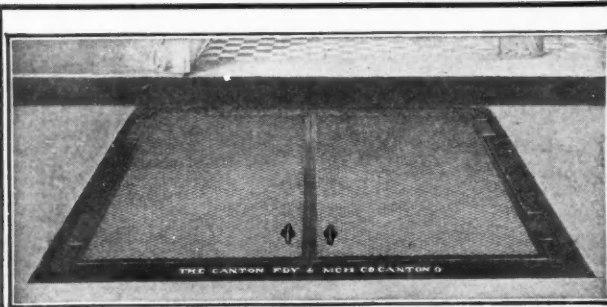


### Look Into This Bar Question

Perhaps you have been using a bar for store front construction that hasn't given satisfaction. If so, it wasn't a **Petz Bar**. The Petz Bar has been used in thousands of modern buildings and remodelled store fronts, and always gives satisfaction to owner, architect and contractor, because it is light, strong, easy to install, and gives the best possible light and ventilation. Insurance companies recommend it, as it gives no trouble with broken glass.

We will gladly give detailed information, and assist you in selecting the particular type of bar best suited to your requirements. Write today for our book on "Modern Store Front Construction."

**DETROIT SHOW CASE COMPANY,**  
491 West Fort St. Detroit, Michigan.



Sidewalk Door—Closed

A neat and flush Sidewalk Door is a credit to any building and a lasting advertisement to the Contractor who installed it.

### Our Solid Iron and Steel Doors

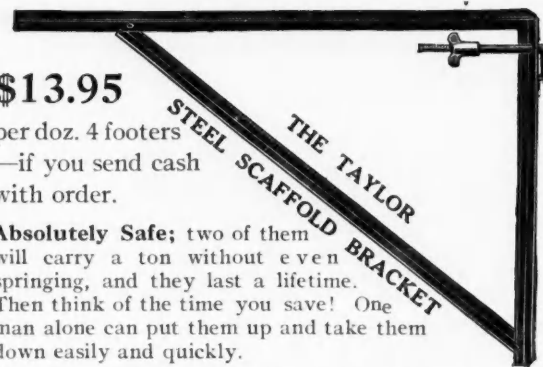
are specified by the best Architects. They are always flush, firm and neat. No obstructions to stomp the toes. When open, passers-by are protected. Can be locked from either side. Illuminated Doors also furnished.

Made in 45 Sizes.

Write Dept. "B" for illustrated catalogue, Contractors and Builders Accessories.

**THE CANTON FOUNDRY & MACHINE COMPANY**

Canton, : : : Ohio



**\$13.95**

per doz. 4 footers  
—if you send cash with order.

**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.

Write for Catalog of Builders' Specialties!



About clamps—the sliding jaw on each of ours can be moved in an instant **DIRECTLY AGAINST** the work operated on, so that half a turn of the fine specially threaded screw will apply the power.

Think of the time this saves!

The grip is positive, and special grade of steel in the bar more than doubles the strength of the clamp.

Our No. 10 catalogue shows some very interesting price reductions on four of the most wanted styles. It will pay you to write for it at once.

**James L. Taylor Mfg. Co.**  
Poughkeepsie, N. Y., U. S. A.

## Invalid Lifts

The Sedgwick Machine Works, of 132 Liberty St., New York, who manufacture Hand Power Elevators and Dumb Waiters for every purpose, make a specialty of Hand Operated Invalid Elevators which have been a great boon to many men and women who previously toiled laboriously up-stairs or who could not go up and down at all unless carried.

In almost every community unfortunately, there is some one who needs an invalid elevator.

Send for the Sedgwick catalogue and inquire what they have in this line. One such installation always brings other orders.

Let us send you this book for  
**FIVE DAYS FREE TRIAL**

SEND no money—just mail us your name and address. Your book will reach you by return mail. Keep it 5 days—use it—then either send one dollar or return the book.

**STANDARD HANDBOOK OF ESTIMATING DATA**

EVERY MAN IN THE BUILDING TRADE NEEDS IT

Name.....

Address.....

**The Builders' Auxiliary Co.**  
325 Old South Building, BOSTON, MASS.





# 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 10 x 14 inches. Our patented interlocking side lock makes it possible to make a perfectly moisture-proof roof without soldering. Edwards Metal Spanish Tile afford the fireproof advantages of Terra Cotta Tile, but are much lighter in weight, cost but a trifle more than ordinary roofing and will last a lifetime.

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



### 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

### The New Gun Metal Finish

Makes the "STERLING" Builder's Levels

By far the most durable instrument in existence. 1912 models now on sale.

**ISZARD-WARREN CO., Inc.**  
136 N. 12th St., Philadelphia, U.S.A.

Write to-day for CATALOGUE and SPECIAL PRICES

### 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.

Write for circular to the  
**Caldwell Mfg. Co.**  
15 Jones Street, - Rochester, N. Y.

No Dust  
Dirt  
Smoke  
Cinders

Travel Over the Road of Good Service

THE GREATEST INTERURBAN SYSTEM IN THE WORLD . . .  
THE MCKINLEY LINES  
EXPRESS SERVICE AT FREIGHT RATES

**GEO. H. BISHOP & CO.,** Lawrenceburg,  
Indiana, U.S. A.

Makers of

## Fine Hand Made Hand Saws

The Purest of Quality Our  
"GREYHOUND" Hand Saw



**I**N 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.

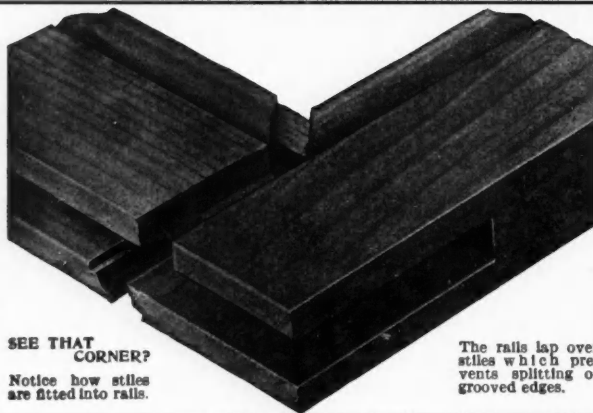


We have had a Chemist experimenting for years to originate a purity of steel with a fine grain and tough body that would stand up under such a fearless warranty as we place on our "GREYHOUND" brand of saws. We now have it. We know its worth as well as its value. As workers of steel we understand it. 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 36 in. saw, \$3.00 delivered. We make anything in Carpenters' Saws.



SEE THAT  
CORNER?  
Notice how stiles  
are fitted into rails.

The rails lap over  
stiles which pre-  
vents splitting of  
grooved edges.

### MADE TO ORDER FLY SCREENS AND SCREEN DOORS

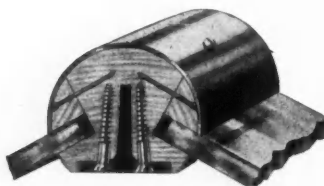
For Residences, Apartment Houses, Hotels, Clubs, Hospitals, Schools, etc., no order too large or none too small, from a single screen or door to a thousand.

We use the best grades of wire, black enamel, galvanized, pearl and copper bronze, fastened by the improved Standard Shoulder Strip Method, which makes the wire drum tight and firm, can not sag nor pull away.

Dealers, Carpenters, Contractors and Builders, write for a free copy of our 1911 illustrated catalog.

**STANDARD SCREEN CO.,** 1848-50 W. 14th St.  
CHICAGO, ILL.

Our screens are all mortised, tenoned, joined with water-proof glue and pinned with steel pins, will last a life time.



COULSON CORNER POST

MODERN STORE FRONTS  
ARE OBTAINED BY USING

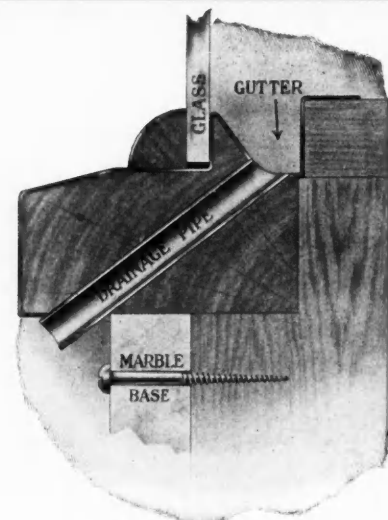
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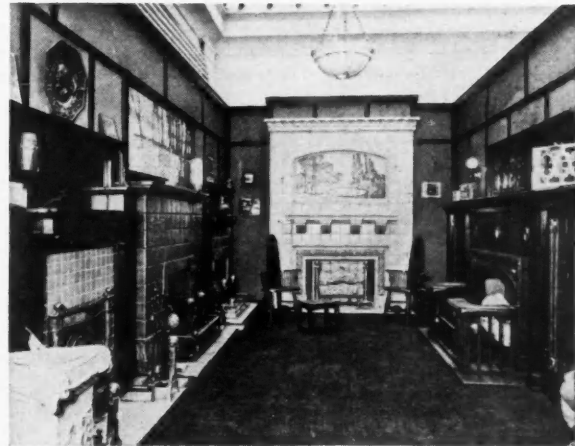
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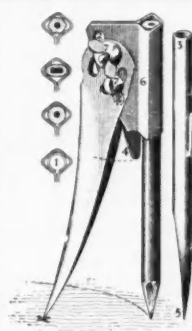
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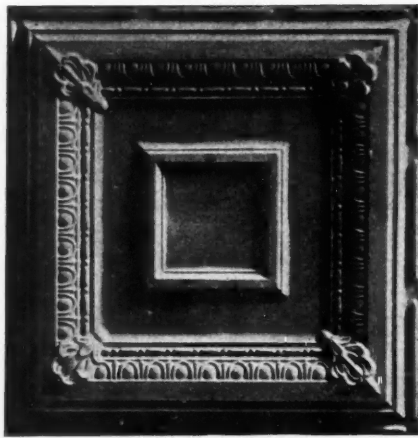
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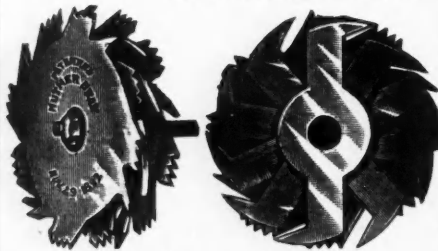
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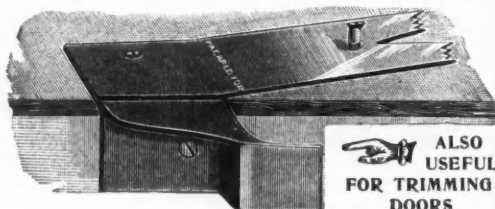
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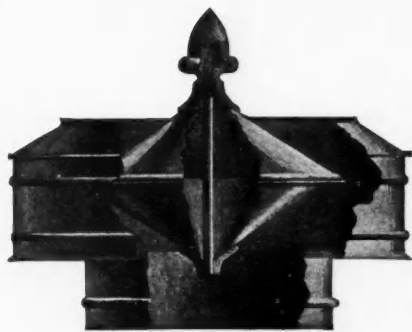
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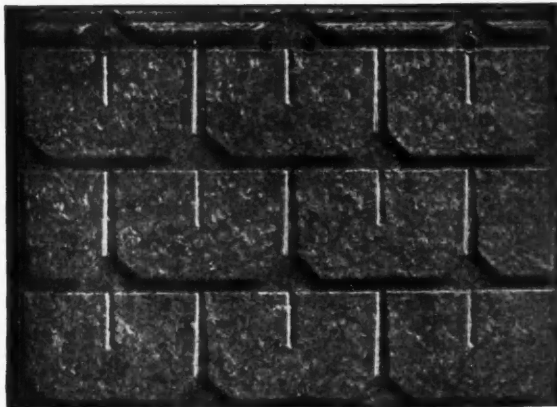
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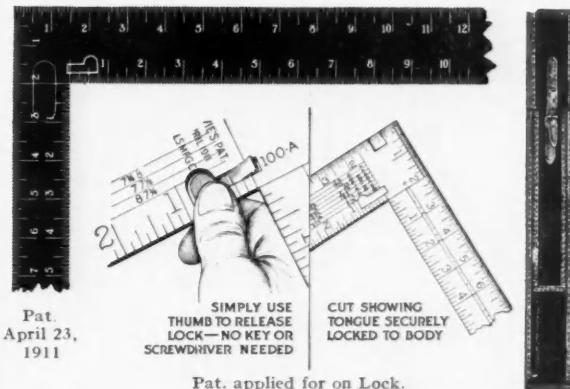
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Pat.  
April 23,  
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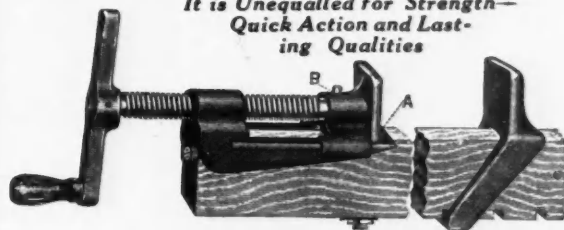
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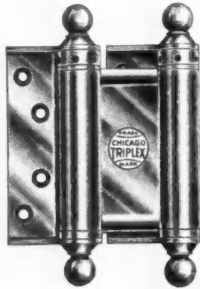
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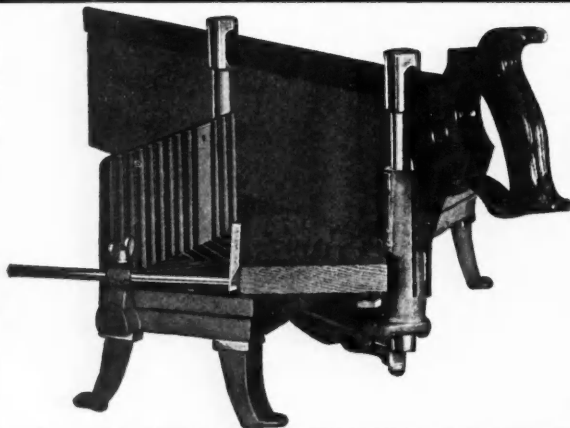
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**G**RASP the moments—the hours are easy.



**W**HO'S it going to be, you or the other fellow? Better start things going now or it will be the other fellow.



**Photographs to Protect Sub-Contractors**

**T**HE sub-contractor, who at some time or other has not been prevented from beginning his part of the work because of the failure of others to complete their part in time, thereby causing forfeiture of bond and other money loss, is a decided rarity in the building world today.

The following interesting comments touching this phase of the sub-contractor's work, appeared in the July issue of the *Builders' Exchange Bulletin* of Baltimore:

Learning wisdom from a recent experience in New York, wherein a sub-contractor for the woodwork in a large building forfeited some \$2,000 for a delay for which he was in no way responsible, simply because he was not in a position to prove that on a specified date the building had not progressed to the anticipated degree of completeness, this same sub-contractor found himself in a very similar position regarding two contracts for another large building in Baltimore. On the date when his contract stated that the building would be ready for him to begin, he found conditions making it physically impossible for him to even secure his measurements. So he had these conditions photographed. By so doing he not only got himself disliked, but stirred up a pretty row.

A month later, when the building should have been ready (but was not) for him to begin on his second contract, he arranged to have another series of photographs made, but the powers in control of the building peremptorily refused to allow the photographs to be made.

Had he only insisted upon the insertion in his contract of a clause giving him the right to photograph conditions on and after the initial date, he would have had ample protection from a repetition of his New York experience, which cost him \$2,000, simply because of the lack of this evidence.

And now the point of our story is: What are you doing or going to do to protect yourself against a similar experience to that of this sub-contractor? Will you insist upon this clause giving you the right to have photographs made as a protection against the collection of an unjust forfeit, or will you just let things slide and trust to luck as of old, and, some time, sooner or later, get bitten for a sum large enough to pay for an unlimited number of photographs?



**F**AINT heart never got any business.

# BETTER BUILDING

## WHY AND HOW



### Parquetry and Wood-Mosaic

THE USE OF FINE, ORNAMENTED HARDWOOD FLOORING CONTINUES TO GROW—OPPORTUNITIES IN SPECIALIZING IN THIS LINE

By H. H. Barclay

**I**N the "Campaign for Better Building," the AMERICAN CARPENTER AND BUILDER is certainly inaugurating a splendid movement. The article in the September number, referring particularly to hardwood doors, lays stress upon the benefit of such a campaign to the carpenter-contractor. Here it may be well to repeat one paragraph from this number:

"It is only in the cities that home builders generally have realized the opportunity to have fine hardwood doors and finish in their houses."

Besides the ordinary hardwood flooring of commerce, which is usually known as mill or lumber yard flooring, there are, in most cities, large floor laying companies having fine show rooms in which to show polished samples of parquetry and high-grade flooring. These firms have heated store rooms in connection with their establishments and lay floors which stand with a minimum amount of shrinkage and which are designed to be a part of the decoration of the room in which they may be installed.

These firms deal in, and lay parquetry or wood-mosaic; and this is the object with which the present article has to deal.

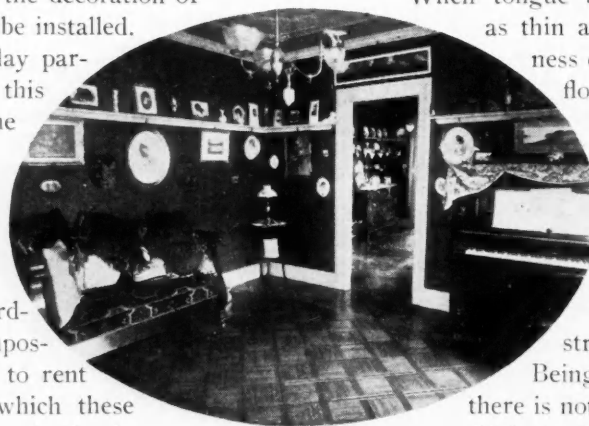
It is rarely indeed that an apartment house or a house of any pretensions, for sale or for renting purposes, is

built in a city without a hardwood floor. It is almost impossible for a real estate agent to rent an apartment or house in which these floors have not been laid. A simple parquetry strip floor 5/16 of an inch thickness and with a square edge can be laid and finished by these specialists much cheaper than can the thick hardwood mill flooring purchased from the lumber yard, and will show practically no shrinkages or cracks after being finished.

The practical carpenter will please note the fact that the above is purposely a conservative statement. Noth-

ing that is made of wood will resist changes, such as swelling and shrinking, if exposed to extremes of moist air alternated with extremes of dry heat. It is, however, in the lessening of these changes to the smallest possible extent that the flooring specialist gets his reputation and his business.

Oak is less sensitive to changes of atmospheric conditions than is maple or birch, and this in addition to its beauty causes nine floors out of every ten laid in nice residences to be of oak. Quartered oak is more handsome and withstands these changes better than does plain oak, and therefore is the prime favorite. This article, then, deals with oak as the basis of the fine flooring business. Other woods, such as mahogany, teak, mahajua, and many other beautiful grained and colored domestic and foreign woods enter into the parquetry business, but to a very much smaller extent.



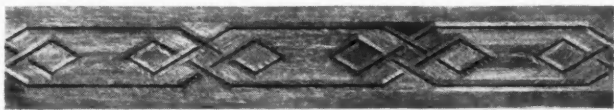
Fine Ornamental Hardwood Flooring in a Modest Home

When tongue and groove flooring is made as thin as 3/8-inch, which is the thickness of a great deal of lumber yard flooring, it is almost sure to hump and to curl during the first winter after being laid. The second winter generally succeeds in making the surface of this floor somewhat like a washboard. The reason is that these 3/8-inch strips are sold 2 inches wide.

Being nailed into the tongue only, there is not enough body to 3/8 of an inch thick to keep the strip from warping when it is only nailed on one edge. If 3/8-inch tongue-and-groove strips were made 1 inch wide, they would make a good floor, but the beauty of the figure in quartered oak would be to a great extent lost. Such strips would also be quite expensive, and would be very expensive to lay. Parquetry manufacturers all make the 3/8-inch t. & g. flooring in the standard 2-inch width, but they are

not in favor of its use, and will advise against it. To make a  $\frac{3}{8}$ -inch t. & g. flooring a really good and lasting proposition it should be nailed through the face also. If this is done, however, you might as well start with the square edge flooring,  $\frac{5}{16}$  of an inch thick, for this is face nailed altogether. You also have, in square edge flooring, the advantage of being able to squeeze up a breadth of 2 feet wide of strips at one time with a chisel driven into the under\*floor instead of nailing each strip separately into the tongue. A very little experience enables one to lay the  $\frac{5}{16}$ -inch flooring cheaper than the tongue-and-groove.

Most carpenters are afraid to try the face nailed flooring, as they have to set the brad heads and fill up the holes with a cement. They fear being unable to do this, and do not want to call in the services of a painter. The parquetry floor laying firms in the



Gothic Border of Oak and Rosewood

cities do not have this trouble, as they have methods of coloring this cement so that the nail heads do not show at all. Parquetry manufacturers always issue explicit instructions for laying and finishing to send out with their goods. There is no reason why the carpenter in the country or the small city should not be capable of doing just as good a job as the same man could if employed by the floor laying firms in the cities. There is no reason whatever for any fears on this score if the manufacturer's directions are followed carefully.

A parquetry flooring man, whether in the laying business or manufacturing, will always protest against laying a parquetry floor in a new building unless the windows and doors have been put in and the building heated for at least a few weeks. Failing a thorough drying of the beams (and the subfloor in the case of the flooring), even a parquetry floor will show serious cracks and warpings. If what is underneath works and moves, the parquetry itself cannot be expected to hold its position.

This warning of the caution and care required opens the way for mention of what really takes care of probably four-fifths of the output of the parquetry factories of the country and this is the work in old houses.

Every spring and fall, thousands of owners remodel old residences. Probably hundreds of thousands feel that they must buy new carpets at least. This is where the parquetry floor layer reaps his harvest. Thin wood-mosaic floors can be laid for about the price of a fine carpet. A new carpet will wear out, but a parquetry floor that has any attention at all in the line of waxing, etc., is there to stay and to stay as long as does the building itself. In this situation parquetry flooring and the regular lumber yard

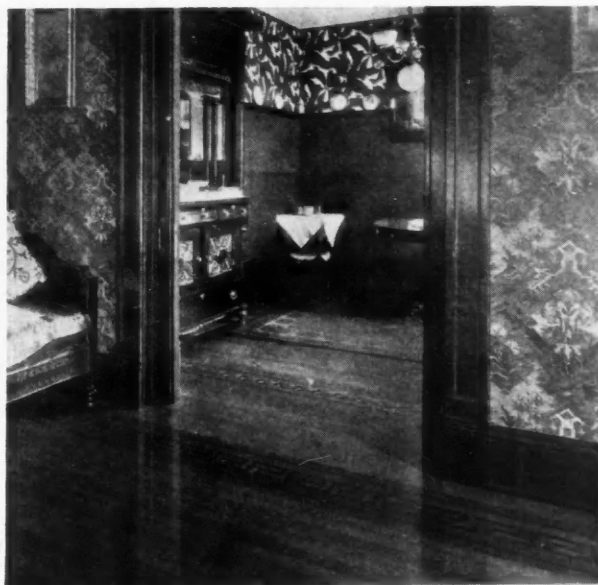
flooring scarcely compete at all. This thin material can be laid with almost no changes of floor levels, door-sills, etc., and can be laid directly over the old floor.

A good many years ago the writer was in the saw mill business in a small town in the middle west. A friend who became interested in the parquetry flooring business handed me a catalogue of a well-known parquetry firm. I knew the best carpenter in town and knew that business was not very brisk with him. After an exchange of letters with the parquetry firm issuing the catalogue, I spent three or four evenings calling upon the owners of the finest residences in the town. Very soon I had sold about a dozen parquetry floors. The difference between the price that the factory would quote to consumers and the carpenters and agents' discount, allowed to me, made a handsome commission.

My carpenter friend was busy for weeks on those floors, and was so enthusiastic about the results, financially and otherwise, that when I left the town shortly afterwards, he applied for the agency for this flooring. Soon after this I became connected with a parquetry manufacturing firm myself.

The above lapse into the personal is an illustration of the ease with which a carpenter contractor in the small cities, towns, villages and rural districts could handle a very profitable side line and do his share in the up-lift of the building business.

Most carpenters have at least an attic or some dry room in a house where some degree of heat can be maintained. As a rule this will not be required for more than a very few days at a time. The parquetry manufacturer is always so anxious to have his product handled in the best possible manner that he uses all precautions and offers every assistance to the purchaser of his product.



Beautiful Parquetry Floor with Inlaid Border Put Down in Old Home



## "Better Building" and Our Readers

"The sweetness of low prices never equals the bitterness of poor quality."

### Public Must be Taught

To the Editor:

Cragsmoor, N. Y.

In line with what Mr. Chas. P. Rawson said last month about prospective buyers having the house looked over by an architect before purchasing, I wish to say that, to my mind, it is the best idea yet advanced for the encouragement of Better Building.

In my section we are up against it for fair. The town is a summer resort that has been built mostly in the last fifteen years; and most of the houses are too new to show their poor construction. This being the case, it is a most difficult and usually impossible matter to make prospective owners believe the cheaper houses are not just as good, and that the extra cost of good work is not pure graft money for the builder.

Then to make matters worse, it so happens that our poorest tradesmen are often the best talkers. Also, we have no architect, and the people here are not willing to pay an architect's fees, any way, as they think the builder's plans plenty good enough. I have often been called upon to furnish the plans.

This being the case, there were two moves open, either in competition to build the cheap houses the people appear to want, or to figure on honest construction and get only those jobs where owners are willing and wise enough to pay the necessary price of good work. I am pleased to say a few of us have chosen the latter plan and hope to win out as time tells its own story.

It will be seen that in our case much of the trouble lies in the ignorance of the public as to what is good construction.

Now, as every one lives in a house and most of us either do or hope to own our own homes at some time, is it not of enough vital importance and would it not perhaps be just as well for the public schools to leave out a few "oligies" and teach just a little of the elements of good building?

Is not a poor house a setback to the whole town, yes even to the whole nation for that matter? Is not one poor job of plumbing a lurking danger to the whole town?

The public must be educated to it if we ever expect to see good building; so come on, all get together and let's see what we can do. Every one make at least a try.

LAWRENCE S. KEIR.

### For Better Nails and Nailing

To the Editor:

Toledo, Iowa.

I am thoroughly in sympathy with the Better Building idea, having for years stood for quality. To my mind there is something more important than this door business, which a good many of the boys seem to be getting wrought up over, and that is, wire nails; or, as they ought to be called, iron pins.

I always have and do still use the old common cut nails for casing and finishing; but better than that, I use the four-penny cut nail for shingling. Brother house builders, when you are shingling try this way: I always strike three lines in shingling so that I can put down two or three rows at once. I use four-penny cut iron nails and drive them not over five-eighths of an inch from the edge of the shingles. I have a roof here, put on this way either 25 or 28 years ago, I don't just remember which, and the shingles have curled but very little.

I always do the work that comes my way the very best I can. I have found that this wins out in the long run, and you will find that out, too. It may cost more at first but the repairs are few and far between when good materials are used and the work properly done.

Toledo Planing Mill Co.

By G. W. NEWCOMBER.

### Favors Galvanized Nails

To the Editor:

Watertown, N. Y.

I have had a good many years' experience in repairing roofs, and it has often been a wonder why architects will allow contractors and in fact any one, who has charge of a building in process of erection to nail on shingles with three-penny nails. In my work I find that the principle reason for so many leaky roofs is due to the use of three-penny wire nails, which quickly rust off, leaving the shingles loose with holes where the nails were. Otherwise the shingles are sound, but have to be replaced on account of these holes. The architects should specify galvanized four-penny nails, which will not rust off during the life of the shingles. J. M. KANE.

## A Small Bouquet

From a Large Garden

### Thanks!

To the Editor:

Osage City, Kan.

Our AMERICAN CARPENTER AND BUILDER is a welcome friend every month.

LARSON & RYDELL.

### It Has Helped

To the Editor:

North Liberty, Ia.

Cannot afford to be without the AMERICAN CARPENTER AND BUILDER. I have had several nice jobs that I could not have undertaken without its advice and I pulled through and established a record and also confidence in myself.

H. A. WHITE.

### When Others Fail

To the Editor:

Hamilton, Ohio.

Enclosed you will find two dollars for my renewal. Perhaps I should add a word of commendation for the AMERICAN CARPENTER AND BUILDER. I have been especially interested in the articles on "Practical Uses of the Steel Square," by Alfred W. Woods; also, the departments, "Details of Construction and Finish," "Estimating," "Public Buildings," and the many more which have appeared from time to time during the past few years.

I consider myself well repaid for what the magazine cost. I look forward to its coming each month with a great deal of pleasure; I read it each month from cover to cover; and although there is much that I know, there is far more that I do not. I find it a great help in my every-day work. I can read the magazine when I am too tired to read anything else.

SYLVESTER HOPNER.

### The Passing of Commercial Timber

THIS is October; the tenth month of the year, and in many respects to us here in the middle states, the pleasantest month in the year. It is then that the forest trees take on their loveliest hue, but we pause! What has become of the trees?

We look in vain; but only the trees set by the hand of man to furnish shade on the farm and in his door yard are to be seen. And even they are generally not of the kind we enjoyed some forty years ago. We did not think much about it then; but things have changed and we can see now what we should have seen years ago—the ultimate passing of the forest trees.

The swirl of time waits for no one; and as we have been hustled along life's journey, we are permitted this morning to look back over that road with its changed condition; yes, changed conditions, for but few of our boyhood friends are left to tell the story. Like the forest trees, they too have fallen, some by the hand of man, some by the Creator of all things. But here we pause! We might go on and tell what became of the trees, but what's the use? Like our departed friends they are gone. *Pace requescant.*

Though two score of years have passed, it seems but yesterday since we roamed among the giants of the forest, stopping here and there gathering plums, paw-paws and nuts in their season; wading in the brooks and resting in the shady nooks away back yonder in those beautiful autumn days. We heard the click of the woodman's ax and the resounding echo reverberating from hill side to hill side and we saw the long ricks of cordwood, fence posts and rails. We heard the hum of the circular saw on its relentless grind and we heard the crack of the driver's whip as he urged on the faithful ox team, Tom and Jerry, to draw the great tree trunks that had stood the elements of nature for perhaps centuries, only to fall a prey to the hand of man in the onward march of what we are prone to call progress. Yet in the large sense, it meant wanton destruction. Valuable timber was cut down for stove wood, and the part that should have been used for that purpose was piled up in great heaps and burned, simply to make a little larger clearing on which to raise more corn to feed more hogs, to buy more land, before the summons on the final day to pass on.

This is the picture we see on looking back through a vale of years to our old home in Illinois. It is not a new picture, and we know that hundreds of the readers of the AMERICAN CARPENTER AND BUILDER have witnessed the same thing in many parts of the once wooded sections of our country. Yet the great majority cannot now see, and they little realize the great transformation from woodland to land fit for raising pumpkins. So we turn about and tread the road with less measured steps that lead to life's setting sun, with old father time working overtime, his scythe ever in motion, bringing up the rear. A. W. WOODS.



### One Way or the Other

A lovesmitten youth asked one of his bachelor friends if he thought that a young man should propose to a girl on his knees.

"If he doesn't," replied the friend, "the girl should get off."

### Willie's Education

Willie—"Say, pa, you ought to see the man across the street raise a house on jacks."

Pa (absently)—"Impossible, Willie. You can open on jacks, but a man is a fool to try to raise on them—er—I mean it must have been quite a sight."—*Puck.*

### Extravagant

"My friend, the architect, has a hard job on his hands."

"What's that?"

"He has a rich customer who wants him to build an Italian vendetta around her new cottage."—*Baltimore American.*

### Too Much for Bill

"I dunno how Bill's a-goin' to vote in this election," said the campaign worker. "I've hearn tell he's on the fence."

"He wuz thar," replied the neighbor; "but one o' the canderdates let fall a dollar on the off side o' the fence, and Bill got dizzy an' fell over."—*Christian Register.*

### Well, Rather

Little Nelly told little Anita what she termed a "little fib."

Anita—"A fib is the same as a story, and a story is the same as a lie."

Nelly—"No, it's not."

Anita—"Yes, it is, because my father said so, and my father is a professor at the university."

Nelly—"I don't care if he is. My father is a real estate man and he knows more about lying than your father does."—*United Presbyterian.*

### Cut It Out, Kid

Mrs. Brown could only buy two aisle seats, one behind the other. Wishing to have her sister beside her, she turned and cautiously surveyed the man in the seat next. She finally leaned over and timidly addressed him: "I beg your pardon, sir, but are you alone?"

The man, without turning his head the slightest, but twisting his mouth to an alarming degree and shielding it with his hand, muttered: "Cut it out, kid, cut it out—muh wife's with me."

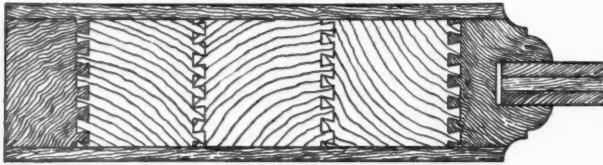
## Modern Hardwood Veneered Doors

WHAT, HOW AND WHY THEY ARE

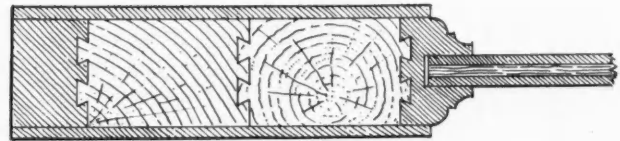
**T**HE American people to-day are showing an undeniable leaning toward hardwood doors. And in so doing they pay their respects to American machinery and to American brains; for the hardwood door to-day is decidedly an evolved product. It is a blend—hard wood on the outside, soft wood on the inside—made so in the effort to unite in one the beautiful and rich appearance of the old-time solid hardwood door and the lightness of the soft wood. But here the wonderful part develops and we have to

are made to-day—that's the whole story in itself; and the wise men of the industry say that continual machinery improvement has evolved the perfect door of to-day.

Consider for a moment the building up, first of the white pine core; all of the narrow strips of timber accurately grooved and dove-tailed and glued solidly together (in this process the hardwood edge pieces are put in); next the soft wood core is dressed and smoothed on both sides to the exact width required;



Section Through "Korelock" Door



Section Through "Max-Royal" Door

give the door manufacturers an extra credit for it. They have produced in this modern hardwood door a piece of "furniture" which does possess these excellencies of both its old-fashioned parents—and besides shows new qualities which neither of them ever had. Shout it out; for the door manufacturers are proud of what they have done—"The modern hardwood door will not warp."

As for the construction of hardwood doors, as they

then finally the hardwood veneer, having been carefully cut and selected, is glued in place. A complicated process, you would say. Yes; but not so complicated as the series of machines which almost automatically carry this process through to completion. They do everything but think. It is these improved machines that make the modern hardwood veneered door possible.

For instance, 25 or 30 years ago the few built-up

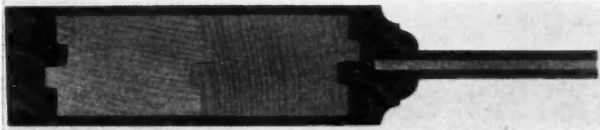


Two Beautiful Glazed "Korelock" Front Doors and a Single Panel "M. & G." Interior Door—All of Birch Veneer



veneered doors that were made had to be glued up by hand—as they are to-day, by the way, in many of the small mills. Not enough pressure could be applied in this way to bring the parts sufficiently close together. Moreover, as it was a slow process the glue had a chance to set before the surfaces were brought together.

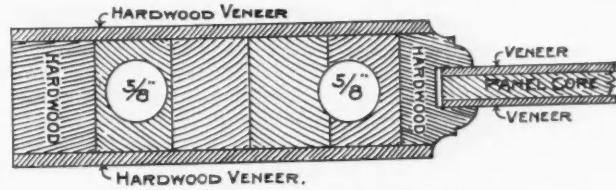
To-day there is a machine that does all the gluing, not only for the fastening together of the parts that make up the soft wood core, but also for gluing the face veneer onto it. Heavy hydraulic pressures bring the parts into such intimate contact that they would almost stick without the use of the hot glue; and this pressure is continued for twenty-four to thirty-



Section Through "Morgan" Door

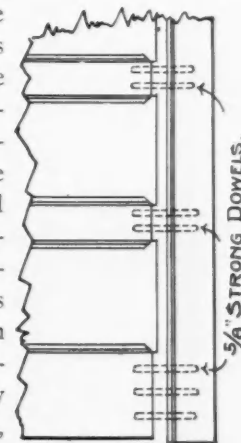
six hours until the glue is thoroughly set. This pressure is evenly distributed throughout the whole piece, making it more substantial and solid than one solid piece of wood could be. The direction of the grain is changed in each of the narrow strips that make up the core, preventing all warping or checking.

The leading manufacturers of hardwood veneered doors have, each, their own special forms of construc-



Section of Top Rail in "M. & G." Doors Showing Holes for Dowelling to Side Rails

tion for the styles and rails. We are glad to be able to show cross section views, which will make these several types of construction perfectly clear. The carpenter-contractors and builders have in several instances encountered opposition to their efforts to extend the use of hardwood veneered doors among their clients because of the bad reputation that the so-called built-up veneered doors, turned out locally by some of the small local mills, have had. Practical builders know the difference between the product of such irresponsible parties and these standard brands, the worth and quality of which have long been established—the manufacturers having a reputation to maintain.



"M. & G." Method of Dowelling to Side Rails

The dovetailed construction of the cores of "Kore-



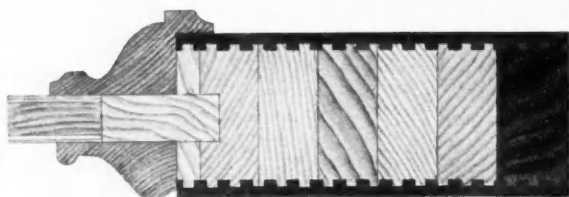
5-Cross Panel "Max-Royal" Birch Veneer Door



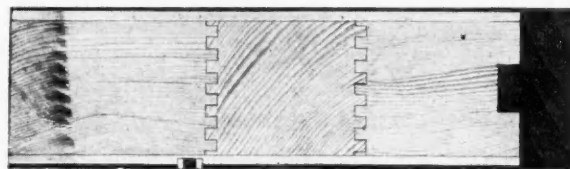
2-Panel "Morgan" Interior Door of Birch Veneer



2-Vertical Panel "Max-Royal" Oak Veneer Door



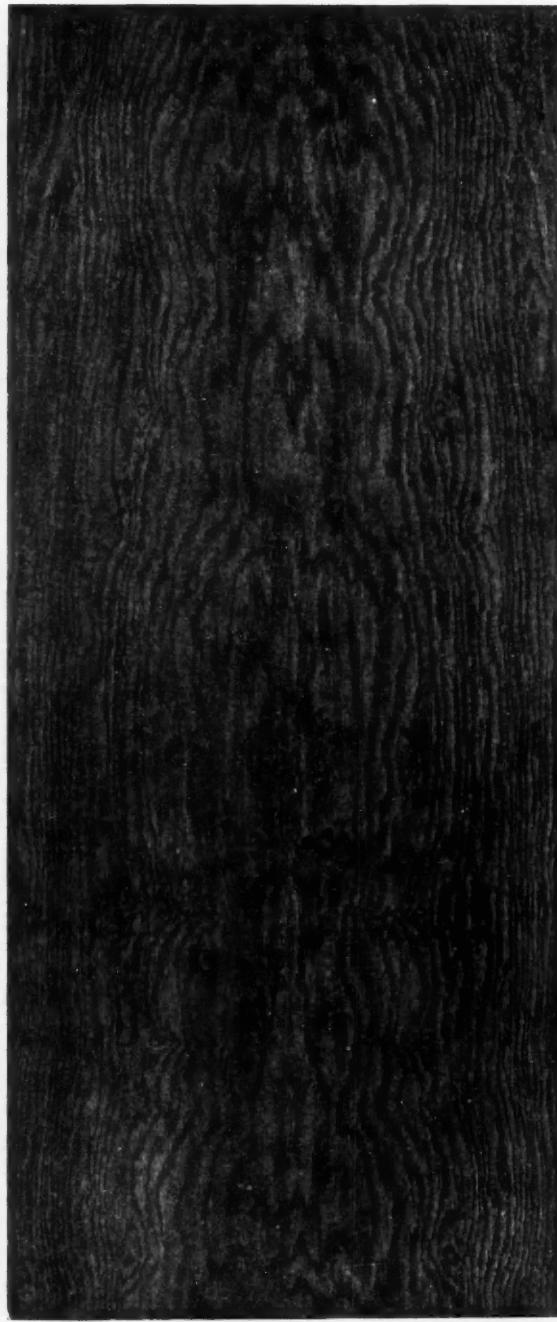
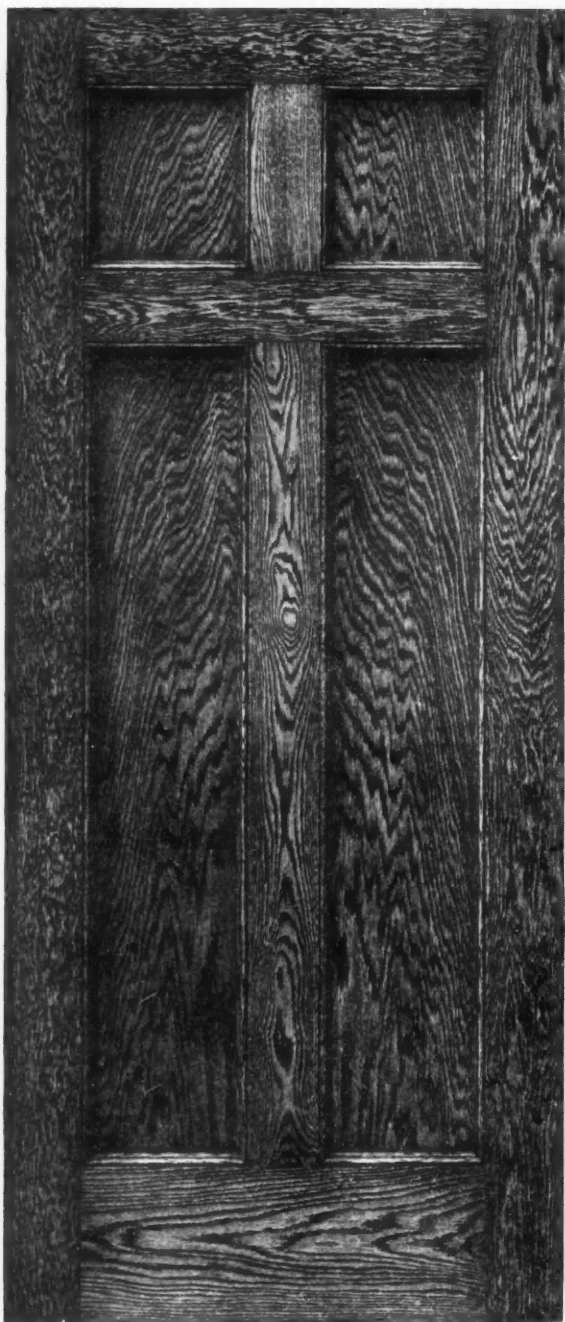
Section Through Moulded "Compound" Door



Section of Flush or Hospital "Compound" Door

lock" doors is the one feature which, more than all others, has given practical builders confidence in this well-known brand. The beautiful appearance of a hardwood door is what we admire; that is caused by carefully selecting, applying and finishing the face veneer; but it is the honesty and staunchness of the interior construction (which we cannot see) which

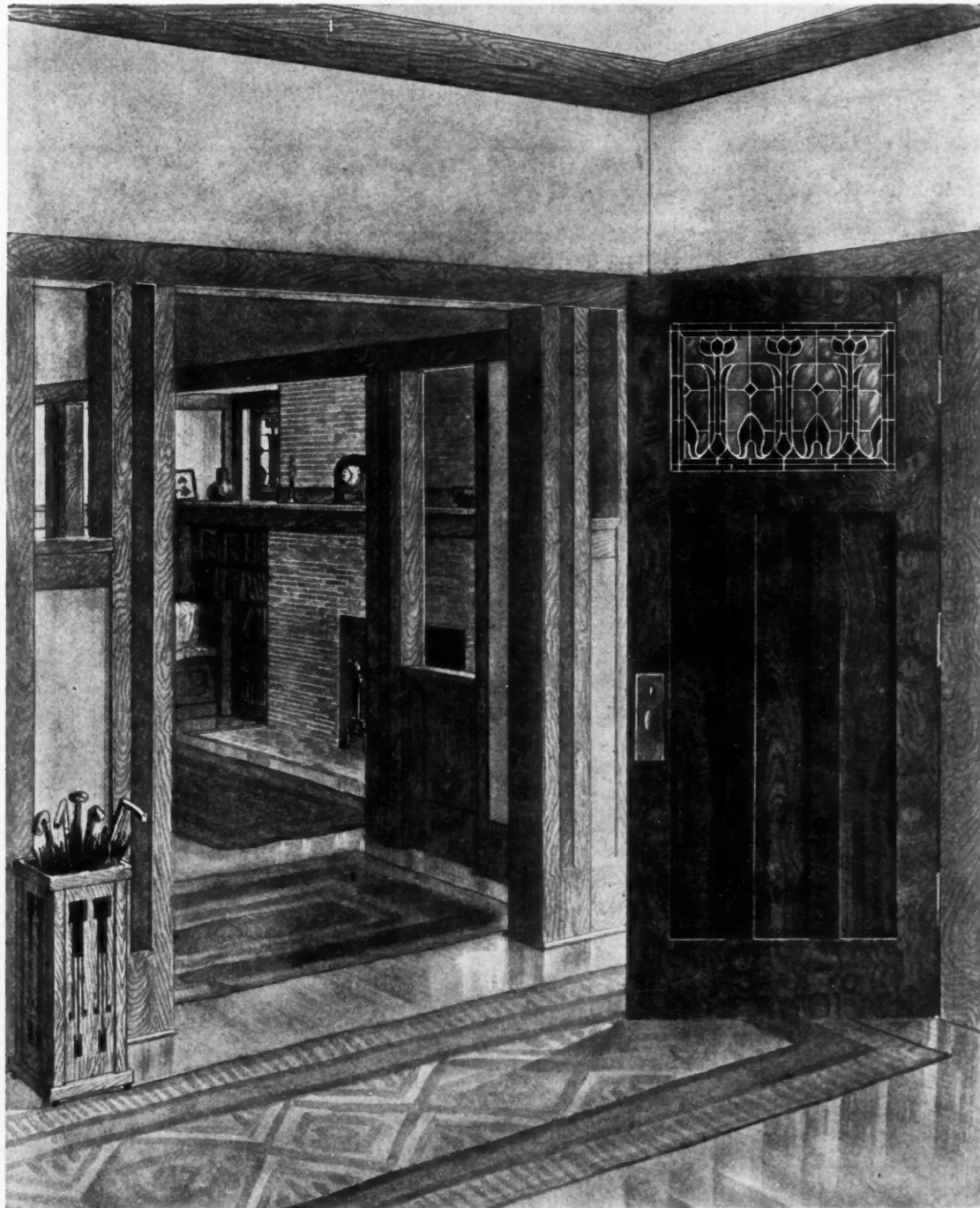
prove the real test. "Max-Royal" doors also have dove-tailed built-up rails, the interlocking pieces being, however, somewhat coarser. The "Morgan" joint is famous for its strength and simplicity—producing high grade doors that will not warp nor split. The distinctive feature of "M. & G." doors is their system of strengthening dowels, used to re-inforce the joints be-



Examples of Highest Grade Special Made-to-Order "Compound" Veneered Doors—One Moulded, the Other Flush. These Flush Doors are Often Beautifully Inlaid

tween the side rails and cross rails. In "Compound" doors the hardwood surfaces of the rails are rather more than "vener"; relatively heavy hardwood sheets are used, and dovetailed to the soft wood built-up cores. A special style of these doors—and it is rapidly grow-

of these doors in mind and will finish the talking points on this subject. The readers of the AMERICAN CARPENTER AND BUILDER should, of course, be posted on points of this kind. As we have already shown, they can benefit themselves (and their clients at the same



*By Courtesy of The Morgan Company*

**Hardwood Veneered Doors Strike the Note of Quality in the Modern Home—They Enrich the Finest Furnishings**

ing in favor is the "flush" or "sanitary" door. It has a fine, rich appearance due to the natural beauties of the wood, and is perfectly flat, without mouldings of any kind. The "Compound" doors are made to order, and are often exquisitely inlaid.

A study of these drawings will fix the construction

(time) by recommending and using high grade hardwood veneered doors.

The beauty and richness of these doors, as shown by the illustrations, which, by the way, do not do them half justice, are only equaled by the staunchness and honesty of their construction.



# PLANING MILL WORK



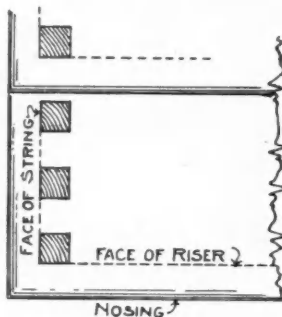
## Stair Work and Stave-Column Building

MORE USEFUL HELPS, HINTS AND SHOP KINKS FOR THE MILLWORKER AND SHOP CARPENTER

By William C. Jasbury

I WISH to say a few things about that line of complicated work, **stair building**. The way I get the difference in length of the balusters on an open string stair is, divide the rise by the number of balusters to a tread; the quotient or answer will be the required common difference in length of the balusters on the tread. Example:  $7\frac{1}{2}$ " (rise)  $\div$  3 =  $2\frac{1}{2}$ ", answer.

Now to find how far apart or how many to the tread, the space between the balusters should always be about the width of a baluster, whatever that may



Plan View of Stairs

be, which depends on the designer's taste. The first baluster must have its outside face in the same vertical plane as the string and the adjacent face in the same vertical plane as the face of the riser, (See illustration). Now in order to space them, take the width of the tread (without the nosing) and divide

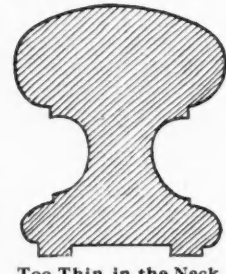
it by the number of balusters to the tread; and the quotient will represent the distance the balusters should be apart on centers, thus:  $9$ " (tread)  $\div$  3 (balusters to the tread) =  $3$ " apart on centers.

**How High to Set the Rail.** Many times carpenters will ask at the mill or stair shop, how high to set the rake rail on a flight of stairs, also on the level runs: Here is the answer, as I have found it by experience and observation in the different parts of the world where I have traveled. Measure plumb up on the face of the riser from the top of finished tread to top of rake hand rail 2 feet 6 inches; and on the level run 2 feet 8 inches. This gives when standing on the stair at the middle of the tread about the same height as normal or on the level.

**Length of Newels.** Many times mechanics unfamiliar with stair work are perplexed as to the proper length of the newels for starting and plat-

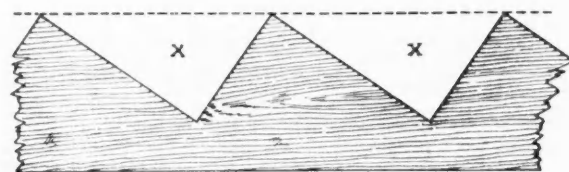
forms, etc. A starting newel should be 4 feet, in case it rests on the first riser; if on the second riser, add to the length of the newel the height of the first riser. An angle newel, where the stairs turn at right angles, as on a landing or platform, is usually 5 feet 6 inches, which is ample length to receive both strings and both rails. A landing newel is usually 4 feet 6 inches. This applies to the ordinary house where the width of strings and floor joist are the average for such work.

**Faulty Railing.** I have known of cases where architects designed the hand rails so thin through the center section that it was impossible to get a rail bolt in the joint without the necessary nut space cutting through the sides. (See illustration.)



Too Thin in the Neck

**To Obtain the Miter for the Rise on the Edge of the String.** I have a way to lay out the miter before the triangle piece marked X is cut out. If the miter was laid out on the regular 45 degree angle on the edge of the string, it would not be correct. Take, for instance, a  $7\frac{1}{2}$ -inch rise and a  $9\frac{1}{2}$  tread. Now, instead of taking the figures on the steel square, as in the case of the regular miter, I take  $7\frac{1}{2}$  inches and the hypotenuse or diagonal of  $7\frac{1}{2}$  and  $9\frac{1}{2}$ , which is equal to  $12\frac{1}{2}$  inches. So I take  $7\frac{1}{2}$  and  $12\frac{1}{8}$  on the square, applied to the outside, or face of the string, and mark on the  $12\frac{1}{8}$  side for the cut. After the triangle piece has been removed, the angle will be a true 45 degree miter for the rise to fit to.



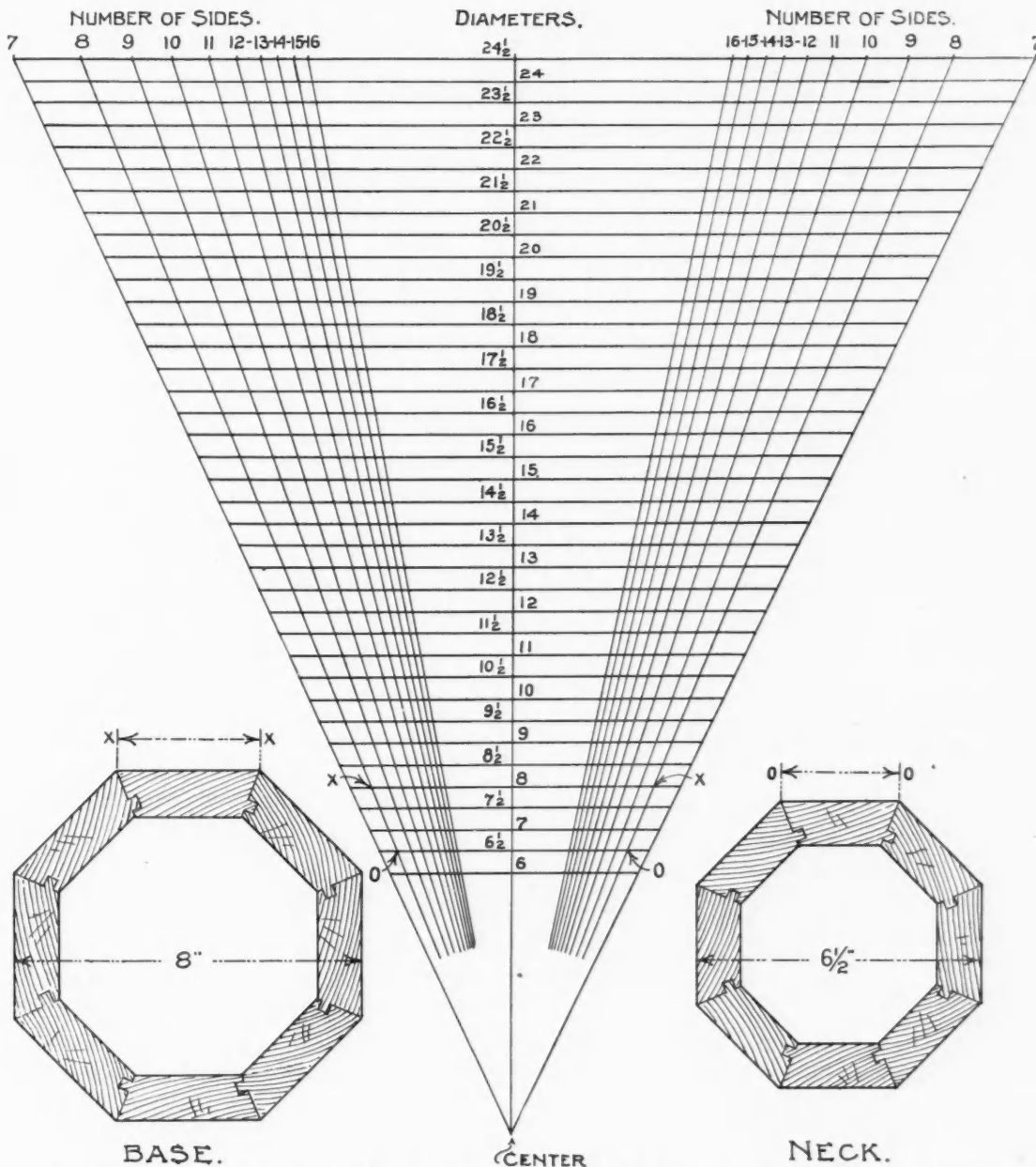
Stair String

**A Useful Column Chart**

Now, I shall try to make clear just what the accompanying column chart is and how used. In the first place, the making of colonial columns out of solid squares, or even made of built-up board squares, is a thing of the past on account of the scarcity of timber of proper quality. But planks are still and will for some time to come be available. Hence we stave up our columns out of two inch plank, or for an extra large column we use two and one-half or three inch plank.

Now, say the column is twelve inches at base and ten inches diameter at neck, which will require the staves to be tapered, sometimes very little, if the column has a neck moulding. Now then with the use of the chart, I find how wide to make the stave at bottom and top, also the required bevel, as follows:

Find No. 12 on one of the level lines on the chart and follow it to the intersection of the bevel line No. 12 and the distance to like point on the opposite side; this distance will be the required width at the bottom. Proceed in like manner for the top, but



Column Chart (Half Full Size), Giving Number of Staves for Any Size Column; also the Face Width of Each Stave

As a rule, I put in the column the same number of staves as the column is inches in diameter. For an eight inch column, I use eight staves, for a ten inch column, I use ten staves, etc.,—but not always, owing to conditions and circumstances.

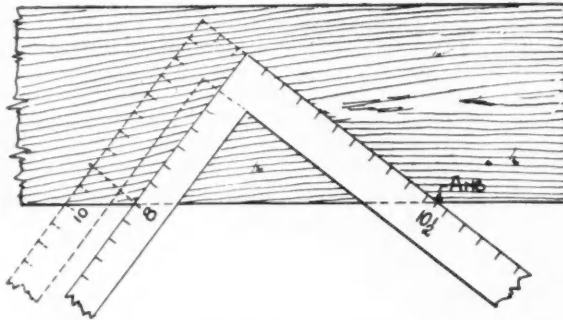
using No. 10 on the level line and the No. 12 bevel line as before. Put the stock of a bevel-square on any of the level lines and set the tongue to the bevel or flaring line No. 12; this will give the correct bevel. Got him? The chart is reproduced here one-half

actual size; when drawn full size it gives actual width of stave at face; if a tongue is desired, the extra width required should be added to that given on chart. I always take size one-half larger at each end of column on account of having enough room to turn out indentations made by the chain clamp, etc.

In the illustration is shown a plan of an octagon, staved up ready for turning. The diameter is eight inches at base and six and one-half inches at top. The marks X X and O O in the chart show the respective widths that the ends of the stave should be. This chart is used by me many times a week. Hope it will be of service to the readers of the AMERICAN CARPENTER AND BUILDER, and I know that it will if they study it out.

This chart is not original with me, but I helped a man, years ago, to dope it out, or one similar. Hence, I claim it, because he is at present *hors-de-combat*, besides what else he is.

**To Proportion Base of Column.** Many times carpenters ask the turner at the mill what the proper size of base will be for a given size colonial column. Here is the standard I use and have found that it holds good in all cases. A 10 inch column has a 13 inch base. Take the 10 inch



To Find Proper Size Base for 8" Column, Knowing that 10" Column Base is 13"

on the tongue and the 13 inches on the blade of the steel square; lay on a board that has a straight edge, and mark along the blade. Now, say the proportion is wanted for an 8 inch column. Slide the square down along the line until the figure 8 on the tongue rests at the edge of the board and the figures on the blade will give the width of the base. (See illustration.)

**Interesting If So.** I heard a well read mechanic (foreman) in discussing Michael Angelo, the great architect, painter, and sculptor, say that when Mike was a mere novice with artistic tendencies, he called at the office of a dignified architect, in order to get a chance to develop his talent; he was refused admittance, not being known. The man at the door (janitor these days) demanded his name and wanted to know why he wanted to see his Royal Highness. Mike took a piece of kiel from his pocket and drew a true circle on the wall and said, "There is my sign." When the man-in-chief saw the circle he summoned his aids and tried it

with rules and compass and found it perfect. Mike was at once sought and fame was his reward. Believe it? I am from Missouri and Mike from Italy.

**To Measure from Center to Center of Circles.** I have known fellows to have a time in locating or rather measuring the distance from center to center



of circular openings. Now, if the holes are the same diameter, measure from the inside edge of one hole to the outside edge of the other and the thing is done.

**How About This?** I heard an argument today that would do justice to a Quaker meeting. One fellow contended that a one inch plug could not be put in a one inch hole without considerable force, say hardened steel, both exactly one inch. What is the answer?

**Oil the Plane.** In smoothing up hard wood, it often helps to make it easier on the workman and at the same time smooths better by rubbing the bottom of the plane with a rag that has ordinary machine oil on it, especially if it's an iron plane.

#### Coloring Brick

Brick owes its color to the presence of iron in the clay from which it is formed. Usually 5 or 6 per cent of oxide of iron (ferric oxide) will give a deep red color to brick, a higher percentage giving a deeper color. The presence of carbonates of lime and of magnesium will modify the color.

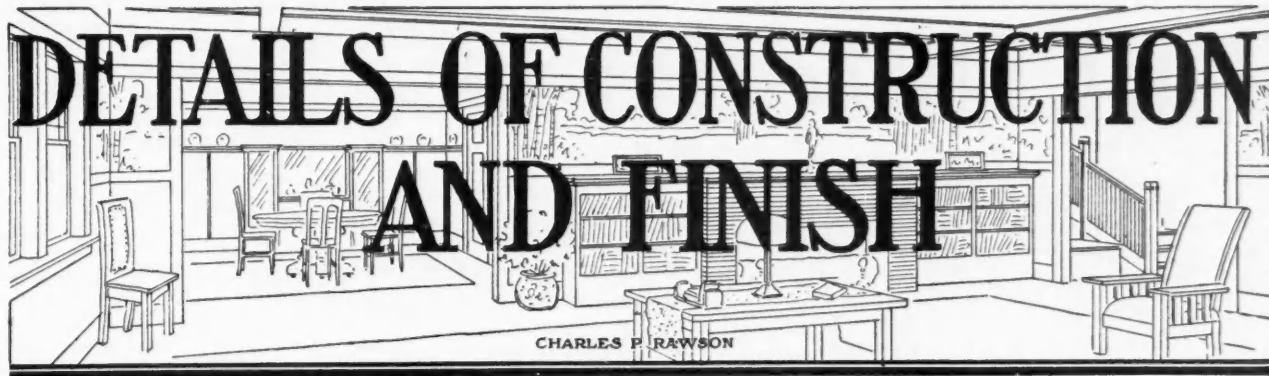
#### Where "Workmanlike" Means Concrete Foundations

One who contracts to construct a house in a workmanlike manner, according to specifications which call for a cellar wall properly laid, is held in *Creamery Package Mfg. Co. v. Russell (Vt.)*, 32 L. R. A. (N. S.) 135, to be bound to provide a concrete foundation, if the excavation shows that it will be necessary to support the building, although the parties did not contemplate the necessity of so doing when they made the contract; and an agreement by the owner to pay him extra compensation for such service is held to be without consideration, and unenforceable.

#### Contractors Not Liable

That a railing protecting the gallery of an armory is so insufficient to withstand the pressure of a crowd that may be in the gallery and lean over it to see transactions on the floor below that it may constitute a nuisance, is held in *Thornton v. Dow (Wash.)*, 32 L. R. A. (N. S.) 968, not to render the contractor liable for an injury due to its giving way, if, without negligence on his part, he follows the plans given him, and turns the building over to, and it is accepted by, the proper authorities.





## Mouldings

WHAT A YOUNG ARCHITECT OUGHT TO KNOW ABOUT DETAILING INTERIOR TRIM ESPECIALLY MOULDINGS—TWO COMPLETE SCHEMES OF INTERIOR FINISH ILLUSTRATED

AS most of the mouldings with which interior finish is ornamented are usually small, they can be properly shown only by full size details. As a rule the draftsman will obtain best results with the least labor by drawing all special finish to the scale of three-fourths inch equals one foot, and then showing the profile of the mouldings by full size sections.

All important dimensions should be indicated in figures on the scale drawings, and all carving should be drawn full size. Where a piece of carving is symmetrical however, only one-half need be shown. As all constructional portions of a building usually vary slightly from the plan, and as nearly all work that is "built in" has to be made to fit the same, it is customary for the person in charge of the execution of the "finish" to make exact measurements at the building after the grounds are in place, and from these measurements to lay out the special work, making it as near as possible like the architect's drawings, but at the same time so it will fit perfectly the place where it is to go.

Mouldings, however, are usually made in exact accordance with the draftsman's sections, the knives being made to fit the drawings. In making these full size sections, the draftsman usually has in mind the effect that will be produced by their shades and shadows, but an experienced draftsman can do much to keep down the cost of the work by drawing his mouldings so as to require the least amount of material, without sacrificing their appearance. To fit the usual thicknesses of finishing woods, moulded members should be drawn either  $5/16$ ,  $9/16$ ,  $13/16$ ,  $1\ 1/16$ ,  $1\ 5/16$ , or  $1\ 3/4$  inches thick to utilize the wood economically.

Although as stated above, mouldings used in connection with the interior finish of buildings are usually made in accordance with the architect's full size details, and hence are seldom alike in any two buildings,

yet there are certain shapes that are so commonly used as to have specific names, while class names have been given to mouldings used for particular purposes, irrespective of the shape of the members. Among the former may be mentioned the quarter-round, half-round, cove, thumb-mould, congee, ogee, fillet, crown, scotia, astragal, bead, quirk and double bead. The quirk is not a moulding proper, but it is a groove formed at the side of a moulding that is sunk below the surface. When several beads are put together they are called reeding, and when the curves of reeding are reversed to concave instead of convex, we have what is known as fluting. The names of mouldings used for a distinct purpose, no matter how much the mouldings may vary in their profile, are cap-moulds, base-moulds, band-moulds, bed-moulds, and flush or raised panel mouldings.

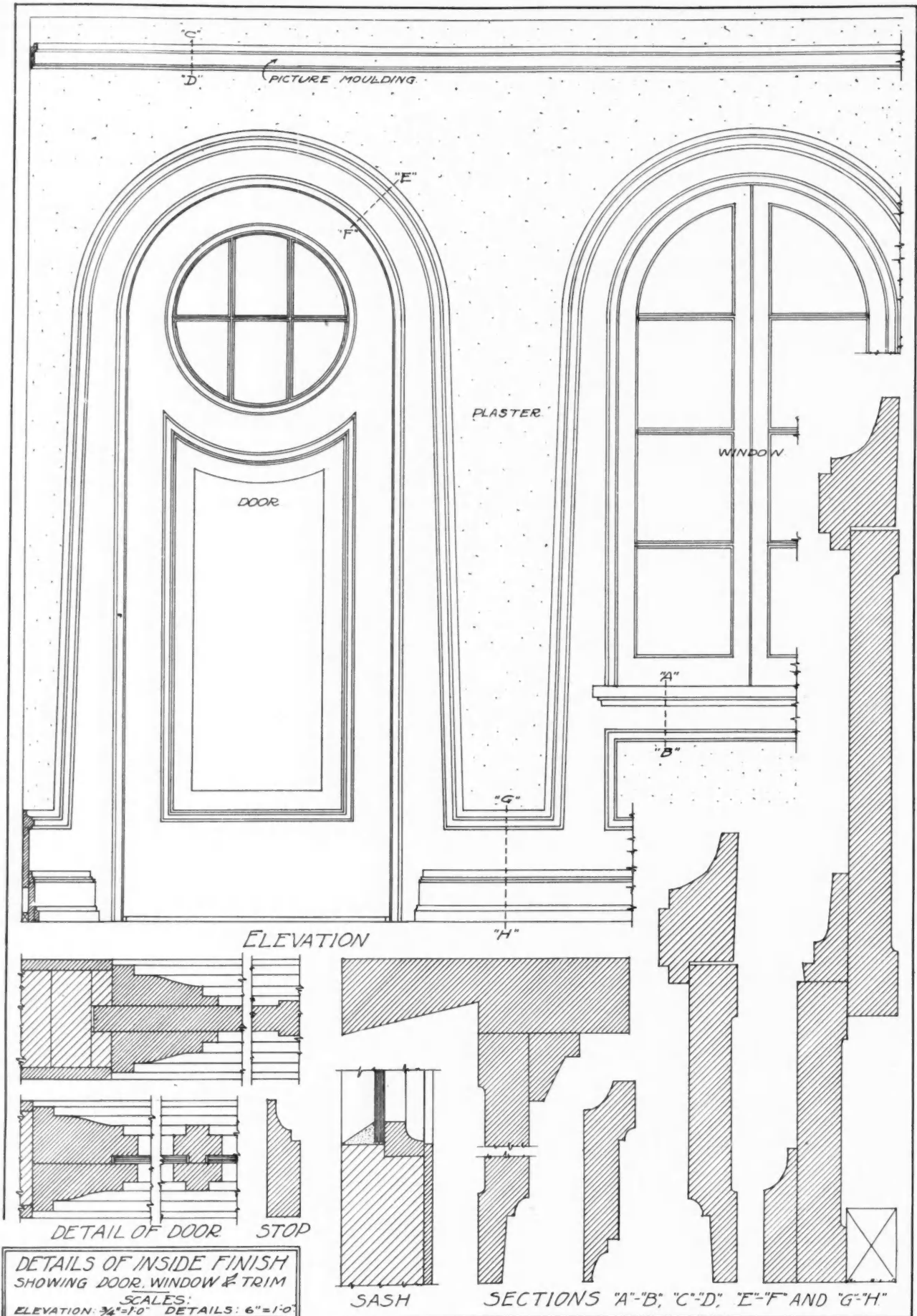
A moulding, irrespective of outline, is said to be either "solid" or "sprung." It is "solid" when the wood fills the space behind the moulding proper, usually to a right angle, and "sprung" if the moulding is worked from a piece of wood in such a way that the back is parallel to a line tangent to the face. When a "sprung" moulding is set in its proper place against the board, there will be a space behind it. The ordinary crown moulding and the larger cove mouldings are "sprung" while the others are "solid."

Mouldings are said to be "planted on" when they are nailed or glued to the face of a board as is the case with band mouldings. In addition to the mouldings proper, there are also the bevel, chamfer, and the rebate used extensively in interior work.

### Two Styles of Trim Detailed

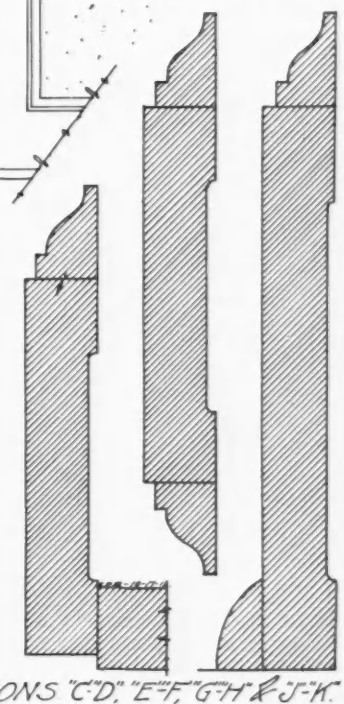
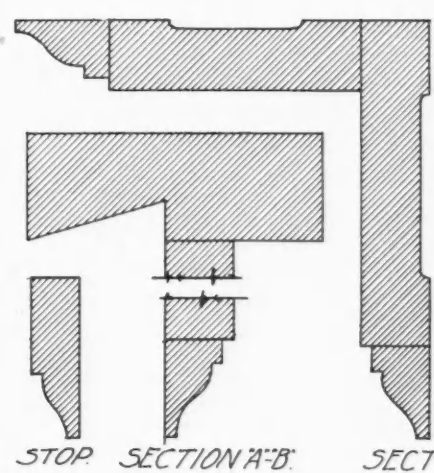
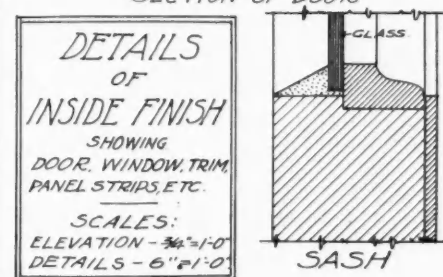
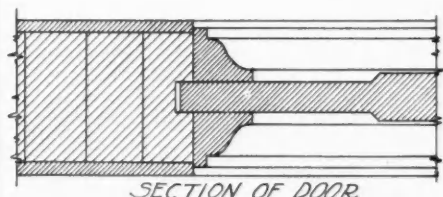
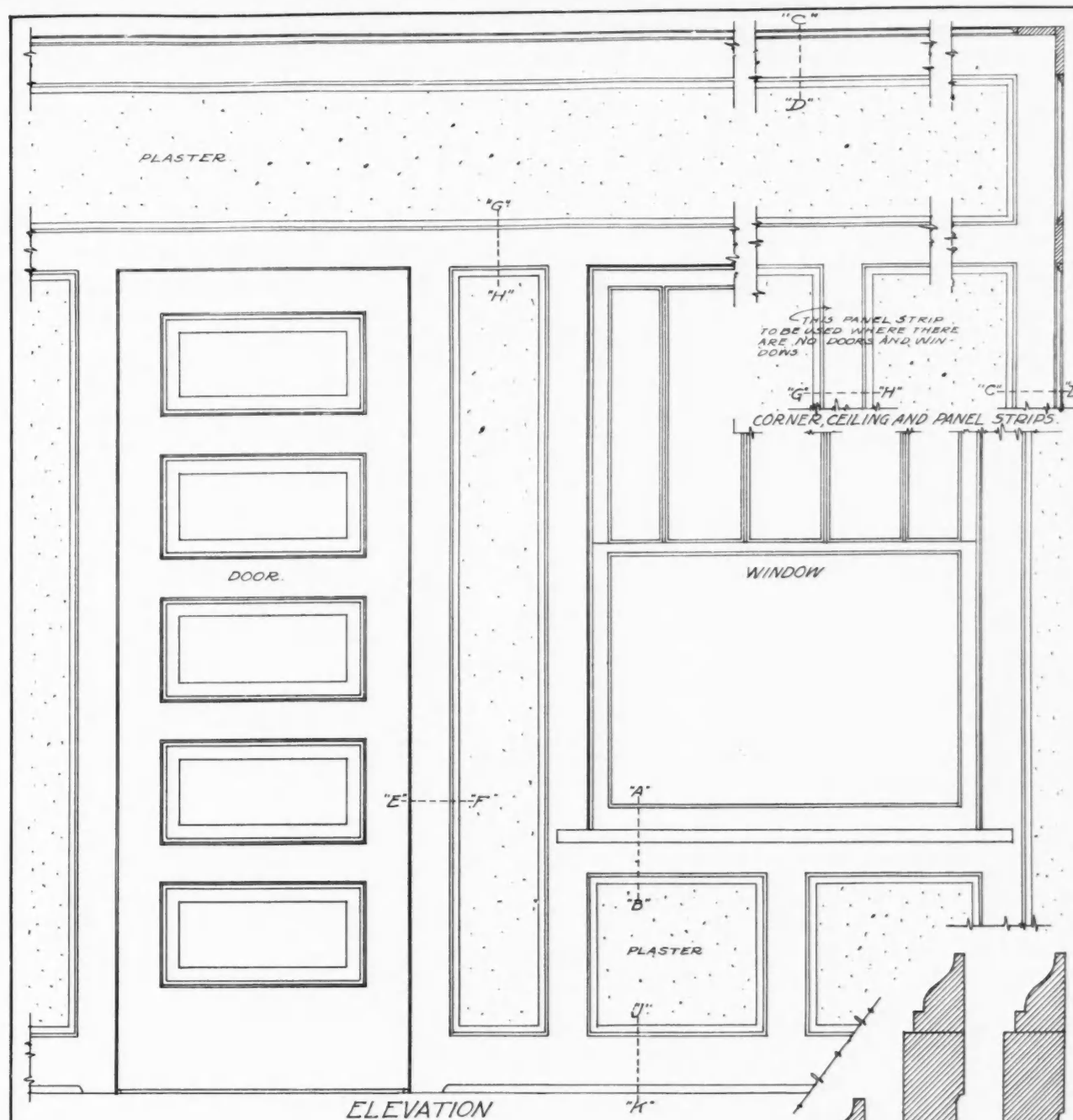
We show this month two complete schemes for interior finish, each being illustrated by an elevation of a door and window with the accompanying trim, etc., drawn to the scale of three-quarters of an inch equals one foot, and by details of each important part enlarged to the scale of six inches equals one foot.

FULL PAGE PLATES SHOWING COMPLETE DETAILS ARE PRESENTED ON THE TWO PAGES FOLLOWING



DETAILS OF INSIDE FINISH  
 SHOWING DOOR, WINDOW & TRIM  
 SCALES:  
 ELEVATION: 3/4"=1'-0" DETAILS: 6"=1'-0"

CIRCLE HEAD MISSION STYLE OF FINISH

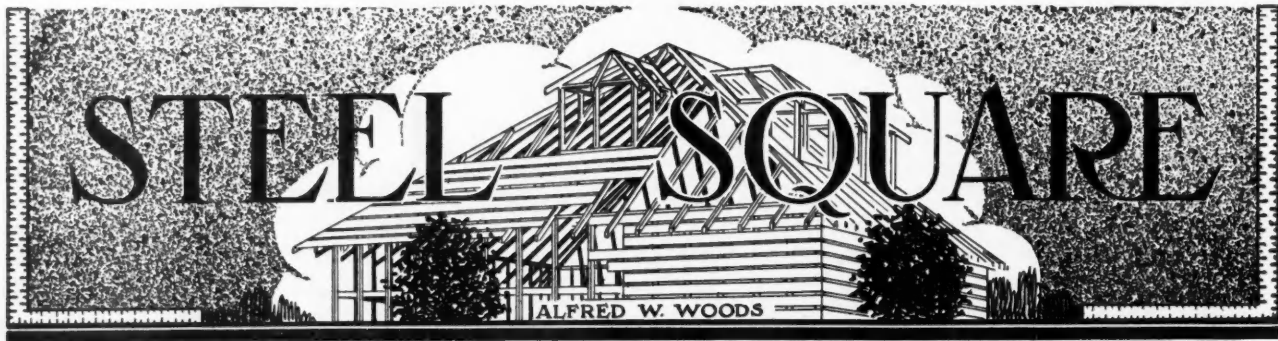


DETAILS  
OF  
INSIDE FINISH  
SHOWING  
DOOR, WINDOW, TRIM,  
PANEL STRIPS, ETC.

SCALES:  
ELEVATION - 3/8" = 1'-0"  
DETAILS - 6" = 1'-0"

INTERIOR TRIM FORMING PANELS





## Practical Uses of the Steel Square

ANALYSIS OF PITCH IN COMPARISON WITH SQUARE AND CIRCULAR MEASURE IN CONNECTION WITH THE STEEL SQUARE

IN our last article, we had for our subject pitches, showing how to reckon the same on the square, what determines the miters, side cuts and how the same figures on the square could be used to cut different or the reversed pitch. In that article, we also showed that the proportion to take on the square for the one-fourth pitch was the same for the full pitch, but reversed on the square. We will now illustrate the pitches, as shown in Fig. 1 for each inch on the blade, making in all 24 pitches. These are determined by square measure, as so many inches rise to the foot run of the common rafter. The reader will note that we have also given the equivalent pitch in degrees for each of these pitches; and we find that only one is without fractions in the degrees, that is for the one-half

pitch or 45 degrees, which is half way between horizontal and perpendicular, and consequently is the same by either circular or square measure.

We dare say that it is the only one of the pitches that the great majority of roof framers would know without looking it up, if asked what the slant was in degrees. Since it is not essential that they should know, they do not care; they take the figures on the square for it and let it go at that. On the other hand if the pitches were reckoned by degrees (omitting the fractions) there would be 63 pitches on the square instead of 24, as here shown, but every one of them, save the 1/2 pitch would end in fractions of inches in the rise; and this would complicate matters so that it would be a worse mixed up proposition than ever. For that reason, a wise custom has settled on reckoning the rise in proportion to the span, rather than by degrees and this can be easily reckoned on the steel square as follows:

Let 12 on the tongue represent the starting point, because it is the measurement for one foot. Let it represent the run. And since this is 12 inches, the span must necessarily be 24 inches. Then the inches in rise taken on the blade are reckoned as their proportion are to the span, as here shown. In connection with the pitches are shown the degrees figured out to a minute of a degree. Note the first inch, or 1/24 pitch is equal to 4 degrees and 46 minutes. The 6 inch rise or 1/4 pitch is equal to 26 degrees and 34 minutes and this subtracted from 90 degrees leaves 63 degrees and 26 minutes, which is the same as the full pitch. The 45 degree angle or 12 and 12 taken on the steel square gives the miter for the square corner; and 12 and 5 are used for the octagon miter; but this is not absolutely correct, because the correct angle is 22 degrees and 30 minutes (one-half of 45 degrees). The reader will note that the angle for 12 and 5 is 22 degrees and 37 minutes; 7 minutes more than is required and is equal to about 1/32 of an inch, which shows that the nearest figures to use on the square are 12 and 4 31/32. However, the difference is so little that 5 inches is near enough for framing purposes. The actual figures expressed in decimals are 4.97 and this every carpenter should remember. Just put it in your thinking cap and keep it there ready for use the moment it is needed,

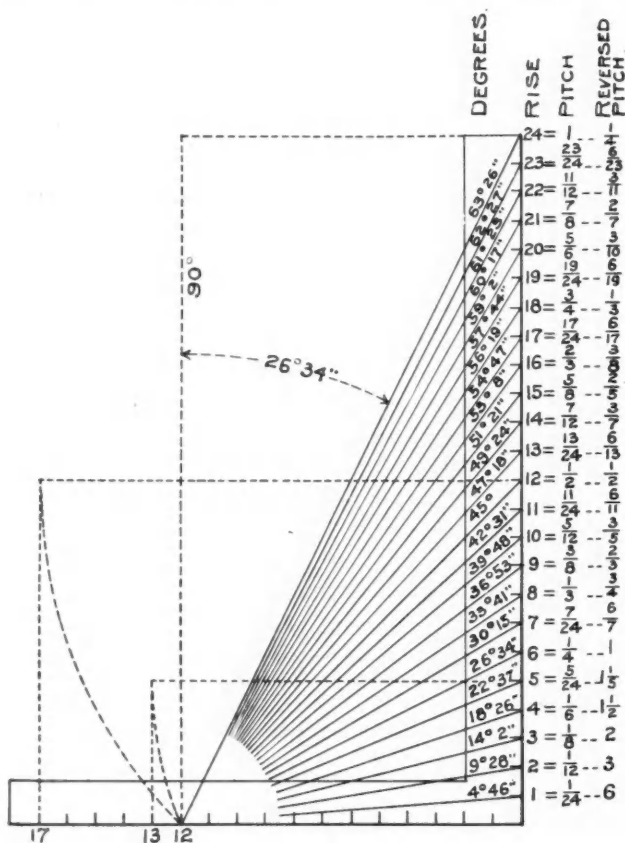


FIG. 1.

because it represents the side of an octagon when the inscribed diameter is one foot. Say you wish to find the side of an octagon 8 1/2 feet in diameter,  $8\frac{1}{2} \times 4.97 = 42.245$  or 3' 6 1/4" Answer.

The angle 12 and 5 on the square practically represents the angle that the run of the octagon hip rests from that of the common rafter; and the length of the diagonal from 12 to 5 is 13 inches. That is why 13 and the rise (whatever it may be) are taken on the square for the seat and plumb cuts for the octagon hip; 12 and 12 answer the same purpose for the square cornered building and are absolutely correct; the

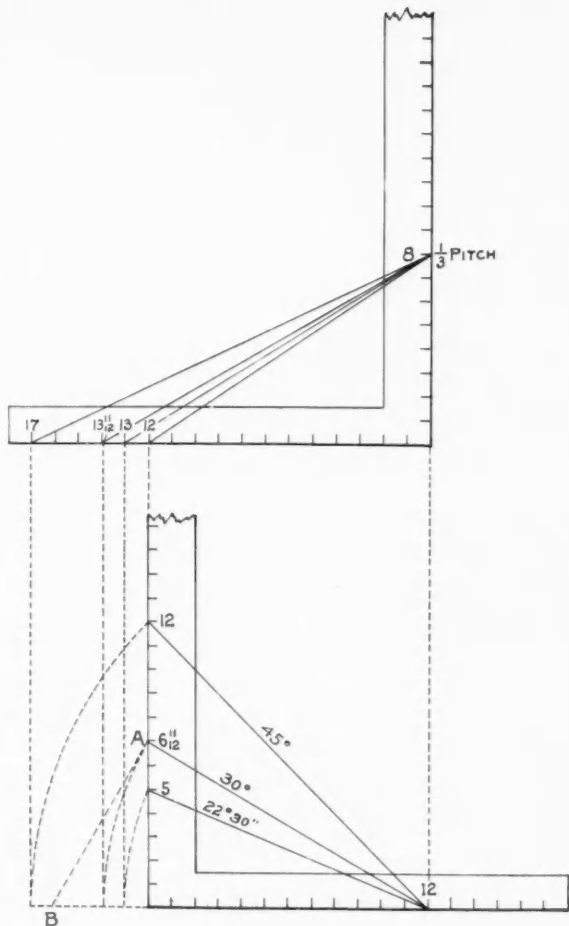


FIG. 2.

length of the diagonal is 16.97 inches (practically 17 inches). The angle for the hexagon hip is 30 degrees and is practically 12 and 7 on the square (it lacks about 1/12 of an inch); and its diagonal length is practically 13 7/8. These hip angles are shown in connection with Fig. 1, but to make this point clearer, we show them separately in Fig. 2, in connection with the 1/3 pitch.

On the lower square are shown the angle that the hip's run is from that of the common rafter; and the diagonal lines on the upper square represent the corresponding pitches for these hips with that of the common rafter; and the figures shown on the square will give their seat and plumb cuts.

The side cut of the hip may be found by taking the length of a line at right angles from the run, to a point

on a level with the seat cut, as A B for the hexagon run, and the length of the hip as from 13 7/8 to 8 on the square. The side on which the latter is taken will give the cut.

Another point we wish to call attention to is the reversed pitch shown in Fig. 1. The reader will note that several of these pitches when reversed are the same as shown in the first column, as follows:

The full pitch becomes 1/4 pitch; 3/4 pitch becomes 1/3; the 2/3 pitch becomes 3/8; the 3/8 pitch becomes 2/3; the 1/2 pitch remains the same, while the low pitches in the first instance become very steep; however, this phase of the subject is not given here as a model to go by but more as an exemplification of the subject of pitch.

We once heard a carpenter say (and he thought himself an expert with the square, too) that he did not care how steep the roof was he could readily handle the square to frame it; but when it got down to the low pitches, the points of measurement bothered him somewhat as to placing of the square. This shows that he did not understand the subject as well as he thought he did, else he would have experienced no trouble in coming from high to low or from low to high, as the case might be.

To find the degree of the reversed pitch, subtracting the degrees here given from 90 will give the answer.

A little study of the accompanying illustration, we trust, will go a long way to make questions of pitch clear.

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### Loosening Tight Bolts

All engineers, machinists and others who have anything to do with bolts and nuts, if in any way experienced make use of a little graphite and oil or of graphite and grease when putting nuts and bolts together. The use of graphite, even dry graphite, on the thread of bolts, will positively prevent the nuts from becoming rusted on the bolts.

When graphite is not used and it is necessary to loosen rusted nuts, it is a good practice to treat the parts liberally with kerosene and wait fifteen or twenty minutes for the oil to find its way around the threads.

If after this treatment the wrench fails to start the nut, try the effects of heat. This may be done by means of a blow torch which will cause the metal to expand and break the rust which holds the threaded member in place.

The flame of the torch should be applied directly to the nut so that it may expand more than the bolt, thereby permitting it to be removed without danger.

The nut may be still more expanded while it is warm by holding a hammer or other weighty object against one face and tapping the opposite side with another and lighter hammer.

If it is found impossible to loosen the nut after this treatment, it must be cut away with a cold chisel.

# BRICK AND TILE WORK

## The Wide Mortar Joint in Modern Brickwork

By J. Parker B. Fiske, B. S.

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**T**HE mortar joint, as a factor in the production of a beautiful brick wall, has not received the consideration in the past which its great importance warrants, and it is with a view of inspiring a greater interest in this important detail that the writer respectfully presents the following discussion.

With the narrow mortar joint which has been in vogue in this country in the past, the composition of the mortar and the finish of its surface are, from an æsthetic standpoint, of little moment; with the rapidly increasing use of the wide mortar joint, they become matters of vital importance.

One has but to look about him to see numberless instances where the mortar joint has well-nigh ruined an otherwise good piece of brickwork.

### Composition of the Mortar

For narrow joints, a mortar made of fine sand, cement and lime answers all the requirements fairly well. For a wide joint, such mortar is wholly unsatisfactory; it is soft and pasty, squeezes out of the joint before it is set—(due to the weight of the brick), smears the face of the wall and usually ruins the work.

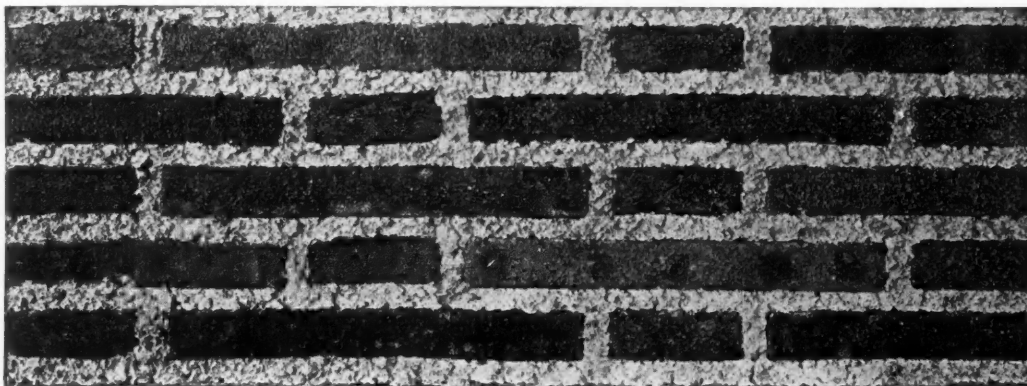
Mortar for a wide joint, that is to say  $\frac{3}{8}$  of an inch or more, should contain a liberal proportion of fine pebbles known to the trade as "grit," good coarse sand, Portland cement, a small amount of lime putty (or hydrated lime), and whatever coloring matter is desired.

Bricklayers who are accustomed to the use of fine mortar only, almost invariably object to the wide mortar joint, often claiming that brick cannot be thus laid economically. Experience has shown, however, in the case of hundreds of structures erected with a wide mortar joint during the last three years, that all difficulties vanish with the use of proper materials and a proper method of mixing. Moreover, it has been thoroughly demonstrated that brick can be laid with a wide joint of proper mortar quite as rapidly and economically as with a narrow joint; in fact, much testimony goes to show that the wide joint is the cheaper of the two.

The following description of materials for wide joints may be useful to a clearer understanding of this matter:

**"Grit."** This consists of pebbles varying from  $\frac{1}{32}$  of an inch in diameter to a diameter about equal to one-half the width of the joint, that is to say, "grit" for a  $\frac{1}{2}$  inch joint should contain pebbles not over  $\frac{1}{4}$  inch in diameter. This "grit" should be screened free from sand in order that a measured amount of both "grit" and sand may be used in the mortar. The practice of using a mixture of sand and pebbles as the material comes from the ordinary sandbank is usually unsatisfactory owing to the varying proportion of "grit" thus obtained.

**Sand.** Unless a very white joint is desired, any



Brickwork in the Blair House, Oyster Bay, L. I. "a reproduction . . . of Those Used in the Famous Baths of Titus."



good ordinary bank sand or "native" sand is perfectly satisfactory, provided it is coarse and sharp. Sand coming from salt water beaches should be absolutely prohibited, as the salt often effervesces from the mortar joint in the Spring of the year, thereby causing disagreeable disfigurement.

**Cement.** Any first-class Portland cement is satisfactory.

**Lime.** Where lime putty is used, it should be thoroughly slaked until all lumps are disintegrated. On small work and in certain localities the use of dry hydrated lime will be found not only convenient but economical.

**Coloring matter.** This must be determined to suit each individual case, according to the taste of the designer.

The formulæ given on page 46 provide for "French's" mortar colors. Other makes may be used, but the quantity must be determined according to the color value of the particular material used.

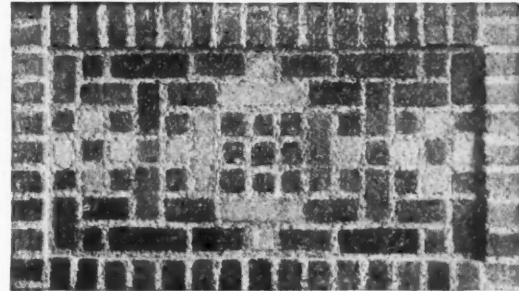
#### Mixing the Mortar

We venture the statement that nine-tenths of all trouble arising from unsightly mortar joints can be traced directly to an improper method of mixing or to gross carelessness on the part of the mixer.

The common practice of slaking the lime and mix-

ing, as it does, one-quarter or even one-third the area of the entire wall surface.

We have frequently seen mortar joints in the same wall varying from white to mouse gray owing to the fact that the mortar mixer did not measure his materials, but "gauged" them with his eye or "judgment."

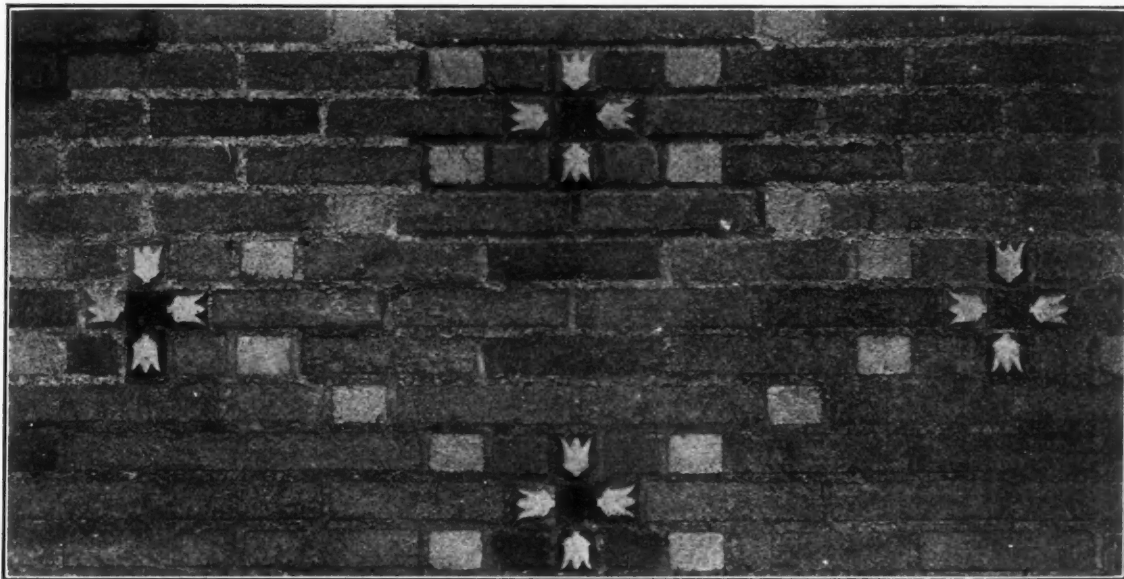


Mosaic Panel, Blair House.—"Three sizes of brick . . . all multiples of a single unit and three blending colors."

When the mixer gets the mortar too soft it is a common practice to put in more cement to stiffen it, the result being that no two batches of mortar are alike in color. With such a "hit or miss" method, satisfactory work is well-nigh impossible.

The ingredients of each batch of mortar should be accurately measured. Too much importance cannot be attached to this rule.

Suitable measuring boxes should be provided and



#### A STUDY TO DETERMINE THE BEST MORTAR JOINT FOR THE LOTOS CLUB, NEW YORK.

This panel is built with three different mixtures of mortar and finished partly "raked out" and partly "rough cut flush." Notice (even in the picture) how a variation of mortar alters the whole appearance of the brickwork.

Unfortunately this spotted effect is seen too often in a finished building.

Donn Barber, Archt.

ing with sand in a large storage bed in the early stages of the work, and then "gauging" small lots with cement from time to time as mortar is required by the bricklayer, should absolutely be prohibited, that is, where bricks are to be laid with a wide joint. While this method may serve fairly well in the case of narrow and inconspicuous joints, it is almost certain to produce streaks and patches of varying color and texture in the case of wide joints, the area of the latter often exceed-

their careful use should be insisted upon. A little care at the mortar bed will be repaid many times over by the improved appearance of the building in which the mortar joint forms so important a part.

#### Formulæ for Mortar Mixing

Generally speaking, we recommend for "Tapestry" or other similar rough texture bricks of the red or brown colors, a cream gray mortar mixed as per for-

mula "J," or a dark reddish brown mortar mixed as per formula "B"; for bricks of the gray colors a very dark gray mortar mixed according to formula "K;" and for bricks of the golden and tan colors either the cream gray mortar "J" or the dark gray mortar "K."

FORMULA "B" Dark Reddish Brown		
"Grit"	3	parts
Sand	5	parts
Cement	1	part
Lime Putty*	1/2	part
Brown (paste)	1/8	part
Yellow (powder)	1/8	part
Black (paste)	1/50	part
FORMULA "J" Cream Gray		
"Grit"	2	parts
Sand	5	parts
Cement	1	part
Lime Putty*	1/2	part
Yellow (powder)	1/8	part
Black (paste)	1/200	part
FORMULA "K" Dark Gray		
"Grit"	2	parts
Sand	5	parts
Cement	1	part
Lime Putty*	1/2	part
Yellow (powder)	1/8	part
Black (paste)	1/100	part

\*Or hydrated lime.

#### Method of Laying Brick

Face brick should invariably be laid from a scaffold on the outside of the wall, never overhand, from the inside. It is impossible by the latter method to get the joints of equal thickness and finish or to do good work in other respects.

Generally speaking, we strongly recommend that the mortar joint be finished as follows:

For red or brown brick with cream gray mortar, the joint should be "rough cut flush"; in the case of the dark brownish red mortar, the joint should be "raked out" to cast a shadow.

Experience has shown that a rough cut mortar joint is very undesirable with gray brick, as the brick and the joint are so nearly the same color and texture that the wall loses character and looks like a monotonous cement surface. The joint should, therefore, be raked out to cast a shadow and accentuate the joint.

With bricks of the golden group, unless a distinctly white joint is used, thereby setting out each brick distinctly, the joints should be raked out as in the case of the gray brick.

**Rough cut flush joint.** Allow the mortar to ooze between the brick and simply clip off the surplus mortar with the trowel. Do not under any circumstances allow the bricklayer to smooth the joint with his trowel or any other tool. The use of "grit" when the joint is thus treated gives texture to the joint which is thoroughly in keeping with the texture of the brick itself. The coarser the "grit" the rougher will be the texture of the joint.

**Raked out joint.** Lay the brick in the ordinary way and rake the joint out roughly with a stick or a nail to the depth of at least 1/4 inch. Do not allow the bricklayer to smooth the joint.

#### To Summarize Briefly

1st. Use "Grit." 2d. Measure all materials carefully. 3d. Lay the brick from an outside scaffold. 4th. Never smooth the joint. 5th. Be sure your mortar is not too soft.

### New Use for Power Truck

The motor truck seems to be taking a larger and larger part in the work of the building contractors, many ingenious uses being made of these power vehicles in addition to the regulation use for hauling.

An instance of this is illustrated herewith, the photographs showing one of the new buildings of the Mack Bros. Motor Car Company, at Allentown, Pa., in course of construction. In this case one of the power trucks made by this company was used as a hoist.



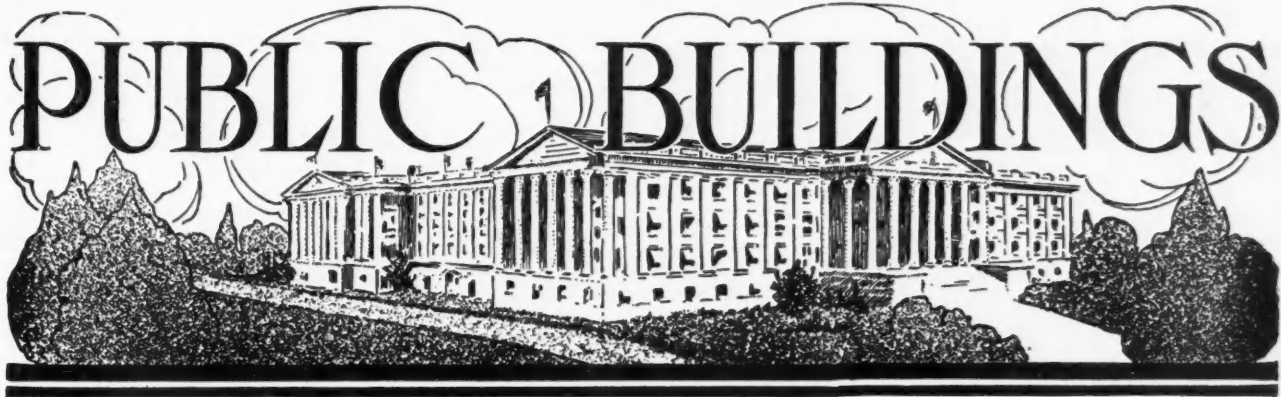
Power Truck Equipped with Winch for Hoisting

The power winch is geared to the motor and may be operated by the driver of the truck. With this equipment the load is hauled to destination and then hoisted to the desired position in a loft or warehouse, economically and expeditiously. It is predicted that equipment of this kind will be of great value to contractors and others who require a portable power winch.

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### Amount of Paint for a Given Surface

It is impossible to give a rule that will apply in all cases, as the amount varies with the kind and the thickness of the paint, the kind of wood or other material to which it is applied, the age of the surface, etc. The following is an approximate rule: Divide the number of square feet of surface by 200. The result will be the number of gallons of liquid paint required to give two coats, or, divide by 18 and the result will be the number of pounds of pure ground white lead required to give three coats.



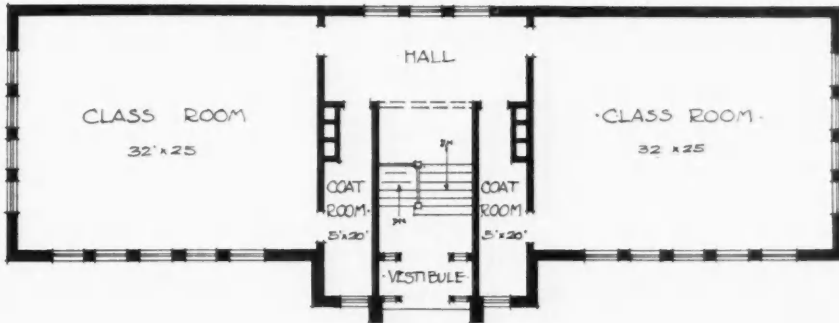
## Design for Rural School

ARCHITECT'S PERSPECTIVE AND FLOOR PLAN OF AN HOLLOW TILE, STUCCO AND BRICK TWO-ROOM PUBLIC SCHOOL BUILDING

THE importance of substantial, fireproof construction for country schools is coming to be recognized. Also the school districts that are willing to give their boys and girls a fair start in life by providing *decent* school buildings are—we are glad to say—becoming more numerous.

Just consider for a moment the advantages of a rural school building like the one illustrated, as compared with the ordinary school *shack*: substantial, durable, fireproof, easily heated, attractive both within and without, an inspiration

to the pupils and a credit to any community. Country folks are not far behind their city cousins in most things; they are demanding modern school buildings.

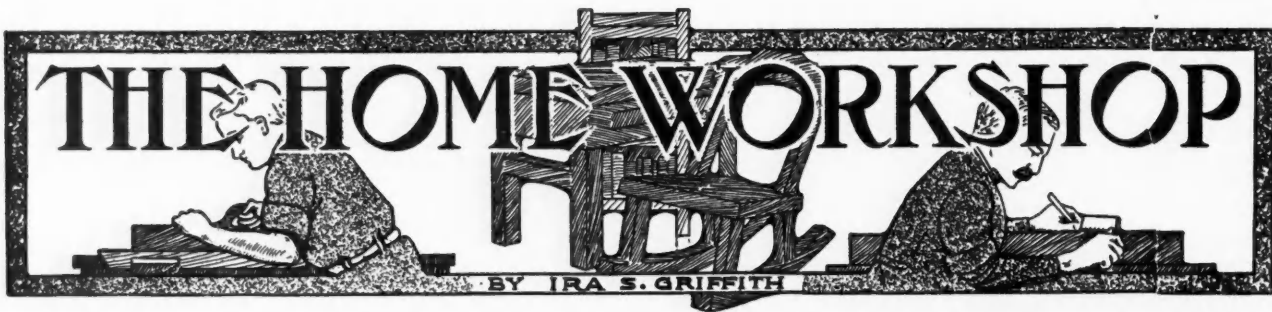


Main Floor Plan



Fire Proof Two Room School Building, Designed by G. W. Ashby, Architect





## Big Upholstered Rocker and Leather-Top Table

COMPLETE DETAILED INSTRUCTIONS WITH WORKING DRAWINGS FOR MAKING THESE TWO FINE PIECES IN THE HOME SHOP

**A** LEATHER top table and a leather cushioned chair are the projects suggested this month. Both of these pieces may well be made of oak, either quartered or plain in grain. Both pieces will be most appropriate when finished in some soft color in which the contrast between the background and the "highlights" is not very marked.

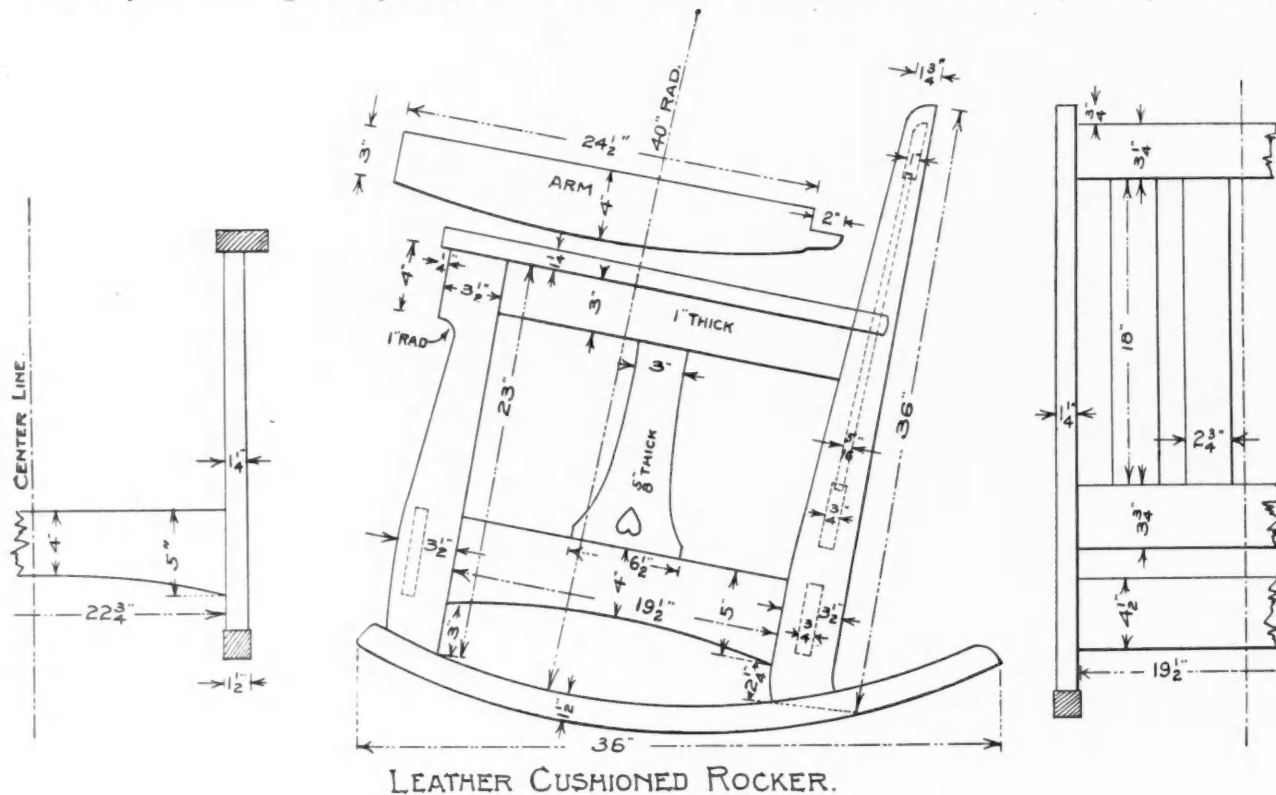
### MILL BILL FOR ROCKER.

- Arms, 2 pieces, 1 1/4 by 4 1/4 by 25 inches, S-2-S.
- Front posts, 2 pieces, 1 1/4 by 3 3/4 by 25 inches, S-2-S.
- Back posts, 2 pieces, 1 1/4 by 4 1/4 by 37 inches, S-2-S.
- Rockers, 1 piece, 1 1/2 by 8 by 36 1/2 inches, S-2-S.
- Lower side rails, 2 pieces, 1 by 5 1/4 by 22 inches, S-2-S.
- Upper side rails, 2 pieces, 1 by 3 1/4 by 27 inches, S-2-S.
- Side slats, 2 pieces, 5/8 by 7 by 13 1/2 inches, S-2-S.
- Front rail, 1 piece, 3/4 by 5 1/4 by 25 inches, S-2-S.
- Back rail, 1 piece, 3/4 by 4 by 22 inches, S-2-S.
- Back rail, 1 piece, 3/4 by 4 3/4 by 22 inches, S-2-S.
- Back rail, 1 piece, 1 by 3 1/2 by 22 inches, S-2-S.
- Back slats, 4 pieces, 5/16 by 3 by 19 inches, S-2-S.

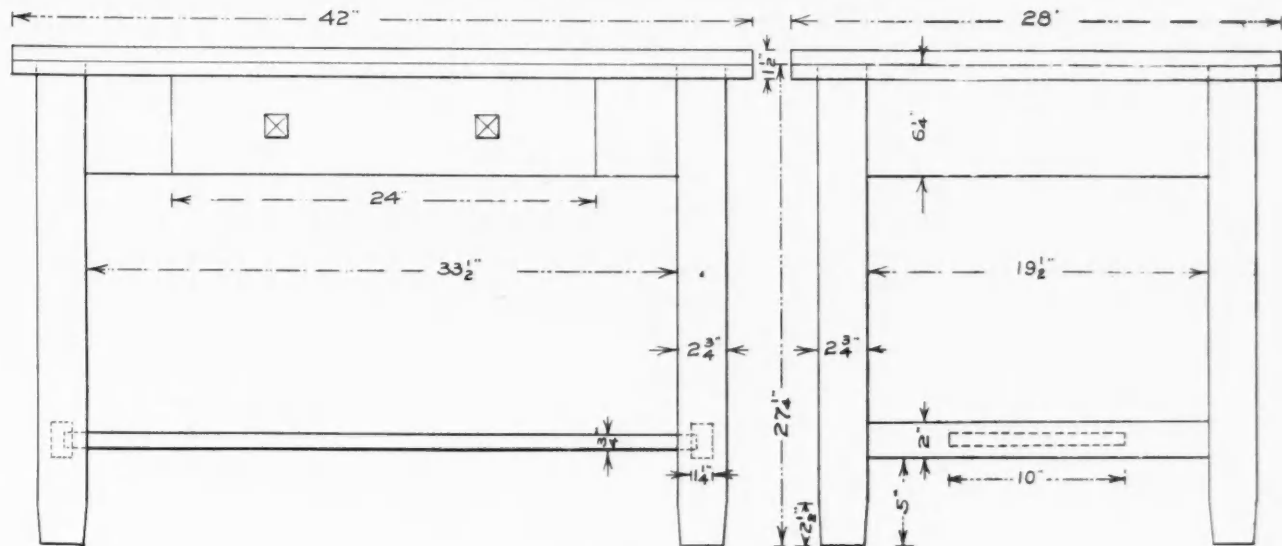
Work may be begun upon the posts first. The shape of the front posts is clearly indicated in the working drawing. They may have their front edges laid off by first making a template of thin wood or

heavy paper and marking around this. Or they may be nailed together lightly, a curve sketched directly on the wood and the two cut out on the band saw at one sawing. The nailing will want to be done in the waste part of course. In a similar manner lay out and work the two black posts. In both cases the face edges or working edges or joint edges, whatever you choose to call them, are to be kept for the inner surfaces upon which the mortises of the rails are to be cut. Working faces and edges are more likely to be true than are other surfaces and edges and therefore the shoulders of the tenons on the rails are more likely to fit snugly and form good joints.

The arms are shaped as shown in the working drawing. That part which fits to the back posts should not be cut until the chair posts and rails have been assembled. After these parts are assembled the arm may be fitted to the back post. The arms are to be fastened to the back posts by means of



LEATHER CUSHIONED ROCKER.



LEATHER COVERED LIBRARY TABLE.

screws. Use flat head screws, bore so the heads can be set below the surface sufficiently to allow the fitting of a wooden button over it. Use doweling and glue for fastening the arm to the side rails.

After these parts are shaped, cut the side rails to length and shoulder them properly for tenons. Shape the lower edges of the lower rails, shape the side slats of five-eighth inch stuff and cut the mortises in these rails into which the slat ends may be housed. Similarly work up the other rails and slats for the chair.

Lay off the mortises in the posts at the proper locations. Cut these and then assemble dry the two sides of the chair to see how the joints fit. If every-

piece of stock by sawing. If the steamed and bent rocker is preferred, the stock bill should be changed accordingly. When the clamps are removed from the sides of the chair these rockers may be fitted and fastened.

The next step will consist of fitting the sides to the front and back rails and inserting the back slats. After these have been fitted, clamps may be applied and the frame set away until the glue hardens. Put on the arms, scrape off all the surplus glue and leave the frame smooth and clean for its finish.

A finish that is equally appropriate for the table, the description of which follows, is obtained in the



Made of Plain or Quartered Oak

thing is ready, put the sides together using good hot glue. Use plenty of clamps and make sure that there is no wind in either frame.

While the glue is setting up, the rockers may be shaped. These rockers are to be got from the one



Simple to Make and Worth While

following manner: Coat the wood with a Mission stain. Allow this to dry, then sandpaper it lightly using number 00 paper. Hold the paper on the tips of the fingers and take care not to rub long enough in any one spot to make a white place. If an oil stain has been used it may not be possible to get a very dark effect, unless it is what is known as a penetrating oil stain. On this stain apply a coating of paste filler. Use a color somewhat darker in

tone than that of the stain. Thin the filler with turpentine until it is like thick varnish and force it into the pores using a stiff bristled brush. Allow this to stand until it has flatted, until the gloss has disappeared, then rub off the surplus filler using excelsior and rubbing across the grain of the wood. After this rub again, this time using an old cloth and rub both across and along the grain. Use a sharp pointed stick to get the filler out of the corners. Applying filler and cleaning off the surplus properly is not a very agreeable job to the amateur but he will have to learn to work patiently at it even as the professional wood finisher does.

On this filler, after it has hardened over night, apply a coat of orange shellac. On the shellac apply two or more coats of rubbing varnish. Rub the first coats with hair cloth or curled hair and the last with powdered pumice stone and raw linseed or crude oil. This finish will be found a lasting one and will please because of its "quietness."

#### Library Table

The library table is one of the most popular pieces of furniture with the handicrafters. The leather top table shown is simple in design and as easy of construction as any table can be made. There will be needed the following stock:

#### MILL BILL FOR LIBRARY TABLE.

Top, 1 piece,  $\frac{3}{4}$  by  $28\frac{1}{2}$  by  $42\frac{1}{2}$  inches, S-2-S.  
 Facing for top, 2 pieces,  $\frac{3}{4}$  by  $1\frac{1}{2}$  by  $42\frac{1}{2}$  inches, S-2-S.  
 Facing for top, 2 pieces,  $\frac{3}{4}$  by  $1\frac{1}{2}$  by 26 inches, S-2-S.  
 Legs, 4 pieces,  $2\frac{3}{4}$  by  $2\frac{3}{4}$  by 28 inches, S-4-S.  
 Side rails, 2 pieces,  $\frac{3}{4}$  by  $6\frac{1}{2}$  by 36 inches, S-2-S.  
 End rails, 2 pieces,  $\frac{3}{4}$  by  $6\frac{1}{2}$  by 22 inches, S-2-S.  
 End rails, 2 pieces,  $1\frac{1}{4}$  by  $2\frac{1}{2}$  by 22 inches, S-2-S.  
 Stretcher, 1 piece,  $\frac{3}{4}$  by  $10\frac{1}{2}$  by 36 inches, S-2-S.  
 Drawer slides, 4 pieces,  $\frac{3}{4}$  by  $1\frac{1}{2}$  by 23 inches, S-2-S.  
 Drawer guides, 4 pieces,  $\frac{3}{4}$  by  $\frac{3}{4}$  by 23 inches, S-2-S.  
 Drawer ends, 2 pieces,  $\frac{1}{2}$  by  $4\frac{1}{2}$  by 20 inches, S-2-S.  
 Drawer back, 1 piece,  $\frac{3}{8}$  by  $4\frac{1}{2}$  by 24 inches, S-2-S.  
 Drawer bottom, 1 piece,  $\frac{3}{8}$  by 24 by 20 inches, S-2-S.

Square up the top to the dimensions indicated in the drawing. The top stock is only three-fourths of an inch thick. The picture shows a thicker top. This effect is obtained by fastening the four pieces, specified in the stock bill as facings, to the under side of the top at the edges by means of screws. Since the edges are to be covered with the leather it will not be necessary to miter the corners of these facings.

The legs or posts are specified mill-planed to the correct width and thickness so that all that is necessary to prepare them is to square the ends and the piece to length. Shape the lower ends as indicated in the working drawing and lay out the mortises for the rails.

Lay off the rails, after squaring them to size, and cut the tenons on the ends. The stretcher, which makes a lower shelf, is to be mortised into the end rails.

The drawer front extends the full width of the side rail. The sides of the drawer, however, are not to be so wide, because there is needed room

at the bottom for the slides. Cut and square the slides. Construct the drawer in the usual manner, plowing and fitting the parts properly.

Glue and clamp the ends of the table first. After these have had the glue on them hardened, place and clamp the side rails and the stretcher. Thoroughly scrape all the parts and sandpaper them, then attach the top.

Before applying the leather the finish will want to be applied as described for the rocker. In putting on the leather, first place several thicknesses of heavy paper.



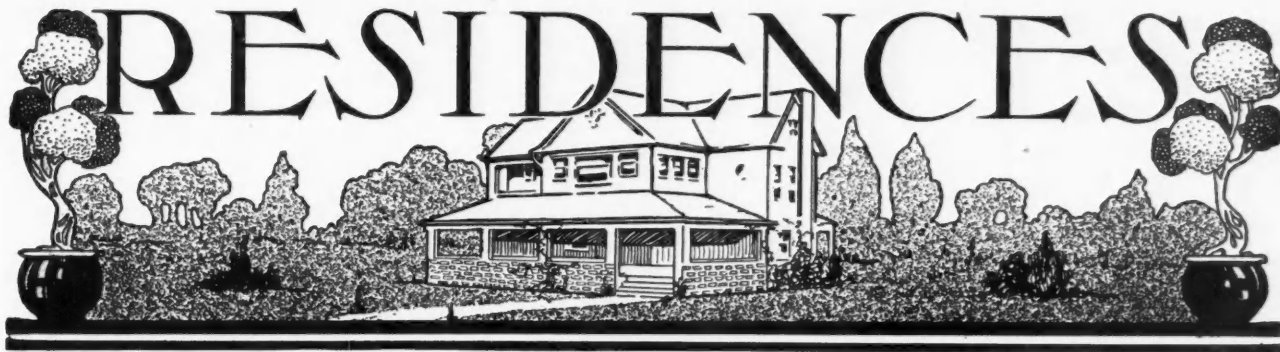
#### Why Stucco Crazes

The crazing or hair-cracking of stucco is a universal complaint and rather discouraging to many owners of stucco covered buildings, inasmuch as a crazed stucco will ruin the beauty of any successfully designed building. The reason for the crazing of stucco varies, but the principal cause is the lack of knowledge of the mixing of the proper proportions and also the application of the material and finally the protecting of finished stucco from the elements until it has properly hardened.

Cement applied on walls in about 1-inch thickness acts entirely different than when cement is poured into moulds in a compact body and the cement, while hardening, has sufficient dampness from the water of its own mixture. On the walls, the water mixed with the cement is absorbed on the back by the ground work on which the cement is applied and on the face by the air and wind in a shorter time than the cement would naturally require to harden. A stucco facing is composed of two or three coats. It depends on what finish may be desired. Naturally, the application of the cement mixture in two or three coats requires a great amount of care in order that each coat may properly adhere to the other. On the mixing of the various coats it greatly depends that the finish coat, which acts as a veneer over the under coat, should be mixed of the various ingredients so that it will act as an elastic cover; that is, that the mixture after it has hardened shall be of a less tensile strength, and therefore less brittle than the under coat.

The cement for the final coat should never be more than one part mixed with three parts of good, sharp, washed sand or marble grit, and also with a very small proportion of lime. This lime should be fresh-burned shell lime; if this is not obtainable, a good quality of hydrated lime may be used. This mixture (after the ground coat is well wetted down with clean water until it can absorb no more), is applied in the regular method and if properly floated and padded will eliminate the crazing and at the same time the lime will act as a waterproofer to a reasonable extent. This method of mixing the material and the applying of the same adds no extra expense to the cost of the building and will practically insure a successful result.—*Record and Guide*.





## Plans for Six-Room Shingled Cottage

COMPLETE SET OF ARCHITECT'S DRAWINGS FROM WHICH THIS HOME-LIKE, WELL-ARRANGED BUNGALOW MAY BE BUILT

**T**HE little bungalow cottage illustrated herewith is just such a design as hundreds, yes thousands of home-loving couples, both young and old, are longing for. It is a thoroughly practical design, well suited to the ordinary village lot. It is 31 feet in width over all and 28 feet from front to back, exclusive of porches. This makes a compact, well contained structure that is easy to heat and convenient to live with.

The exterior appearance of this house is typically "bungalow," with low roof, wide extended eaves and open rafter cornice bracketed at the gable ends.

The first floor plan shows four fine rooms. The living room is especially attractive, being 20 feet in length by 12 feet wide. It is very attractive, with large bay window, fireplace, colonnade, etc. The din-

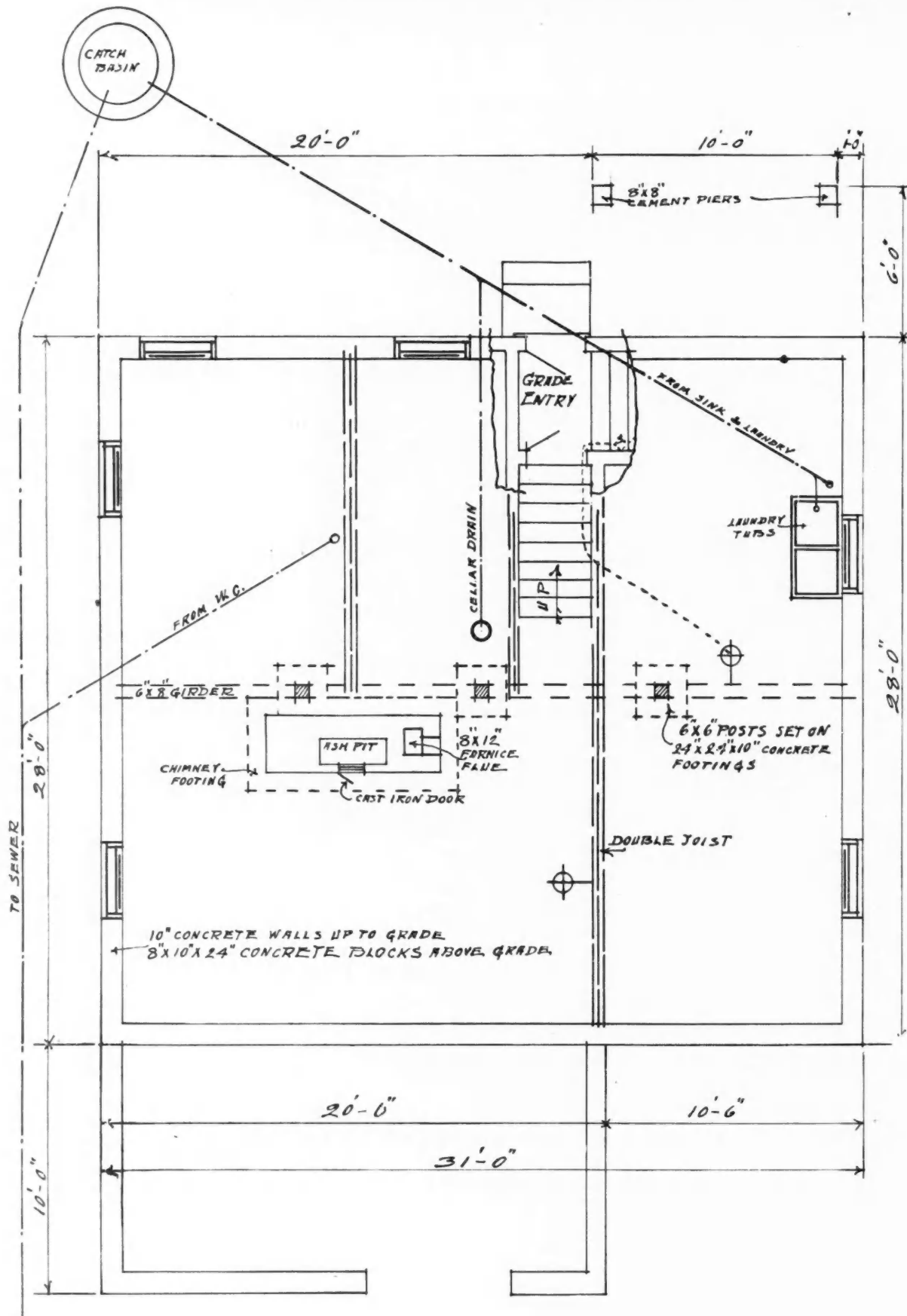
ing-room at the right hand is well placed, both with reference to the living room and to the kitchen. A very nice feature of this plan is the downstairs bedroom. This is well away from the rest of the house.

On the second floor are two additional bedrooms, besides a large amount of closet and storage space. These rooms are very cozy and are thoroughly desirable. There is a toilet room on the second floor, directly above the large bathroom which is on the first floor. This brings the plumbing all in line and is conducive to economy in this item.

The basement is finished very nicely in cement with set laundry tubs, provision for central heating plant, cast iron fuel chute, etc. The estimated cost of this bungalow, using good grade materials throughout, is \$2,800.



Very Attractive Bungalow Cottage Designed for J. B. Ball, Morgan Park, Ill.  
COMPLETE WORKING DRAWINGS FOR THIS HOUSE ARE PRESENTED ON THE 7 PAGES FOLLOWING.



CEMENT STEP  
BASEMENT AND FOUNDATION PLAN  
(House Shown on Page 51)



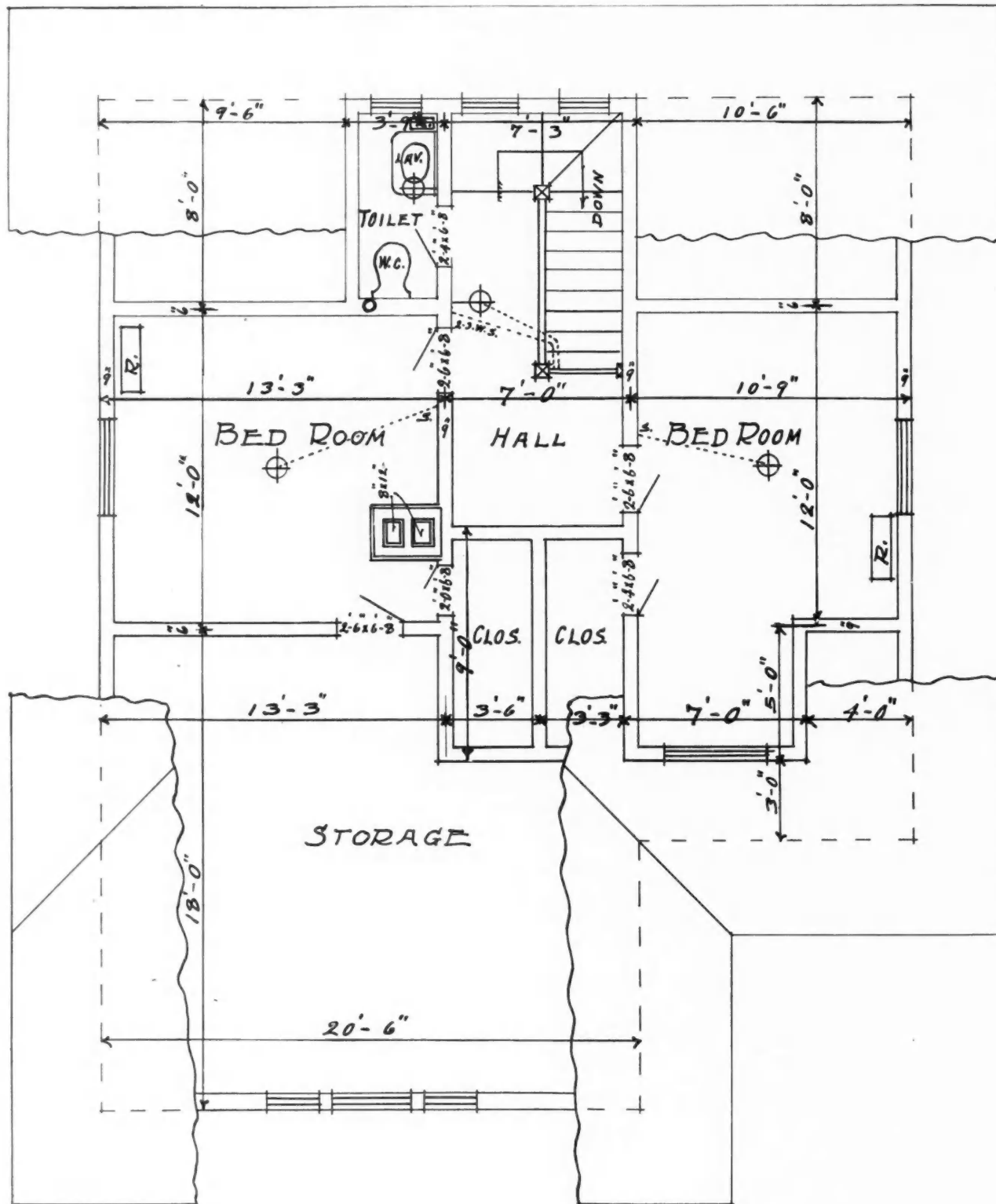


**Air-Spaced vs. Solid Furnace Walls**

Recent experiments by the Geological Survey while studying the processes of combustion resulted, among other things, in acquiring considerable data in relation to the flow of heat through furnace walls. It will be a surprise to some to know that a solid

wall is preferable to a hollow wall of the same total thickness, because the heat flows more rapidly through the air-spaced wall than through the other. This is particularly true if the air space is near the furnace side.

Although air is a poor conductor of heat it offers



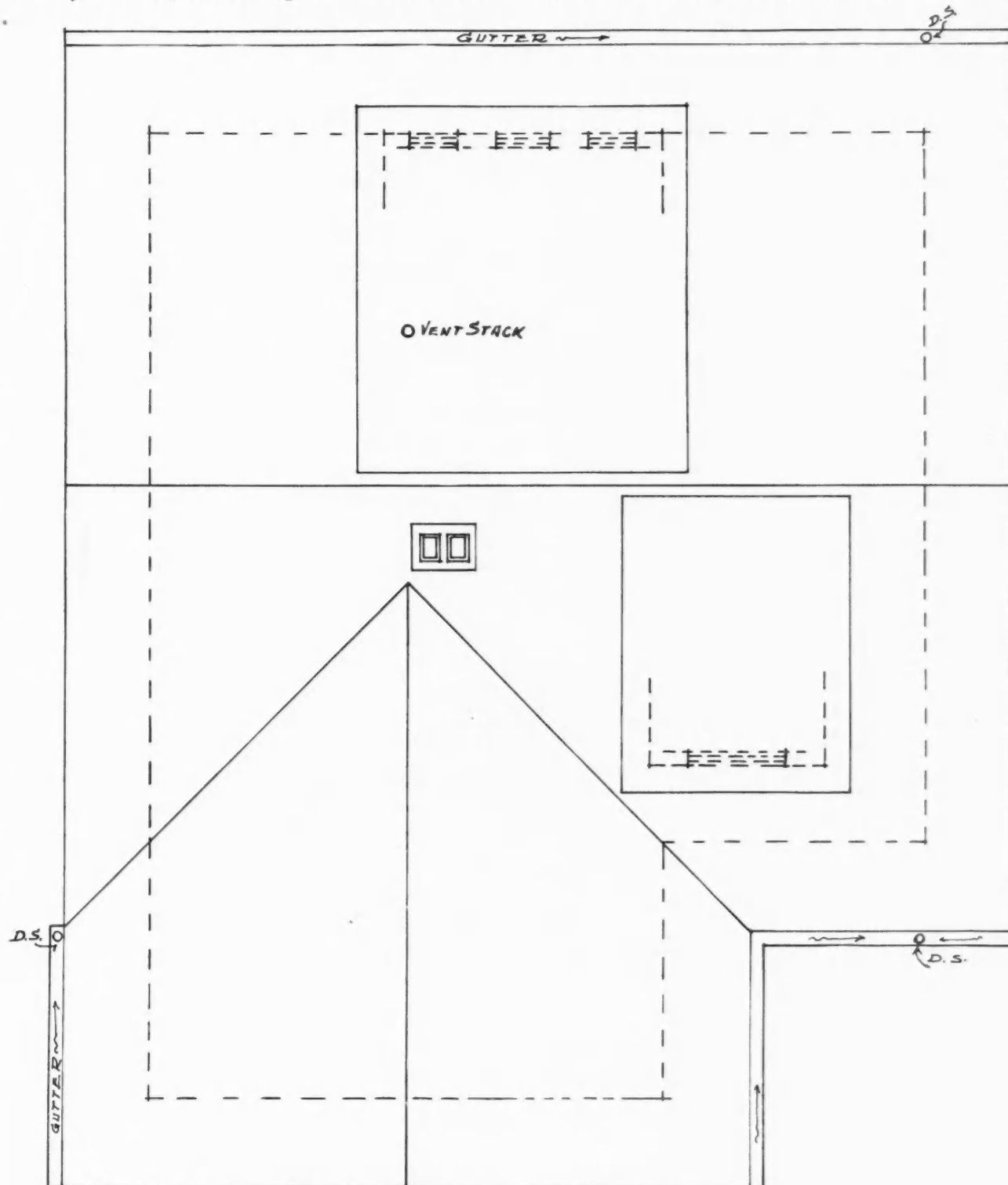
**SECOND FLOOR PLAN**

(House Shown on Page 51)

no resistance to radiation and the heat leaps over the air space in the wall by obedience to this law which is common in nature. The quantity of heat passing through a wall by conduction depends on the difference in temperatures of the two planes limiting the walls and the loss of heat by this operation remains the same so long as these temperatures remain relatively constant, without regard to the actual tem-

perature registered. The quantity of heat crossing the air space in the wall depends on the difference of the fourth powers of the absolute temperatures of the surfaces which enclosed the air space, and although this difference may remain constant the radiation of heat will increase as the temperature rises.

It will be seen that while air spaces in the walls of

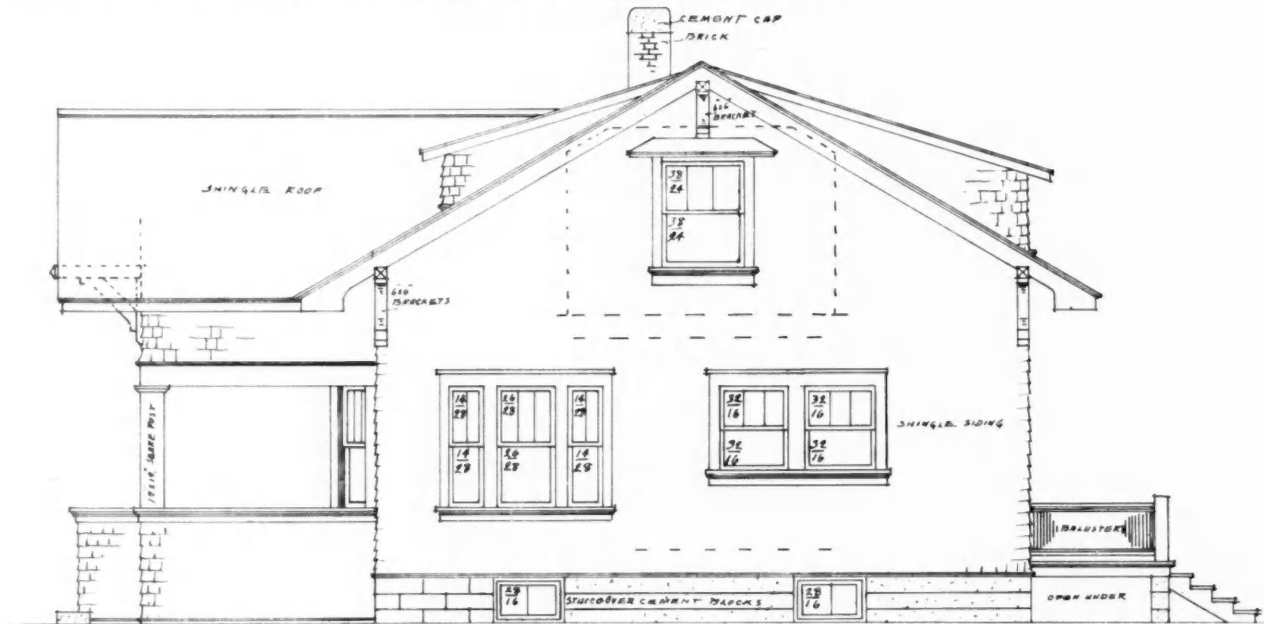


ROOF AND ATTIC PLAN

(House Shown on Page 51)

a refrigerator are an advantage, it is because of the low temperature, and in the case of a furnace the high temperature renders such spaces ineffective. Actual tests show that with a 9-inch fire-brick lining,

pieces down to one inch wide and one foot-long and find that they serve very well for the interior framework of bureaus, chiffoniers, sideboards and similar articles.



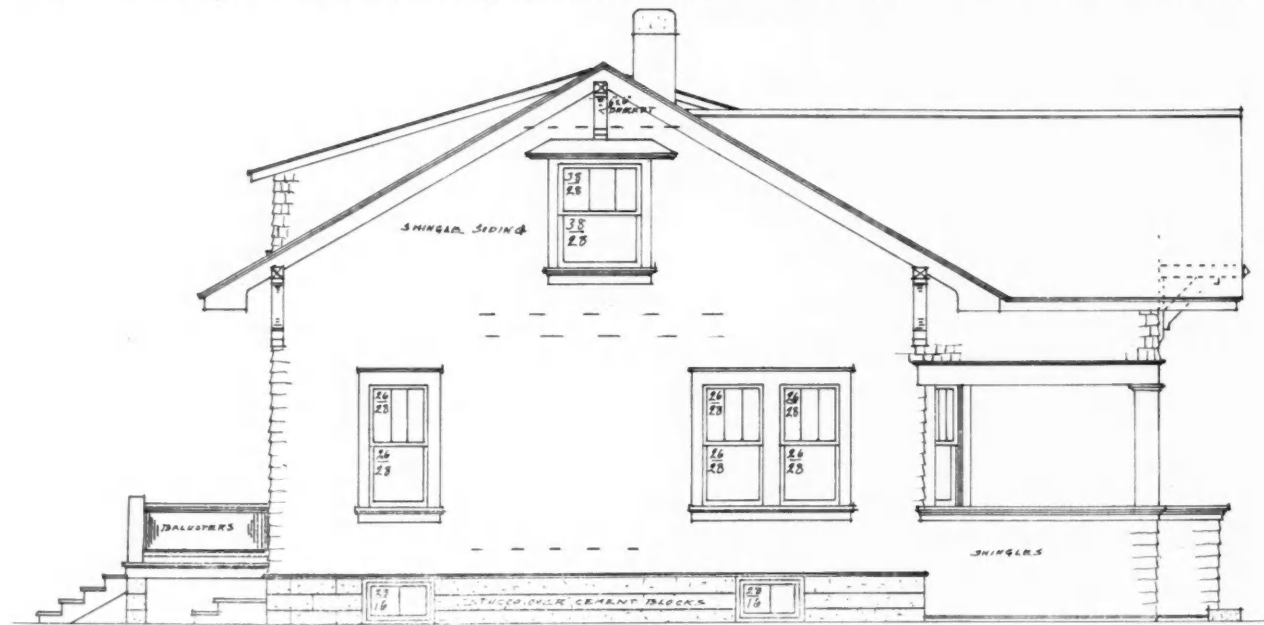
RIGHT SIDE ELEVATION

more heat is radiated across the air space than is conducted through the wall after the space is filled with common brick.

Wheelwrights save the ends cut from spokes and shape them in lathes for chisel, gimlet, auger and other small tool handles. Wagon builders occasionally make use of scraps of hardwoods for lining brake blocks. Sash and blind makers save their scraps for the match factories, or if the pieces are large enough they are worked into corner blocks

**How Wood Scraps are Utilized**

In these days of high-priced lumber, the utilization of the small pieces of wood formerly considered



LEFT SIDE ELEVATION

(House Shown on Page 51)

of little or no value assumes considerable importance. *The Woodworker* gives a number of uses for these scraps.

Some furniture makers glue together small, clear rose blocks and balusters.

Coopers recut broken or defective staves of the larger sizes and make kegs or smaller vessels of them. Small headings are economically manufac-

Some furniture makers glue together small, clear





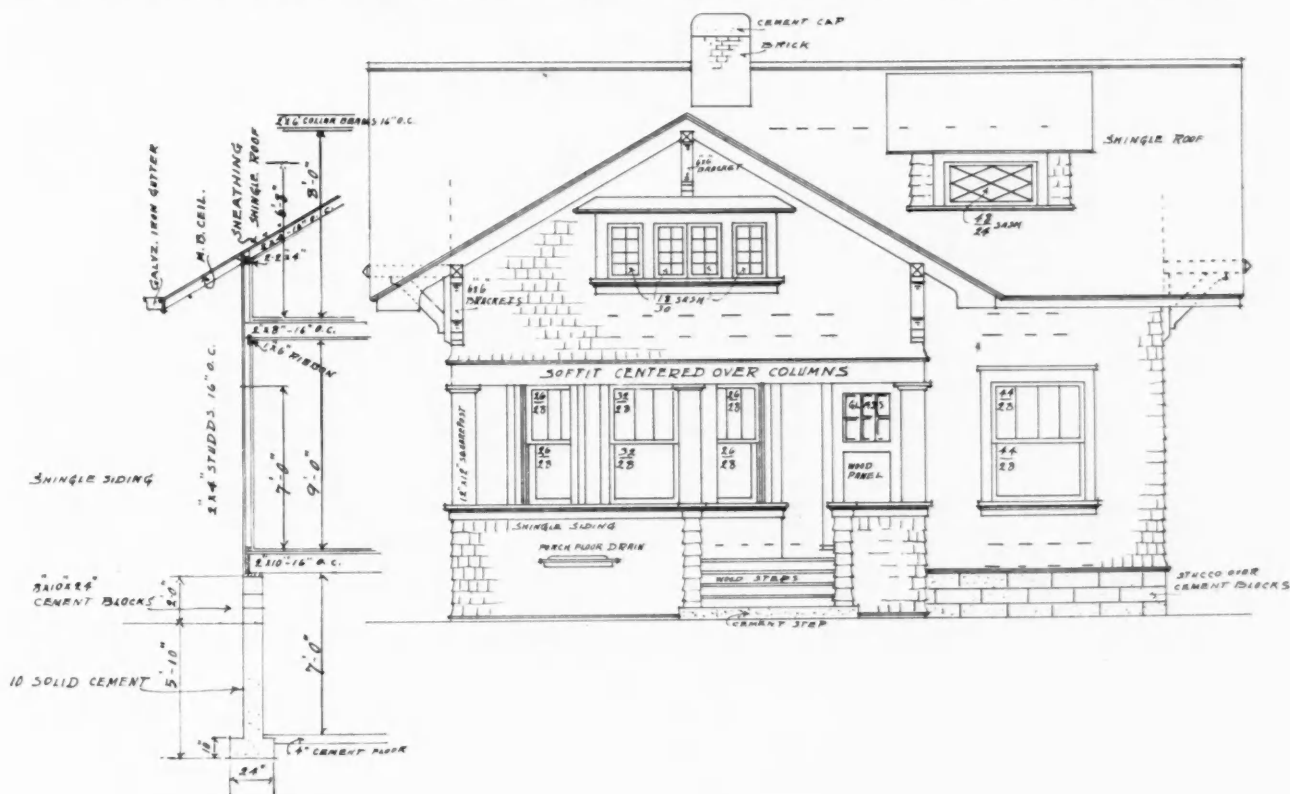
REAR ELEVATION

tured in that way. Occasionally defective staves and headings are made into dowels. Basketmakers save the cores from which veneer has been cut and saw them into thin slats for basket covers.

Brush manufacturers have made some headway in using waste from furniture factories, but the pieces are of so many sizes and of such irregular shapes that success has only been partial. A small porch chair shop has been able to draw a considerable

part of its raw material from the waste of boat factories.

Some of the makers on interior finish, work their odds and ends of softwoods into small boxes and the hardwood scraps are made into parquet flooring. Planing mills work scraps and broken pieces, unsalable in that form, into boxes for apples, medicines and other articles, and into brackets, balusters, rose blocks and small quarter-round moulding.



SECTION

FRONT ELEVATION

(House Shown on Page 51)

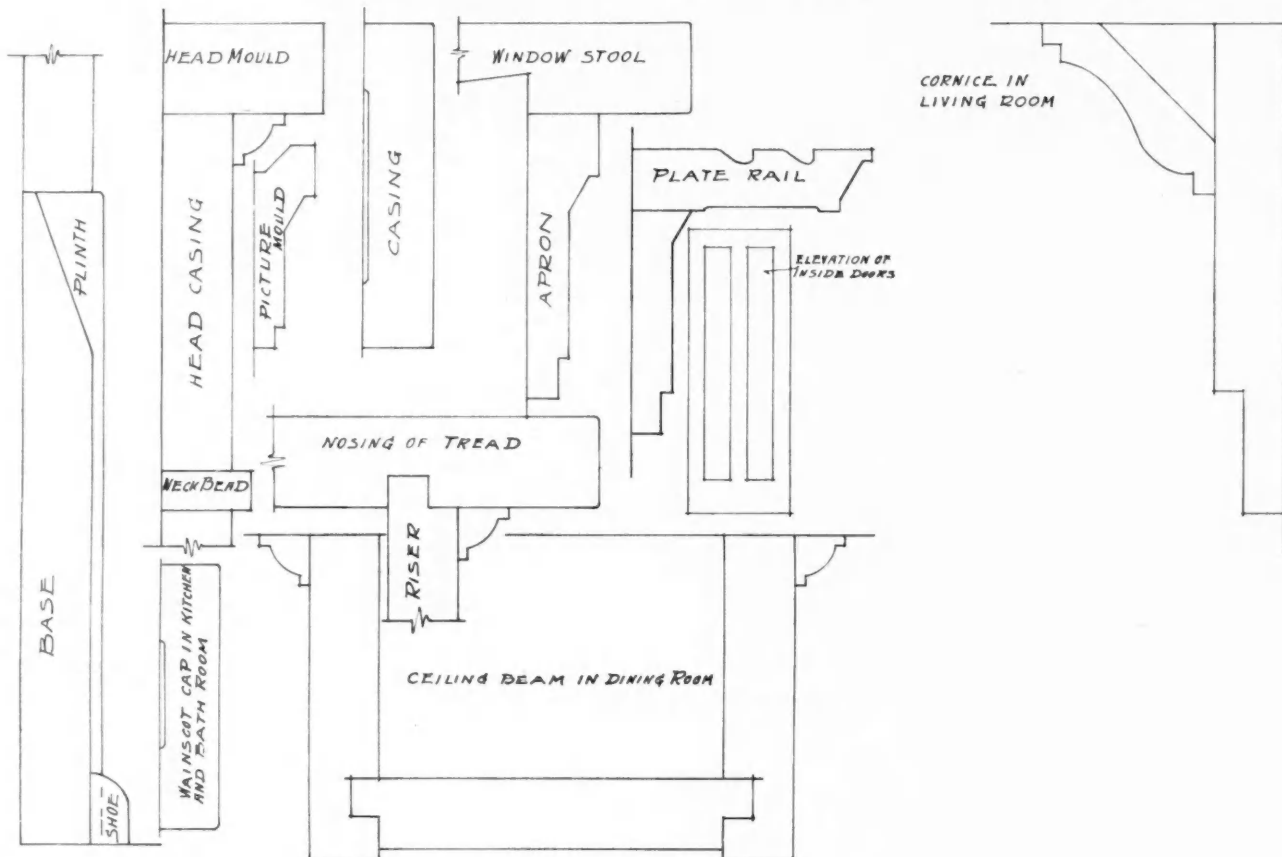
**Many Uses for Slate**

For many years, roofing slate was the only product of the American Slate quarries. The utilizing of slate for other purposes than roofing was a matter of slow growth.

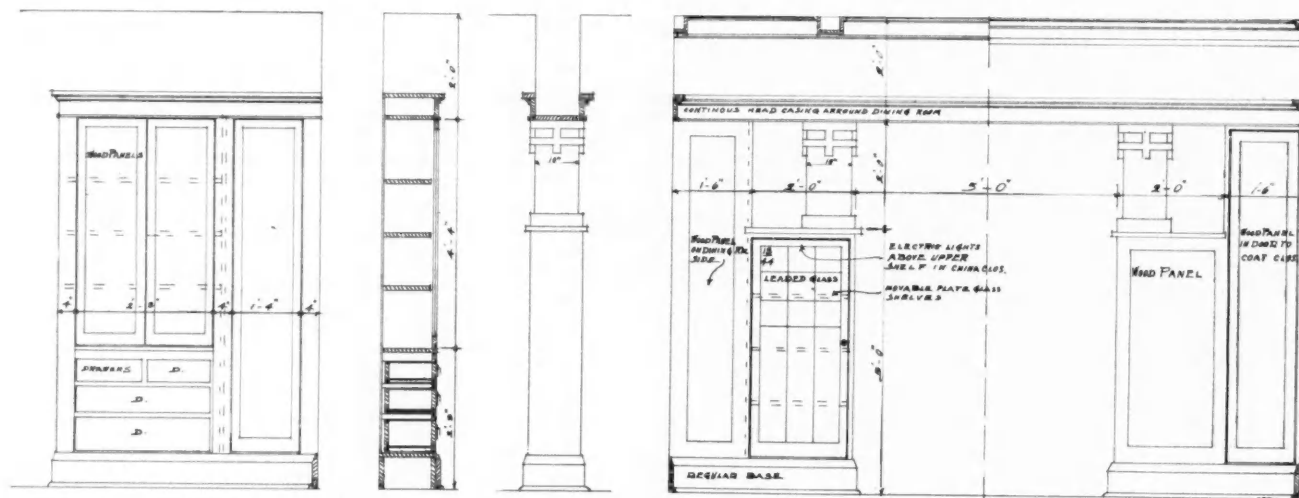
One of the early articles of utility made of slate was what was commonly called a butter board, but more strictly a butter slate. It was simply a large sheet of slate, trimmed by hand and smoothed with a fore plane. They were made by the workmen outside of working hours and sold for a trifle to the farmers'

wives and upon them, they worked and salted their butter. Then slate-lined boxes for marketing butter were made in a small way and other articles added to the list from time to time until now in some of the slate districts this branch of the industry is about as important as the making of roofing slate.

Probably not less than a thousand different varieties of useful articles are made of slate, among which may be mentioned table tops, laundry and kitchen tubs and sinks, tanks of all kinds, counter tops, blackboards, mantels, wainscoting, electrical goods, etc.



DETAILS OF INSIDE TRIM.



ELEV. AND SECTION OF KITCHEN CUPBOARD

**DETAILS OF INTERIOR FINISH**

(House Shown on Page 51)



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

### Be Sure to Sign Your Name

Recently we have received a number of letters from subscribers asking for information to be published in these columns, the letters coming to us anonymously, no name being signed.

We regret to state that we cannot give space to communications of this kind. It is necessary that you sign your name so that we may know whom we are dealing with. However, we will not publish your name if you request us not to.

EDITOR.

### Fast Shingling

To the Editor: Novinger, Mo.

In your September number I notice you say the "straight edge" way of laying shingles has given way to the line and gauge. Now, I am well aware that what I have to say about shingling will call down the wrath of the "old heads" upon me. Nevertheless it's the truth; so here goes:

When I first began working under the instructions of my father, who was a very good carpenter in his day, I used the chalk and line, laying two and three courses at a time.

Then I tried the gauge, finally coming to the straight edge, though I was very much prejudiced at first.

Now my partner and I, on any large plain roof, lay and nail from one to one and a half thousand an hour, he laying and I nailing.

We always use a lap siding, gauged to what shingles are to show.

C. E. OTTO.

### Florida Readers, Attention

To the Editor: Lawrence, Mass.

In writing to you, I would like to write as well to the many fellow carpenters, readers of your helpful paper, THE AMERICAN CARPENTER AND BUILDER.

I wish to say that I received your book, "Details of Building Construction," and am very much pleased with same. This book, with the "Cyclopedia," "Framing," the "Radford Library," with its two volumes on the "Steel Square," with a few others, make quite a mine of information for me.

I would advise those who as yet have not purchased this "Radford's Cyclopedia of Construction" to do so, because you may get up against some kind of work that you don't know much about; and it's "kind o' nice" when at home to look it up—sitting in your easy chair with no one to disturb you, thinking it all out. Then in the morning you can go and tell the "boss" all about it, feeling you are sure about it. There is nothing like "being certain" of things pertaining to construction.

Some times in following my vocation as a carpenter, I have to do some work that, apart from the cyclopedia, would be in doubt as to its exact form of construction. So I just say

to myself, "I'll let this go till tomorrow; and I will look it up in the 'Cyclopedia' when I get home. That is better than asking the boss."

I would like to ask the readers in Florida (if there be any) for some information of that country regarding work. Is there plenty of it? Do they work steady the year round? What money do they make a day? What length is the day? I would be highly pleased to hear through the correspondence columns from any one there or who knows.

JOHN HOLLIDAY.

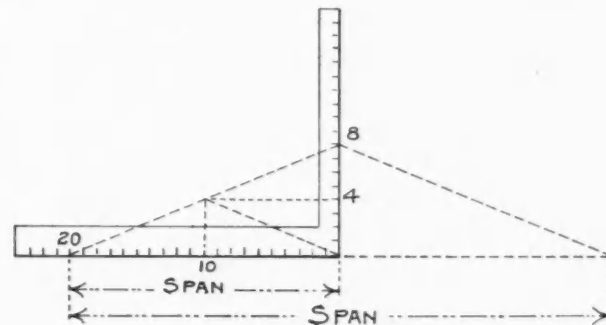
### Wants to Know the Pitch

To the Editor: Graf, Nebr.

I have only lately become a subscriber to your valuable paper and am asking my first question. I have a building 20 feet wide, 14 feet high on one side and 6 feet high on the other. What is the pitch and what is the cut on the rafter?

FRANK RUBRICK.

Answer: At first sight, this seems a simple question, and it is but nevertheless, it is a sticker to some fellows that think they are hard to stick. To begin with, this is simply a



Rafter Cuts for Lean-to Roof

lean-to or shed roof, the pitch being all one way, and the question is,—What is the pitch? Now, if one side is 14 and the other 6 feet high, there is a difference of 8 feet in their heights and this difference represents the rise of the roof in its width. Then 20 and 8 as shown on the square, will give the seat and plumb cuts. That is easy enough of course, but what is the pitch in proportion to the full pitch? The run and span in cases of this kind are equal but in reality it represents only one-half of a roof. In other words, if the run is 20, span must be 40 and the rise being 8, the pitch must be that proportion of 40, which is equal to  $1/5$ .—Answer.

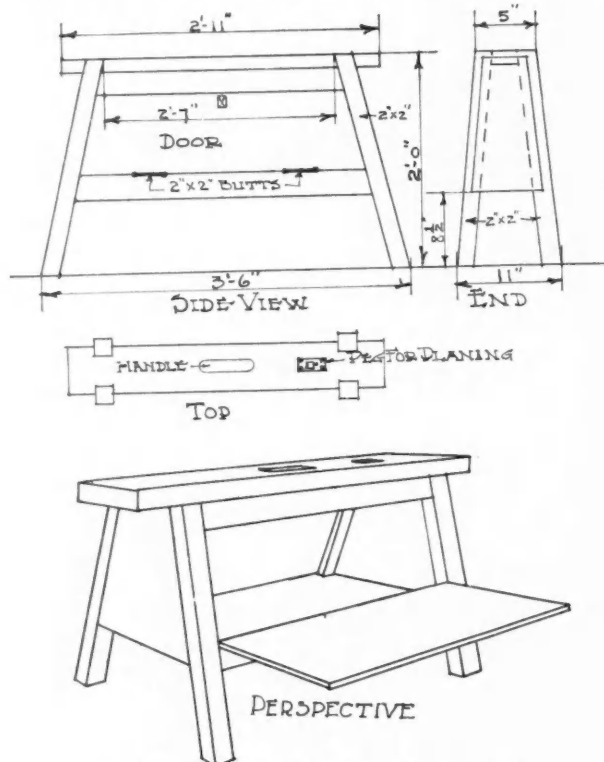
Or let us take it another way. Say the span is 20, then the run must be one-half of the span which would be at 10 and by squaring up to the diagonal line, would intersect it at 4 above the starting point and would represent the rise and would be to the span as 4 is to 20 or  $1/5$  pitch.—Answer.

A. W. WOODS.



**Combined Chest and Horse**

To the Editor: New York, N. Y.  
 I have thought out a plan for carpenters which will no doubt help them a great deal.  
 Instead of carrying a horse and tools separately, thereby



Horse Is Both Tool Chest and Bench

causing much inconvenience, a combination horse and tool chest may be made very easily by following this diagram very carefully. A vise may be attached to one end if necessary.

BERNARD FATA.

**Side Cuts Under Different Conditions**

To the Editor: Rochester, Minn.  
 In an article on pages 52 and 53 of your May number, there is given a rule for marking the side bevel on a hip rafter. As it is not customary in this section to back off a hip, it would greatly interest me to have the author of the rule state whether it is intended to apply to an unbacked hip; an ordinary 2x6 timber say. To state my request definitely—what figures on the square should be used to mark the side bevel on a rectangular hip rafter for a roof pitch of nine inches rise to one foot? If not presuming too much on the courtesy of yourselves and Mr. Woods, his answer would very much oblige.

JOHN PARKHILL.

Answer. The article referred to is one of the best we have ever written, because the rules there given are general and therefore apply to any shaped corner the building may have, but we neglected to state that the treatment referred to the unbacked hip. It is true not many hips are backed now days, and surely not as many as should be. And furthermore, the foreman that takes much pride in his work will do it every time. It is a fact that but very few understand the points involved in roof framing in connection with the backing of the hip. These may be summed up as follows:

- First. The measurement line of the hip is along the center of its back.
- Second. If the rafter is not backed, then the measurement line is clear off of the rafter—up in the air, so to speak.
- Third. Then how are you going to get the rafters true length, and how do you know where to place the square to

get the proper depth of the seat cut, also for the side cut without thoroughly understanding the deductions or additions to make, caused by whether the hip is backed or unbacked?

These are questions that are up to the man with the square to solve if he strives for perfection.

To be able to cut all of the rafters for a hip and valley roof, and to be sure of a perfect fit before setting them up in place, it is necessary that these questions should be mastered. Too many go by the rule o'thumb method (cut and try). If they happen to cut the rafter a little short, or the seat cut a little low, why they just slip a block or a shingle under the seat or upper end, as the case may be, and let it go at that, never realizing why or how the mistake occurred.

Now, coming down to Mr. Parkhill's direct question of what are the figures to use on the square for the side cut of the hip on a rectangular building for a roof pitch of 9 inches to the foot. To begin with, a 9-inch rise is equal to 3/8 pitch. 12 and 9 will give the seat, also plumb cut for the common rafter. 12 and 15 will give the side cut of the jack. The side of the square on which 15 is taken, giving the side cut of the hip, provided it has been backed and the square placed on the backing plane. These figures also give the cut across the face of the roof boards to fit into the valley or over the hip; the 12 side giving the cut. 17 and 9 will give the seat, also the plumb cut of the hip or valley. 17 and 19 1/4 will give the angle for the side cut across the back of the unbacked hip. The side of the square on which the latter is taken giving the cut.

NOTE: 12 and 17 are used on the square to represent the run for the common rafter and hip respectively. They are also used on one member of the square for the side cut of the jack and hip, but it must be remembered they are not used because they represent their respective runs, but because they are in the case of the square corner or rectangular building equal to their runs and that is the reason why the same figure answer for one of the parts to take to obtain the side cuts of the jack and hip rafter. The parts that should be taken to answer for any shaped building is fully explained and illustrated in the article referred to in the question.

A. W. WOODS.

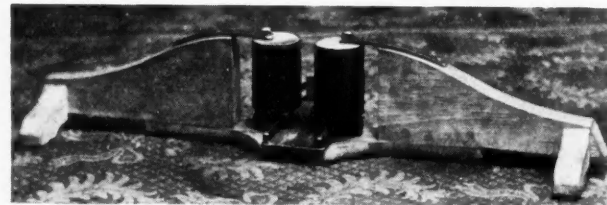
**Wanted—A Fancy Bird Box**

To the Editor: Ivyland, Pa.  
 I want to build a fancy bird-box, and would like to see some ideas for a job of this sort. If any of the Brothers have drawings or photos, will they kindly show them in these columns.

EDWARD RAMSEY.

**Adjustable Door Vise**

To the Editor: Lone Rock, Iowa.  
 I know that many of the Brother Carpenters will be interested in the adjustable door vise and holder which I invented, with the help of George C. Pettit, and had patented about a year ago. The vise is shown in the accompanying photo-



graph. The rollers are pivoted eccentrally so that any width doors from 1 1/8 to 3 1/2 inches can be firmly held without any change other than putting the door in and giving it a slight push until the rollers grip and hold it fast.

W. T. KENNEDY.

**Praise for Vise Adjuster**

To the Editor: Milton, Oregon.  
My October number at hand. Glad to have it arrive, for it is of interest to me.

I see, on page 59, a drawing showing a "Handy Vise Adjuster," and note what the writer says regarding there being no patent on it, and that it has been in use for 15 years.

Well, I guess it has. I have used one for 11 years myself, and I got the pattern from a Norwegian who died 8 years ago, an old man. He said he got the idea in Arkansas 50 years before—making about 60 or 61 years that I have knowledge of its use.

I have furnished a number of them to other woodworkers, and would not take \$25.00 for mine if I could not get another.  
D. W. OLINGER.



**How to Square up Foundations**

To the Editor: Wyoming, Iowa,  
I have been enjoying very much the AMERICAN CARPENTER AND BUILDER. I find it a great help to me in my work.

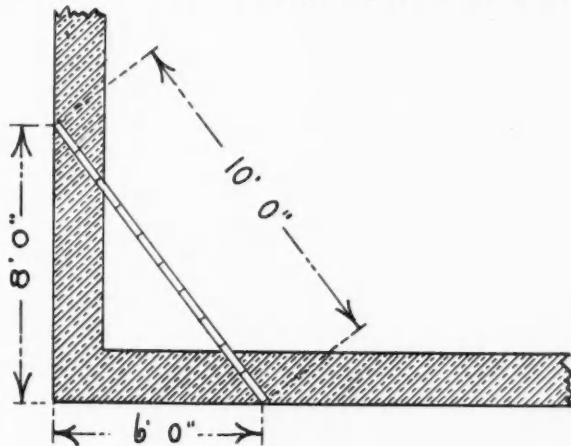


FIG. 1.

The other day, the boss and the man we are now working for, had an argument about the most accurate way of laying out and squaring up a wall. I would like very much if you would be so kind as to answer this question in the next number of the magazine.  
G. D. BUSCH.

Answer. The 6, 8 and 10 rule is absolutely correct and when these measurements are accurately laid off, as shown in Fig. 1, you can rest assured that the corner will be square beyond a doubt, but it all depends on the accuracy of the measurements. This is a very simple rule and may be accomplished with a 10 foot pole as follows:

Measure off 6 feet from the corner on one side and 8 feet on the other, then lay the pole diagonally across the

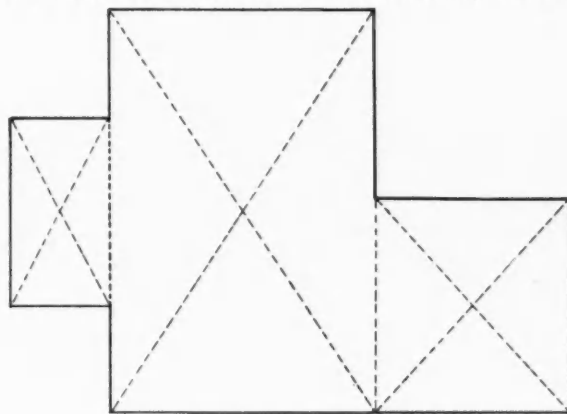


FIG. 2.

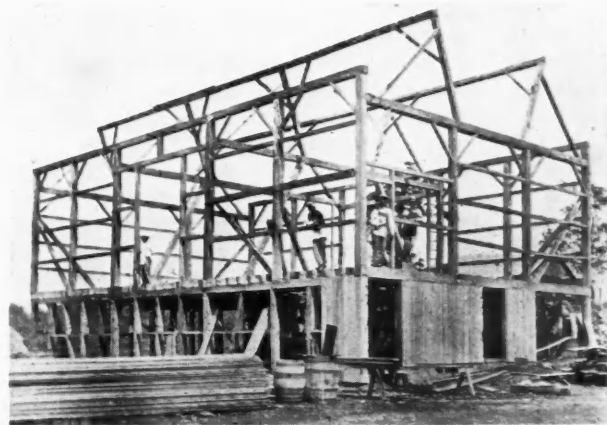
corner from one measurement to the other and if the ends of the pole exactly touch these points, then the corner is square and that is all there is to it.

Another way of proving up, is to measure diagonally across the foundation from one corner to the other, or from points that should form a square or parallelogram, and if these measurements tally, then the foundation is square, but we repeat that it all depends upon the fellow that does the measuring. By the latter method, it is better to take the measurements with a steel tape. Of the two methods, take your choice.  
A. W. WOODS.



**Bank-Barn in Ohio**

To the Editor: Ashland, Ohio.  
Enclosed you will find photograph of a bank-barn that I built this summer. The barn is 36 by 56 feet, with 16-foot posts, basement, 8 feet. Would like to have it put in AMERICAN



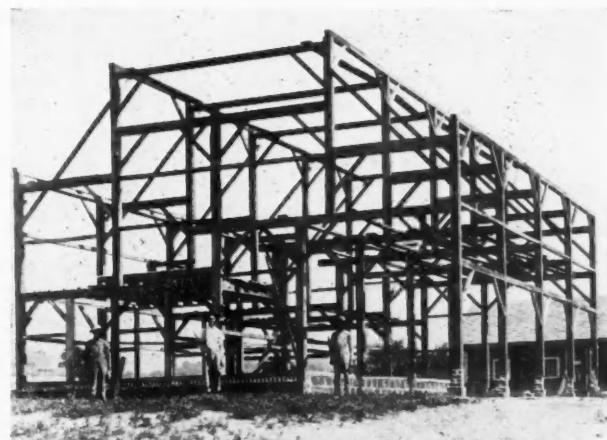
CARPENTER AND BUILDER to show the brother carpenters how we build barns in Ohio. I am a subscriber to the AMERICAN CARPENTER AND BUILDER and like the paper very much.

J. W. STONER.



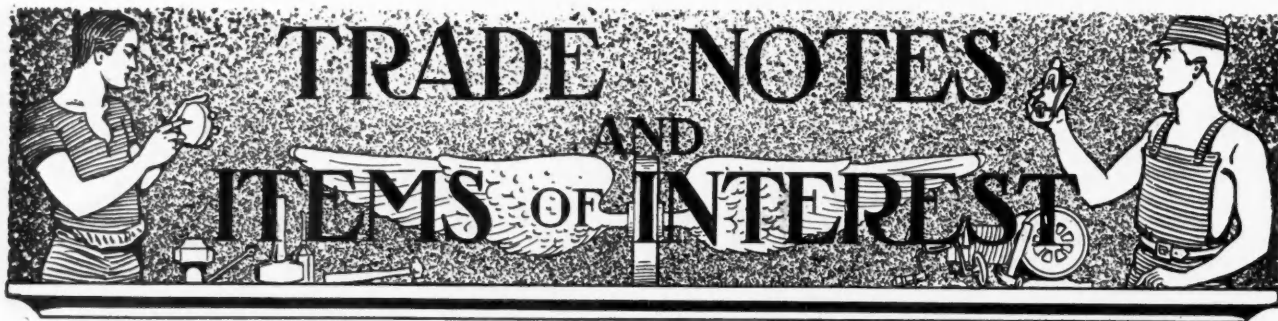
**A Barn Builder**

To the Editor: Athens, Ohio.  
Find enclosed \$2.00 for year's subscription; also a picture of a barn frame which I have just raised. You will find me the middle one of the three. I am building three barns for Geo. Y. Tedrow. Mr. Tedrow is a stock raiser at Guys-



ville, Ohio. This one is 40 by 48 by 18 feet high and the next one, just ready to raise, is 54 by 108 feet, and the other will be 62 by 84 feet.

Wishing the AMERICAN CARPENTER AND BUILDER good luck.  
GEO. C. BOLES.



### A Painter's Proved Recipes

The following are some tried and tested recipes in use by a Pennsylvania painter and contributed by him to that helpful little publication, *Brush and Pail*.

**To Frost Glass.**—Make a liquid of epsom salts and beer and give a light coat of Damar Varnish. By putting tube colors in varnish makes a very beautiful effect. This is for inside.

**Frosting Glass Outside.**—Take zinc white and 2-3 boiled oil, 1-3 turpentine and apply to glass with brush, rubbing out well. Take fine grained muslin cloth and dampen, place inside a wad of cotton and pounce all over to take out brush marks.

**To Wash Painted Wall.**—This is a fine recipe. It is best to have two men, one to follow the other. A stretch of four or five feet should only be done at one time. This should be dampened with clean water, using a sponge for the purpose, following up with a suds made of castile soap dissolved in water. After the dirt is softened by this means, scrub with a solution made as follows: 1 lb. castile soap shaved fine, 2 lbs. whiting, and ½ gal. water. Boil soap and water together, and then stir in whiting. When cold, dip kalsomine brush in mixture and scrub. Don't scrub hard; just enough to remove dirt. Then sponge off with clean water and wipe down with wet chamois wrung dry. Don't use too much water to run down and streak walls. Change water often and start at bottom and work up.

**Paint for Smoke Stacks.**—Take thin coal tar mixed with finely ground plumbago. Mix to consistency of paint.

### A Projectile as a Satellite

Flammarion, the French astronomer and scientist, commenting on the increasing size of big guns, says that a muzzle

velocity of 26,000 feet, or 5 miles, per second would be sufficient to enable a projectile to overcome the earth's gravity enough to send it revolving around the world forever as a satellite having a 1-hour 20-minute orbit.

It is suggested that such a projectile satellite, making a complete revolution around the world once every 80 minutes, would provide a useful world's time-keeper, or a monument to the world's peace. The muzzle velocity of the 12-in. guns of our navy is about 2,400 feet per second.—*Pop Mechanics*.



Flammarion Says a Muzzle Velocity of 26,000 Ft. per Second Would be Sufficient to Enable a Projectile to Overcome the Earth's Gravity Enough to Become a Satellite

### The Romance of the Fir Tree

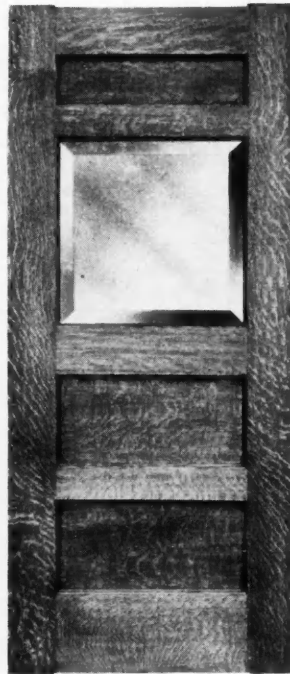
For many years the great forests of fir in Washington and Oregon were the wonder of tourists and homeseekers, and they have always asked, "What is the fir tree good for, anyway?"

They were repeatedly told until recently that on account of its strength and durability it was used in docks, railroad construction and building frames. No one had yet discovered that it was particularly adapted for interior finishing.

As a result there was little demand for fir, and the great primeval forests of this species still stand practically intact.

But in the year 1902 several men made experiments with this timber, sawing and selecting it with great care. They discovered that the beauty of its grain, and its general artistic appearance was not fully appreciated.

They came to the unanimous conclusion that beautiful and elegant doors could be made from fir, and so they organized the Chehalis Fir Door Company, located at Chehalis, Wash.



A Chehalis Fir Door

At that time the market value of the timber was low, and the quantity was unlimited. The Chehalis Fir Door Company saw that, with such large supplies of raw materials and at such low value, they could make a door for an artistic and richly equipped home, at a very reasonable price. They also discovered that the wood could be stained to match mahogany, oak or any other hardwood, and that the difference could only be discovered by a close examination of the grain.

This looked like a good proposition, so they proceeded to purchase extensive fir timber areas in the Puget Sound country, that consisted exclusively of old growth yellow fir of exceptional quality. It is known to the trade as Douglas Fir.

The Chehalis Company began to make fir doors, and in one year they had won an enviable position in the door market. But they weren't satisfied with just making a good start. They labored incessantly to improve the door, and now they make as nearly perfect a door as it is possible to make.

Their present output is enormous, and it will continue to be so, because their fir door is giving wonderful satisfaction, and is now being used in the best homes and public buildings in the United States.



## Inside the Home

IMPRESSIVE INTERIORS AND HOW TO SECURE THEM  
By W. H. Price

You can judge a building by its walls and ceilings.

When I go into a house and find the walls and ceilings cracked and marred here and there, that house seems to me empty. It is like a mere shell, beautiful, perhaps, on the exterior, but hollow within—a soul is lacking.

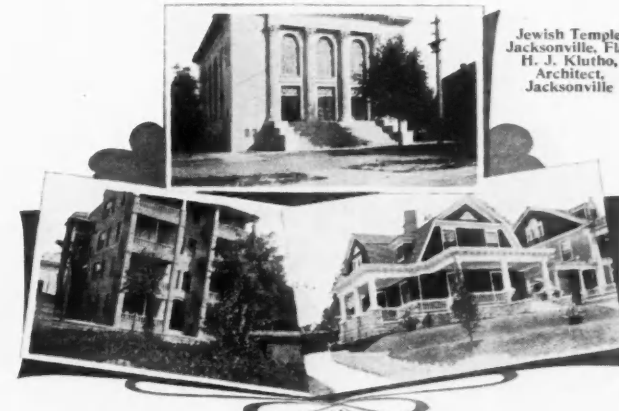
The furnishings may be costly and ample and the rooms commodious, but if the walls and ceilings do not wear a cheerful or unmarred expression, how can we call such a place a home. It is simply a residence. Yet there are many homes like this and many of the occupants seem content with them simply because they have been led to expect such defects as common to building construction.

The very presence of plaster cracks, spoiled decorations, "pops," stains, etc., suggests a lack of regard and appreciation for quality and refinement. Perfect walls and ceilings are eloquent—they tell us of character, taste, durability—the appearance of culture.

The use of gypsum plaster in place of lime plaster during the last quarter of a century has made a tremendous stride in the direction of proper interior wall construction. The unsatisfactory results obtained from the use of lime mortar demanded something better, which was found in gypsum plaster.



Hotel Owyhee, Boise, Idaho  
J. E. Tourtellotte & Co., Architects



Jewish Temple  
Jacksonville, Fla.  
H. J. Klutho,  
Architect,  
Jacksonville

Bowie Apartments  
Jacksonville, Fla.

Residence of  
F. A. Weston, Greensboro, N. C.  
F. A. Weston, Architect

A Group of Buildings Lathed with Sackett Plaster Board and Plastered throughout with U. S. Gypsum Wall Plaster

Now, we know that most plastering troubles come not from the plaster, but from the plastering surface. No plaster, no matter how good, will hold up if it covers a swelling or buckling lath. Wood will swell, nails will pull and cracks and marred walls are a natural consequence.

For some time the world has been needing a new lathing material—something that would enable the builder to get away from the defects of wood lath. Something had to be done. Various substitutes were evolved—wire lath, metal lath, etc., with varying degrees of success, but all of these were substitutes rather than improvements. When we change we must improve.

The lathing problem is now said to be solved and the material unquestionably entitled to the "blue ribbon" is Sackett Plaster Board.

Sackett Plaster Board is not exactly a new material, as it has been on the market for several years, and for many years the sale of Sackett Plaster Board was confined largely to the eastern states. It is a new material in the sense that its real merits are not generally known, the process of introduction having been slow, as is generally

the case with any innovation, due largely to that element of human nature that seems to make many of us prejudiced in favor of old methods until our next door neighbor shows us how unprogressive we are by his adoption of better methods. This is not finding fault with the fellow from "Joplin"—it is all right to be from "Missouri," but it is also an undisputed fact that the fellow who never investigates never knows. It is generally the progressive spirit that wins real success.

Sackett Plaster Boards are made in solid sheets 32x36 inches and about the thickness of ordinary wood lath. They are nailed directly to lathing surfaces. Where wood studs are used, the plaster board completely covers the wood, protecting it from fire and affords a perfect plastering surface in addition to being the best lathing material.

Gypsum either in Sackett Plaster Board or in the plaster coat absolutely does not contract, expand or buckle. There is nothing in the material to stain, rust or decay, and it has proven by actual performance that it possesses the inherent qualities essential to perfect interior wall construction.

Sackett Plaster Board is composed of alternate layers of calcined gypsum and asbestic felt and is nailed direct to the studding, furring or joists and presents a true and substantial surface for the plaster coat. In applying the

joints are broken every other board which is done by starting every other tier with a half board and a space of not less than a quarter inch is left on all sides. This space is filled with base coat plaster before the plaster base coat is applied, which produces perfect coalescence or cementing together of the plaster boards, thus forming a homogeneous sheet or continuous wall for the base coat. The base coat of plaster is applied to the dry plaster boards and the natural affinity between the gypsum in the Plaster Boards and in the plaster coat effects a perfect indestructible bond, producing a solid wall of gypsum.

Sackett Plaster Board adapts itself to any job, large or small. Its advantages are as manifest in the modest cottage as they are in the eighty-family apartment house. There is no building where lathing is used where construction cannot be bettered through its use, and its universal use as a lathing material will materially reduce the present shameful fire waste of the country.

This material is rapidly coming into general use. People use it in the North, the East, the South and the West and those who know its value and understand its use are Sackett Plaster Board enthusiasts.

### Sharp Rotary Ash Receiving System

It is apparent to all users of house-heating furnaces that the present method of caring for the ashes by shoveling them from the ash-pit of the furnace into cans standing on the cellar floor, or piling them on the cellar bottom, is a very disagreeable and unsatisfactory method. In this process the air is filled with dust, finding its way to the living rooms above, and there settling on furniture and other furnishings.

Dr. Warren M. Sharp, 300 Park Ave., Binghamton, Pa., has invented means to correct these conditions, and the same is known as the Sharp Rotary Ash Receiving System.

This system of caring for ashes is for use in dwellings, factories, public buildings, apartment houses, churches, school buildings, stores, libraries, and institutions of every description where boilers and furnaces are used.

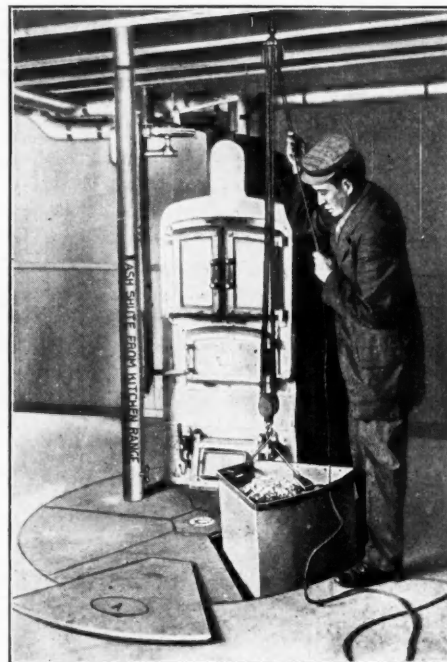
A circular pit is excavated in the cellar bottom in front of and projecting somewhat under the furnace. This is lined with cement to receive a series of specially constructed galvanized iron cans of the capacity of the ordinary ash can, arranged to revolve on a central perpendicular shaft, by means of a lever in such a manner as to bring one can at a time directly beneath the ash-pit of the furnace. The whole device is covered by stationary top plates on a level with the basement floor, provision being made to receive the ashes, etc., through an opening in the floor of the furnace ash-pit. One of the floor plates being removable, permits of the cans being lifted out when filled.

A full description with instructions for installing accompanies each outfit when sent out. The process is simple, being in brief as follows, taking the case for an Outfit No. 1 (8 can iron top finish). Where boiler or furnace is already in position: Measure outward 20 inches from inside of iron plate under ash pit door, with this point as a center, scribe a circle with a radius of 32 inches. Excavate at this line a circular pit to a depth of 32 inches. This pit will of course extend somewhat under the heater.

If the ash pit of the heater has an iron floor, an opening must now be cut through it to correspond to the opening in the cover plate. This opening should be about 5 by 7 inches, or of the same size as the hole in the cover plate, and should be located just inside, close to the door frame. After this opening has been made the steel lining forms should be assembled in the pit. Bolt this together firmly and use pieces of brick or stone under each joint of the form for it to rest

upon, and hold it to its proper height, which should be  $\frac{3}{4}$  inch below the bottom of the heater. The form should be adjusted to a perfect circle, made level, and directly in front of the heater.

If the pit has been excavated according to measurements



Ash Cans Easily Removed with Block and Tackle. Sharp System. Note also Ash Chute from Kitchen Range, which can Easily be Put in

given, there will be space of from 3 to 4 inches between the sides of the form and the wall of the pit.

Now seat a good size flat stone in the earth at the center of the pit, so that the top of it will be about 31 inches from the top level of the steel form. Place the center pivot casting on this stone and set the assembled standard upon it. Now proceed to place in position and bolt together the top plates. The plate with the large opening is to go directly under the furnace.

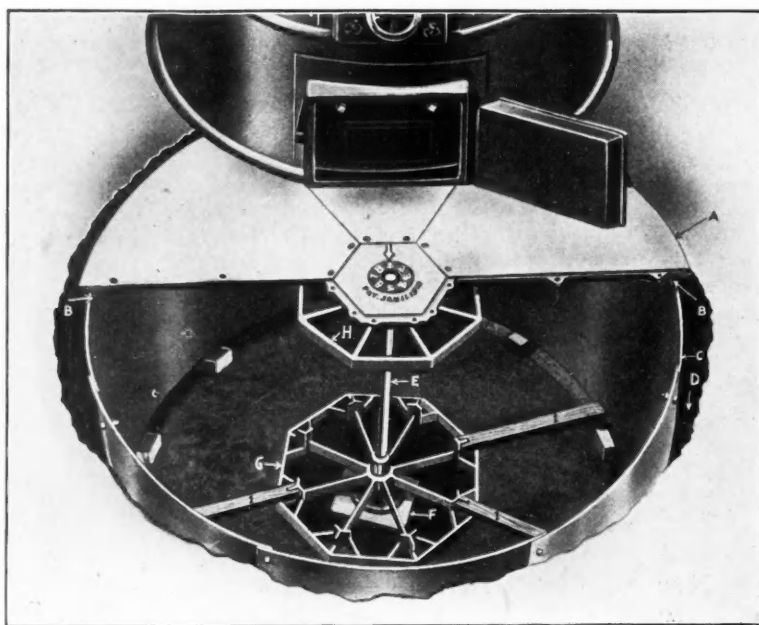
To maintain the circle of the form at the bottom during the process of filling in the concrete between the steel shell and the excavation wall, use the short boards sent with the outfit by placing them endwise between the inside of the form and the recesses on the lower spider.

The shaft "E" must be absolutely plumb. In order to plumb the shaft the iron step may have to be shifted slightly. The spiders and shaft should be made to turn freely.

There must be the same distance between the shaft and the wall of the steel form on all sides.

The stone may have to be raised or lowered so that the entire iron top will be level with the floor of the basement or with the bottom of the heater.

When all this has been done the concrete should be mixed and slushed between the form and the earth "D." Great care must be used to get this concrete well into this space and under the projecting edge of the iron plates and the top finished off flush with the iron. Do not allow too much concrete to come into the pit under the iron form; if it does, it may be smoothed away from the edge and over the bottom with a trowel. The iron step and the stone "F" should be so imbedded in cement that they cannot shift when the loaded cans are on. Do not permit the



Sharp Rotary Ash Receiver, Showing Steel Form and Shaft in Position

concrete floor to come within 2 inches of the bottom of the spider, as this space is left for the accumulation of dust, and if a chunk of coal should get down there, the spider could swing around without striking it.

A can should be directly under the opening in the ash pit, at the same time that a dial figure is squarely in front of the arrow.

Please remember that there are practically no conditions that will prevent the installation of this system.

In new buildings it is advisable, after the location of the furnace has been decided upon, to have the pit made at the time the basement is concreted, and all the work go along together. The furnace can then be placed in proper position over it when it is erected.

It will be a little more convenient to cut the opening in the floor plate of a hot-air furnace before setting it up.

It should be thoroughly understood that the Sharp Rotary Ash Receiving System may be installed at any time in either new or old houses before or after the furnace has been set up. If the furnace is in use it is not necessary to let the fire go out while installing. Neither does it make any difference whether the basement floor has been concreted or not.

The Sharp Rotary Ash Receiving System is not expensive, moreover, there is a special discount to builders, that readers of the AMERICAN CARPENTER AND BUILDER can get the advantage of. Write to W. M. Sharp, 500 Park Ave., Birmingham, N. Y., at once and investigate this.

### A Farmer's Lighting Experience

From that interesting little publication of the Davis Acetylene Co., Elkhart, Ind., called "Acetylene," we note the following interesting item reproduced from the *Northwestern Agriculturist* of September 10—a contribution from a farmer correspondent:

"We have a two-story house and a little over a year ago installed an acetylene light system. This gives a very bright light and I believe it much better to read by than electricity, gasoline or gas.

"Our plant is a 50-light machine. The machine works automatically; and whenever the gas is used to a certain level, a little more carbide is dropped into the water. (Note this carefully—the machine drops carbide into the water, not water into the carbide, as the latter kind of machine has proved a failure here.) Fifty pounds of carbide runs us three months in winter and four or five months in summer, and neither the machine nor the lights need any attention except when we have to refill the tank, so it is a great boon to the women folks who have had the task of cleaning coal oil lamps every day.

"We have twelve lights in the house and one on the porch. The latter is fine and when in use lights up the entire front yard almost as light as day. My strongest reason for putting in the lights was the fear that five boys might some time upset a lamp and cause a fire.

"Any handy farmer can install a plant if he has the tools for cutting pipe, but a man who makes a specialty of the business will do a better job (the pipes must be gas-tight), and it is advisable to employ such an one to do the work.

Our pipes are all hidden within the walls and the chandeliers and jets alone are visible. These may be simple or very elaborate according to your taste or pocketbook. These lights can easily be arranged to light with an electric spark—enclosed in a large globe—and when so arranged are superior to electricity for barns and outbuildings."

NOTE BY THE EDITOR.—Carbide cost the farmer 4 cents a pound. Those who wish to estimate the cost of the lights to him can readily do so as he gives the consumption of carbide.

The Davis Acetylene Co., Elkhart, Ind., make and sell the acetylene light system referred to. They will mail readers of the AMERICAN CARPENTER AND BUILDER complete information on request.

### Oak as Flooring Material

Vitruvius was an architect of Rome a few years before the beginning of the Christian era. He published a book about B. C. 25 which bears his name. It is considered the oldest book on the architecture of antiquity that is known. In this book there is a mention of sawed timber, and it is likely that planks or boards were sawed, perhaps with hand saws similar to the "pit saws" of our grandfathers. Vitruvius writes that oak boards were used for floors, and recommends that each board should be nailed with two iron nails to every joist. This sound very much like our own modern specifications, inasmuch as there is a special oak floor at the present time made with holes bored through the face for nailing.

Oak has always been taken as an example of strength and endurance from the very beginning of civilization. The oldest hewn wood in existence today is from the oak. No other kind of wood would have stood this supreme test of time. It is not alone the age that oak attains that always made it renowned, but its lasting qualities and strength when put into use for any purpose. It is considered by authorities on wood and interior decorations, as the best for all flooring purposes, and combines beauty, distinction and durability. It is a wood



Farm Residence of Mr. Theodore Hartsell, Eau Claire, Mich., Lighted by Davis Acetylene Lighting Plant. More than 300 other farm homes within a radius of 30 miles of this home are equipped with Davis lighting outfits.

that will harmonize with any kind of interior trim, furniture or color decoration and will do more to tone up a home than any flooring that is made. The extensive use of oak flooring in all kinds of structure, emphasizes the fact that architects and owners recognize the artistic and durable qualities of oak.



## The Art of Making Steel Ceilings

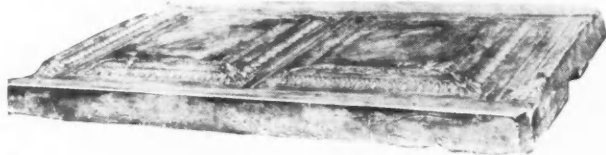
By G. P. Blackiston

To keep pace with the progress of the times in beautiful and distinctive architecture and interior decorations, the manufacturers of steel ceilings are making giant strides that are aiding materially in securing the magnificent effects in hotels, apartment houses, public buildings, dwellings and other structures of various kinds.

The manufacture of steel ceilings is most interesting and a trip through one of the largest and most important plants of this character in the country—The Berger Manufacturing Company, of Canton, O., is productive of much that is new and instructive. There can be seen the entire process that transforms the raw material into the artistic panels, scrolls and patterns of wonderful design, which, when properly assembled, make the beautiful metal ceilings.

In the manufacture of steel ceilings the quality of the steel used is a very important item and yet is one which is frequently overlooked by the purchaser. If the steel is brittle or unmalleable the fibres become strained or ruptured when subject to the force and pressure necessary to produce the clear cut impressions that are essential to classic effects. The rupture of the steel fibres in stamping means that the ceiling will be cracked and broken and both its beauty and usefulness marred.

The Berger Company's many years of experience in steel



Plaster of Paris Design from which are Cast the Metal Die Blocks. This Work is all Done by Hand

ceiling manufacture and their constant experimenting during that time to secure a perfectly pliable steel, have enabled them to turn out deeply embossed ceilings free from fracture. This result can be secured only by the use of the best quality of steel, and by care and skill in working it.

The best steel sheets being used as the basic material for the ceilings it is natural that the highest grade paint and most effective painting system are employed. The Berger ceiling plates are primed with a paint mixture of a light gray color, inclined to a white, called "ceilcoat." The mixture, as to ingredients, is the exclusive property of this company; and because of the grade of paint used and its manner of application there are no such defects as streaky priming.

The painting of the ceiling sheets—that is, factory prime coating—is done by the roll and brush painting process. All sheets are painted in the flat before being stamped to design.

The materials being high grade, the designing and other departments through which the sheet steel passes in its transformation from raw product to finished steel ceilings, maintain a similar standard of workmanship and thoroughness. Design is the base of steel ceiling formation, developed by the modeling artist on certain defined architectural lines to conform to the class intent and meet the contentive factors during process of manufacture.

In designing a ceiling, the modeling artist's first step is to sketch roughly with charcoal on full size detail paper the figurative outlines he proposes to follow in the formation of the design. The sketch is transferred to a slab of damp modeling clay, which is nothing more than ordinary brick-making clay moistened with enough glycerine to give it the consistency and tenacity of stiff putty. In this clay the artist moulds and models his design with great care and accuracy. The entire design is cut into the clay, every figure, line or scroll worked to a true square or radius, a true balance

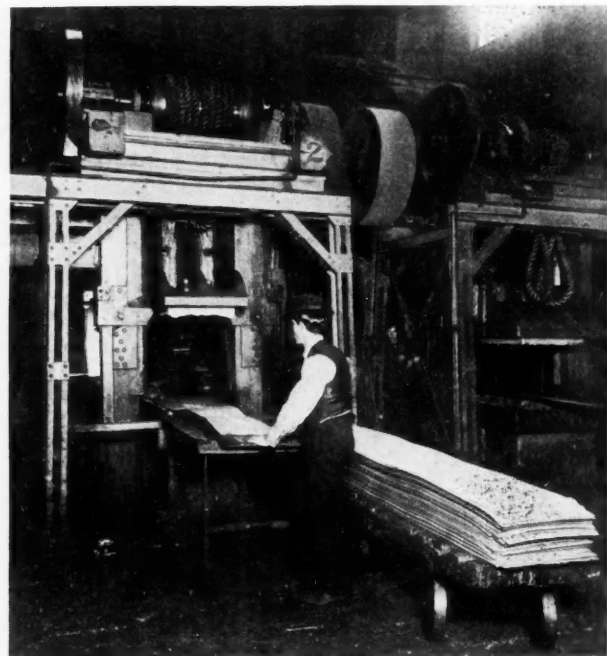


The Finished Product in Use

throughout being the aim. Special modeling tools, also the compass, spirit level and square, are used. Every line is worked true and distinct, with all the expression desired. Every depression carries with it a certain degree of draught, so that when the design is cast into a die it will smoothly work while operating in the presses.

When the modeling artist has completed his work on the clay cast, a plaster paris cast is taken from it, this being called a shell cast, and is just the anthesis of the clay cast. It is then necessary to take in plaster a cast of the shell cast, which is then a reproduction of the clay cast. Much careful attention is given this last cast by the modeler, every line and impression being gone over, trued, leveled and smoothed, after which it is given two coats of liquid shellac. It is now known as the plaster die, and is ready for casting into an iron die.

In this work care and judgment are imperative. The temperature of the molten iron and the temperature of the moulding room must be taken into consideration so that the cast will not cool too slowly or too fast. The first retards sufficient and necessary shrinkage and the second causes too much shrinkage and the iron cast must shrink to this allowance, otherwise it is a faulty die and must be cast over



One Type of Press for Stamping Sheets—By a Few Drops of the Hammer or Die the Designs are Produced

and over until the shrinkage is perfect.

The iron cast is then taken to the machine shop, where the beads and buttons are hand cut into it and the entire cast milled and smoothed. It is then known as an iron die and is ready for adjustment on the anvil base in the press. In shop term it is called a "female" or bottom die. The "male" or top die is cast on the press over the bottom die by pouring molten zinc of the necessary thickness over it. Having cooled, the top die is fastened and adjusted to the hammer head of the press and is ready to receive the operations of the steel sheets.

Either draw or drop hammer presses are used for stamping steel ceilings. As a rule stampings from a draw press are lacking in clearness on the center and inner portions of the plate, while on the drop hammer presses, as used by Berger's every portion of the plate receives the same forceful blow, so that it is raised and brought out distinctly and perfectly. The force of the blow is regulated by the operator in raising or lowering the drop of the hammer head and bringing the plate home and true to the die impressions.

The sheet steel then passes to the shearing department, where the edges of the plates are sheared over a templet, which guides the shearman in trimming perfectly and true. Every ceiling unit is sheared alike, making a complete and perfect member. Many manufacturers rely chiefly on the shearman's accuracy of eye, which accounts for uneven edges, some being sheared too far beyond the bead and others too high, making an imperfect bead joint.

Standard bead lap joint construction is used in the Berger steel ceilings. This is on the outer edges of the units, including field plates, borders, mouldings, cornices, and side ornamented fillers having a bead and button finish on one side. The bead is  $\frac{3}{8}$  of an inch wide and  $\frac{3}{16}$  of an inch deep, which permits a perfect fitting joint, whether on even or uneven surfaces. Larger beads buckle on uneven surfaces while smaller and shallowed beads have not enough material surface to satisfactorily cork the joints.

The connections or joints are formed by lapping the various ceiling units, bead fitting to bead. They are nailed to wood furrings or wood sheathings on the flat surfaces between the buttons and spacing beads. This system of nailing does not damage the buttons, but brings a tight drawing to the bead joints.

From a practical mechanical standpoint and considering efficiency and cost, the Berger type of construction is superior. The popularity of the steel ceilings results from the use of high class material, careful design and high grade construction.

### Pryibil Band Saw No. 7

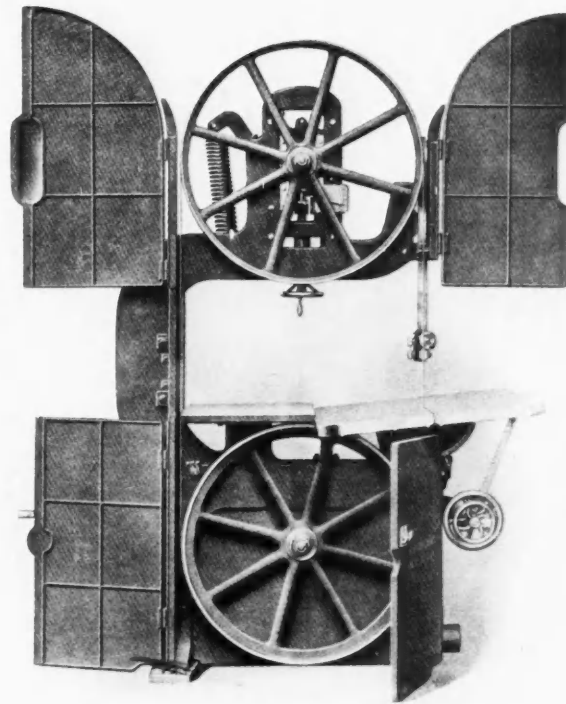
The blade of a band saw machine should travel at high velocity. In addition it should run steady and it must not "quiver" while cutting. A sawyer operating under such conditions will produce a large amount of clean work with a minimum breakage of saws.

To obtain these results, one of the essentials is that the tension under which the saw operates shall be correct and remain absolutely uniform under all conditions.

The description of the No. 7 Band Saw of P. Pryibil, 520 W. 41st St., New York, will show how this has been accomplished, and at the same time acquaint the reader with a number of safety devices inaugurated to protect an operator of such a machine against accidents as much as it is possible to do so.

A list of exclusive features of this machine is given below, on all of which the Pryibil concern have applied for patent rights:

1. A compound slide for carrying upper wheel.



P. Pryibil Band Saw No. 7

2. A sensitive tensioning device used in connection with above compounded slide.
3. A pneumatic dash pot to counteract the shock caused by compressed tensioning springs if saw should accidentally break.
4. A scale indicating the correct tension of all sizes of saw blades.
5. The entire upper mechanism is balanced, allowing the upper wheel to be raised and lowered easily.
6. An automatic brake for lower wheel.
7. A stop lever for releveling the table after tilting same to left hand.
8. Absolute control of all adjustments, including tilting and locking of table from front of machine, without the operator changing his position.
9. Complete manner in which both wheels and the entire blade have been encased to safeguard the operator.

The construction of this machine embodies the latest approved details of modern machine design.

There is a special catalog illustrating and describing this Band Saw Machine No. 7. They also have a large catalog "A" covering their entire line. Either of these will be sent free to readers of the AMERICAN CARPENTER AND BUILDER on request.

It is a well-known fact that P. Pryibil was the first firm in the United States to manufacture band saws. This was about 50 years ago, when the business was established. This is a German concern, and they have always taken every care to make their machinery absolutely accurate. It is not low-priced machinery, but it is built to last and to do accurate work.

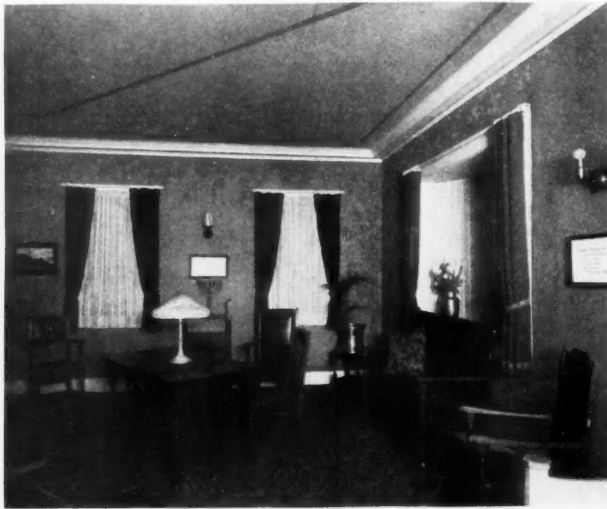
### New Smith Butt Gauge

Otis A. Smith, the well-known manufacturer of firearms and hardware, whose plant is located at Rockfall, Conn., has just put out a new Butt Gauge, characterized as being light, durable and of high quality. It is made of hard wood and has metal adjusting screw and nut. The tool is equipped with Jessop's Tool Steel Marking Cutters. Ask your dealer about it, or write direct to Otis A. Smith, Rockfall, Conn.

### How Many Successful Contractors are Building Reputations for Efficiency and Quick Service

Compo-Board has solved the big vexing problem that every contractor bumps his head against oftener than he likes—that great problem of the "hurry-up" job.

How can you deliver a first-class job in the short time allowed you by your customer? How can you finish a house and deliver it into the hands of the owner three or four days

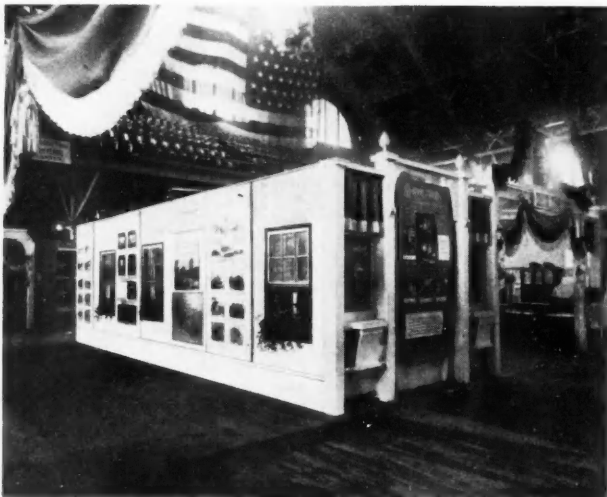


A Great Variety of Beautiful Interior Effects can be obtained, for Many Styles and Methods of Decoration

sooner than you and the anxious home-builder anticipated? You know that the sooner you can deliver the home to its owner, and the more he is pleased with the house after he moves into it, the more he will advertise you and your business, the bigger and stronger reputation you will acquire as a good contractor who makes good his promises.

In building a house, you know that much delay is occasioned in putting on the wall lining. Some time is required for nailing on the laths. Then the plaster must have time to dry before it is decorated or papered. The final process of cleaning up the mess and rubbish that always accompanies a plastering job consumes more time.

Compo-Board is the modern wall lining and is claimed to be better than lath and plaster in every way. It can be nailed directly onto the studding by the carpenters. A first-class



70,000 feet of Compo-Board were Used by the Child Welfare Exhibit, Coliseum, Chicago. There is nothing better for work of this sort

job can be finished in much less time than a lath and plaster job and, they say, for considerably less money.

But the big feature of Compo-Board is the satisfaction it will afford the home owner. Compo-Board is constructed of five layers of the best air tight compositions obtainable.

The inside core consists of narrow strips of thoroughly seasoned lumber arranged indiscriminately as to grain, which prevents warping. Both sides of this are coated with air tight cement, the outside of which is then faced with a specially prepared moisture proof paper.

After these layers are assembled, the whole board is subjected to a very heavy pressure and intense heat, making a straight sheet one-quarter inch thick, which has the resisting qualities of a 12-inch plaster wall.

Compo-Board will not peel or sag like plaster. It will stand the hard knocks that walls get when furniture is banged against them. It will outlast the house itself. It is airtight. Cold, heat and moisture can't get through. It keeps rooms warm in winter and cool in summer. It is a sound deadener.



Entrance to the Wm. Cramp & Sons Ship and Engine Building Co. Phila. Pa. Where the Compo-Board joins is covered by a half-inch round Moulding

Compo-Board walls and ceilings present a smooth surface all over, that can be decorated in water color, oil paints, or papered. It does not have to be paneled, but some very artistic effects can be secured by the use of panels.

Compo-Board walls and ceilings will give permanent satisfaction to your clients and build up for you a reputation for efficiency and quick service. Many successful contractors have already proved this to their satisfaction. You can do the same.

Compo-Board can be bought in strips 4 feet wide and in any length in even feet from 1 to 18 feet. There need be no waste in using Compo-Board. Write the Northwestern Compo-Board Co., 5777 Lyndale Ave. No., Minneapolis, Minn., and get their samples and catalogs.

### Gage Self-Setting Plane on Trial

The Gage Tool Co., Vineland, N. J., are making an especially attractive proposition to the readers of the AMERICAN CARPENTER AND BUILDER at this time. They will send one of their self-setting planes on trial so that the carpenter can give it a thorough test on his own bench, or in his own way. Those who are acquainted with the Gage self-setting planes say that once a carpenter sees it and tries it, the plane does the rest—the deal is closed. The advertisement of the Gage Tool Company which appears on another page gives the details of this offer. We are asked to state that our subscribers may feel perfectly safe in taking advantage of it.



# Build Artistic Stairways From Gordon-Van Tine Stock! Save 50%! Special Millwork Catalog **FREE**

## Our Stair Department Will Save You Big Money

Through our ceaseless efforts of selling reliable stairwork at cost plus one small profit, we have been able to produce and sell stairwork at prices which leave a handsome profit for the contractor. In our Grand Free Millwork Catalog, we itemize individually, each and every article required for the stairs, and explain fully just how this material comes to you and attach net prices. With this information at your command, an infinite variety of arrangements of stairs can be figured within a few moments, and you know the exact cost without entrusting your interest to any outsider.

The fact that part of this material is already machined ready to go right into the stairs, reduces the erecting cost very materially. We use only thoroughly kiln-dried material in making up the different parts of this stair stock, and only the most skilled and expert mechanics are employed in the production of the finished article. By using kiln-dried lumber you avoid any of the annoying effects of shrinking or coming apart of the stairs after they are put in the building. The itemized list for a flight of stairs which is given on this page, shows you at a glance how reasonable the material for a complete stairs can be purchased.

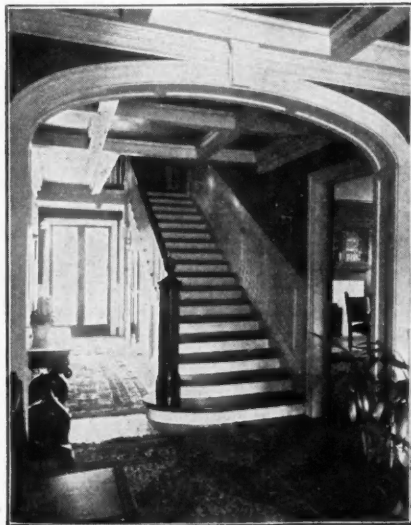
The fact that you have had no previous experience in the stair building line should not deter you one moment from learning its simplicity now. If there are any points which are not practically clear to you regarding the proposed stair for which you are in the market, write us, and we will give you the advice of an expert stairbuilder.

### Vast Assortment of Oak and Yellow Pine Stair Material

Our stock designs of Stair Newels, Rails, Balusters, Steps, Risers, Face and Wall Stringers and miscellaneous materials in Oak and Yellow Pine is very complete. A line which is at once adapted to the swell and modest cottage or most elaborate home.

### Correct in Every Detail

We call particular attention to the style of construction, for instance, of our posts; the correct size of all mouldings, in order that the assembled effect may be harmonious and complete. Likewise, the turning of the balusters and shape of rails are especially adaptable for these specific purposes.



A Gordon-Van Tine Stairway



A Flight of Stairs Complete for

**23.93**

### List of Material Required for Stairs Shown Above

E349	14 feet Face Stringer.. Yellow Pine @	\$0.06½	\$0.91
E731	10 feet Wall Stringer..	.05	.95
E8421	7 feet Base.....	2.80	.20
E725	18 ft. Wall Stringer, Ext.	01½	.27
E8420	26 feet Base Moulding.	.82	.21
E347	13 Steps .....	.40	5.20
E961	2 Landing Steps .....	.15	.30
E726	1 Round End Step....	2.90	2.90
E727	14 feet Return Nosing.	.02	.28
E348	15 Risers .....	.20	3.00
E8060	75 feet Scotia .....	.30	.23
E336	1 Newel .....	2.57	2.57
E341	2 Angle Newels .....	1.60	3.20
E343	14 feet Rail .....	.11	1.54
E962	12 feet Fillet.....	1.00	.12
E345	11 Balusters, 28-inch...	.08½	.94
E345	13 Balusters, 32-inch...	.08½	1.11

Total Cost..... **\$23.93**  
Dealers' Prices..... **90.00**

Saving to You..... **\$66.07**

### This Saving of \$66.07 Should Appeal to You

You get a high standard of workmanship, superior qualities of lumber, choice designs, prompt shipments and **guaranteed safe delivery**. You get low freight rates and quick delivery. These are facts, and should appeal to you at once. Send us your order for Stairs today.

**YOU WILL BE SATISFIED AND SAVE \$66.00 OR MORE**

With the styles illustrated, an infinite variety of arrangements of stairs is permissible, and it is a very rare exception when special work will be required for any particular purpose. Our designs are modern and up-to-date. All Newels are hand smoothed and made from thoroughly kiln-dried stock. All carvings are handmade and not composition ornaments. Every Newel from one-inch lumber, with glued lock joint. Height of all starting Newels 4 feet, with 8 x 8 base and 6 x 6 shaft, suitable for open or closed stringboard. Base of post, 20 inches long, allowing one or two risers. Every Newel wrapped in paper and carefully packed. The stock is all thoroughly machined, well kiln-dried and can be shipped promptly.

### Buy Building Material From Us at Wholesale Prices

Write for the Gordon-Van Tine Catalog of Millwork, Sash, Doors, Lumber and Builders' Hardware. We Save our Customers a Million Dollars a Year. Many of the most successful Contractors and Builders in the United States buy from us exclusively. We guarantee quality, satisfaction and safe delivery. Give us a trial order. Get our latest Catalog. The prices speak for themselves.

**GORDON-VAN TINE CO., 593 Federal Street  
DAVENPORT, IOWA**

(129)

*We have been in the Building Material Business since 1865*



## Look for the "Big Chuck" when you buy a brace

Then look for "The MARK of the MAKER" and you can be sure its a

## P. S. & W. "Samson"

YOU can't mistake the Samson Ball-Bearing Chuck. It fits the hand comfortably and the weakest wrist can release it instantly, or get a tighter grip than you can get with any other brace by using a vise.

The Samson is the top-notch in the most complete brace-line on the market.

Don't forget to look for the trade-mark. It stands for 92 years of experience, ability and progress in tool-making and is put on every item in our line of Guaranteed Tools for Carpenters.

## P. S. & W. Guaranteed Chisels

THIS is another of our guaranteed lines that you ought to know. It leads in the big things—variety, completeness, quality, design, workmanship; and it leads in every little detail—finish, temper, perfect fit of handle and shank, blade ground to a sharp edge, etc.

Write today for our free "Mechanics' Handy List", a 170-page book containing 35 pages of valuable information and a complete catalog of over 200 tools for Carpenters, Machinists, Electricians, and Tinsmiths.

## The Peck, Stow & Wilcox Co.

**MFRS.** of the Largest Line of Mechanics' Hand Tools Offered by Any Maker

Address, 22 Murray Street, New York City  
Established 1819. Five Large Factories.



## Issue Universal Design Book

The new Universal Design Book for 1911-12 has just been issued by the Shattock & McKay Co., 167-169 West Monroe street, Chicago, Ill., the well-known publishers of sash and door catalogues. It had been expected that this book would have been issued over a year ago, but contemplated changes in the window and plate glass lists prevented its publication before this time. Any alteration of the window glass list would have involved a change in the entire sash and door list, and for this reason the publication was necessarily deferred until some definite conclusion was reached. As the question has now been settled that there will be no change of any kind in the glass or any other lists, with the exception of minor corrections and the addition of new designs in items that had heretofore been figured as odd work, for several years this catalogue will be the standard text-book of the trade until fundamental changes in methods and styles render a new list imperative.

The new catalogue comprises 460 pages and contains a supplement with all the new art glass in colors. It is printed on heavy enameled paper, with practically new cuts throughout, and is bound in silk cloth, lettered in gold and white leaf.

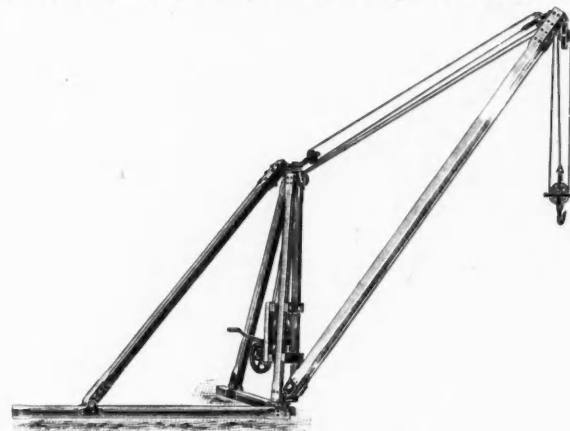
The general conditions governing the cost of labor and raw material have necessarily affected all special work and accordingly at considerable time and expense the Shattock & McKay Co. has obtained from the principal manufacturers an entirely new and revised list of this class of mill-work, inclusive of colonnades, grilles, embossed moldings, parquetry flooring, mantels, art glass, etc., all so listed as to allow a liberal discount. In fact, the book is revised throughout, the cuts are numbered consecutively and in no way does the publication conflict with any previous catalogue.

The book is not only to be absolutely relied upon by manufacturers, wholesale and retail dealers, contractors and architects, but it is the official and authentic handbook of the door and millwork industry.

The Shattock & McKay Company is to be congratulated on the excellent quality of the book. It sells for \$1.25 per copy, postpaid, with the customer's name stamped in gold leaf on the cover. Special prices are made for quantities of twelve or more.

## A Dependable Stiff Leg Derrick

Sasgen Bros'. Stiff Leg Derrick is built with a split mast and boom, and is fitted throughout with crucible steel fittings, making it light and strong, and is arranged so that it can be



One of the Sasgen Bros'. Line

used by power or hand power without altering the derrick. For these reasons it is especially handy on buildings. The gears and frame of this double drum hoisting winch is also made of crucible steel which saves the breaking of gears.

# Put It At Work In Your Shop



*"Handy as a Pocket  
in a Shirt"*

Patented in the United States, Canada and other foreign countries. Other patents applied for.

The "Multimotor" Shop Engine increases your profits and keeps down the size of your pay-roll. Does the work of three men at an expense of *less than a cent an hour*.

Stop pedal-pushing and crank-turning! Let the

## Fuller & Johnson "Multimotor" Shop Engine

turn the wheels in *your* shop. This wonderful engine is small in size but a giant in power. Runs all hand-power or foot-power machines—jig saws, lathes, emery wheel, grindstone, drills, etc. Just the thing for carpenters, contractors and owners of small workshops.

### Perfectly Simple Absolutely Safe

Simplest, neatest, strongest, most reliable little engine ever built. Comes to you *complete*—nothing to add but gasoline.

Easily moved anywhere. For *indoor* use has *out-door* fuel tank, insuring perfect safety.

Important working parts protected by dust-proof case. Needs no attention while running. Works steadily all day on a few cents' worth of grocery-store gasoline. It is air-cooled, fool-proof, cannot freeze or overheat.

The "Multimotor" in design, material and construction equals the best automobile engines. Every engine is thoroughly tested before leaving the factory, and is *guaranteed!*

### Fuller & Johnson Farm Pump Engine

Practically the same as "Multimotor," with pumping gears added. Can be hooked up to any pump in 15 minutes. Needs no belts, arms, jacks or special platform. Pumps 270 to 2,450 gallons every hour. Perfectly adapted to farm and suburban use

### Engine Book Sent Free!

Book, giving full information about "Multimotor" and Farm Pump Engine, sent FREE on request. Let us tell you more about these amazing little power-producers. Let us send you the name of the nearest dealer, who will show you the engine and *explain* what it can do. (264)

If interested in larger engines, ask for Catalog of Fuller & Johnson's Famous Double-Efficiency Engines.



Fuller & Johnson

**"MULTIMOTOR"**

Works Like Ten Men

**FULLER & JOHNSON MFG. CO.** 11 Ames Street } Madison, Wis., U. S. A.  
(Established 1840)



### Draw Good Plans and Draw Good Money

Opportunities offered today for ambitious, wide-awake progressive men capable of making from \$24 to \$75 per week as architectural draftsmen, for instance, or for carpenters, contractors, or builders with draftsman's knowledge and training, are better than ever. The enormous amount of building which is going on and the increasing demand for better and more up-to-date structures gives the man with actual drafting-room experience splendid opportunities for steady income at high prices—besides a chance for advancement.



Mr. F. V. Dobe

There is no class of men who make better architectural draftsmen than carpenters and contractors. The experience gained by actual work on all kinds of building makes it much easier in studying and also in obtaining responsible, good-paying contracts or position afterwards. No employer cares for diplomas—neither does he care to pay big wages to just a mere copying man. What the people or your employer wants today is originality, and practical ability, and these require practical training. The quickest and best way to know how to do practical drafting-room work—and to get the required practical experience, is to receive personal and individual instructions from a high-grade practical man at the trade. This man, or instructor, must have a reputation as the most experienced in training men to become competent and successful draftsmen. An ordinary draftsman,

even the best draftsman, can't teach this trade unless he has had a good many years' experience as an instructor, and has the ability to impart knowledge so that it will be understood and will stick forever.

Mr. F. V. Dobe, Chief Draftsman of the Engineers' Equipment Company, Chicago, with twenty years' experience in training and handling men, has for a good many years given personal draftsmanship instruction by mail. That his individual methods are deserving of the success which they have received, is proven by the increasing number of successful men who today lay their start in life to Mr. Dobe's individual draftsmanship instructions on practical work.

The "knowing how" to be a first-class draftsman and the ability to secure a good position can be had, so it is claimed, by applying one's self to Mr. Dobe's instructions. These instructions consist of actual drafting room work. He teaches each student according to the student's ability and with his individual and personal methods does away with unnecessary study of work on subjects which the student may already be well versed in.

Mr. Dobe issues a prospectus on Successful Draftsmanship. His advertisement appears on another page of this paper. Those interested can get full particulars by writing to him.

### Cement Shows Benefit to the Contractor

While it is impossible to get a definite idea as to the number of contractors who attend the cement shows held annually by the Cement Products Exhibition Co. in New York, Chicago and Kansas City, the fact is very much in evidence that through the medium of these cement shows, rapid development is being made in contracting, as a result of the visits of contractors from all parts of the country at the cement shows each year.

Competition is cited as one of the incentives which make



## New Departure Store Fronts

We have done a great deal of talking, and some boasting, too, for some time about **KAWNEER** principles, and want you to know exactly what we are talking about. It is impossible to explain in this small space about **KAWNEER**, but we have a booklet (No. 2), that is prepared expressly for Architects and Contractors. It tells all about **KAWNEER** regulated ventilation and

**BIG AND LITTLE**

**Kawneer**  
STORE FRONTS

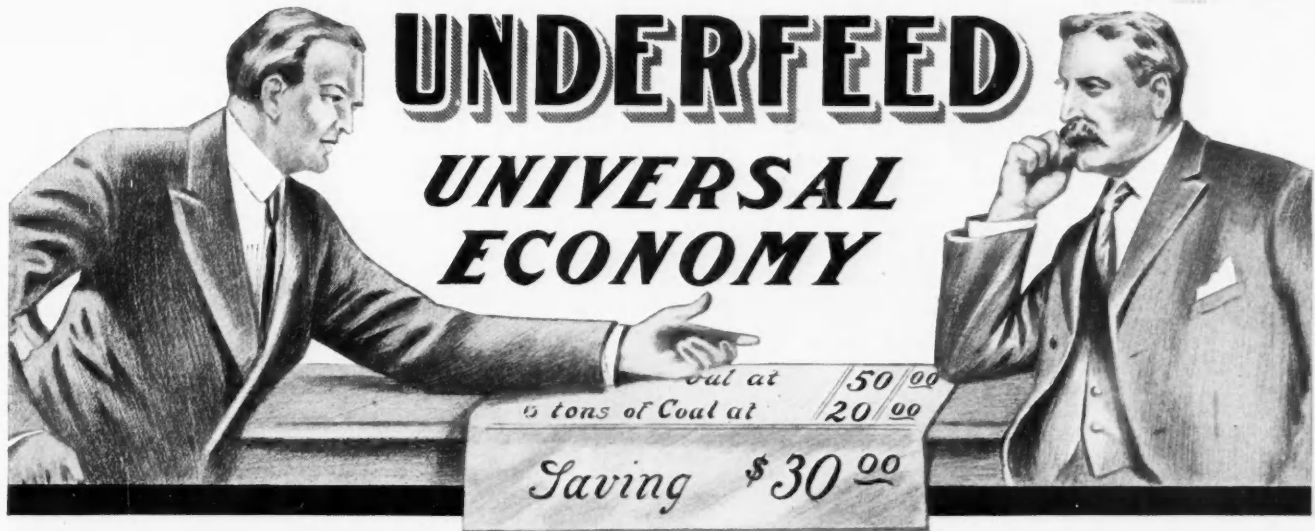
drainage, one of the features that has revolutionized Store Front Construction.

Just say, "Send Booklet No. 2." It plainly describes all **KAWNEER** members, contains plenty of photographs and good information on Store Fronts in general. Learn what the Pioneer Manufacturers have to say about the original, solid, all-metal Store Front Construction.

**BRANCHES IN ALL  
PRINCIPAL CITIES**

**KAWNEER MFG. COMPANY**  
"PIONEERS"

**Factory and General Offices  
NILES, MICH.**



## The Heating System That Cuts Down EVERY Coal Bill—Big or Little

**A** RCHITECTS and builders are vitally interested in the *proper* heating of buildings they erect. A poorly-heated home or store is a bad advertisement for any builder. No mistake *can possibly* be made by specifying Underfeed as the best heater to install.

Wherever coal cost is *highest* there Underfeed heat *saves most*. The *proportionate* economy of Underfeed maintenance is just as great where cheapest slack is plentiful as in sections where fuel is so expensive that it is shipped in canvas bags. The Underfeed has won

its way into favor, both in the heart of coal regions and at places far distant from black diamond mines. *Clean, even heat at least possible cost, is everywhere an Underfeed certainty.* No matter whether your past coal bills have been large or small, you can *cut them away down and enjoy an every winter saving of from 50% to 66%.* It is this absolute certainty which has given the Underfeed national reputation as the Heating System which **ADDS** to the renting or selling value of *any building.*

# The Peck-Williamson Underfeed

HEATING SYSTEMS WARM AIR FURNACES - STEAM-HOT WATER BOILERS

Save  $\frac{1}{2}$  to  $\frac{2}{3}$  of Coal Bills

This illustration shows the Underfeed Boiler



C. G. Small, Pittsburg, writes:—

"I have used the Underfeed four years. It fully meets all claims for fuel saving. My coal bills for slack run from \$18 to \$20 per annum, while previously for hard coal they were about \$50. Now we have more heat and a very comfortable house."

That is a pretty good saving to make where coal cost is not excessive. Pea and buckwheat sizes of hard and soft coal and *cheapest* slack, which would *smother* fire in other furnaces and boilers, yield clean, even heat in the Underfeed. All fire *burns on top*. Smoke and gases *must* pass through the flames and are consumed. That conserves heat and health. The few ashes are removed by shaking the grate bar as in ordinary furnaces and boilers.

We want ARCHITECTS and BUILDERS *everywhere* to get better acquainted with the Underfeed which is available for buildings of *all kinds*—large or small—churches, banks, apartment houses, residences, etc.

Write **TODAY** for Furnace Booklet or Boiler Catalog and fac-simile testimonials, all **FREE**. Plans of our Engineering Corps are **FREE**. Let us tell you of our Fall Sales Proposition. Write **TODAY**.

**THE PECK-WILLIAMSON CO.,** 436 W. Fifth St. CINCINNATI, O.

The Underfeed Furnace with casing removed, cut away to show how coal is forced under fire, which burns on top.





## A Few Points on Estimating

Upon estimating the cost correctly depends your success. If you guess, nine times in ten you are too high or too low. If you sit down and take off every item separately it takes too much time. It means a great risk of omissions on account of interruptions or overlooking something because you have so many items and figures to handle. The need of a system in taking off quantities is one cause of omissions also. Do you neglect your business many times because you have a job to figure? Do you worry and lie awake nights? Most builders bid too low for fear of losing the job. If they knew just what the job was worth they would not want it for any less. If you want to adopt a system that is easy, simple, accurate, reliable and practical, the **NEW SIXTH EDITION** of *The Lightning Estimator* will teach you.

## You Need the Lightning Estimator

This method shows you the actual time and material involved in each part of your work, but so cleverly combined and systematized that a large job may be estimated in a very short time and omissions are almost impossible. Shows you how to dissect and analyze unfamiliar work in order to get at the cost. By showing time and material required as well as prices you may adjust this method to any scale of prices in any part of the country. Written by a successful builder from actual experience, not theory. Valuable hints for the concrete block maker and setter. The carpenter builder who sublets every thing but the carpenter work can learn how to estimate the walls, brickwork, concrete work, chimneys, plastering, etc., so that he can handle this work by the day himself and save the subcontractors' profits.

## Now is the Time to Become a Master Builder

If you are a journeyman, here is your opportunity to become a master builder, and if an old timer, a chance to get new ideas and become more proficient: if you know it all, pass it along.

This edition is bound in cloth and is amply illustrated, a feature that has been overlooked in most books on this subject. Can you afford to hesitate? Will you do yourself justice and send one dollar today and get on the road to success?

**BRADT PUBLISHING CO.**

1260 Michigan Avenue

JACKSON, MICH.

necessary a better understanding of equipment, and an intimate knowledge of its application in various fields of contracting. The exhibits of equipment at the cement shows typify the latest ideas in the different fields of the work. Many contractors have by means of the cement shows formed an acquaintance with the different types of machinery and equipment which it would have been difficult to gain through other sources.

This fact is aptly illustrated by the work being done by a well-known contractor for street work in one of the large western cities. This contractor, who never misses the cement shows, uses the newest types of machinery to be had in his work and employs up-to-date methods in all lines. The result is that the streets upon which he is working are closed to the public for the least possible time and the work when finished is indicative of the improved methods employed. His work excites favorable comment by all, even by people who have no personal interest in it. This man is establishing records which will be of inestimable value in securing future contracts.

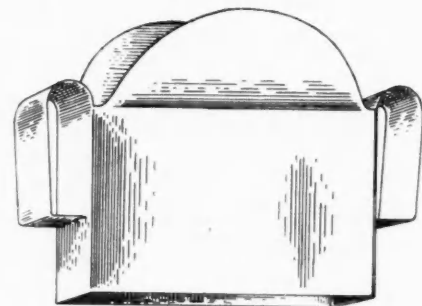
All phases of cement and concrete construction are set forth at the cement shows by actual demonstration. The newest and most up-to-date methods of using cement and concrete in all of the many branches of building and construction are seen and explained.

A large attendance from the ranks of the contractors throughout the country is anticipated at the Second Annual New York Cement Show, Madison Square Garden, January 29 to February 3, 1912, the Fifth Annual Chicago Cement Show, at the Coliseum, February 21 to 28, 1912, and the First Annual Kansas City Cement Show, in Convention Hall, Kansas City, March 14 to 21, 1912. Many inquiries and applications are being received daily by the Cement Products Exhibition Co., 72 West Adams St., Chicago, which illustrates the widespread interest taken in the annual cement shows.

### Rule Insurance

It is a well-known fact among men engaged in the building line that a rule will never wear out, for the simple reason that it is

practically impossible for a mechanic to keep a rule long enough to wear it out. He loses it. Now one rule is not necessarily an expense, but when you keep on buying them and buying



**Pocket Rule Holder**

them, it figures up quite an item. Then, again, a mechanic stooping over is very likely to have his rule drop out of his pocket and break.

Now, then, why not insure your rule? The Safety Rule Holder Co., of St. Joseph, Mo., are selling a little device that is attached inside of the rule pocket, which holds the rule absolutely secure at all times, prevents its slipping out, thus giving you the assurance that your rule is always just where you put it. When your rule pocket is equipped with one of these holders, there is no more fussing in order to put the rule in the pocket, as it slips there practically automatically. These rule holders are practical, and will appeal to every mechanic.

The advertisement of the Safety Rule Holder Co. will be found on another page of this issue. Look into it. It will pay you.



## “What’s the Right Varnish to Use?”

When your customer asks your advice about the *right* way to varnish the work you have done, you ought to be prepared to give the *right* advice.

You ought to *know*.

Our booklet, “Natural Woods and How to Finish Them,” will help you. Ask us to send it free.

That booklet and this label will make you a competent varnish adviser.

### Berry Brothers' Architectural Varnishes

MEET ALL REQUIREMENTS FOR HIGHEST GRADE FINISHING IN BUILDINGS

TRADE  
**LIQUID GRANITE**  
MARK

For finishing doors in the most durable manner possible. Its quality has made it the best-known and most widely used of all varnishes. There is no substitute.

WOOD  
**LUXEBERRY**  
FINISH

For the finest rubbed (dull) or polished finish on interior woodwork. It has for years been the standard to which all other varnish makers have worked.

**ELASTIC INTERIOR**  
FINISH

For interior woodwork exposed to severe wear and finished in full gloss, such as window sills and sash, bathroom and kitchen woodwork, and 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. Dries dust free in a short time and possesses great durability under the most trying weather conditions.

LUXEBERRY  
**WHITE ENAMEL**

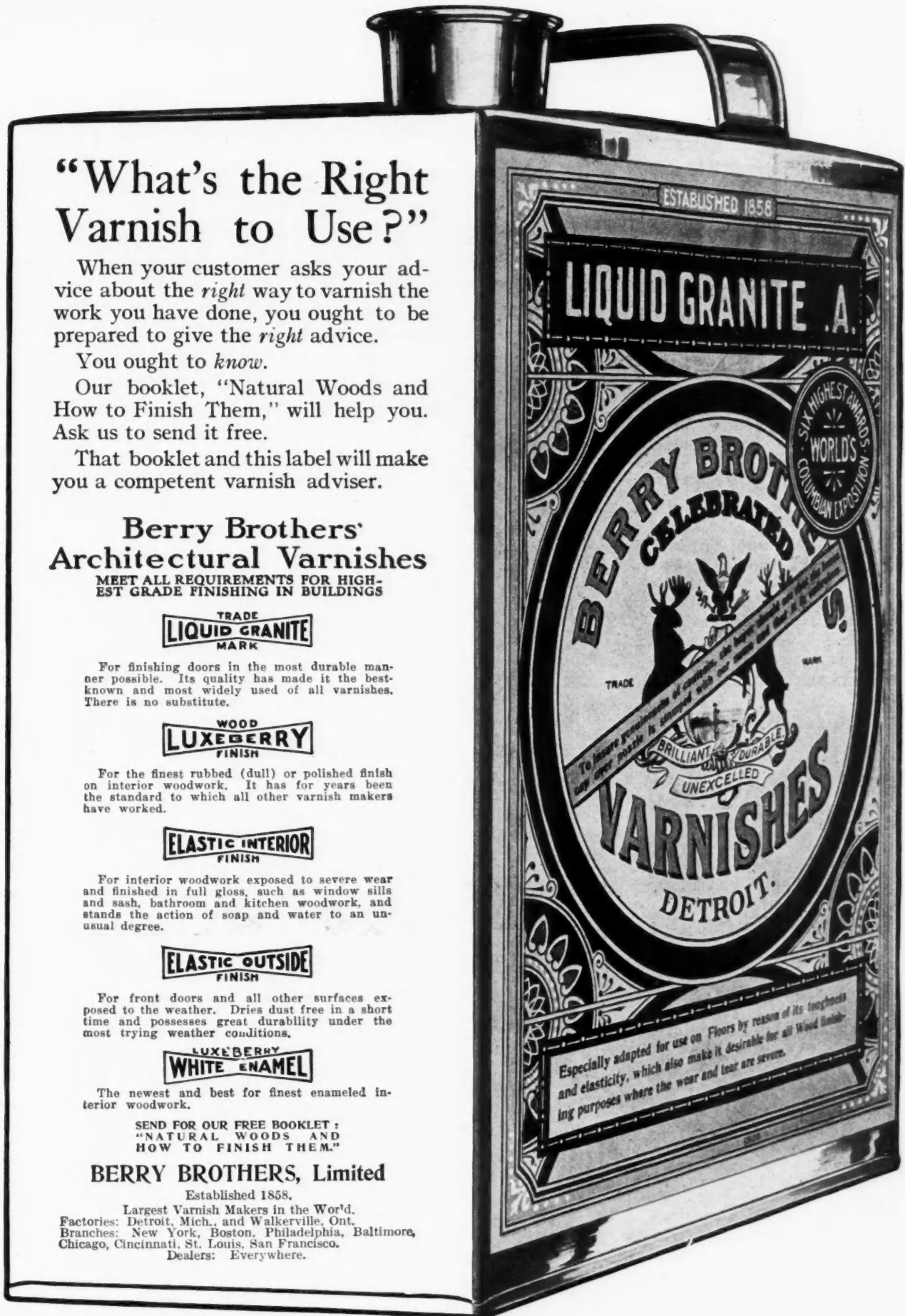
The newest and best for finest enameled interior woodwork.

SEND FOR OUR FREE BOOKLET:  
“NATURAL WOODS AND  
HOW TO FINISH THEM.”

**BERRY BROTHERS, Limited**

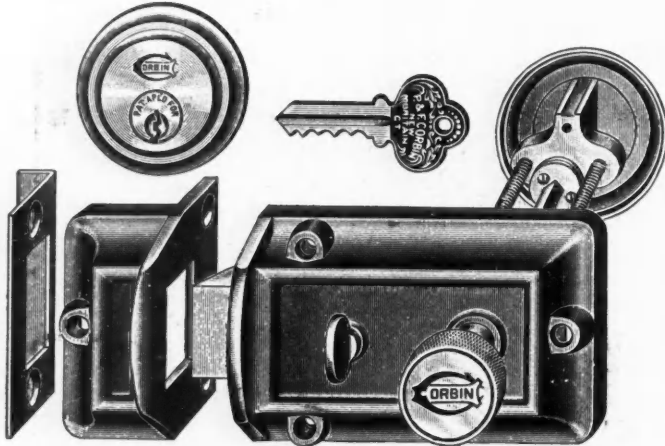
Established 1858.

Largest Varnish Makers in the World.  
Factories: Detroit, Mich., and Walkerville, Ont.  
Branches: New York, Boston, Philadelphia, Baltimore,  
Chicago, Cincinnati, St. Louis, San Francisco.  
Dealers: Everywhere.



### Corbin Number 1356 Night Latch

This is the latest addition to the Corbin line. It has the characteristics of the No. 356 Corbin Night Latch with the additional advantage that the latch can be operated from the outside by the key at all times. It can be either locked or unlocked entirely independently of the thumb piece on the



P. & F. Corbin Co's New Night Latch

inside. The thumb piece holds the latch both either in or out. This night latch has a strong cast case, finely finished knob and thumb piece, extra long latch bolt and can be supplied with a master key when desired. Strikes both for regular and reverse bevel doors are supplied.

The P. & F. Corbin Co., New Britain, Conn., have some very interesting booklets concerning this and other features of modern builders hardware which they will gladly mail to our readers on request. Ask for Circular BK32.

### New "Electric Weld" Automatic Storage System of Gas Water Heating

The manufacturers of the "Electric Weld" Gas Water Heaters have developed and perfected a *new type of automatic heater* which they offer under the title: The "Electric Weld" Automatic Storage System of Gas Water Heating.

This system embraces the gas water heater combined with the range boiler, same as in the "Electric Weld" Combination Boiler and Gas Water Heater, which has been successfully introduced during the past ten years, and which is in general use throughout the country.

In connection with the above, there is used in the Automatic Gas Water Heater a *gas-operated self-contained thermovalve*, which the "Electric Weld" people claim to be without an equal for the purpose, having all of the advantages that an automatic regulator might possess, and eliminating the objectionable features present in the valves that are operated by hydraulic power, or by springs or other means.

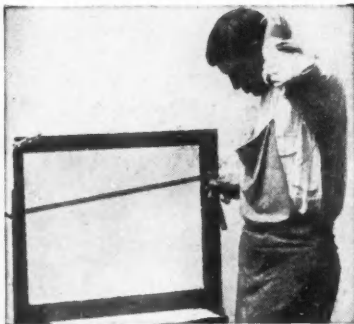
The Thermovalve which they offer is *operated by the gas itself*, and its action is not interfered with by varying gas pressures.

This Automatic Gas Water Heater is furnished complete, with the asbestos fiber cover and oak lagging, which is highly finished and decorated with brass bands, thereby presenting a handsome appearance, and well in keeping with what it is intended to represent, namely, a *strictly first-class, reliable, automatic gas water heater*, suitable for kitchen or basement installation, and for any service—from the smallest to the largest—there being no change in design required to adapt this heater to any service for which an automatic water heater is suitable.

Full and complete particulars will be furnished by the John Wood Manufacturing Company upon application to their home office, Conshohocken, Pa., or to any of their branch offices throughout the country.



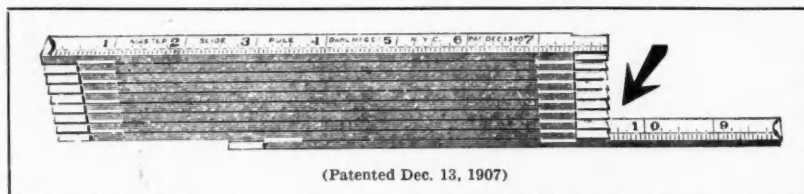
This illustration shows the Master Slide Rule in use for inside measurements. The Master Slide Rule shows exact dimensions without figuring or calculations as indicated with pencil. No guess work.



This illustration shows the ordinary carpenter's rule in use for measuring inside window trim. No inside measurement can be taken with the old style rules.

## CARPENTERS AND BUILDERS, GLAZIERS, SHADEMEN, PLUMBERS AND EVERY KIND OF MECHANIC!

You will find that once using the



(Patented Dec. 13, 1907)

## MASTER SLIDE RULE

illustrated on this page, you will always use it, as it is the only practical rule for **inside measuring** of doors, windows, etc., as indicated in the accompanying illustrations, and it will become absolutely indispensable to you thereafter. For speedy operation there is no other rule made that can compete with the **MASTER SLIDE RULE**. A five or six foot rule can be extended to full length in one or two movements and closed in two movements. When opened, it is kept in place rigidly by strong steel springs and cannot get out of order.

One side of the **MASTER SLIDE RULE** is marked for **inside measurement**. The reverse side of the rule is the same as any ordinary rule but is particularly valuable for quick measurement of ceilings and walls, etc. It is made in lengths of from two to six feet.

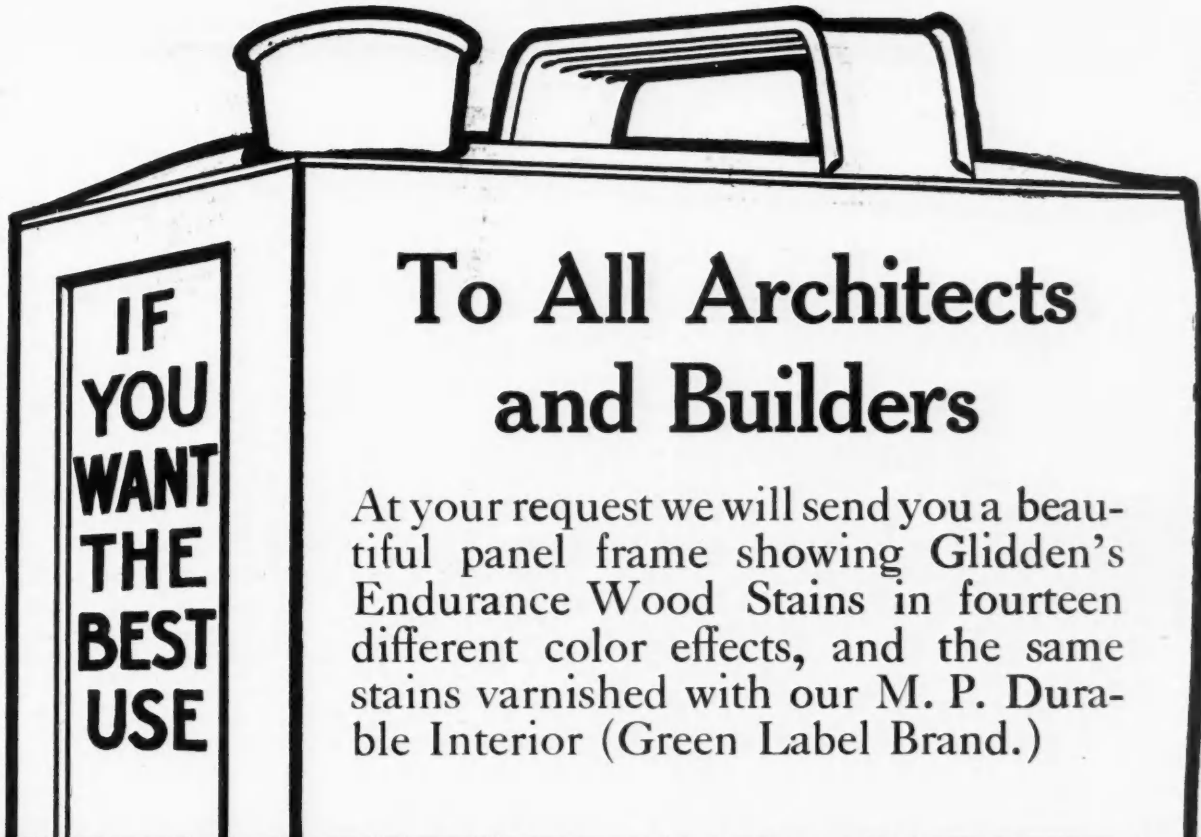
Ask your nearest hardware dealer for the rule or write direct to us for particulars and price list. Send us the name of your nearest hardware dealer.

Send 14c per lineal foot for a 4 or 5 or a 6 foot sample rule, which will be sent to you postage prepaid.

**DAHL MANUFACTURING COMPANY**

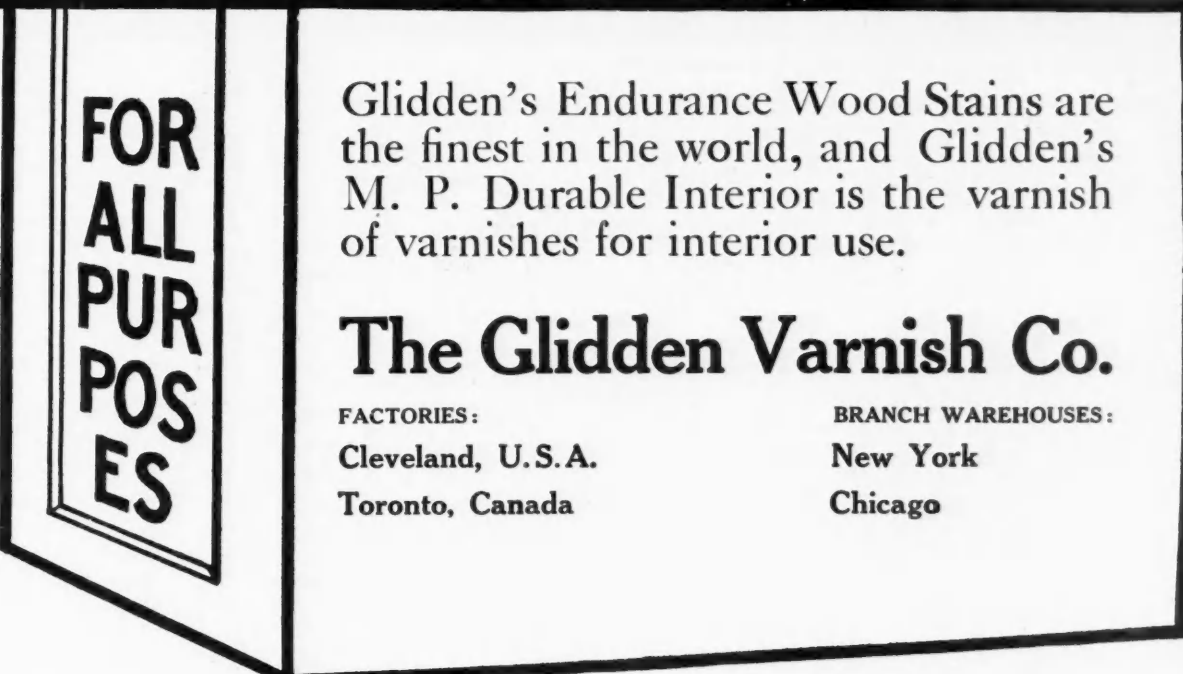
1 East 42nd Street, NEW YORK CITY

**AGENTS WANTED**



# GLIDDEN'S

**GREEN LABEL VARNISHES**







## No Rubbing Needed for a Beautiful Flat Finish

Johnson's Flat Wood Finish, applied with a brush, produces the soft, velvety effect of the hand-rubbed finish at one-third the cost for labor. All that is necessary to obtain this beautiful flat finish on any woodwork, new or old

is to brush on a coat of Johnson's Flat Wood Finish. It dries in an hour without a suggestion of gloss.

Architects, Contractors, Painters and Home Owners everywhere are enthusiastic over the results obtained with it and the big saving it makes possible.

# Johnson's Flat Wood Finish

is a liquid—an easy spreading preparation, manufactured especially for finishing interior woodwork of new residences and buildings—as well as furniture—and equally valuable for re-finishing old surfaces.

This flat wood finish opens a new field for the painter. He can now give his customers the beautiful, artistic, flat, hand-rubbed effects that have always been so high priced on account of the labor—at prices that are within the reach of everyone.

By the use of Johnson's Flat Wood Finish, you can make figures on hand-rubbed effects that will land the contract every time—give your customer perfect satisfaction—and make you a good profit besides.

For giving this rubbed effect to new woodwork, apply Johnson's Flat Wood Finish over Wood Dye, Paste Wood Filler, or Varnish—for old woodwork or furniture having a gloss or varnish finish, simply apply a coat of Johnson's Flat Wood Finish. It is not necessary to remove the old finish before applying the new—and one coat *thoroughly brushed in* is sufficient.

### Prices of Johnson's Flat Wood Finish

Gallons . . . . .	\$3.00	Half Gallons . . . . .	1.60
Quarts . . . . .	.85	Pints . . . . .	.30

*One Gallon is sufficient for 500 square feet*

**FREE** Let us send you free a test can of Johnson's Flat Wood Finish and a copy of our Instruction Book. We want every painter—you—to know all about this most important development in wood finishing materials. We will send you a free sample so you may try it yourself at our expense and be convinced. Write today or fill out coupon for sample of Johnson's Flat Wood Finish and panels of wood finished with it.



A.C.B.-11

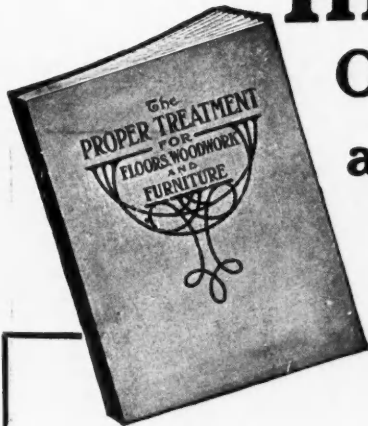
**COUPON**  
for free sample of Johnson's Flat Wood Finish and panels of wood finished with it.

Name .....

Street and Number.....

City and State.....

**S. C. Johnson & Son, Racine, Wis.**  
*The Wood Finishing Authorities*



# Instruction Book On Wood Finishing **FREE** and Generous Samples To Painters

**WE** HAVE just gone to the expense of publishing a hand-book on Wood Finishing especially for our painters. This Instruction Book gives full information about finishing all wood—soft or hard—old or new. There is no point it does not cover. It tells you just how much material you will need for any work so that you can easily figure out your estimates.

We want a copy of this Instruction Book in the hands of every progressive painter. Write today for your copy which we are holding here for you. Remember, we will send it absolutely free and postpaid. You are placed under no obligation whatever.

We will also send you **FREE** samples of **JOHNSON'S WOOD FINISHES**. After you have tried our brand we know that you will never use any other for our wood finishes will **ALWAYS** give your clients satisfaction—you will never have a dissatisfied customer if you finish all of your work with "Johnson's" standard finishes.

## Johnson's Wood Dye

*is made in 15 popular shades as follows:*

No. 126 Light Oak

No. 123 Dark Oak

No. 125 Mission Oak

No. 140 Early English or Manila Oak

No. 110 Bog Oak

No. 128 Light Mahogany

No. 129 Dark Mahogany

No. 130 Weathered Oak

No. 131 Brown Weathered Oak

No. 132 Green Weathered Oak

No. 121 Moss Green

No. 122 Forest Green

No. 172 Flemish Oak

No. 178 Brown Flemish Oak

No. 120 Fumed Oak

Gallons \$3.00—Half Gallons \$1.50

Johnson's Wood Dye penetrates deep into the wood, fixing a deep, rich, permanent color which will not fade or rub off. It never raises the grain of the wood, and is very easy to apply as it does not show laps and streaks even when used upon the softest woods.

Over the dye apply two coats of **JOHNSON'S PREPARED WAX** with a cloth and polish with a dry cloth or weighted brush. Prepared Wax gives that beautiful, lasting, artistic polish about which all of your customers are asking you.

**GO TO YOUR LEADING PAINT DEALER** for free samples of Johnson's Wood Dye and Prepared Wax. If your dealer hasn't the samples, write us for them, mentioning your dealer's name and the shade of dye of which you wish a sample and we will see that you are immediately supplied, free and postpaid.

**S. C. Johnson & Son**

**Racine, Wis.**

"The Wood Finishing Authorities"

We show here an illustration of our new gallon and half-gallon package of Wood Dye. Both sizes are packed in a carton which can be safely shipped by express to all points. This package is very easy to handle. Unused material may be kept absolutely airtight in it.

Be sure to write us for free samples and the Instruction Book, Edition A. C. B. 11, if your dealer cannot supply you.



# Andrews' Hired Man Let Him Work For You



**C**ONTRACTS are now being placed for large space in the Saturday Evening Post, Ladies' Home Journal, World To-day, Metal Worker, Domestic Engineering, Iron Age (Hardware) and other standard publications to advertise this Andrews Self Governing Heater Thermostat. We want you, Mr. Building Contractor, to write immediately for descriptive circular matter so as to be fully posted on this regulator and thereby be in position to take the orders that will naturally gravitate your way, as a result of this advertising. A liberal commission will be paid you on each order sent in.

**This Regulator** puts the heating of the house on a "scientific efficiency basis." It prevents the wasteful burning of a single pound of coal in Hot Water, Steam or Furnace Systems and makes the handling of the heater a real pleasure and not a bother. Simply shake down the fire and remove the ashes mornings, fill up the fire box twice a day and the Andrews' Hired Man Thermostat regulates the dampers and keeps the house at 70° all day and 60° at night or any other temperature desired. This Thermostat is

## Mr. Andrew's Latest Invention



Geo. C. Andrews

Everything is accessible and mechanically perfect and at the same time the design has been made so that like an Ingersoll Watch, it can be made in duplicate and at a very low price. The Thermostatic Thermometer is located in the living room and at each slight change in temperature, opens and closes an electric circuit, which in turn controls the motor in the cellar. The motor is built on the every-day, never-wear-out principle. Those delicate complicated mechanisms of other Thermostats, which eat the profit, keeping them adjusted, is eliminated. A crank shaft propelled by a weight held in place by a cog and released by the business. A safety clutch prevents continuous operation without repeated magnet contact. One downward pull of the balance weight winds it up. (So easy it gets to be a habit. No key to lose.) Friction is eliminated. The rotating and rubbing bearings are brass against steel. Striking contacts, tempered steel against steel. Electrical contact points are platinum, that expensive metal. Simple, accurate and so durable that it is

## Guaranteed For Life

If it ever wears out, return it, and we will furnish a new one free. This is the only heat regulator ever offered with this guarantee, which gives you absolute protection, so that you need feel no hesitancy, whatsoever, in recommending it to your most particular and fault finding client. After 30 days' trial if it is not entirely satisfactory, it can be returned and the purchase price, of only \$20.00 refunded. This price, (which includes a liberal commission for you) represents the amount that this Thermostat should save on the first winter's fuel supply alone, and after that the savings in fuel will pay a handsome dividend each year, and aside from saving useless wear on the heater, protect the house against damage from careless control of drafts, and relieve the family of all responsibility in keeping an even temperature in the home.

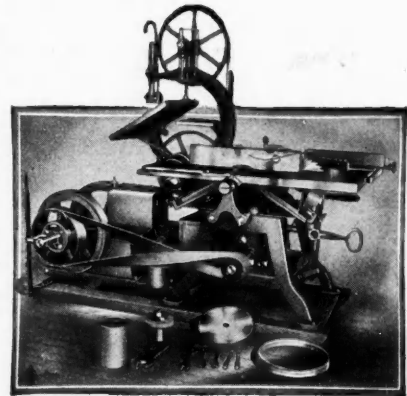


**Interesting Circulars** on "How to Run Your Fire" for distribution among your clients sent upon request. Also special discounts should you wish to buy some of these regulators in individual or quantity lots, and resell them yourself. If you have a suitable place for displaying it, we should like to send you a life size poster of the Andrews' Hired Man to hang up in your window. The passers by will instantly recognize him as the Andrews' Hired Man that is being advertised in the magazines, and "presto change"—they will walk right into your building and place their orders with you. Each regulator furnished in a neat box with complete instructions so that your customers can connect them up themselves if they wish. We urge you to get ready to handle this business by writing to-day.

**Andrews Heating Company**  
1217 Heating Bldg., MINNEAPOLIS, MINN.

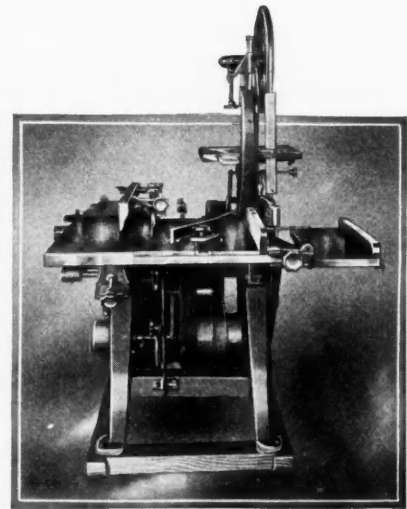
## New Type of Portable Woodworker

The last addition to the family of woodworkers now on the market is a new type of portable woodworker, built by The Sidney Tool Co., who have over 800 of their stationary woodworkers in use throughout the country. The latest achievement is sure to be a winner, as it meets a demand long existent among the majority of contractors.



Side View

As the name implies, the machine can be moved from job to job as desired, with very little trouble. It is usually mounted on skids which permit it to be drawn over the ground very easily. The manufacturers can also furnish a specially designed wheeled truck, which, of course, allows it to be moved even easier than on skids. The machine is furnished quite complete, the outfit including a 3-h. p. gasoline engine, batteries, and all belting necessary to its operation. In fact, it comes ready to begin working with.



End View

In operation the machine is similar to the stationary woodworkers, performing various kinds of work, such as ripping, dadoing, surfacing, edging, boring, grinding, sanding, etc.—all of which can be performed by one man. The complete machine includes: 8-in. jointer; 20-in. band saw; saw table with raising and lowering arbor, carrying a 14-in. saw blade; mitering attachment; cut-off and ripping gauge; emery grinder; and disc sander.

In multiplicity of work, durability, and ease of operation, the "Famous" Portable Woodworker has special advantages that commend it to most favorable consideration, and the builders have taken steps to supply a big demand. The advantages offered by a machine doing various kinds of work are well known; with the added feature of portability, it should prove a boon to every contractor, as he can take his "machine-shop" with him on almost every job he undertakes.

Full particulars of the construction, together with prices and terms, will be sent upon request to the builders. The Sidney Tool Co., Sidney, Ohio.

## Facilities at Cement Show

Exhibitors at the Fifth Annual Chicago Cement Show, to be held February 21 to 28, 1912, will no doubt be interested in learning that a massive concrete foundation has been laid under the entire Coliseum Building, where the show will be held. This will permit exhibitors to display to much better



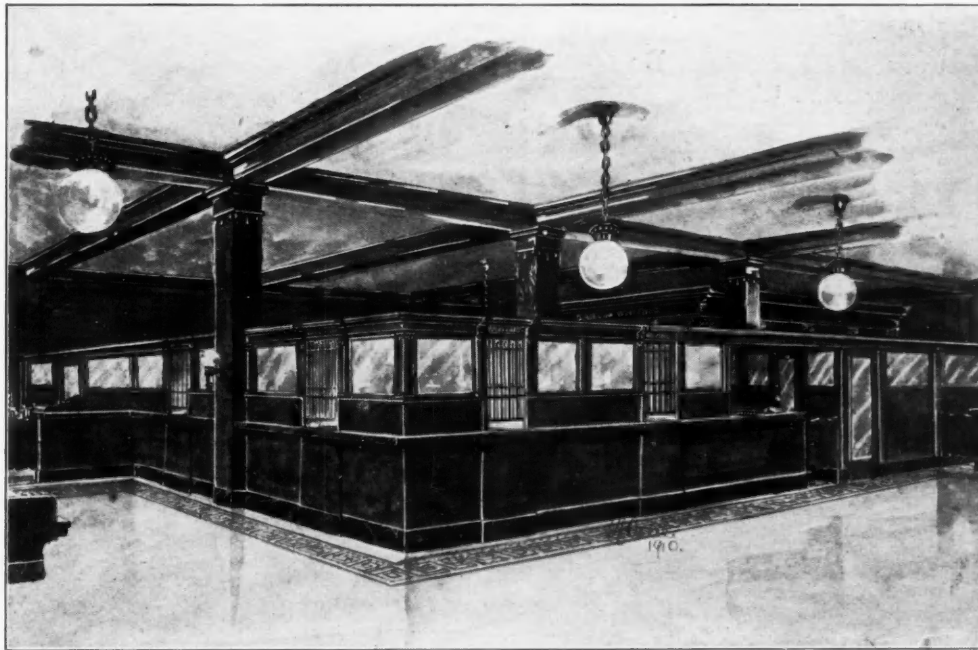
One of the best things a Contractor can do for himself is to become known as an Authority on

# RED GUM

(AMERICA'S FINEST HARDWOOD)

PUBLIC DEMAND FOR THIS SUPERB, YET VERY ECONOMICAL, INTERIOR TRIM WOOD is becoming so widespread that it is "good business" for contractors to "SAY IT FIRST"—SUGGEST RED GUM and YOU get the credit for giving your clients the best *Trim* advice in the market today.

"RED GUM is now an ARTISTIC NECESSITY"



It is our only high-class Native Cabinet Wood of Real Distinction

Here is a Photograph of the Beautiful New Bank of Whiting, Indiana. RED GUM Trim Throughout.

The above was designed and executed by the Bank Department of the Mosler Safe Co. (E. Jackson Casse, Directing Engineer), Chicago.

LEAD YOUR FIELD by recommending RED GUM Trim for all Interiors from Cottage to Skyscraper. AND as a base for ALL WHITE ENAMEL WORK "there's only one wood"—and it's

# SAP GUM

Get Prices on These Woods—It Will Pay You.

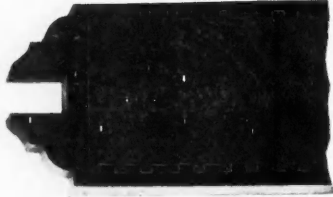
**"Clinch Your Reputation for Leadership by Recommending (and Using) GUM"**

Builders desiring to see samples of Red and Sap Gum, both rough and finished, or who want prompt quotations on selected Red and Sap Gum, should **write at once** to any or all of the following firms:

THREE STATES LUMBER COMPANY	-	-	-	Memphis, Tennessee
CHARLES F. LUEHRMANN HARDWOOD LUMBER CO	-	-	-	St. Louis, Mo.
LAMB-FISH LUMBER COMPANY	-	-	-	Charleston, Mississippi
HIMMELBERGER-HARRISON LUMBER CO.,	-	-	-	Cape Girardeau, Missouri
CARRIER LUMBER & MANUFACTURING COMPANY	-	-	-	Sardis, Mississippi
BAKER LUMBER COMPANY	-	-	-	Turrell, Arkansas
ANDERSON-TULLY COMPANY	-	-	-	Memphis, Tennessee

## COMPOUND DOORS

This Method of Construction makes Warping, Twisting and Blistering less likely.



We are the oldest Veneer Door Concern in U. S.

Manufacture exclusively Special Ordered Veneered Doors of Highest Grade

Our Imitators are our best Indorsement

### COMPOUND DOOR CO.

ST. JOSEPH, MICHIGAN

Not Connected With Any Other Door Concern

advantage the manufacture and use of concrete in general construction, by actual exhibition and demonstration of many of the larger machines, which has heretofore not been possible on account of the weight of the machinery.

The company has obtained the services of M. E. Gordon of Chicago as installation manager for the Cement Shows. Mr. Gordon has been identified with practically all the cement exhibitions held during the past six years. His engagement as installation manager is the outcome of the ability and efficiency he has displayed at past shows.

### Money in "Box Ball"

Attention is called to the advertisement on page 101 of this issue of the American Box Ball Bowling Alley.

This is an automatic bowling alley that reaches the customer complete in every detail and can be installed ready for operation in a few hours.

These alleys have been on the market for about six years, during which time nearly 8,000 of them have been sold. They are in daily use in every civilized country on the face of the earth.

The American Box Ball Company, Indianapolis, Ind., since it began business, has exerted tremendous efforts to elevate the amusement business; and has met with remarkable success.

Box ball furnishes high-class, clean entertainment and the sensible kind of physical exercise. On this account and the fact that the company insists on placing the alleys only with those who are willing to run them on a highly responsible order, the alleys are extremely popular with the better class of people in the town where they are operated.

These alleys have been installed in over a hundred Y. M. C. A.'s, many educational institutions, clubs, churches, and many homes.



### A New Corbin Night Latch

Is unexcelled for ease of application, security, convenience and appearance. It has the Corbin burglar-proof cylinder, long latch bolt, and heavy strike; can be locked or unlocked from the outside, by the key at all times, and the latch bolt can be fastened whether in or out by the thumb-piece on the inside. *Send for circular BK 32, describing it.*

P & F. CORBIN  
New Britain, Conn.

P. & F. CORBIN  
of Chicago

P. & F. CORBIN  
of New York

P. & F. CORBIN  
Philadelphia



Copyright 1910-MORGAN COMPANY

## Beautiful Interiors

### MORGAN DOORS

grain running in opposite directions. Shrinking, warping or swelling impossible. Each Morgan Door is stamped "MORGAN," which guarantees quality, style, durability and satisfaction. Be sure your doors have a "MORGAN" stamp.

#### New Edition—"The Door Beautiful"—Just Out

Send for a copy of this beautiful book. It is full of page illustrations showing interiors with Morgan Doors and their surroundings. All styles of architecture are shown and the book contains valuable, artistic suggestions for the Builder.



will be more beautiful if you equip the entire building with Morgan Doors—the lightest, strongest, most exquisitely grained doors made.

are made in an especial way, from special woods, by special methods and machinery. They are the best doors made and are specified by all up-to-date architects. Built of separate layers of wood with the grain running in opposite directions. Shrinking, warping or swelling impossible. Each Morgan Door is stamped "MORGAN," which guarantees quality, style, durability and satisfaction. Be sure your doors have a "MORGAN" stamp.

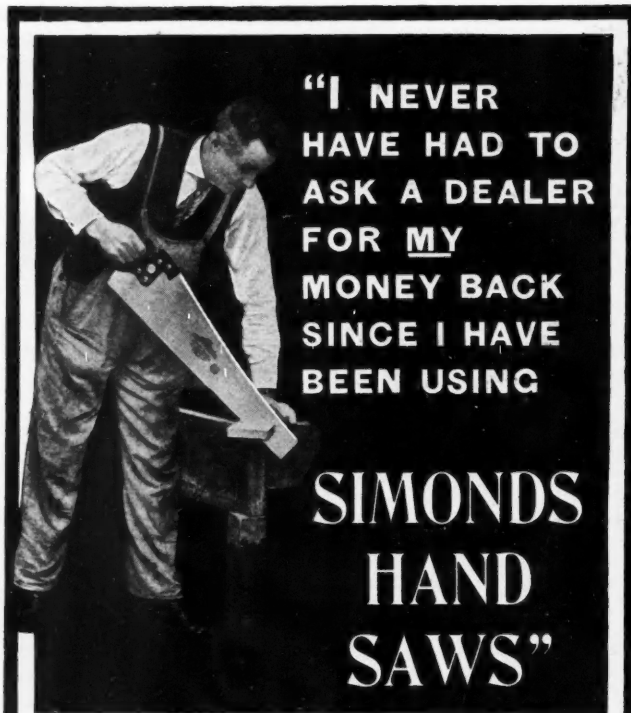
Send For Your Copy Today

**MORGAN COMPANY, Oshkosh, Wis.**  
Dept. OH

Distributed by Morgan Sash and Door Company, Chicago  
Morgan Millwork Company, Baltimore, Md.

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN CARPENTER AND BUILDER





**"I NEVER  
HAVE HAD TO  
ASK A DEALER  
FOR MY  
MONEY BACK  
SINCE I HAVE  
BEEN USING  
SIMONDS  
HAND  
SAWS"**

That's what one carpenter said when writing about his experience with Simonds Hand Saws.

It would be entirely too broad a claim to say that none of them ever did come back, but we believe that dealers have to give "money back" on fewer Simonds Saws than any other brand of Hand Saws.

Here's what one dealer in a large city in Pennsylvania writes: "The saws I return you by express are the only ones to my knowledge returned for exchange in all the years I have bought your line. We have less exchanges on Simonds Saws than on any other brand, and sell twice as many of them."

A carpenter in Cairo, N. Y., writes: "Five years ago I bought two Simonds Hand Saws, one Rip and one Cutoff. They are certainly the nicest running saws I have ever used. The dealer said if they were not better than any other make I ever used to bring them back. I never took them back."

Ask your hardware dealer for Simonds Hand Saws or write us about the kind of a saw you are wanting.

**Simonds  
Manufacturing  
Company**



Fitchburg, Mass.  
Chicago, Ill.  
New York City  
New Orleans  
San Francisco  
Portland, Ore.

By far the largest number of them, however, are installed in empty business rooms and run as a straight out business enterprise. It is a clean and highly moral proposition, and provides a splendid place for wholesome entertainment.

The alleys set low to the floor. They are covered with a composition of cork and rubber. The pins are fitted with leather tips, all of which eliminate practically all the noise. The alley works on an automatic plan; hence, there is no expense for its operation except the small item of rent.

The company sells the alleys on easy payments, and shows its confidence in the proposition it offers by agreeing to sell these alleys to its customers on a bona fide guarantee that if the customer is not satisfied after thirty days' trial, he can return the alleys and if he has not taken in during the month's trial as much as he has advanced on the alleys, the company will immediately refund him the difference.

It is a splendid opportunity for starting a clean, big money-making business on small investment. The results are guaranteed.

Write to the American Box Ball Co., Indianapolis, Ind., for interesting free book on this subject.

### Poor Economy to Buy Cheap Tools

There is not a farmer in the land who has not some sort of an outfit of carpenter tools. They are just as necessary to his work as a hay fork or an axe.

It is hardly necessary, therefore, to say to the farmer that it is poor economy to buy inferior tools. About what the farmer would like to know, and every workman, no matter how expert he may be, is how to buy tools with the absolute certainty that they will be right in quality, temper and adjustment.

The way to avoid all chances of buying unsatisfactory tools is never to buy unknown tools. Ask any carpenter how he selects a saw, a chisel, a bit and he will tell you that he always specifies a certain manufacture. In other words, he buys them not by the looks, but considers only the name of the company who made them.

Over forty years ago the Simmons Hardware Company made an important decision that was to change the entire business of making and selling tools. They believed that people wanted quality before everything else, and they determined that quality should be maintained in their tools, first, last and all the time.

The name Keen Kutter was adopted to identify these tools and a trade mark was devised to be stamped on every Keen Kutter tool. Every article bearing this mark was backed up with an unconditional guarantee by the makers that if anything should prove wrong, even after the hardest kind of work, the purchase price would be willingly refunded. This method of having one general brand for all tools removes any risk in buying.

For their own protection, the Simmons Hardware Company thoroughly test every Keen Kutter tool before it is stamped with the trade mark that guarantees it.

The name Keen Kutter covers the only complete line of tools and cutlery under one name and trade mark backed by such a guarantee.

It is possible that Keen Kutter tools may cost a trifle more than some others. If so, the difference in price is for better quality, more skillful workmanship, more accurate balance and adjustment, more ability for hard work, more years of good, hard service. The name costs nothing. The buyer merely pays for what the name represents.

There is hardly a hardware store that does not keep a full line of Keen Kutter goods, and the dealer is always glad to hear anyone ask for Keen Kutter tools and cutlery, because he knows he will be a satisfied customer.

# Sharp Rotary Ash Receiving System

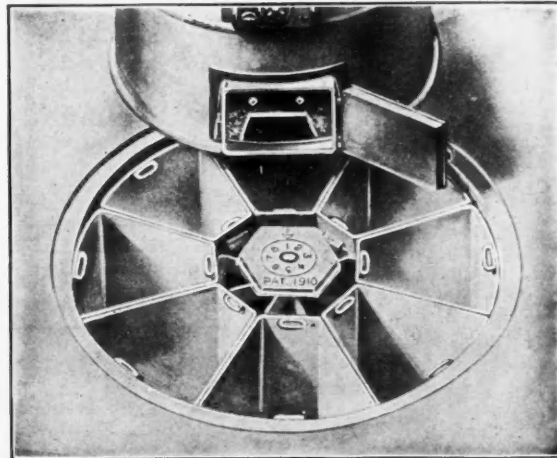
**No Dirt**  
**No Ashes in Evidence**  
**No Furnace Dust**

This system of caring for ashes is for use in all kinds of buildings and institutions of every description where boilers and furnaces are used. Holds 6 to 10 weeks' ashes. Can be installed in present buildings as well as those in course of construction.

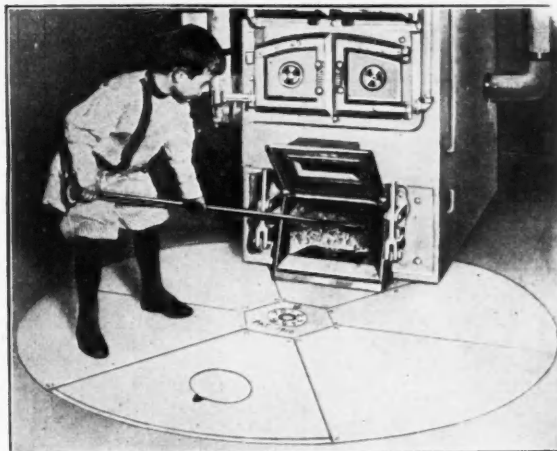
A circular pit is excavated in the cellar bottom in front of and projecting somewhat under the furnace. This is lined with cement to receive a series of specially constructed galvanized iron cans of the capacity of the ordinary ash can, arranged to revolve on a central, perpendicular shaft, operated by a lever in such a manner to bring one can at a time directly beneath the ash-pit of the furnace.

The whole device is covered by stationary top plates on a level with the basement floor, provision being made to receive the ashes, etc., through an opening in the floor of the furnace ash-pit. One of the floor plates is removable, so the cans are easily lifted out when full.

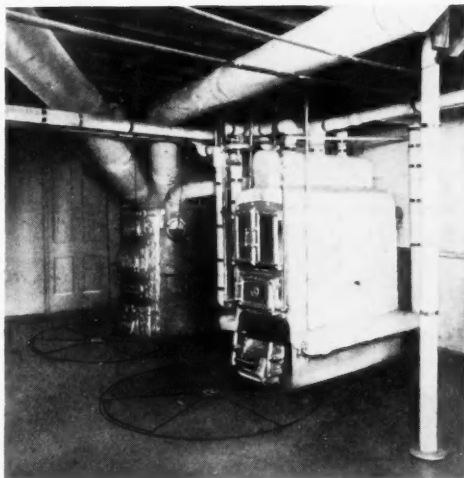
This device is mechanically perfect and is guaranteed satisfactory in every way. Write for testimonials of satisfied users.



This cut shows cover plates removed for the purpose of illustrating internal arrangement of cans.



Dump ashes direct from furnace into the receiver. A boy can do it.



Cellars are always clean and atmosphere wholesome when Sharp receivers are installed.

**COMPARE**  
**THESE**  
**PICTURES**

The picture at the left shows two Sharp ash receivers installed. This cellar is always clean and no ashes are in evidence. The cellar at the right shows a condition that is fairly general. Ashes, dust and dirt are done away with when the Sharp system is used.



Do away with this kind of a cellar—unsightly, unsanitary, unclean.

## Builders!

We are offering attractive discounts to builders at this time to introduce this great system. Sharp Ash Receivers are easily installed. Write today for illustrated catalog, showing method of installation and containing valuable suggestions for builders.

**The W. M. Sharp Co., 500 Park Ave., Binghamton, N. Y.**

### Four Small Shop Tools

In the shop of almost every progressive carpenter, contractor, builder or retail lumberman will be found a band saw, tenoner, surfacer and a mortiser.

It can be safely said that such machines will directly produce a revenue sufficient to make them pay for themselves in a short time, and in addition enable the progressive owner

to turn out just what he needs, and when he needs it, keep his men busy in bad weather and off seasons and increase his business by making it possible to take his contracts at a lower figure than his competitors who still depend upon the planing mill.

J. A. Fay & Egan Co., after a careful and exhaustive study of the needs of this class of trade, have designed a band saw, surfacer, tenoner and a mortiser especially to meet the requirements. These four machines are illustrated and will be

found especially meritorious by carpenters, contractors, builders and retail lumbermen because of their simplicity. The manufacturer's chief aim in the construction of these machines was simplicity of construction so that any ordinary em-

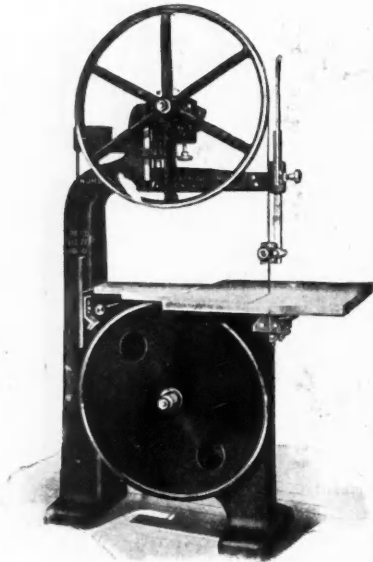


Fig. 1, Band Saw, No. 192

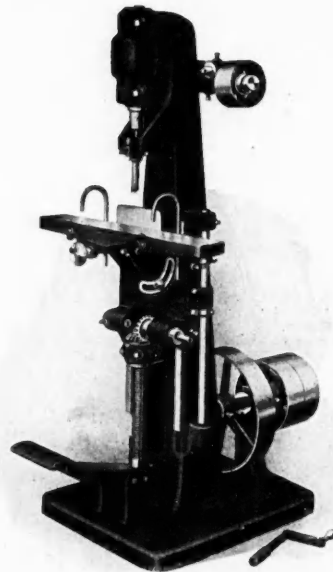


Fig. 2, Vertical Hollow Chisel Mortiser, No. 272

ployee can operate them. Another fact worthy of consideration is that the Fay & Egan Co. dates back to 1830, and their latest models in small shop tools, of which these four are a few, contain the accumulated ideas of eighty-one years' experience in building high grade woodworking machinery.

One of the most important machines with which the carpenter, contractor, builder or retail lumberman can equip his woodworking shop is a band saw. When selecting it due regard

must be given to the question of its ability to satisfactorily execute work of all kinds, for nothing is more annoying than to have a machine break a blade or go to pieces, so to speak, right in the middle of a "rush job." With a view to meeting the exacting requirements which a band saw is called upon to fulfill, the Fay & Egan Co. have brought out the No. 192 Band Saw, which we illustrate in Fig. 1. The success of this machine is said to be largely due to the patented knife edge straining device with which it is equipped. The claim is made that this device is so sensitive that it will compensate for even the smallest chip sticking to the blade



# CORTRIGHT

Besides a good profit to you Contractors and Builders,  
**Cortright Metal Shingles**

are—as an old builder once described them—self-sellers.

Besides the demand created for them by extensive advertising, the reason is very evident.

Backed by 26 years of exacting service—for a fight against the elements—snow, rain, wind and sun is exacting service—they offer the most exceptional advantages.

Think of roofing that never leaks—lasts as long as the building, is fireproof, handsome, durable and never needs repairs, and you have an exact idea of a "Cortright" roof.

But we don't want to simply tell you these things. We want to prove them.

That's just the reason we have a catalog ready to send to you, completely describing this superior Cortright construction, if you'll simply send us a postal with your name and address. Write today.

**CORTRIGHT METAL ROOFING CO., PHILADELPHIA AND CHICAGO**

**COUPON**  
 Gentlemen—Send me 5¢ paper catalog as adver-  
 tised in Am. Carp. & Bldg., Nov.  
 Name \_\_\_\_\_  
 Street Address \_\_\_\_\_  
 City \_\_\_\_\_  
 Post-office \_\_\_\_\_



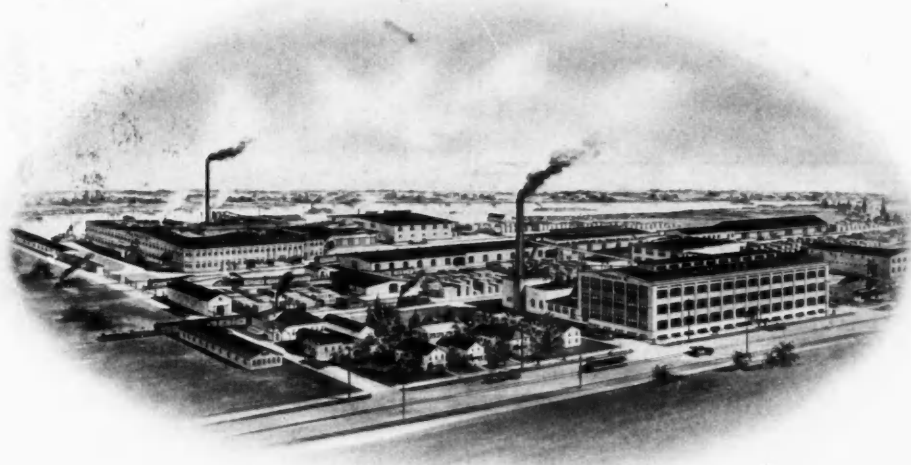
## "Only One Oshkosh"

**OSHKOSH** is the birthplace and home of the *Veneered Stock Door*.

**OSHKOSH** factories furnish 75 per cent of all the veneered doors used in the *United States*.

**OSHKOSH** Manufacturers have the facilities for making and do turn out the best Veneered Doors in the world.

**OSHKOSH** is the home of the famous "**McMILLEN**" brand of **MAX-ROYAL VENEERED DOORS**—they are recognized the country over as superior in material and workmanship. Every door is warranted and marked:



HOME OF THE MAX-ROYAL VENEERED DOORS.

Reasons why you should use Max-Royal Oak and Birch Veneered Doors—*They Look Better. They Wear Longer. They Cost No More.*

Hardwood Veneered Doors in the long run are not only cheaper than any other, but they are truly

*"A thing of beauty and a joy forever."*

### 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

**Every Builder  
Should Know These  
Two New Finishes  
for Concrete Work**

**Elastic Cement  
Floor Finish**

For Concrete floors where a hard, smooth surface is desired. Particularly adapted to office and public buildings, dormitories, hotels—wherever wood floors are not used and where colors are wanted to harmonize with wall finish. Prevents dust, works easily and lasts long—like all Lowe Brothers products.

**Concrete and  
Cement Coating**

For lengthening service and improving appearance of all concrete surfaces. This high quality ready-to-use, tested product seals and waterproofs the surface, hardens it without injury and permits giving attractive effects suitable to all architectural styles. 14 colors.

Ask for finished examples of these and any other paint products you may require. We have something for every purpose. Our organization is at your service in suggesting color schemes or helping solve your paint problems.

**The Lowe Brothers Company**

450-456 E. Third Street, Dayton, Ohio.

Boston New York Chicago Kansas City  
Lowe Brothers, Limited, Toronto.



Asbestos "Century" Shingle Roof  
Residence Dr. Robt. Damerell, Red Cloud, Neb. Architect, C. M. Way & Co., Hastings, Neb. Contractor, S. Beckwith, Red Cloud, Neb.

**Asbestos "Century" Shingles**  
"THE ROOF THAT OUTLIVES THE BUILDING"

People often write us to know if we can supply Asbestos "Century" Shingles for some special style or kind of building.

Our answer to that is that we can fit out ANY building with an Asbestos "Century" Shingle roof. Our assortment of shapes is universal.

It has to be.

Asbestos "Century" Shingles are in use today on practically every kind of building occupied by civilized man.

Write us for information about the shapes of Asbestos "Century" Shingles—the sizes—and the three colors—Newport Gray (silver gray), Slate (blue black) and Indian Red. We will send you quotations—and our Booklet "Everlasting, 1911."

**The Keasbey & Mattison Company, Factors**  
AMBLER, PENNSYLVANIA  
Branch Offices in Principal Cities of the United States and London, Eng.

or rim of the wheel. This patented strain, in connection with the solid lower wheel, permits the using of a thinner blade at a higher speed than has been the case heretofore, thus increasing the quality as well as the quantity of the work. Furthermore, this device reduces the cost of blade upkeep from 15 to 25 per cent.

Another indispensable tool for use among this class of trade is a vertical hollow chisel mortiser. We call your attention to Fay & Egan Co.'s No. 272 Vertical Hollow Chisel Mortiser, shown in Fig. 2. The manufacturers claim this is the only machine of its kind now on the market; and the exceptionally large demand they have had for it, among carpenters, contractors, builders and retail lumbermen, proves that it is filling a long felt want. It is entirely self-contained, takes up little floor space and within the limits of its capacity will turn out as clean and accurate work as any high priced

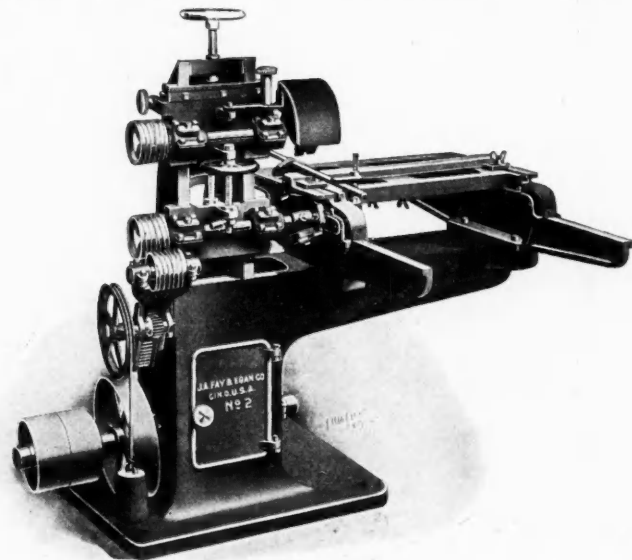


Fig. 3 Single End Tenoner, No. 2

mortiser ever made. The adjustments are simple and the machine is easy to operate, works rapidly and with absolutely no jar or vibration whatsoever. It is equipped with automatic disappearing stops which eliminate the necessity of marking off the stock in duplicate work.

A small single end tenoner will be found to be of great value to any small woodworking shop. Fig. 3 illustrates Fay & Egan Co.'s No. 2 Single End Tenoner, a machine designed to meet all the requirements in the way of light tenoning that

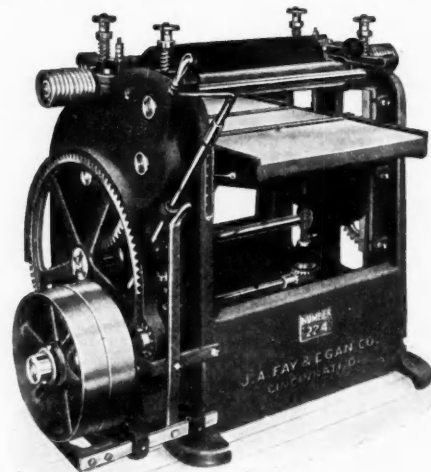


Fig. 4, Surfacer

# BEFORE YOU BUY A FOOT OF LUMBER

FOR ANY PURPOSE, big or little, indoors or out, in city or country,

Write for the proper volume of **The Cypress Pocket Library.** (Free)



Backed by our "All-round Helps Dept.," it is the guide, counselor and friend" of

**ALL THE PEOPLE WHO CARE**  
WHAT VALUES THEY GET for their LUMBER MONEY.

Why not buy WOOD with the same discrimination you apply to other things? We do not advise CYPRESS for *all* uses, but *only* where it can *prove* itself "the one best wood" for *your* use.



- 1 You don't tell your broker: "Buy \$10,000 of Railway stocks!" Hardly! You tell him *what*.
- 2 You don't simply tell your Real Estate agent: "Buy me 'some land'!" You tell him *where*.
- 3 You don't tell the dry goods clerk: "I want 8 yards of cloth!" You say "silk," "wool," or "linen."
- 4 You don't merely order "200 head of live stock!" You specify Horses, Cattle, etc., and *the Breed*.
- 5 Very few owners tell their contractor: "Build me a house!"—They dictate the *plans* and are learning to specify the *kind of wood*.

WIDE AWAKE CARPENTERS AND BUILDERS' ARE RECOMMENDING CYPRESS—"THE WOOD ETERNAL."  
WRITE AT ONCE for VOL. of CYPRESS PKT. LIBR. that fits your case. WE'LL REPLY AT ONCE.

THESE VOLUMES MAY BE HAD NOW:

1. "The Wood Eternal"—What It IS (incl. U. S. Govt. Report).
5. How to Avoid Mistakes in Bungalows.
9. CYPRESS for SIDING—and Why.
22. Cypress SILOS and Tanks (of course).
18. Cypress Bungalow "A" (Complete Working Plans and Specifications Free).
6. Cypress Bungalow "B" (Complete Working Plans and Specifications Free).
8. Cypress Bungalow "C" (Free Working Plans and Specifications).
3. Cypress, "Only GREENHOUSE Wood."
29. Cypress Shingle House (Free Working Plans and Specifications).
16. Cypress for Porches, etc., and the Reasons.

31. Cypress' Great Beauty for Interior Trim.
12. "The Wood Eternal" for Exterior Trim.
30. Cypress Pergolas, etc. (8 Working Plans Free).
7. Cypress Shingles "Yes Book" (Last a century).

THESE IN PREPARATION—APPLY NOW:

10. Cypress for Artistic Doors (a revelation).
2. "Pecky" Cypress—"The Vaccinated Wood."
4. Cypress "& Nothing Else," for BARNS, etc.
28. Cypress for All Trellises and Arbors.
15. Cypress for Dairy Uses—"The Only Wood."
19. Cypress for Canoes and Boats (defies decay).
24. What People (who know) SAY of Cypress."
26. Japanese Effects (Sugi) in Cypress.
11. Cypress for Sash, Blinds and Frames.
14. Cypress for Gutters, Curbs and Culverts.
23. Cypress "Perfect for Exterior Painting."
25. "Perfect for Interior Painting and Staining."
27. As a Preventive of Property Depreciation."
20. Cypress for ALL FARM Uses.
33. "How I Finish Cypress," by a Craftsman.
32. "Caustic Surfacing of Cypress" (novel).
21. Cypress for "All Outdoors" (of course).
17. Cypress for All "Odd Jobs" (of course).

When Erecting a Mansion, Bungalow, Pergola, Pasture-Fence or Sleeping Porch, remember—"With CYPRESS you BUILD BUT ONCE."

Let our "BUILDERS' HELPS DEPARTMENT" help YOU. Our entire resources are at your service with reliable Counsel.

## SOUTHERN CYPRESS MANUFACTURERS' ASSOCIATION

1216 HIBERNIA BANK BUILDING, NEW ORLEANS, LA.

INSIST ON CYPRESS OF YOUR LOCAL LUMBER DEALER. IF HE HASN'T IT, LET US KNOW IMMEDIATELY

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN CARPENTER AND BUILDER



may arise in such a shop. It will cut off material 20 inches wide, and will make a tenon up to 3/4-inch long at one cut; with two cuts 6 1/2-inch long. For making sash, doors, blinds and other interior finish this tenoner is practically indispensable.

The No. 224 Surfacer shown in Fig. 4 is another Fay & Egan carpenter shop tool. This machine is constructed on lines distinctly different from any other single cylinder surfacer and which enable it to stand up to the roughest kind of usage, and at the same time do light and delicate work perfectly. This will be found a most satisfactory tool for any shop and particularly to those who appreciate the value of fine surfacing.

The manufacturers state that the above mentioned tools can be purchased for a very reasonable sum, and that they can be operated at a surprisingly low cost, with either an electric motor or a gasoline engine.

You are invited by the manufacturers, J. A. Fay & Egan Co., 545-565 W. Front St., Cincinnati, Ohio, to write for full information concerning the four machines illustrated herewith and many other useful machines designed especially to meet your requirements. Their special catalog of small shop tools will be sent free of charge upon request.

### Reducing the "Overhead Expense"

It is a well-known axiom of modern business practice that the profits of an institution come in largest measure from the saving effected in the overhead expense, and along this line the higher cost of living, which in a large measure is the principal overhead expense of the individual family, can be materially reduced by cutting down the daily outlay for car fare.

Nothing is more suited to this purpose than the bicycle, and it is, perhaps, surprising to learn that for an investment

of from \$18 to \$30, depending upon the style desired, it is possible to secure a brand new, high grade bicycle completely equipped and thoroughly guaranteed, that will not only carry the carpenter or contractor to and from his work but is sturdy enough in construction to carry in addition a large kit of tools or other necessary baggage.

The Mead Cycle Company, Department P-122, Chicago, U. S. A., will be pleased to send a catalogue of their latest model 1912 bicycles, also a catalogue of sundries, showing a complete line of clever attachments for the bicycle for any and all purposes, to any reader of the AMERICAN CARPENTER AND BUILDER, free of charge.

### Drouve Drying (Salamander) Stove



The need for a well-built, substantial and easy to handle drying stove or Salamander is well met by that shown in the illustration. The G. Drouve Company, 23 Tulip Street, Bridgeport, Conn., have had this stove on the market for a number of years and it has found wide use and is much in demand for its serviceableness. It burns coke or coal and is provided with a pan of sheet iron, conical in form, to receive ashes and prevent fire and ashes falling on the floor. The stove is built in 15-inch and 20-inch diameters and can be furnished with or without bricks and tops. It is easy to handle, as openings are provided for insertion of rod for carrying. The stove has many other uses besides the purposes of drying out masons and plasterers work. Circulars and prices will be sent on request.

## Heaviest Loads to the Farthest-Out Districts Are Made With the Powerful Schacht Truck

Every contractor and builder will eventually use nothing but motor trucks for the heaviest hauls and longest trips. The big, powerful, never-tiring motor truck is the only salvation—it is the inevitable, more and more of them being sold every day to men who have come to the conclusion that they can't afford any longer to keep and maintain such large numbers of teams and wagons.

It's the Modern Method that does the work of three teams, six horses; it reaches the remotest sections and suburbs much QUICKER than teams did, delivers the goods safely and returns for another load.

A lumber dealer using the Schacht Motor Truck now makes four long hauls and gets back exactly the same time it took him to do it with his three teams and wagons. One man

handles the SCHACHT TRUCK—3 men, all drawing \$2 a day, drove his teams. It was an all-day job—now it's a two-hour trip.

Here is one of the very best Motor Trucks on the market to-day. It's rated at three to four tons, but will easily stand a load of an additional 25 per cent and without the slightest perceptible strain on the motor or working parts.

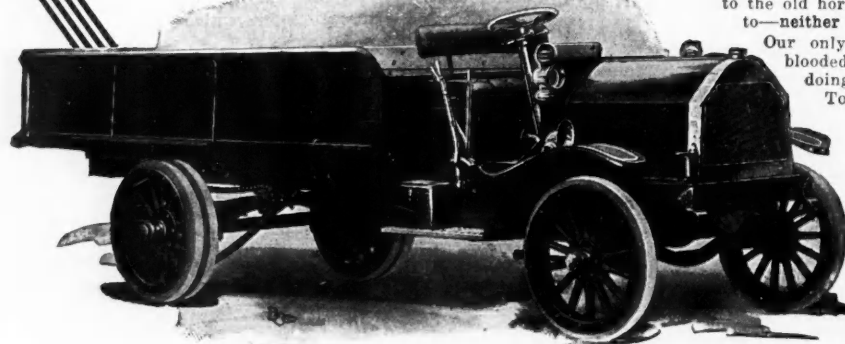
This SCHACHT TRUCK is designed for the heaviest kind of service—service where constant reliability and gigantic power are required at each and every trip.

A SCHACHT three to four ton truck actually can show YOU that it's a money-maker, a time-saver, and a necessity. It is a necessity to any construction man, lumberman, builder, contractor—any man—who is shrewd enough to know that the purchase price of any proven business builder is simply a secondary consideration IF MORE BUSINESS CAN BE HANDLED AND GREATER RESULTS SECURED!

SCHACHT TRUCKS are now daily making new business for hundreds of level-headed men. There isn't a motor truck user in the country to-day who would go back to the old horse-drawn method. They couldn't afford to—neither can YOU!

Our only desire is to show YOU in a cold-blooded manner why your business is not half doing its best without a SCHACHT 3 to 4 Ton Truck.

### This is Our 3 to 4 Ton Truck

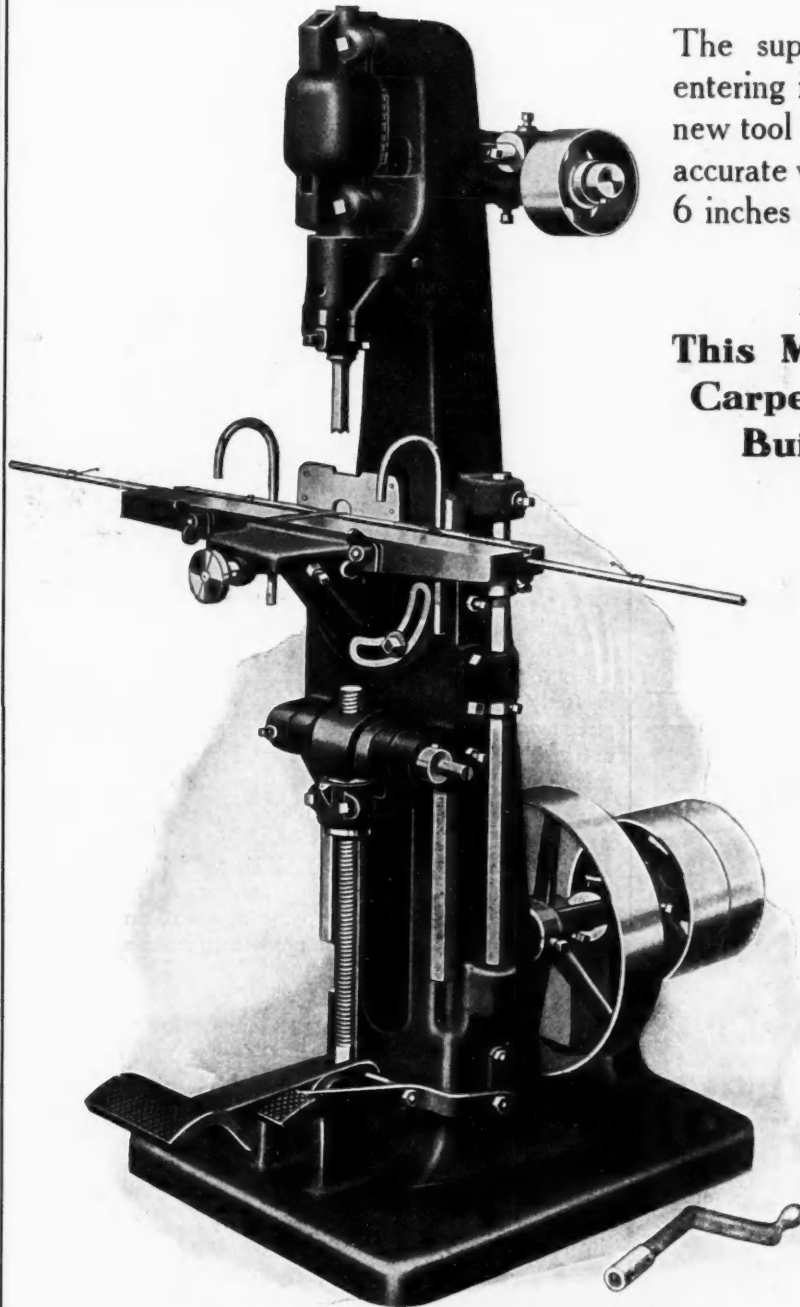


### The Schacht Motor Car Co.

3932 Spring Grove Ave.

CINCINNATI,  
OHIO

# A NEW Hollow Chisel Mortiser



The superior mechanical principles entering into the construction of this new tool enable it to do as clean and accurate work up to  $\frac{3}{4}$ -inch square and 6 inches thick as a big, heavy tool.

## Reasons Why This Machine Appeals to Carpenters, Contractors, Builders and Retail Lumbermen:

- 1st—Entirely self-contained.
- 2nd—Uses little power.
- 3rd—Occupies small floor space.
- 4th—Easy and simple to operate.
- 5th—Works smoothly; no pounding or jarring.
- 6th—Under instant control of operator.
- 7th—Table angles 40 degrees.
- 8th—Automatic disappearing stops eliminating the necessity of marking off stock in duplicate work.

Price and details  
free upon request—  
write today

No. 272—VERTICAL HOLLOW CHISEL MORTISER

**J. A. Fay & Egan Co.** 545-565 West Front St. Cincinnati, Ohio

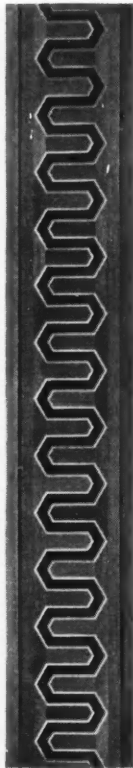
#### SALES OFFICES:

ATLANTA—Candler Building  
BUFFALO—White Building  
BALTIMORE—306 Pres't'n St.  
CHARLOTTE, N. C.—Box 1070  
CHICAGO—Com. Nat. Bank Building.  
DETROIT—97 Woodbridge St.  
EVANSVILLE—16 Powell Ave.  
GRAND RAPIDS—1048 Jefferson Ave.

#### SALES OFFICES:

LOS ANGELES—164 N. Los Angeles St.  
NEW ORLEANS—921 Hib. Bank and Trust Co. Bldg.  
NEW YORK CITY—120 Broadway  
ST. LOUIS—Bank of Commerce Building  
SAN FRANCISCO—139 Townsend St.  
SEATTLE—401 White Building  
VANCOUVER—532 Pender St.

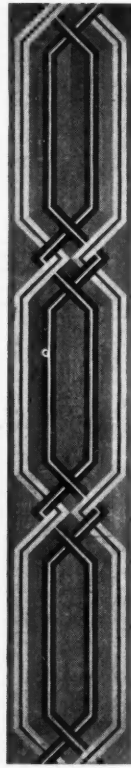
## Ornamental Hardwood Flooring Parquetry—Wood-Mosaic



Send for our catalogue showing samples of standard designs. These pictures are photo-engravings printed in natural colors of the finished floors.

We have been manufacturing this flooring for thirty years. We have our timber, saw-mills, lumber yards, dry kilns and factories.

You should handle our parquetry flooring in your town. We will do all we can to aid you. When writing for our catalogue tell us, at same time, what you consider the prospects in your neighborhood.



**WOOD-MOSAIC COMPANY,** New Albany, Ind.  
Rochester, N. Y.

### This Engine Saves You 3 Men's Pay 15-Day Free Trial to Prove It

**P**UT the wonderful **Perfection** portable kerosene engine in your shop—the difference in your pay-roll will soon cover its cost. Never gets sick, discontented or restless—just plugs away day in and day out doing the work of three men with never a complaint. Does a hundred things about the place quicker and better than manual labor could do them.

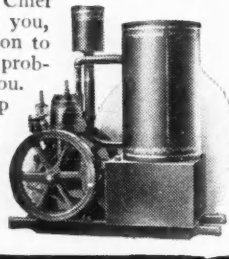
### Perfection Portable Kerosene Engine

is the simplest, most compact engine made. That's because it's built by skilled automobile men, with years of engine experience. And the principle is *right*. The kerosene is drawn in a light film through the carburetor, vaporized and having the same energy as gasoline. And kerosene is from 6 to 16 cents cheaper than gasoline. The Perfection works equally well with gasoline, distillate or naphtha. **Call on your nearest dealer today—let him explain our great 15-day free trial offer or write us direct for our big free engine book.** Sizes and types to suit every purpose.

### FREE Advice on Power Problems

If you're in doubt about the quantity of power you can use profitably, or the kind of engine to buy, write your questions on a post-card and mail it to our Chief Consulting Engineer. He will give you, absolutely without charge or obligation to you, unprejudiced advice about your problems that may mean a big saving to you. Learn how easy it is to make a cheap transmission layout that will help you to run several machines at once with a single engine. Write today to

Chief Consulting Engineer,  
**Caille Perfection Motor Company**  
233 Second Avenue, Detroit, Mich.



### Dahl Master Slide Rule

Carpenters, builders, glaziers, shademen, plumbers, in fact any one in the building trades that ever has use for a folding rule, should be interested in the Dahl Master Slide Rule,



Dahl Master Slide Rule, Patented, 1910

made by the Dahl Mfg. Co., 1 East 42nd St., New York. This rule is illustrated herewith, right side up, ready for inside measurements. The arrow indicates the exact inside dimensions.

As can be seen this rule is particularly desirable for measuring the inside dimensions of doors, window trim, etc. When closed the rule measures 8 inches.

To take the exact inside measurement, say, of a window, case, hold the rule with the left hand, right side up, as shown in the accompanying cut, and with the right hand extend one slide at a time, beginning with the lower one until the two extreme points of the rule touch the object measured between, and you then have the exact measurement shown at all times as indicated by the arrow. For ordinary measurement use the reverse side.



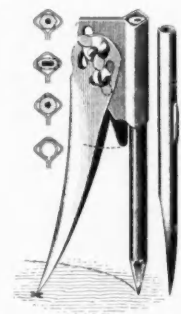
This illustration shows the Master Slide Rule in use for inside measurements. The Master Slide Rule shows exact dimensions without figuring or calculations as indicated with pencil. No guess work.

The Dahl Master Slide Rule, when opened full length is perfectly rigid, and, is kept in place by springs that cannot get out of order. In this way the rule is particularly suitable for measuring height of ceilings, etc. The rule is made in lengths from 2 to 6 feet. Measurements are indicated to 1/16 of an inch.

Write to the Dahl Mfg. Co., 1 East 42nd St., New York, for their circulars, and prices. This company is also looking for carpenters and builders to act as agents in all parts of the United States and are in a position to make a good proposition along this line.

### "Stork's Beak" Scriber

The illustration herewith shows the new Peerless 5 1/2 "Stork's Beak" combined compass and scriber just placed on the market by Potter Bros., 612 W. 110th St., New York. It is a tool that every user of either a compass or scriber will appreciate. It has a double joint with a thumb screw on each side, thus making it very secure and rigid. It can be used in much narrower spaces than the ordinary compass. It also swings on a center, so that it can be easily adjusted to the width desired by operating only one screw and in this way either leg can be made the longer, as desired. The legs can be adjusted up or down to 3/4 of an inch. The two points become one point when the compass is closed.



The illustration shows a pencil inserted in place of the steel leg. In this way the compass becomes a scriber, with almost an endless diversity of uses. All styles and lengths of pencils can be inserted.



# Saves money more ways than any other machine!

Sharpens all tools and can be used as a turning lathe, jig and rip saw, sander, polisher, etc.—30 attachments

Will  
Not  
Draw  
Temper

**Luther**

30  
Days'  
Free  
Trial

**Hummer**

**Tool Grinder**



**10 times more efficient than emery—25 times faster than grindstone**

We want you to prove by 30 days' free trial of this machine how it saves lots of money, increases the amount of work accomplished and makes your work amazingly more easy.

The Hummer makes it but a few moments' work to do the most difficult job of tool grinding, and with the patent tool rests, your ap-

prentice can do it as well as a high priced mechanic. Your tools will always have the proper edge, and keen tools mean at least twenty per cent more work accomplished with a hundred per cent less effort. As a tool grinder alone, it is a big profit maker, but it saves and earns money other ways—as a jig saw, rip saw, sander, polisher, drill, etc.

**Bevel Gear Shaft Drive, Angle Steel Frame, Ball Bearing, Gravity Feed Lubrication, Dust-Proof Housing**

The Hummer will last a lifetime—no chains to break or to be ground to pieces by dust and grit from the wheels. Its construction embraces 26 basic patents. It has 30 different attachments which make it the most serviceable, easiest running tool grinder ever built. It will outlast any number of grindstones or emery wheels. Engine power can be applied but it runs 4000 revolutions per minute by foot power as easy as pedaling a bicycle down hill. The angle steel frame is absolutely rigid, nothing to get out of order or wear out. The time it saves in tool sharpening, and the more and easier work it does, pays for the Luther Hummer over and over. But it saves money in still other ways.

### Dimo-Grit the Wheel for Steel

It saves tools. The Dimo-Grit wheels on the Hummer cut hardest steel as emery does soft copper. Dimo-Grit peels steel away in tiny shavings. It does not wear it away like emery or the grindstone—does not heat up the tool, requires no cooling with water, and there is no danger of drawing temper from tools. Few tools are ever worn out. They come to early old age by grinding. You will be surprised at the longer time Dimo-Grit wheels will make your tools last. Dimo-Grit is the latest artificial diamond abrasive, a twin product of Carborundum, but especially suitable for steel. Carborundum wheels furnished if desired.

### 30 Days' Free Trial

Either for the shop or the individual tool-user this Luther Hummer Tool Grinder is a big economy—a real money-saver—a money-maker. Prove it. It means money in your pocket to prove it, and we will let you prove it by 30 days' free trial, on your own work, on your own tools. Write today for 30 days' Free Trial Offer and 40-page illustrated booklet showing the many uses for the Hummer and the numerous ways it saves money. Write today for free trial offer and free booklet.

**Luther Grinder Mfg. Co., 205 Stroh Bldg., Milwaukee, Wis.**

Lathe and Saw

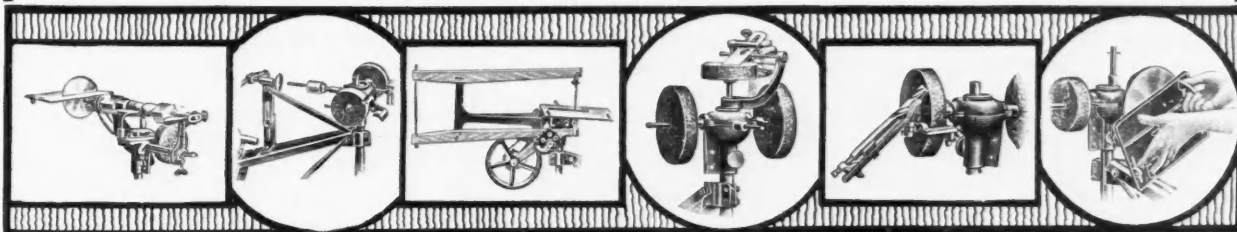
Boring Attachment

Jig Saw

Honing Plane Bit

Drill Sharpener

Surfacing Iron



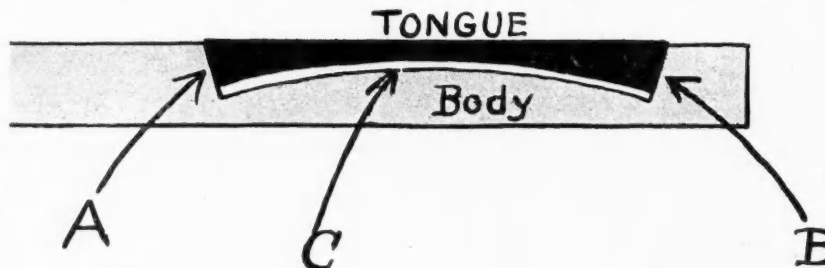
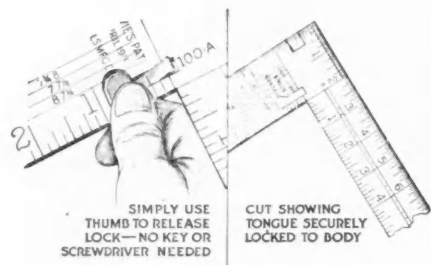
**No Key to Lose**

With the new Nicholls Take-Down Square there is no key to lose, the carpenter releases the lock with the thumb. His thumb is his key. This is said to be the only Take-Down

will see in the illustration and is held down at the other side of body by a very rigid spring.

A rust-proof canvas case is supplied with each square.

If your dealer does not handle Nicholls Mfg. Co. squares,



Square on the market containing this kind of a locking device.

The Nicholls square is guaranteed accurate and to remain so. The main feature of their new Take-Down Square is that it will always stay true. It is so constructed that the tongue is held down into beveled bearings by a spring, and these bearings are made so as to take up the constant wear which comes in taking the square apart and putting it together, thereby producing constant accuracy.

One of the illustrations shows how the joint of their Take-Down Squares are machined. They are machined perfectly square with edge of tongue and body. As you will see the tongue of square does not touch the body at point "C" and only rests on the beveled portion of body indicated by point "A" and "B." These bevels are so straight that it affords the same bearing as a straight shoulder. The clearance at point "C" allows the tongue to settle down as the bearings wear in taking square apart and putting together, thereby producing constant accuracy.

The end of tongue springs down under the button as you

and will not order one for you, write them; they have a special inducement to those who order first square in every town. Address a card to Ottumwa, Iowa.

**New Auger Bits and Braces**

The Russell Jennings Mfg. Co., who make the well-known auger bits, has devised a new way of holding tools in a bit brace, and after much careful experiment and thorough test are placing this bit brace and these bits upon the market. Because of the precise results uniformly obtained with these tools the name "Precision" has been applied to them. The new features relate principally to the shank of the auger bit. In place of the commonly used square shank, the "Precision" tool has a patented turned shank about 2 inches long with a slot  $\frac{3}{8}$  inch deep in the end. This form insures that the tool be held in absolutely rigid and perfect alignment by the true surface of the turned shank and positively prevented from turning by the slotted end which fits over a key in the bottom of the chuck. The tool is held from coming out by a close-fitting split bushing in the patented "Precision" chuck which



**Brings the  
Biggest  
Dividends  
to Any  
Carpenter  
or Builder**

The International Auto Wagon is the most practical commercial vehicle you can buy. It will do all your light hauling in less time and at less cost than a horse-drawn vehicle. With it you can do all your necessary running around in one-third the time.

If you are a carpenter, contractor, or builder, you know from experience that tools, finishings, and working material must be on hand just when they are needed—or money is lost. With an

## International Auto Wagon

there will be no delays—no unprofitable holdbacks.

Two trips after material can be made in the time required to make one with the horse-drawn wagon. This means both time and money saved.

The International Auto Wagon has solid rubber tires (no delays due to punctures), sufficiently high wheels for perfect clearance, and an air-cooled engine that can't freeze in cold weather. There are many other features that help to make it the most practical car for commercial purposes.

Why not find out more about the International Auto Wagon? Write for catalogue and further information.

**International Harvester Company of America**  
(Incorporated)

**70 Harvester Building** : : : : **Chicago, U. S. A.**



GENERAL ROOFING U. S. A.'s  
Largest Manufacturer of Roofings  
and Building Papers.



**The Roll of Honor.**  
—“The roof that outlasts all other roofs  
on the roof.”  
—A Splendid Product at a Reasonable Price  
—No Higher Quality at any Price.

# The General Says:-

“Buy Roofings intelligently”  
Weatherproof Compo-Rubber Roofing is the highest grade and most durable Roofing made,—on account of our enormous manufacturing facilities it is produced at a low cost—and is sold at very reasonable prices.

Specify and use

## Weatherproof Compo-Rubber Roofing

and you will insure for yourself the maximum of durability without being forced to pay a premium. If you have any Roofing Problems to solve—write us.

The General makes this second grade of Roofing—it is not a fourth or fifth grade.

It contains no straw, no low grade asphalts and is not a low grade —COMPETITION Roofing like many manufacturers offer.

It is the equal of many high priced Roofings.

Its price is low. It is not our highest quality—it is not made from the selected stocks used in making our Weatherproof grade.



## Competition Grade at the lowest prices ever made on Roofings.

The General finds so many manufacturers and their customers are offering low priced competition grades of roofings, that he has decided to still say this is wrong, but if the buyer wants them we with our facilities can offer a like goods at a lower price. We will make competition goods in future for special orders and the prices will be the lowest ever made on roofings.

We will not recommend the quality, but lower qualities are sold by others at higher prices.

The goods will be full weight.

Join the General's Army of Success—Be a Business Builder

# GENERAL ROOFING MFG. CO.

Mill No. 3—YORK, PA.

Mill No. 2—MARSEILLES, ILL.

Mill No. 1—E. ST. LOUIS, ILL.

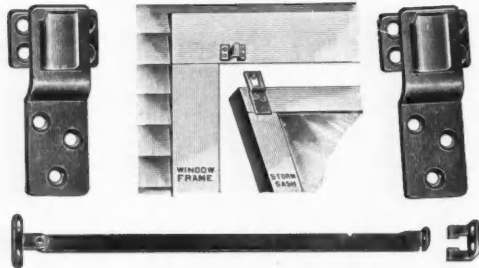
Northwestern Sales Office—Minneapolis

Pacific Coast Sales Office—San Francisco



**STORM SASH**

Properly Hung on  
**SCHROEDER'S**  
"Peerless" Hangers and Fasteners



Storm Sash is quickly and easily hung on Schroeder's "Peerless" Hangers and Fasteners, from the inside without tools or ladder. The Fastener holds the sash securely in place for ventilation or window cleaning. Write for Descriptive Circular.

Ask your Dealer for Stanley's  
Numbers 1717 and 1719

**THE STANLEY WORKS**

New York      New Britain, Conn.      Chicago

BUTTS, HINGES, WROUGHT HARDWARE



**Mr. Contractor  
and Builder**

Why not equip the home or other building you are erecting with

**Acetylene Lighting ?**

You can greatly increase your income by selling Davis Acetylene Lighting Plants, for new buildings, and during dull seasons for buildings already erected.

Write us for cost of equipping a building and for our terms as salesmen.

**Davis Acetylene Company**  
90 Crawford St., Elkhart, Ind.



**Roberts  
Doweling Jig**

A simple, practical, durable and valuable tool for woodworkers.  
Insures accurate work.  
No special bits.  
Price, postpaid, \$3.00. Cash or money order.

**THE FRAZIER COMPANY**  
Sole Distributors  
No. 404 Coleman Building  
Philadelphia, Pa.



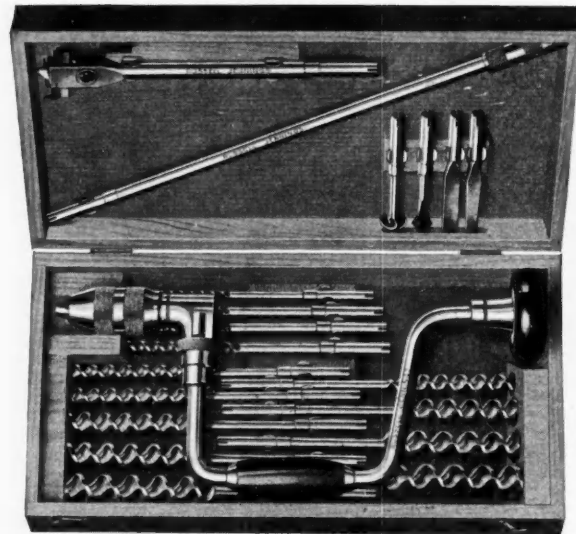
fits over a slight taper on the bit, shank. In this manner the tool is held positively in all ways and with unvarying perfection of alignment.

The superiority of the "Precision" chuck over the old style braces whose chucks permitted the tool to play up and down, and actually wobble in operation, is apparent from the accompanying illustrations. Every carpenter realizes how bad the loose fit is for the work and how hard it is on the tool as many a bent bit has shown.



The advantages of the new "Precision" tools are first—the perfect alignment from the head of the brace to the spur of the bit, second—the reduction of time required for placing or removing tools, and third—the tight grip on the shank even with slight effort applied to the chuck. Further, there is no tendency for the shank to work loose when in use.

Electricians, millwrights and all carpenters who have frequent occasion to use the bit extension and the expansive bit, will appreciate the new "Precision" tools. The bit extension furnished with the "Precision" set is fitted with a small "Precision" chuck. With this combination the workman is assured that his brace extension and bit are in perfect alignment, that they will remain so throughout the operation, and that neither bit nor extension will pull out.

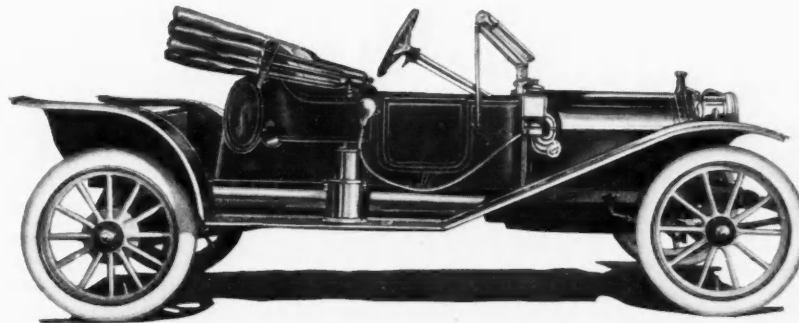


Set of Russell Jennings Mfg. Co., "Precision" Tools

The introduction of these new tools would ordinarily mean discarding all square shank auger bits, screw drivers, countersinks, etc. To prevent loss on the part of the carpenter the Russell Jennings Mfg. Co. have made also a so-called "Universal Precision" chuck (patented), which readily takes either the common square shank tools or the new "Precision" tools. The brace with the "Precision" chuck would naturally be selected in purchasing a new set of tools, but by using the "Universal Precision" chuck for a time the carpenter may replenish his outfit gradually with "Precision" tools while using up his supply having square shanks.

"Precision" tools may now be had individually or in sets, packed in special boxes, each containing one brace fitted with either the "Precision" chuck or the "Universal Precision" chuck, one bit extension having small "Precision" chuck, one expansive bit with large and small cutter, and a set of bits

# Public Demand Produced This Roadster



## Hupmobile Roadster, \$850

F. O. B. Detroit, including complete equipment of top, windshield, gas headlights and generator, oil lamps, tools and horn. 110-inch wheelbase; two passenger body, with gasoline tank and highly finished steel tool and accessory box, mounted on rear deck. Ample room for baggage and extra tires. Four cylinders, 20 H. P., sliding gears, Bosch magneto.

# Hupmobile

### How a Contractor Can Use The Roadster in His Business

The extra large carrying space on the rear deck of the Roadster can be utilized to advantage by the contractor.

In his own shop any contractor can easily have the tool and accessory box removed, and replaced with a larger one or one exactly suited to his individual requirements.

Thus means is provided for the transportation of tools and the smaller size materials.

A hurry special call from the job can be filled in quick time, and valuable moments saved.

Carrying its quota of passengers, the Roadster is still capable of transporting an additional weight equal to theirs, for it is built on the chassis of the four-passenger Hupmobile Touring Car.

### The Hupmobile World-Tour

The World-Touring Hupmobile left Detroit last November.

It is now in India.

It has traveled some 25,000 miles on land, under its own power.

It has crossed the United States; toured the Hawaiian Islands and climbed to the smoking crater of the volcano Kilauea.

It has penetrated the Philippine wilderness, going where no other car has ever ventured; it has climbed the steepest mountain slopes of Australia and New Zealand.

It was one of the very first cars to attempt an extended tour of mountainous Japan.

It has gone into China.

No other car has ever attempted a trip of the severity or duration of this tour.

Before the Hupmobile's return to Detroit early in 1912, it will have visited North Africa and Egypt and toured the continent of Europe.

Many pictures, showing some of the difficulties from which the Hupmobile has emerged triumphant, are contained in the portfolio covering the Oriental section of the tour.

Send the coupon to-day for this illustrated booklet.

You can thank the insistence of the motor-buying public for this new Hupmobile Roadster.

Newspaper reports of the impressive performances of the World-Touring Hupmobile have had a three-fold effect.

They have stimulated, everywhere, the always extra-ordinary demand for the Hupmobile Touring Car and the Hupmobile Runabout.

And, in addition, they have given rise to a new demand; which has voiced itself in a persistent call, from all parts of the country, for a Hupmobile Roadster with the same chassis and the longer wheel-base of the globe-girdling car.

The achievements of the World-Touring Car—which is winning new honors at this writing in far-off India—have fired the public imagination; and advocates of the Roadster, everywhere, have urged our dealers to give them a Hupmobile of that type.

So, here you have it—a Roadster with the specifications which have proven so marvelously efficient in the 25,000 miles of land travel credited to the Hupmobile Touring Car since it left Detroit last November; and the thousands of touring cars in use in all parts of the world.

Having its two seats midway between front and rear axles, and with the flexible springs and long wheel base of the touring car, the Roadster is a particularly easy-riding car.

Its power plant and other mechanical features are identical with those which have given the Hupmobile its high reputation for economy of operation and maintenance durability, long life and efficiency; and you can see for yourself that it is one of the most beautiful members of the notable Hupmobile line.

The tool box on the rear deck can be removed, affording an extra large carrying space for the individual requirements of owners for touring or for commercial purposes.

We have produced a new portfolio picturing the trip of the World-Touring Car, with views of Australia, New Zealand, India, the Philippines, China, Japan and other countries, which is like a miniature edition of the travels of Burton-Holmes or Frank Carpenter.

Use the coupon and secure a copy of the first edition

## Hupp Motor Car Co.

1255 Jefferson Avenue  
DETROIT, MICHIGAN



Hupp Motor Car Co.,  
1255 Jefferson Ave., Detroit, Michigan.

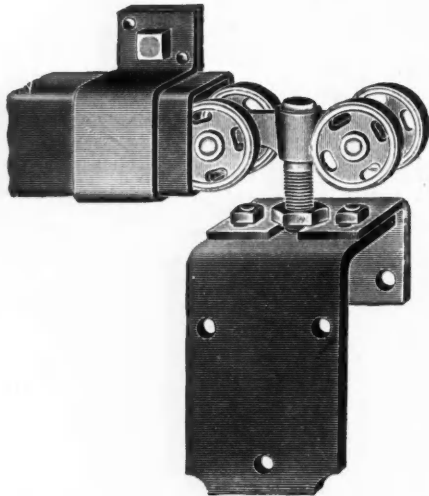
Mail me your portfolio, "The Conquest of the Orient."

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

from ¼-inch to 1 inch by sixteenth (32½ quarters), two screw drivers, and one countersink for metal and one for wood. This complete set of finely finished tools is made of selected tool steel and with the fine workmanship that characterizes all Russell Jennings bits. All these tools bear the name "Russell Jennings" on the "Precision" shank, which name is the sign of boring tool perfection.

### Ball Bearing Trolley Hangers

The Richards-Wilcox Mfg. Co., Aurora, Ill., is placing on the market a full line of ball bearing trolley hangers. They are made in six sizes, to carry doors of all sizes and especially adapted for garage work, heavy factory and warehouse doors.



The trucks consist of drop forged yokes, with four wheels to each hanger, as shown in accompanying illustration. Hangers are equipped with both vertical and horizontal adjustments. The above company illustrate this ball bearing line in

their No. 11 catalog. Our readers are requested to write for information regarding these hangers.

### Sap Gum "Going Up" Fast

The carpenter or builder who is overlooking that sterling new comer among the woods, Sap Gum, is losing money for both himself and his clients.

Sap Gum is a wood that for a hundred and one uses is admirably fitted to take the place of much more expensive woods now in general use.

Especially is Sap Gum well adapted to be a basis for white enamel finish in the popular colonial houses, chiefly because of its close grain and smoothness under paint.

Of all the woods it is regarded by many of the best judges as perhaps the best of all woods for enameling.

Again, where the trim is to be in imitation of the woods generally used for "mission effects," Sap Gum lends itself to stain and, best of all, it *holds the color without fading*.

Many builders are using Sap Gum for porch posts, owing to its ability to stand firm and not crack from exposure to sun and weather.

For absolutely satisfactory results, the buyer should, however, make sure that the drying of the Sap Gum has been thoroughly carried through a scientific drying process and for that reason can safely buy it only from such concerns as are known to have financial resources and a "personal pride" which guarantees that it has been properly air and kiln dried before being offered for sale.

Equally important is it that the builder should see to it that Sap Gum trim, or whatever it is used for, be filled and finished properly.

With such reasonable precautions the use of Sap Gum will be remarkably satisfactory to the user.

Furniture men are finding new uses daily for this comparative stranger among the woods—especially in the manufacture of white enameled furniture.

Satisfaction guaranteed or money refunded.

Order now. Wrap a DOLLAR BILL in this advertisement and mail at our risk.

FREE

With all orders received during November we will include free one patented Perfection Sandpaper Holder.

## MR. CARPENTER AND JOINER:

There is absolutely no necessity to spend one minute figuring with your square to get the desired angle of ANY CUT. SAVE TIME, LABOR and BRAIN WORK, and make any one of 390 different cuts instantly without use of your square by using

# REISSMANN'S RAFTER AND POLYGON GAUGE

By its use you can obtain ANY DESIRED ANGLE, pitch, bevel, mitre or side cut for rafters, planciers, moulding, sheeting or shingles INSTANTLY and with MINUTE ACCURACY. It is the most useful and indispensable tool to every mechanic connected with the building industry. The Gauge is made of metal and is practically indestructible. Size, 10 x 13 inches.

PRICE POSTPAID, ONE DOLLAR

ADDRESS ALL ORDERS TO

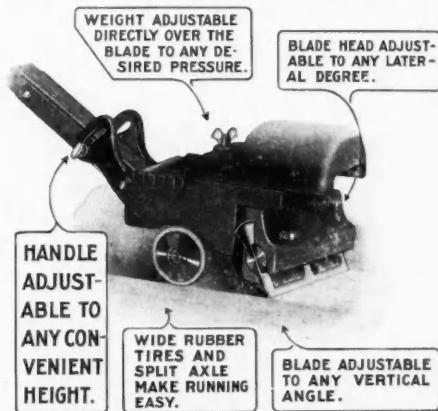
## WILLIAM BREMER COMPANY

Box N., JAMAICA, NEW YORK



**\$30.00** FOR AN  
**Adjustable Floor Scraper**

From this picture you must know it is a practical machine. It **IS** a success—a winner—a **dandy**.



I will send you one **on approval** and let you give the machine a chance to speak for itself in your own hands.

If not more than pleased with its work, ship it back at my expense. If perfectly satisfied, remit **\$30.00**, payment in full.

I will make one profit the day the sale is made, but you will make a profit every day you use it.

**H. P. DIDRICKSEN,** SOUTH BEND, IND.  
944 Riverside Drive

Mr. **DEALER**

IN ACCOUNT WITH  
**DECO-VENEER CO.**  
INDIANAPOLIS

Terms: 2% 10; Net 30 Days.

To Mdsr.

MATERIAL COMPLETE FOR  
**DINING ROOM (15'x12')**

Total sq. ft. excluding openings,  
210 sq. ft., 6 ft. high.

IN SOLID MAHOGANY DECO,  
(OR BEAUTIFUL AMERICAN WALNUT)  
Including Cap, Base, and Strips.

Net  
**39 65**

**This Room in Plain Oak, \$27.40**  
**Or in Circassian Walnut, 64.15**

**Compare These Prices with Mill Work**

Stock Sizes: 12, 16, 18, 20 and 24 inches by  
3, 4, 5, and 6 feet insure minimum waste.

A sample order will convince you that Deco-Veneer makes wainscots in moderate-priced homes possible and practicable.

We Sell to Dealers Only

**Deco-Veneer Co., Indianapolis**

**From 1½ to 7 Cts.**  
**Per Day**

**3,000 Things for the Home**

These beautiful things—and 3,000 more like them—are sold for a few cents per day. They are sent to you first on 30 days' trial. If you decide to buy, they are charged on open account. You can pay as convenient—a little each month—from 1½ to 7 cents per day.

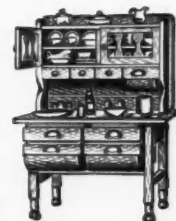


We gladly trust people who buy for their homes, and have done it for 46 years. We have accounts now with over one million people.



There is no interest, no security, no red tape or publicity. We simply take your word. And we make it so easy to get all sorts of home comforts that you wrong yourself if you go without.

We like charge accounts and try to make them convenient. So our credit prices are just the same as for cash.

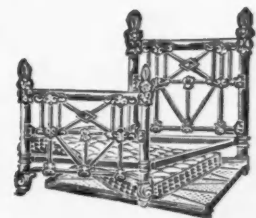


**Fall Bargain Book**  
**Mailed Free**

Our whole business is to pick up bargains. We buy surplus stocks when makers must have money. We often buy for less than the cost of making, and always at auction prices.

The very same things that dealers sell are quoted by us at enormous reductions, as low as half their prices. You will be amazed when you see how much you can save by picking up bargains in lines like these:

- Furniture
- Carpets
- Rugs
- Stoves
- Draperies
- Lamps
- Silverware
- Chinaware
- Washing Machines
- Sewing Machines
- Kitchen Cabinets
- Baby Cabs, etc.



Our Fall Bargain Book is a mammoth production. It pictures, in a big way, 3,029 things for the home which we picked up in dull mid-summer. Many of the pictures are in actual colors.



Every home in America should have this book. Every page shows a new surprise. This is the largest house of its kind in the world, and you ought to know what we offer.

The whole big book will be mailed free for the asking. Simply write us a postal or letter and the book will go out at once. Write us now, before you forget it.

**SPIEGEL, MAY STERN CO.**

1674 35th Street, Chicago

We are told that there is no better siding made than Sap Gum.

Sap Gum, because of its good bending properties is also rapidly supplanting poplar among automobile and carriage body makers.

The stock is wide and unusually free from knots and blemishes, and bends with a breakage of less than one per cent. This is a remarkable record.

Contractors who are overlooking Red and Sap Gum are losing an excellent opportunity of bringing to the attention of their trade, two woods, that are deserving of more than honorable mention.

They are cheaper today than they'll ever be again. And price is a subject that any builder will gladly consider if it is brought to his attention in the right way at the right time.

We trust our readers will take the tip for what it is worth and go after the men who are still strangers to Red and Sap Gums.

There is both profit and reputation in being known nowadays as "the Gum specialist" of your city or county. Later on all builders and carpenters will be dividing this advantage. At the present moment an extra profit awaits the live "pickers of the winners."

### New General Offices and New York Sales-rooms of the H. W. Johns-Manville Co.

The accompanying photograph shows the new twelve-story office building now being erected on the southwest corner of 41st Street and Madison Avenue, New York City, for the H. W. Johns-Manville Co., who will occupy it in its entirety about May 1st, 1912, as the general offices and New York salesrooms of the concern. Each floor will be devoted to one or more departments. The executive offices will occupy the eleventh floor, while the twelfth floor will be used as a sample and exhibition room.



New Johns-Manville Building,  
41st St. and Madison Ave., New York



Apollo Best Bloom Galvanized Sheets  
Formed Metal Roofing and Siding  
Corrugated Sheets



Also, American Old Style Terns  
American Numethod Terns  
Continuous Roofing Tin

## 32 POUNDS COATING ROOFING TIN

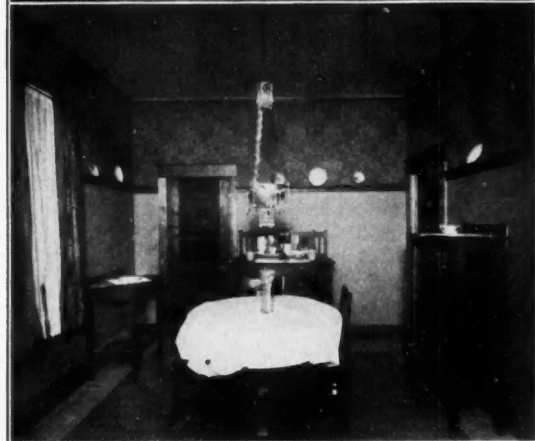
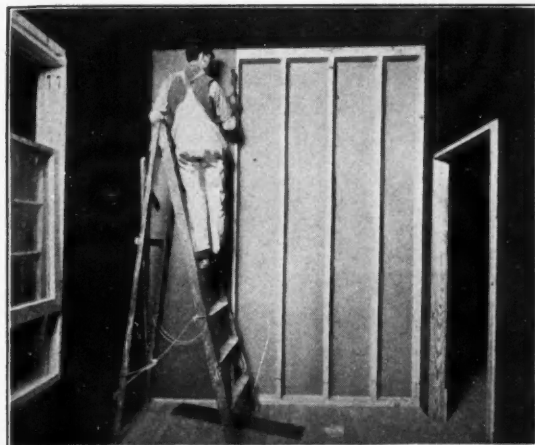
Assures both builder and owner a roof of good service and lasting protection; while the little spark that often kindles a great conflagration, will never be heard from if it falls on an MF roof. Fireproof, light, clean, durable—a good terne plate is the best roofing material obtainable. If you want your roof to attain an honorable old age, insist that it be made of MF. Write for full information and booklet.

# 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 Portland San Francisco St. Louis



## Have You Had Your Sample of Utility Wall Board Yet?

We want every carpenter and builder, every home owner to have a sample of this remarkable wall-board.

It is so vastly superior in character and composition—so far in advance of other interior finishes—that no man who is interested in house construction can afford to remain unfamiliar with it.

## Utility Wall Board

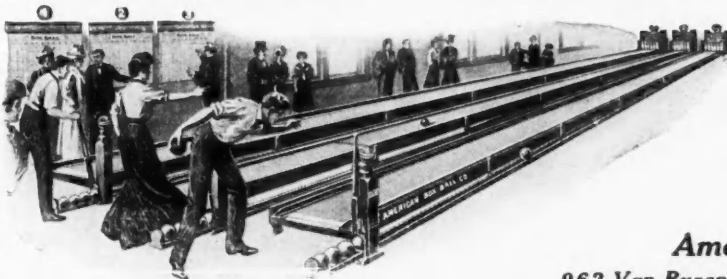
is a fibre board, very strong, very tough, very durable. It is thoroughly waterproofed and is impervious to moisture. It takes the place of both lath and plaster, being attached direct to the studding. It is easier to put on than lath and plaster. A saw and a hammer are the only tools required. It is more permanent than lath and plaster and much more economical. Utility Wall Board lends itself readily to any decorative scheme and is the only wall board over which wallpaper can be used to advantage.

A sample of Utility Wall Board, together with our handsome book of home interiors will be mailed free on request. In writing please send the name of your dealer.

**THE HEPPE'S COMPANY**

4503 Fillmore St., Chicago, Ill.

**"I took in \$8,540 in 16 months from  
three Box Ball Alleys"**—Says one operator.



**Another \$1,840 first 59 days on 4 Alleys**

Start this wonderful business in your town now. These alleys usually run \$35.00 to \$75.00 per week. Many take in all they cost first month. Will pay big anywhere.

A clean, moral business, attracting patronage from good people. Nearly 8,000 sold.

The New Model Alley has full size ten pins—automatic, noiseless—set them on any floor. No trouble to install. Nearly all profit. No expense but room rent.

You can start with from \$120.00 to \$400.00. If not satisfied after month trial, return alleys, and we refund your money less your receipts during month.

We sell only one customer in each locality. Write today for special proposition.

**American Box Ball Company**

962 Van Buren Street

INDIANAPOLIS, IND.



It was the desire of the owners to have a distinctive building, and the early Italian Gothic architecture was selected. This style of architectural treatment has not heretofore been employed for buildings of this character, and in this respect the edifice will be unique.

The building has been designed so that all four sides will be attractive. It will be known as the "Johns-Manville Building," and will have the unique distinction of being one of the few twelve-story structures to be entirely occupied by a manufacturing concern for office purposes only. Each floor will have an area of 2,500 square feet, or a total area for the twelve floors and basement of 34,000 square feet.

An unusual feature connected with this building will be the fact that the tenant manufactures and will furnish a considerable part of the equipment of the structure. Among the various materials which the H. W. Johns-Manville Co., will install will be the following: J-M Asbestos Roofing, J-M Asbestos Plaster, J-M Linolite System of Lighting, J-M Conduit for wiring, Flushometers, J-M Sanitor Seats, Electrical accessories, Waterproofing, Keystone Hair Insulator, J-M Asbestos Wood, Fire Extinguishers, J-M Asbestos-Sponge Felted and J-M Asbestocel Pipe Coverings, etc.

This is but one of a chain of branch stores, warehouses, offices, and factories scattered throughout the United States and Canada, which are under the supervision of the executive offices of the company, whose headquarters will be in this new building.

Including the space to be afforded in the new general offices, the H. W. Johns-Manville Co., at the present time, occupies in all of its various branches, offices and factories, 2,657,160 square feet of floor space, or about 61 acres.

The 5,000 employes of the company would in themselves form a good-sized little city. Included in this array of employes are 406 salesmen, travelling through various sections

of this country and Canada. In addition, the company has extensive European offices at Hopetoun House, 5, Lloyd's Avenue, London, E. C., and other representatives on the Continent of Europe.

The name of "H. W. Johns-Manville Co.," and "Asbestos and Magnesia" have so long been synonymous, that many will be surprised to learn that this company also manufactures a very large line of electrical goods, plumbers' supplies, building materials, automobile supplies, cold storage insulation materials, railroad supplies, etc.

### Hardwood Door Catalogs

Very frequently one can accurately gauge the standing of any manufacturing concern by the catalog they put out as their representative. This is true to a marked degree of the hardwood veneered door manufacturers of Oshkosh and Fond du Lac, Wis.

These concerns are the representative ones of this important branch of industry. In fact, they have developed hardwood veneered doors and have made them the perfect product that they are to-day.

The editor wishes to make particular mention of the following catalog received recently. The manufacturers in each case state that they will be very glad to send their catalogue free on request to any reader of the AMERICAN CARPENTER AND BUILDER.

"The Door of Destiny." This is one of the catalogs of the Paine Lumber Co., Ltd., Oshkosh, Wis. As one would expect, it is of large size, since it illustrates the product of the largest door factory in the world, the factory that produces two-thirds of all standard veneered doors used. "Korelock" doors are illustrated in their natural colors.

"The Door Beautiful." The Morgan Company, Oshkosh,

## READY-TO-LAY **Burnite** Reg. U. S. Pat. Off.

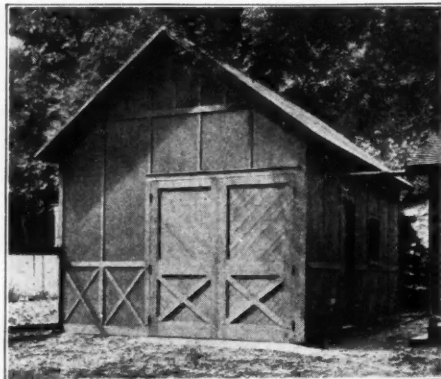
### The Material of Strength, Beauty and Service FOR ROOFING AND SIDING

Residences, Factory and Business Buildings, Summer Homes, Cottages, Garages, Barns, etc., of Frame, Brick, Stone, Concrete, or other construction. *It's Different.*

**Guaranteed for 10 years without coating or painting.**  
Practical—Durable—Artistic—Inexpensive

It has perfect water-proofing qualities, and great resistance to all destructive agencies, INCLUDING FIRE.

To become acquainted with this up-to-date material, send for Samples and Booklet (A C and B).



"BURMITE" as a Roofing and Siding on Garage of Mr. C. L. Desaulniers, Moline, Ill. Slate-Surfaced (Red) for Siding and Bird Sand for Roof. Write today.

**BERMINGHAM & SEAMAN CO. ROOFING MFRS.**  
GENERAL OFFICES, 1208-1226 Tribune Building. **CHICAGO**  
PLANT, 56th, 57th and Armitage and Grand Avenues.  
Distributors of BEAVER BOARD

## SASGEN Circle Swing, Stiff Leg DERRICKS Boom, Pole and Setter

**\$36.00**  
complete,  
ready for use,  
with 110 feet  
cable, block  
boom and  
load brakes.



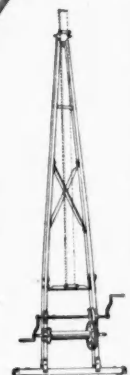
We have the only practical Circle Swing Builders' Derrick and if you have any doubts we will ship you one on TRIAL to be returned if not satisfactory. Our prices are right and our motto: SATISFACTION OR NO SALE. Write for Illustrated circular.

LIGHT and PORTABLE STIFF LEG DERRICK built so that it can be put together or taken apart easy and to be used hand or power. Equipped with cruable steel fittings. Capacity, 1½ to 3 tons. When writing for prices, give length of boom, capacity, and if winch is desired.

**Light and Strong T.P. Setter Derrick** equipped with steel gears, top sheave frame, clamps for extension pole. Capacity 1½ ton. Price **\$33.00** 18 ft.

Write for Illustrated Circular No. 2, with Prices

**SASGEN BROS.**  
2053 Racine Avenue, **CHICAGO, ILL.**  
New York Office, 103 Park Ave.



# Granite

TRADE MARK

## ROOFING



SIX INCH SOLID LAP

SAFEGUARD

*Granite*  
ROOFING

A six inch lap is better than a three inch lap. It gives better protection 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.**  
Chicago      19 Battery Place, New York      Pittsburgh



### Be the Man Who Superintends Be the Man Who GIVES Orders

The man who superintends now was once the man who was given orders. Special training has raised him in salary and position. You who hold minor positions now have the same opportunity for quick advancement that thousands of our graduates have had. The "hard-working, oldest employees" advance very slowly nowadays. It is the man with individual training who jumps over their heads. That is the reason why you see men of 25 and 30 years superintending men of 40 and 50 years. Our special training in

Architectural and Mechanical Drafting

## Estimating, Plan Reading

BY MAIL

### will increase your salary

You know the advantages of being able to read plans and estimate, and the opportunities for promotion and prosperity that come to those with that ability. We can positively teach you, with our simply written, practical lessons. Hundreds of plans of buildings, in course of construction in Chicago, are studied from.

As a practical man you can see the advantage of studying blue print plans, specifications, and estimates for buildings now being built or recently completed. You do not receive a lot of books to read about some building which exists only on a printed page, as your problem. To learn a thing you must do it—reading about it is not sufficient.

If you are a bricklayer, mason, carpenter or builder, you need this course—it will bring you higher wages.

If you are a foreman or superintendent, you need this course—it will enable you to become a successful contractor.

If you are a contractor you need this course—it will help you to figure closer. It will eliminate mistakes—increase your profits.

The lessons are approved by well-known Chicago architects and engineers. We have partial courses to fit your individual need, if you have had previous experience.

Start now on your journey to success. Don't say you can't do it—you can; don't say you haven't time—take it; don't say you haven't the money—earn it as you study.

Determine now whether you will advance in salary and position or let other men go ahead of you. Send for free folder, now.

### CHICAGO TECHNICAL COLLEGE

654 ATHENAEUM BUILDING, CHICAGO, ILLINOIS

Short resident courses in our Chicago Schools in Architectural, Mechanical and Structural Drafting. Low tuition. Day and evening classes. Ask for catalog X if interested in the resident course.

## FOR CANVAS ROOFS



Order the Scientifically Prepared—

### BAYONNE ROOF AND DECK CLOTH

**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 Reade Street  
202 and 204 Market Street, ST. LOUIS

The Standard Brand of White Canvas  
All Widths—All Weights—Any Quality

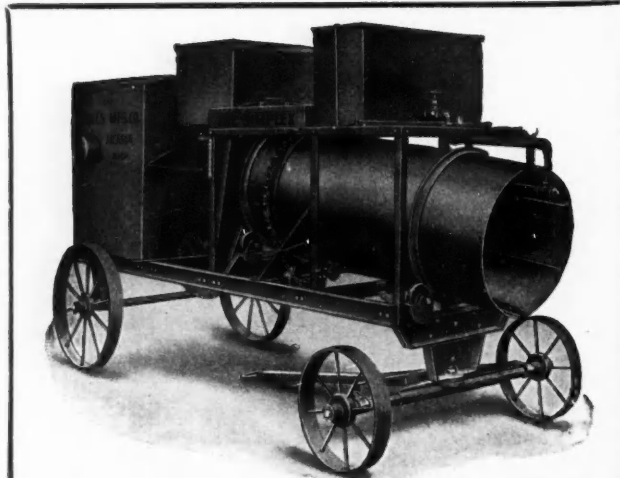
Our co-operative department gives complete instruction for laying

**BAYONNE or GULF STREAM**

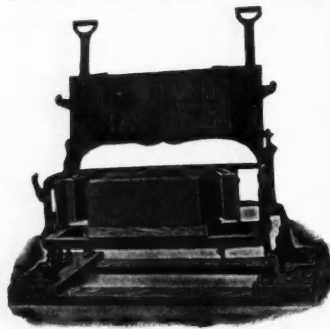
John Boyle & Co.'s Awning Stripes have been the Standard for fifty years

Easiest to lay—Lasts longest. Requires but ONE COAT OF PAINT. The treatment permeates the fabric and preserves the fibre.





**THE MILES SIMPLEX MIXER**



Continuous Feed, Batch Mix,  
Low Down Steel Frame, 3  
Hoppers, Positive Feed,  
Attractive Price

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

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

WRITE FOR NEW 1911  
CATALOGUE

**THE MILES MFG. CO., Inc. 309 E. Franklin St.  
JACKSON, MICHIGAN**

Wis., is famous for the beauty and elegance of their doors. This catalog is a worthy text book of this subject. It describes the manufacture of Morgan doors and illustrates them in their natural setting in the homes. A very complete assortment of styles is shown.

"Max-Royal Veneered Doors." Quite the most elaborate catalog in the group is that put out by the R. McMillen Company, Oshkosh, Wis. The cover is embossed in gold, black and red. The complete line of "Max-Royal" and "Max-Ideal" doors is illustrated, both in black and white and in their natural colors. The wonder is that such an elegant catalog as this can be given away free of charge.

"Moore & Galloway Lumber Co." The Moore & Galloway Lumber Co., of Fond du Lac, Wis., specialize on birch veneered doors and stock newel posts. Their catalog adequately pictures and describes their line. The illustrations are of the finest quality and the whole catalogue is nicely arranged for ready reference.

**"From Forest to You"**

This is the title of a unique little book recently issued by the Peter J. Seippel Lumber Co., Dubuque, Iowa. They state that many of their friends and patrons who have visited their yards and mills during the past few years have repeatedly told them that if they could only in some way manage to convince the users of building materials in this territory that they had the facilities and stock to supply them, they could readily secure the patronage of all who were in need of anything in their line.

They state that concerns who do not carry a foot of lumber in stock have too frequently in the past and are now soliciting orders from customers, depending on ob-

# Save 1/2 Your Lumber Money

*Builders, Contractors and Carpenters who buy their lumber from the*  
**Peter J. Seippel Lumber Co.**

have greater advantages in wide selection and low price than if they owned a lumber yard of their own.  
Every stick of lumber we sell is a double bargain—a bargain in price and a bargain in quality.  
We sell you everything straight from the mill—we don't job anything. We have our own forests, saw mills, planing mills, etc., and make everything needed for building, from foundation to roof.  
The price you pay us is based on the actual cost of production. We

**Cut Out All Middlemen's Profits and Save You 25% to 50%**

And our quality is so much higher than that of Local yards that if you use much lumber you can get your No. 1 by resorting our No. 2 stuff, thus getting No. 1 for 25% to 50% less than No. 2 is now costing you.  
Whenever you need a car of lumber, get on the train and come to Dubuque. We will pay your fare both ways and you can select every stick of your order personally from a stock as big as 200 or 300 local yards combined.  
Send small orders by mail and get the advantage of our low prices on all the lumber you use. We guarantee satisfaction on every order and a saving worth while. On all your buildings where a prepared roofing is specified, you will find our DUX-BACK Roofing the most profitable and satisfactory you can use. Contains no tar, won't run, crack, peel or taint water. Works perfectly on flat or steep roofs. These prices and guarantee periods will convince you.

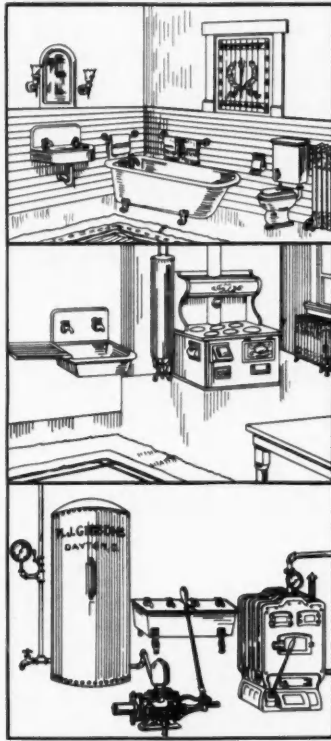
1 ply, 35 lbs. per square, only \$1.15 per square.	Guaranteed for 5 years.
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3 ply, 55 lbs. per square, only \$1.70 per square.	Guaranteed for 15 years.

We make a specialty of handling builders' orders promptly. Send us your next order and see how much we save you. Write for free catalog and builders' price list. Special estimates furnished promptly on your buildings at any time.  
Inquiries solicited only from Ohio, Indiana, Illinois, Wisconsin, Iowa, Minnesota, Northern Missouri, Eastern Nebraska and S. Dakota.

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Dept. 24, - - - - - **DUBUQUE, IOWA**



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This system will supply running water for the laundry, kitchen, bathroom, garden and stables. Made in all sizes, from \$42 up, and operated by hand power, electric motors or gasoline engines.

**\$38.95 BUYS THIS COMPLETE BATHROOM OUTFIT**

The luxuries of modern plumbing at half the ordinary cost.

**Save \$100 to \$250 on Your Steam and Hot Water Heating Plants**

Do away with the danger and trouble of oil and coal stoves. Enjoy the comforts of steam and hot water heating.

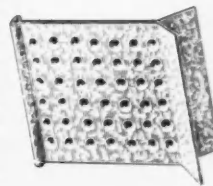
**A few of our specialties:**

Complete Electric Lighting Plant, \$300. Gasoline Engines for general utility farm use. Hydraulic Rams, Pumps, Pipe, Valves, Fittings, at lowest prices. Farmers' Tanks, Gas and Electric Fixtures, Acetylene Lighting Plants. All high-grade, strictly guaranteed goods. Complete plans and instructions free with every plant. Get our prices. We will save you money. **BIG CATALOG FREE.**

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Dept. B, DAYTON, OHIO

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This Wall Plug can be put in place in one-tenth the time it takes to dig out mortar and drive in a wooden plug, and it is four-fold more secure. Will last as long as the building. Every Building Contractor should send for sample. Write on your letterhead for Folder 57-C.



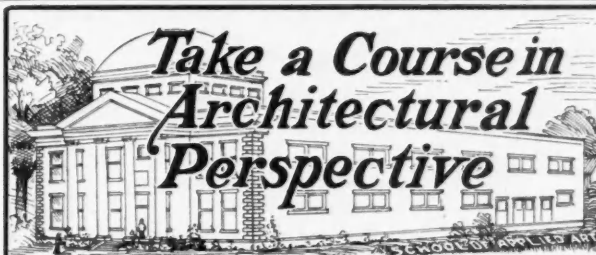
for building into **Brick, Stone or Concrete, Walls** as a base for Nailing

## Niagara Falls Metal Stamping Works

Manufacturers of Hardware Specialties  
NIAGARA FALLS, N. Y., U. S. A.

Niagara Wall and Veneer Ties for use in Brick and Brick Veneer Walls. 12-inch Galvanized Wall Ties for Stone, Brick and Concrete Block Walls. Sash Pulleys, Sash Chain, Sash Fixtures. 9M

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**And You will Then be Able to Close Many a Contract that Would Otherwise be Lost**

The demand for Architectural Perspective is increasing yearly because those who build are demanding, in addition to the plans, perspective drawings of their buildings. A well made perspective drawing, properly shaded and set off by a little landscape and secondary detail, pleases the eye, and is a valuable adjunct to the regular plans and elevations. Our correspondence course in ARCHITECTURAL PERSPECTIVE and DRAWING OF BUILDINGS is complete, practical, and can be learned at home at odd times. Instruction likewise given in twelve separate, complete Art Courses, for pecuniary profit, or pleasure only, as desired. Year Book sent upon request.

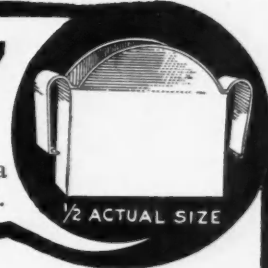
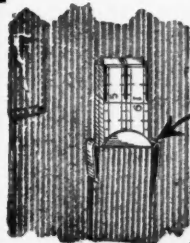
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Battle Creek, Mich. U.S.A.  
675 APPLIED ART BUILDING

**10 CENTS**

## Insures Your "Rule"

**Appeals to every Mechanic**

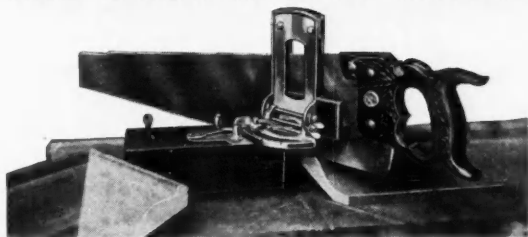
No more lost rules. No more broken rules. "The Safety" costs but a dime and will save you many "rules" a year. It can't wear out. It fits the rule pocket of any pair of overalls.



1/2 ACTUAL SIZE

We have only a limited number of these rules holders at this price. Order **now—ten cents in stamps or coin.** It will be the best **ten cents you ever spent.**  
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Miter box on the saw. For weatherboarding, cornice work; also inside finishing, stair building and making picture frames, etc. Compact, weighs but two pounds, can be folded up and takes little room in tool box. The handiest and most practical miter box made. Sent on receipt of \$2.50.

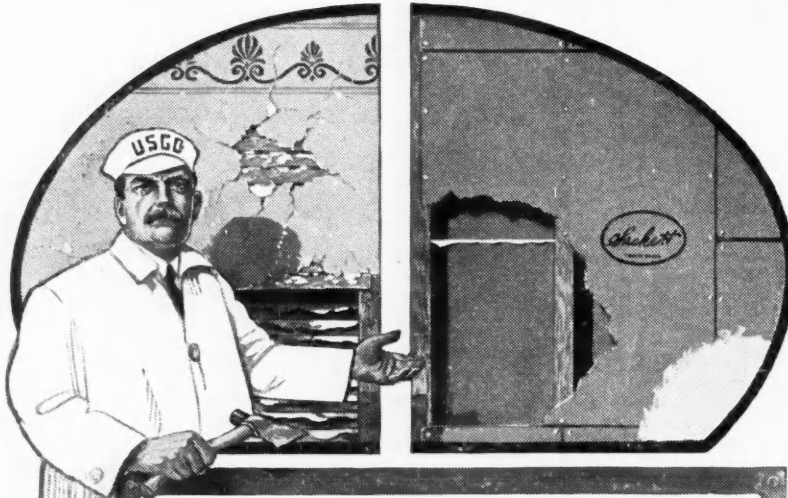
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Carpenters and Mechanics rely upon this knife for hard service.

**For Sale by the Hardware Trade**

**Humason & Beckley Mfg. Co.**  
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with **Sackett Plaster Board** than with lath. Wood lath absorb moisture when the wet plaster goes on, and swell. Then they afterwards dry out and contract, pulling away from the plaster. The result is a loose wall—liable to crack, and is neither fireproof nor soundproof. If such a wall or ceiling happens to be made of lime mortar and gets wet, the plaster loosens and falls—there is no strength in it.

### Sackett Plaster Board

on the other hand, is fireproof and does not swell or buckle under any conditions. It is composed of alternate layers of calcined gypsum and strong fibrous felt, cut into sheets 32x36 inches—every one uniform—and about as thick as ordinary wood lath. Sackett is nailed direct to the studding, furring or joists, just the same as any other lathing material, and makes a firm, even surface for the plaster coat. If U. S. Gypsum Plaster goes on, the wall becomes a monolith, as solid as a rock—fireproof and soundproof

**Do not spoil a good house with poor walls. Use SACKETT Plaster Board, the Nation's best lathing material, instead of lath. For full particulars write or call on us.**

### UNITED STATES GYPSUM CO.

New York CHICAGO Cleveland  
Minneapolis Kansas City San Francisco

taining the material from the most convenient source after the order is secured. This method does not insure the purchaser a quality of material commensurate with the prices he is paying, since he simple obtains such goods as the concerns are able to buy at a figure that will insure them a profit on the price they are sold at.

The Peter J. Seippel Lumber Company contend that the purchaser should be able to see every piece of lumber before he buys it and secure stock graded in conformity with the grading rules adopted by the manufacturers, and, for this reason, they maintain what is claimed to be the most complete assortment of building materials to be found in the Middle West, and they invite at all times an inspection by the prospective purchaser.

In this little booklet, "From Forest to You," they have aimed to inform their customers briefly as to their source of supply, methods of handling stock on hand, shipping facilities and their advantageous position for serving the trade. The illustrations in the booklet are actual photographs taken in their logging camps, saw mills and yards, and will give those who never visited them an idea of the magnitude of their business.

The Peter J. Seippel Lumber Company was organized in 1885. For many years it was strictly a wholesale concern, selling its products to the owners of retail lumber yards. Finally changed conditions in the lumber business forced it to go direct to the contractors and builders with their wares.

This illustrated book, "From Forest to You," will be sent free to readers of the AMERICAN CARPENTER AND BUILDER who will write for it.

SEE PAGES 127 AND 128 FOR  
**BIG FREE BOOK OFFER**  
"Radford's Details of  
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Our Newest, Biggest and Best Book for  
Carpenters, Builders and Architects



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With Positive Gauge

Gauges by 1/4 inches from 4 1/4 inches to 5 1/2 inches  
Full Polished, Solid Tool Steel, Extra Quality

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*In Roofing Slate, Slate Blackboards  
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SATISFACTION GUARANTEED IN QUALITY AND PRICE  
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The Marvel locks shut automatically, is burglar proof, and ornamental. Is made of heavy wrought steel plates.

*Circular for the asking.*

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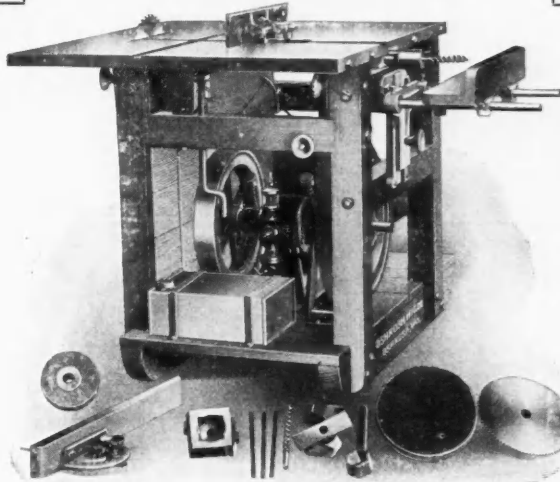
AT THE MOST REASONABLE PRICE

No Charge for These Attachments

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- 10" Rip Saw
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- Boring Device
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- 6½" Dado Head
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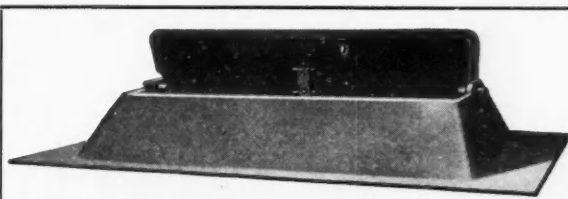
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You will find it to your interest to investigate this machine.

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Write for Attractive Folder and Price



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is a necessity to a properly constructed Fire Place. You can buy our dampers for at least 25% less than others of their class and no matter how much you pay you cannot buy better.

J. H. BAWDEN & CO., Freehold, N. J.

## CARPENTERS STOP LOOK LISTEN



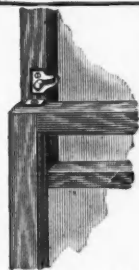
PAT. APPLIED FOR

THIS NEW NAIL SET with the round knurled body WILL NOT ROLL AWAY! Both ends are hardened, and the SQUARE HEAD of soft steel prevents the HARD CENTRE from crystallizing and flying. It will not mushroom and is easy to find in your pouch. Tell your dealer and friends about it.

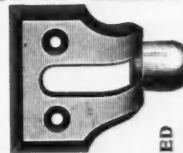
"To introduce this article, we will send one Nail Set (State size), to any address upon receipt of 15 cents in stamps, together with your dealer's name."

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PATENTED

A Safeguard for Ventilating Rooms.  
A Lock, quickly applied and operated.  
Affording Sure Protection against Intruders.

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—WRITE FOR DESCRIPTIVE CIRCULAR.—

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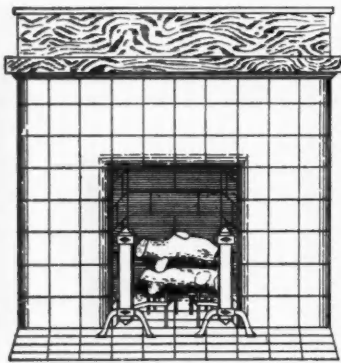
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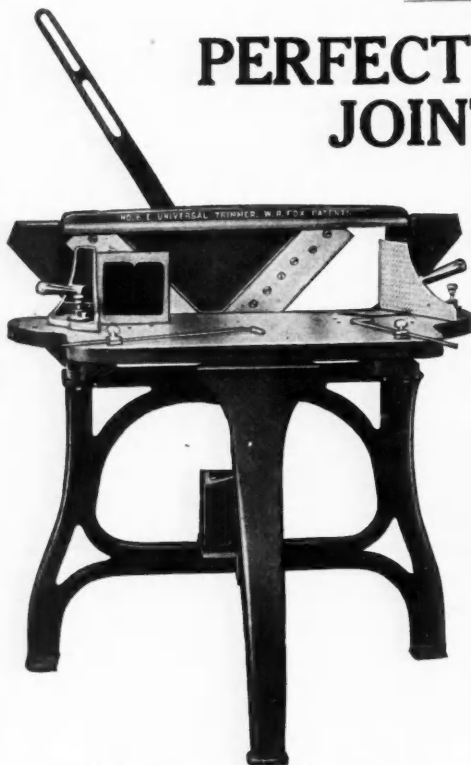
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**Quickly**  
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6-E Universal Wood Trimmer



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**If You are Tired Being  
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then Make Yourself the  
Highest Grade and Highest  
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To do this you must be a good *Draftsman*, not one of those "would be" ones, *no*, but a first-class man, with actual, practical *drafting room experience*.

It will pay you well to learn this right from a practical man with twenty years' experience who will instruct *you* personally —individually on high-class *architectural* drawing, complete building designing and detailing in all branches;

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If you want to be the "BEST MAN" write me to-day. Address—

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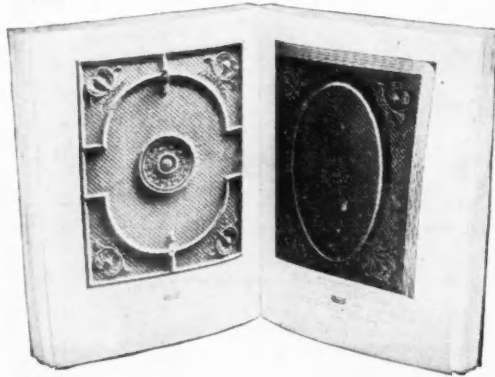
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In this catalog are steel ceilings to suit every taste and fancy—a ceiling for every building and every purpose. They range from the plain and inexpensive to the most elaborate.

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are good sellers. Their well-earned reputation for high quality and beauty of design has created a well-defined demand, and building owners are quick to appreciate these good qualities.

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We also manufacture Tin Plate, Black, Galvanized and Painted Roofings, Metal Tile, Brick and Stone Siding, Ridge Roll, Cornices, etc.

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### Steel Reinforcement Throughout

Completely revolutionizing building methods. We manufacture and build with one operation; saving manufacturers profits, transportation charges and half the labor cost, producing a more durable and up to date building. Only one machine needed for each job.

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They have stood the test for over three years and are long past the experimental stage.

This superior construction was immediately approved by the building department of the city of New York, one of the most severe and conservative boards in the world.



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### SILO WALLS

Our curved silo machine produces a silo which is water-proof and frostproof, greatly improving the quality of the ensilage. The most economical and durable construction in the world.

## Wrought Iron Grilles, Railings, Stairs, Guards, Gratings, Etc.



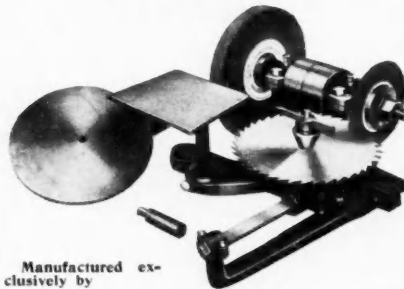
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Write for full particulars and price.



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We can deliver you bright, fresh, clean lumber at Manufacturers' Prices almost as quickly as you can haul makeshift sizes and weatherworn stock from a high priced neighboring lumber yard.

We have doubled our stocks and facilities for handling your orders quickly. From our big new mill and yards in Illinois we are now making deliveries in from two to five days to points that were formerly two weeks distant from our Northern Louisiana Mill.



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For many weeks we have been hard at work improving and perfecting our manufacturing, loading and shipping facilities and in storing up at our new Illinois plant a tremendous stock of every kind and dimension of lumber used in building work.

Our arrangements are completed. Our improved service is ready and shipments have begun. No matter how big a rush you are in, you need not deny yourself the benefit of the savings in our low prices.

From our enormous mills situated in Northern Louisiana we can make prompt shipments into all points in the South and west of the Mississippi River. From our new Illinois mill we can ship quickly into all states east of the Mississippi River.

Start right. Begin making profits before you commence work on your buildings. You can do that by buying your lumber at wholesale from one of our big mills.

*In our two enormous plants we have ready for shipment over 20,000,000 feet (1,670 carloads) of bright, fresh lumber of the best quality produced anywhere. With 930 different sizes, kinds and grades on hand we can fill almost any order directly from stock without an hour's delay.*

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 We Publish Special Lumber Price Lists Quoting "Delivered Prices" to Every City in the United States.

Let Us Send You a List Showing Our Delivered Prices (Freight Prepaid to Your Station). Mailed Free on Request.

If you cannot wait for our delivered Lumber Price List, SEND US YOUR LIST, we will study your list and deliver the prices, however, will be exactly the same as the prices printed in our wholesale price list.

### New Lumber Price List, Free

Our Wholesale Lumber Price List quotes prices to your station. It gives you the exact cost of our lumber, lath and shingles delivered at your depot. We pay the freight.

**Write for This List Today.**

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There is money in the cement business. It offers unlimited possibilities to those who equip themselves with good, reliable machines. make a good product and get out and hustle. It pays to buy a good machine—one that has stood the test of time.

The original hand power brick machine, with automatic tappers—the machine that other manufacturers follow—is

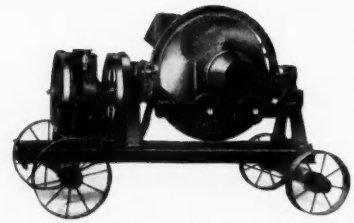
### The Peerless

This machine makes brick face down and delivers them face up. One man operates it. Large variety of face plates with machine. Price is right. Our booklet tells all about the cement brick business. Ask for a copy.

Capacity, 12,000 brick in ten hours.

**Peerless Brick Machine Company**  
19 NORTH 6th ST. MINNEAPOLIS, MINN.

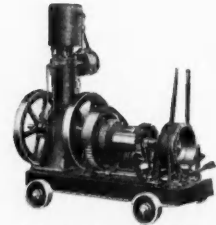
## The Great Polygon Line



Polygon Junior Concrete Mixer

Concrete Machinery, Tools and Molds of all kinds.

Gasoline Hoists, Builder's Derricks, Cranes and Material Elevators.



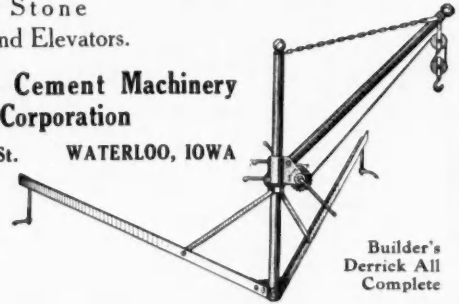
Polygon Gasoline Hoist

Stone Crushers, Sand and Stone Screens, and Elevators.

### Waterloo Cement Machinery Corporation

103 Vinton St. WATERLOO, IOWA

Write today for descriptive literature.



Builder's Derrick All Complete

## THE PRACTICAL SIDE OF THE PERGOLA

The growing popularity of the formal garden has aroused an increased interest in the pergola.

Many means of supporting the overhead work has been used but none so successful as those built with our patent lock joint column.

Contractors and carpenters can make money by recommending them and putting them up themselves. We own the largest factory devoted to such work. Let us tell you more of the artistic use of the pergola.

A new and complete catalogue of pergolas and our patent lock joint columns will be sent upon request. Ask for H-40.

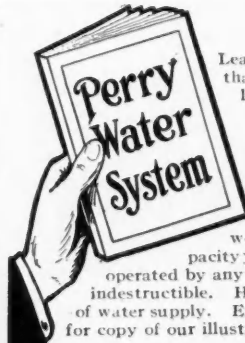
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KOLL'S PATENT LOCK JOINT COLUMNS  
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The best columns for porches, pergolas or interior use.



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Learn all about the only system of water supply that eliminates the storage of water. That delivers water fresh from the well. The



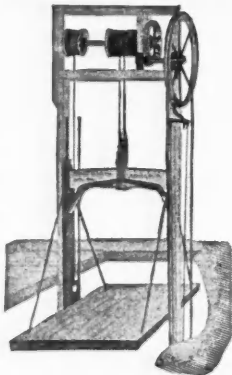
### Perry Water System

provides all the conveniences of a city water works system. It is designed for large or small capacity; is easy to install in any old or new building—operated by any kind of power—economical and practically indestructible. Has more advantages than any other system of water supply. Every reader of this publication should write for copy of our illustrated catalogue. Address

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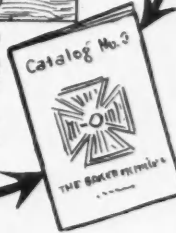
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explains why they don't need soldering; how our patent side-lock allows for expansion and contraction. In a word, gives proof that Montross Metal Shingles are the roof that

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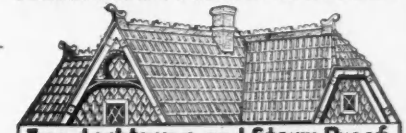
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1102 Erie Street, CAMDEN, N. J.

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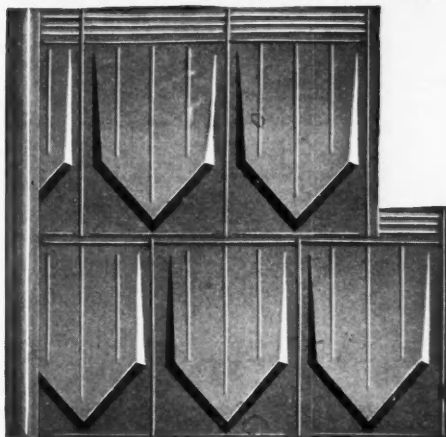
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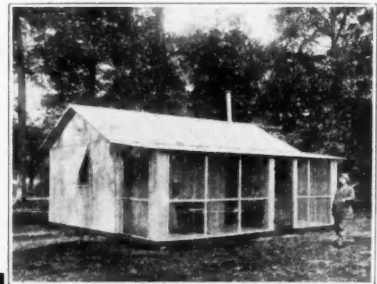
2-23 WEST WATER ST.

ST. PAUL, MINN.

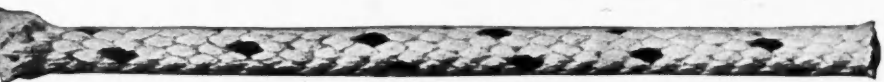
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2000 Pounds Capacity

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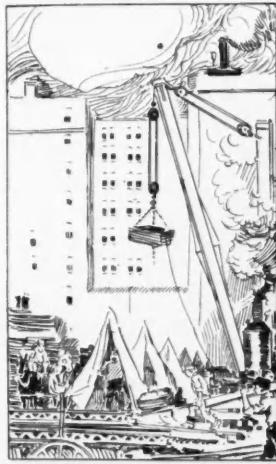
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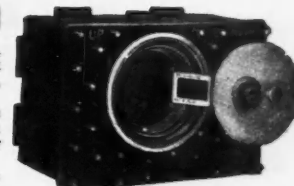
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with our O-K Door Bottom Strip. Fine. Write today for information.  
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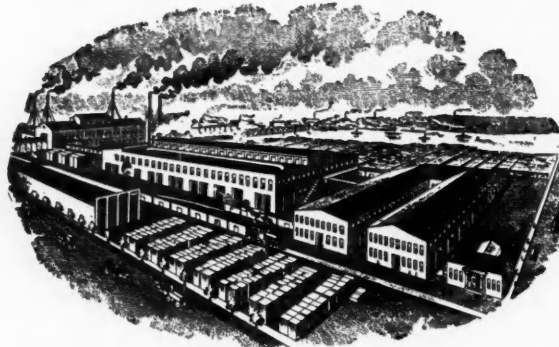
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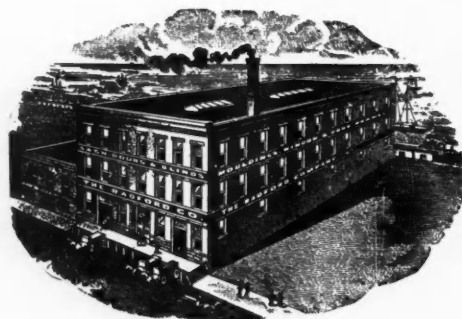
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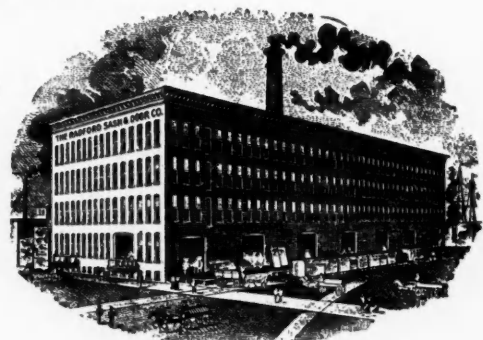
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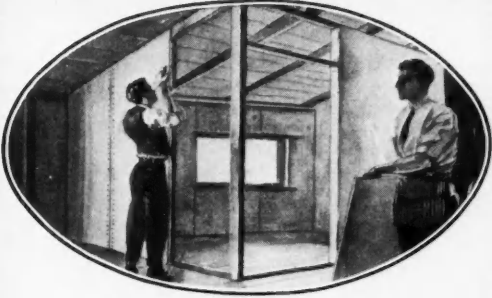
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### NORTHWESTERN COMPO-BOARD CO.

5777 Lyndale Ave. No. Minneapolis, Minn.  
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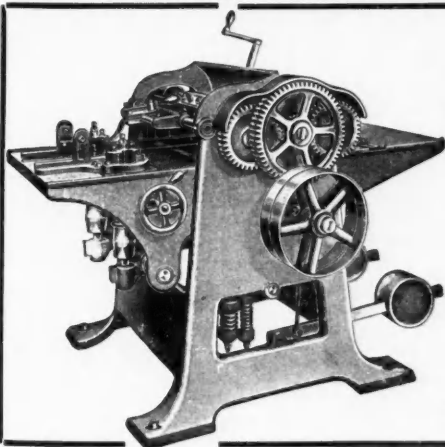
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A high grade modern

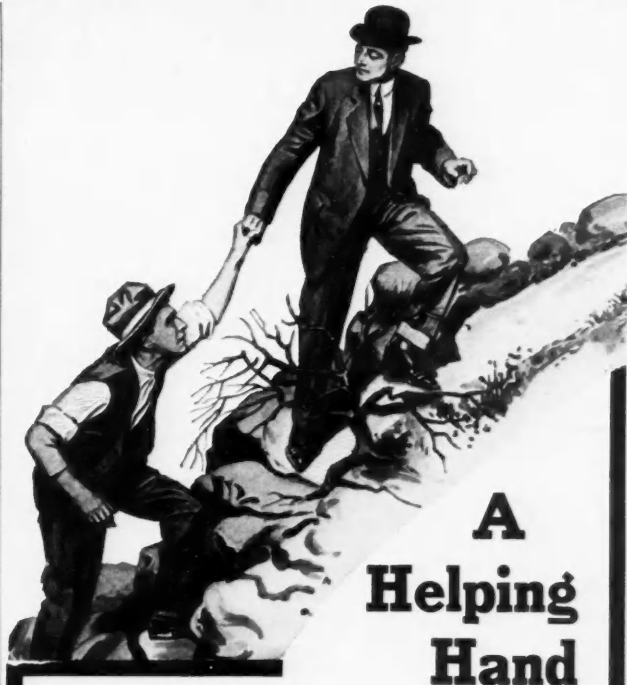
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Plum. & Heat. Con.	Stationary Engineer	Advertising Man
Supt. of Plumbing	Electrical Engineer	Window Trimming
Foreman Steam Fit.	Electric Lighting	Commerci'l Illustrat'g
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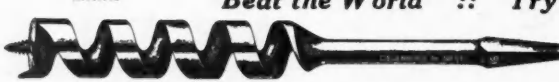
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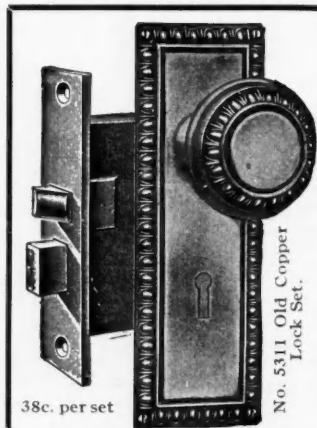
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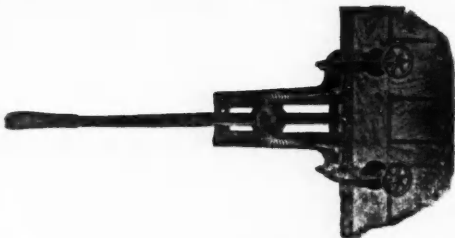
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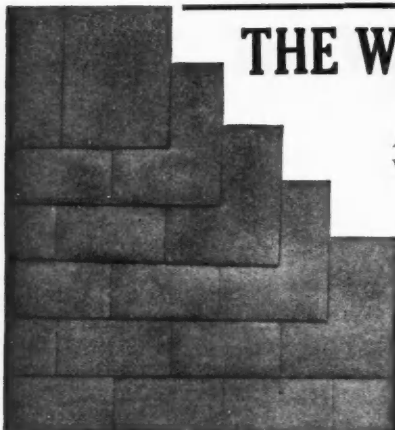
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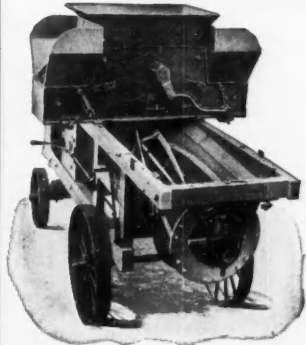
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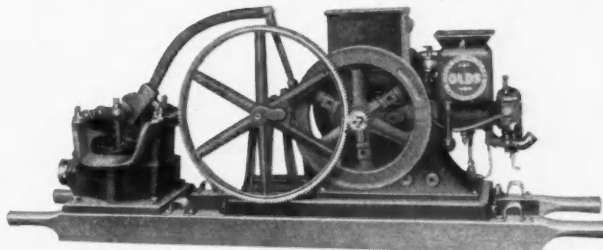
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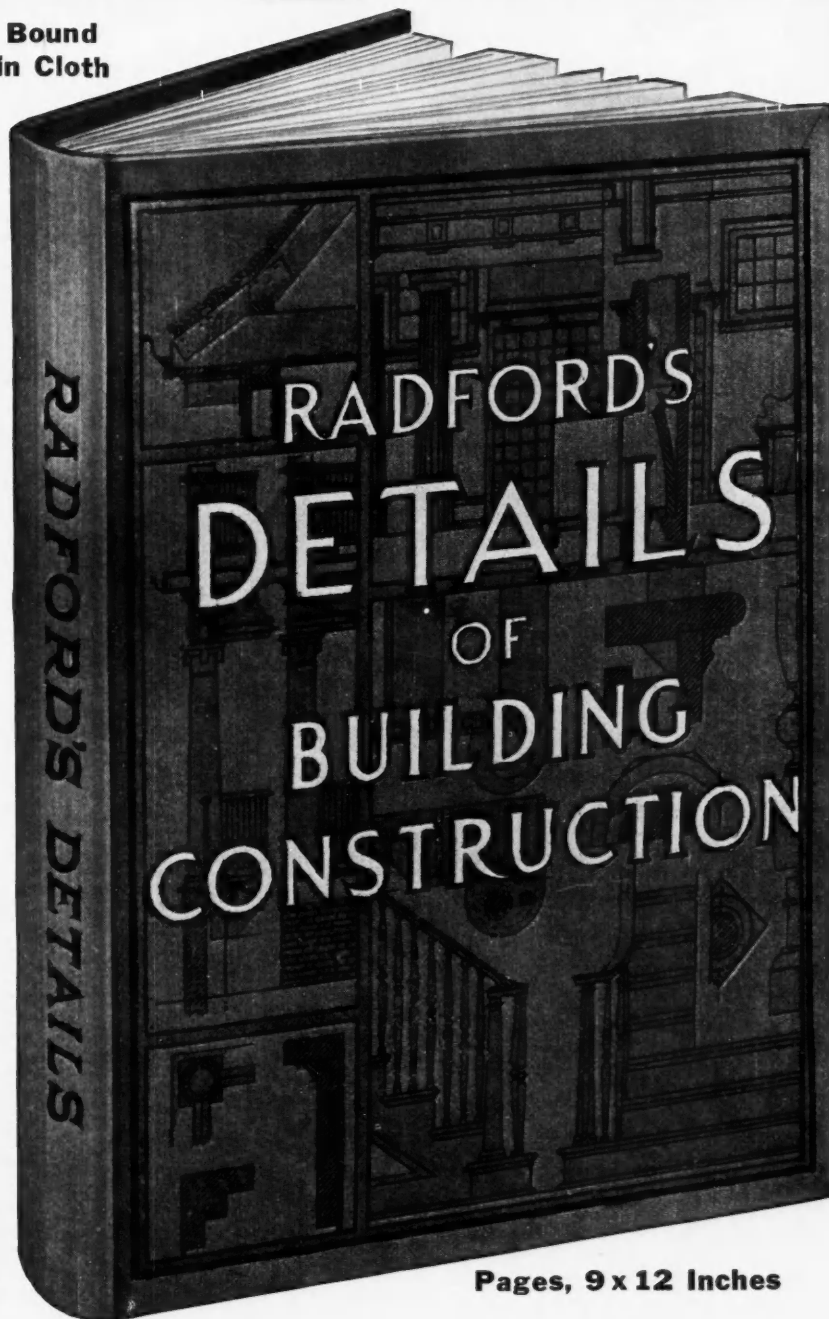
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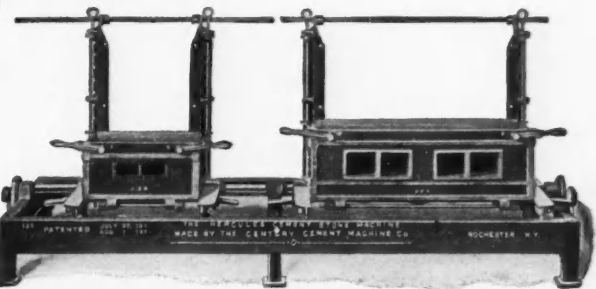
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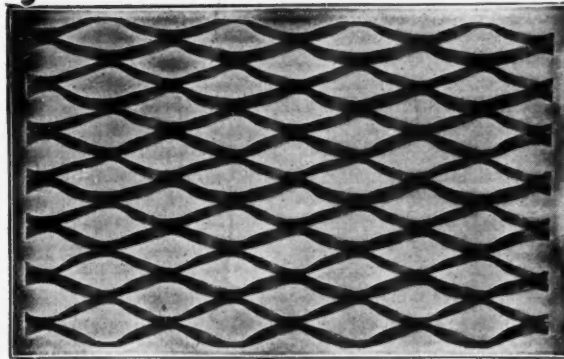
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Rigidity

Is unequalled by any expanded lath made, NOTE that "Spiral" Twist SAVING of THREE to FOUR cents Per Yard IN labor AND Plaster.

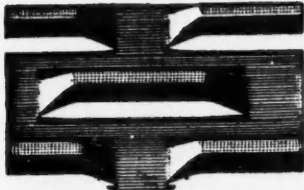
MADE IN ALL GAUGES, ONE STANDARD SIZE 16½ INCHES x 96 INCHES

*Samples and Prices Furnished on Request.*

WRITE DEPT. R. C.

**THE AMERICAN ROLLING MILL CO. - Middletown, Ohio**

# SYKES METAL LATH



The lath that is positively different to anything else made; different because it combines more good features.

Cup lath is the only Expanded Metal Lath

that can be plastered on either side—cannot be applied wrong because both sides

are alike.

We make two kinds—Sykes Expanded Cup Lath, and Sykes Trough Lath. Both are supreme for their own purpose.

The top illustration shows Trough Lath, bottom cut depicts Cup Lath.

### **NO PICKLED LATH**

Sykes Lath is absolutely guaranteed not to have been pickled in an acid bath. This means that the weight and thickness is not reduced and is less susceptible to rust.

Requires no furring out from studs because it is self furring.

It has been approved by U. S. Government and by leading architects, carpenters and builders throughout the country.

In fact, when we say it is the best ever made we are simply stating a proven fact.

Samples and prices mailed upon request.

**Sykes Metal Lath & Roofing Co.**  
NILES, OHIO

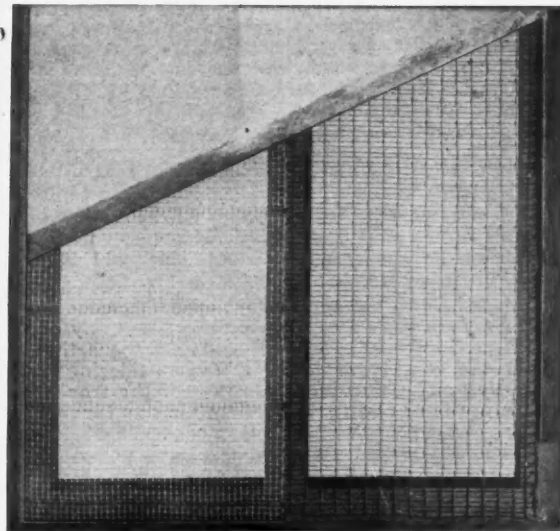


# WIRE LATHING

The Secret of the durability of the woven wire lathing is owing to the fabric being completely embedded in the mortar, and thus secured from the corrosive action of the atmosphere; and also to the fact that rust will not attack the smooth round wire as it does the thin cut edges of a metal fabric.

"Why not use the proper kind of lath that lasts?"

Before building, write for our Booklet No. 6 A and Prices



Grimm's Galvanized Corrugated Wire Lathing  
"Patent applied for"

Greening's Patent Trussed Steel Wire Lathing

**BUFFALO WIRE WORKS CO.,** BUFFALO, N. Y.



## We have been asked:

**“Are you interested in the carpenters and the Disston Saws they buy, even after you have their money?”**

This is a question easily answered. Do you suppose for an instant that we could have retained our regular trade, constantly increased it, built up and maintained the largest and greatest works of its kind in the world, over a period of seventy-one years, had we not seen to it that the articles we sent out were “making good” and satisfying the user?

### LARGEST PLANT IN THE WORLD.

We want to force home to you the important fact that our plant is by far the largest of its kind in the world, consisting of fifty-eight buildings, covering fifty acres. We employ 3,500 men, and during almost three-quarters of a century—the period we have been in business—very little time has been lost by the employees. You must realize that it requires “some orders” to keep an establishment of this magnitude going.

**There surely must be more than ordinary merit in that brand of goods which creates and satisfies the demand over a long period of time.**

### PROTECTS THE USER.

We certainly do want to know if any **Disston Brand Saw, Tool or File** does not stand up to our guarantee. That guarantee is sufficiently broad to protect the user on every reasonable point. If you have a Disston Saw, Tool or File that has failed you through any cause of ours, let us know, and we will see that you bear no loss on our account.

**Each and every article bearing the name DISSTON carries a full warranty as to material and workmanship.**

And this guarantee has been in force since the first Disston Saw was made.

There are millions and millions of **Disston Brand Saws, Tools and Files** in practical use all over the world, which are giving the highest satisfaction. Of course, you will appreciate that almost every individual has his own ideas and opinions and it is impossible to cater to each, particularly in cases where there may be prejudice; so our only recourse is to satisfy the majority. And this we have been doing for over seventy-one years—making the goods of superior quality and after designs which have been demonstrated by practical use to be best adapted for the purpose.

It is noteworthy, however, that where we have one complaint, we receive thousands of letters voluntarily testifying to the superior worth and durability of **Disston Brand Goods**. This speaks for itself.

Nevertheless, we are always open to conviction, and if a man has complaint to make about any of the Disston Goods, it is but fair and just to us that he enter the complaint; for it is by considering, fully digesting and going into the cause of the trouble, in addition to our constant experimenting and investiga-

tions which enables us to so improve and perfect **Disston Goods** as to bring them up to the highest point of efficiency. When a man has occasion to find fault with any of our goods we do not consider it “a complaint,” but a stimulation and a reason for increased vigilance in looking to the safeguarding of the high prestige we have achieved for the name **Disston**.

### MOST PRACTICAL EXPERIENCE.

We have the experience—and broad experience at that—extending over seventy-one years, not only in the making, but in the using of tools. Think of the enormous size of our plant; think of its many, diversified departments and their ramifications—Steel making, Saw making, the making of various Tools, File making, Wood working departments, Machine Knife making, Machine Shop. Think of the enormous quantities of tools and materials we buy from the outside, and think of the great quantity of tools of our own make that we use. When you consider all these points, it will give you some idea of our experience in the manufacturing and use of tools. And that experience we make count in the perfecting of our manufacturing facilities and the increased efficiency of our own brand of goods.

### MADE FOR EFFICIENCY.

In the **Disston Brand Saws, Tools and Files**, you have the advantages of the product of a progressive, up-to-date factory, the **Largest in the World**. Where the goods are made throughout, from the making of the steel itself—the superiority of which has been demonstrated for the past fifty-six years—to the finishing operation; and each process is performed by mechanics of long experience and highest order of skill.

We want to say to you, and say it positively, that **Disston Goods** are made not merely to sell, but for **practical use**. All materials used are of highest grade; the steel is properly hardened, tempered and ground under the Disston exclusive processes; each article carefully inspected at various stages of the work, and finished in a workmanlike manner. **We fully Guarantee them to be of Highest Efficiency and Unequaled.**

### WE ARE INTERESTED.

Reverting to the question:—Yes, we are interested in the carpenters and all other users of our tools, as well as the tools themselves after they have been bought and put to use. For we take great pride in the successful results they have achieved in the working, and fully realize—have realized for years—that the world-wide reputation we have earned can only be maintained by furnishing goods of the highest efficiency.

## HENRY DISSTON & SONS

INCORPORATED

KEYSTONE SAW, TOOL, STEEL AND FILE WORKS

PHILADELPHIA

CONTENTS FOR NOVEMBER, 1911

Adjustable Door Vise... 60
Air-Spaced vs. Solid Furnace Walls... 54
Amount of Paint for a Given Service... 46
Art of Making Steel Ceilings... 66
Bank Barn in Ohio... 61
Barn Builder... 61
Be Sure to Sign Your Name... 59
'Better Building' and Our Readers... 30
Better Building, Why and How... 28
Big Upholstered Rocker and Leather-Top Table... 48
Brick and Tile Work... 44
Building Reputations for Quick Service... 68
Coloring Brick... 38
Combined Chest and Horse... 60
Contractors Not Liable... 38
Correspondence... 59
Design for Rural School... 47
Details of Construction and Finish... 39
Editorial... 27
Farmer's Lighting Experience... 65
Fast Shingling... 59
Favors Galvanized Nails... 30
Florida Readers, Attention... 59
For Better Nails and Nailing... 30
Home Workshop... 48
Honest Words of Praise... 30
How to Square up Foundations... 61
How Wood Scraps are Utilized... 56
Inside the Home... 63
It Has Helped... 30
Loosening Tight Bolts... 43
Many Uses for Slate... 58
Modern Hardwood Veneered Doors... 32
Mouldings... 39
New Use for Motor Truck... 46
Oak as Flooring Material... 65
Painter's Proved Recipes... 62
Parquetry and Wood-Mosaic... 28
Passing of Commercial Timber... 31
Photographic Protection for Sub-Contractors... 27
Planing Mill Work... 36
Plans for Six-Room Shingled Cottage... 51
Practical Uses of the Steel Square... 42
Praise for Vise Adjuster... 61
Projectile as a Satellite... 62
Public Buildings... 47
Public Must Be Taught... 30
Residences... 51
Romance of the Fir Tree... 62
Sharp Rotary Ash Receiving System... 64
Side Cuts Under Different Conditions... 60
Slivers... 31
Small Bouquet, from a Large Garden... 36
Stair Work and Stave-Column Building... 36
Steel Square... 42
Thanks... 30
Trade Notes and Items of Interest... 62
Wanted—A Fancy Bird-Box... 60
Wants to Know the Pitch... 59
When Others Fail... 30
Where 'Workmanlike' Means Concrete Foundations... 38
Why Stucco Crazes... 50
Wide Mortar Joint in Modern Brick Work... 44

INDEX TO ADVERTISEMENTS, NOVEMBER, 1911

Amer. Bell & Foundry Co... 18
Amer. Box Ball Co... 101
Amer. Floor Surfacing Machine Co... 4
Amer. Rolling Mill Co... 131
Amer. School of Correspondence... 117
Amer. Sheet & Tin Plate Co... 100
Amer. Steel Scaffold Co... 18
Amer. Veneer Co... 4
Andrews Heating Co... 80-113
Ashby, Geo. W... 118
Atkins & Co., E. C... 2
Austin & Eddy... 24
Baker, McMillen Co... 113
Barnes Co., W. F. & Jno... 4
Bawden & Co., J. H... 107
Berger Mfg. Co... 110
Berr Bros., Ltd... 75
Birmingham & Seaman Co... 102
Bishop & Co., Geo. H... 22
Bommer Bros... 26
Bovee Grinder & Furnace Co... 24
Boyle Co., John... 103
Bradford Publishing Co... 74
Braunsdorf-Mueller Co... 107
Bremer Co., William... 98
Buffalo Wire Works Co... 131
Builders Auxiliary Co... 20
Caille Perfection Motor Co... 92
Caldwell Mfg. Co... 21
Canton Art Metal Co... 25
Canton Foundry & Machine Co... 20
Carborundum Co... 116
Carey Mfg. Co., The Philip... 113
Cement World... 8
Central Mantel Co... 124
Century Cement Machine Co... 129
C. H. & E. Mfg. Co... 3
Champion Safety Lock Co... 126
Chicago Machinery Exchange... 11
Chicago Spring Butt Co... 26
Chicago Technical College... 103
Cincinnati Tool Co... 10
Compound Door Co... 82
Corbin P. & F... 82
Cordesman Meyer Co... 121
Cortright Metal Roofing Co... 86
Coulson & Co., J. W... 22
Crescent Machine Co... 13
Dahl Mfg. Co... 76
Davis Acetylene Co... 96
Decorators Supply Co... 115
Deco-Veneer Co... 99
Detroit Engine Works... 18
Detroit Decorative Supply Co... 114
Detroit Motor Car Supply Co... 119
Detroit Show Case Co... 20
Didrickson, H. P... 99
Disston & Sons Co., Henry... 132
Dixon Crucible Co., Jos... 10
Dow Wire & Iron Works... 129
Drouve Co., The G... 119
Dunn & Co., W. E... 116
East Bangor Consolidated Slate Co... 129
Eastern Granite Roofing Co... 103
Edwards Mfg. Co... 21
Elite Mfg. Co... 19
Engineers Equipment Co... 109
Excelsior Bag & Mfg. Co... 124
Fav & Egan Co., J. A... 91
Flanagan & Biedenweg Co... 116
Foster & Sons Co., Wm... 25
Fox Machine Co... 108
Frazier Co., The... 96
Fuller & Johnson Mfg. Co... 71
Gage Tool Co... 11
Gem Mfg. Co... 105
General Roofing Mfg. Co... 95
Gibbons, M. J... 105
Glidden Varnish Co., The... 77
Goodell Mfg. Co... 12
Goodell Pratt Co... 19
Gordon Van Tine Co... 69
Grand Rapids Hardware Co... 16
Grimm Mfg. Co... 13
Hartman Sanders Co... 112
Heppes Co... 101
Hess Warming & Ventilating Co... 116-126
Hower, J. K... 106
Howes Co., S. M... 17
Humason & Beckley Mfg. Co... 105
Hupp Motor Car Co... 97
Hurley Machine Co... 4
Huther Bros. Saw Mfg. Co... 24
Illinois Traction System... 21
International Correspondence Schools... 121
International Harvester Co... 94
Interstate Mfg. Co... 106
Introstile Co., The... 119
Isard Warren Co... 21
Ives Co., The H. B... 107
Jennings & Co., C. E... 122
Johns Manville Co., H. W... 17
Johnson, E. J... 24
Johnson & Son, S. C... 78-79
Kanneberg Roofing & Ceiling Co... 24
Karol, B. B... 122
Kawneer Mfg. Co... 72
Keasbey & Mattison Co... 88
Knickerbocker Co., The... 125
Lorenzen & Co... 23
Lowe Bros. Co., The... 88
Luehrmann Hardwood Lumber Co., Chas. F... 81
Lufkin Rule Co... 12
Luther Grinder Mfg. Co... 93
McKim Co., R. B... 110
McLaren Bros... 110
McMillen Co., R... 87
Mack & Co... 23
Marsh H. C... 26
Mastic Wall Board & Roofing Mfg. Co... 134
Mayhew, H. H... 12
Metal Shelter Co., The... 114
Miles Mfg. Co., P. B... 104
Millers Falls Co... 14
Miller Mfg Co., A. W... 124
Montke, Jos... 5
Montross Metal Shingle Co... 113
Moorman & Otten Co... 108
Morgan Co... 83
Morrill, Chas... 26
Mullins Co., The W. H... 119
Myers & Bros., F. E... 116
National Mfg. Co... 136
National Sheet Metal Roofing Co... 113
Nicholls Mfg. Co... 25
North Bros. Mfg. Co... 16
N. W. Compo-Board Co... 121
Northwestern Grille Works... 17
Oak Flooring Bureau... 108
Orr & Lockett Co... 115
Oshkosh Mfg. Co... 107
Paine Lumber Co... 6-7
Parker, C. L... 119
Parkhill, John... 119
Parks Ball Bearing Machine Co... 126
Peck Stow & Wilcox Co... 70
Peck Williamson Co... 73
Peerless Brick Machine Co... 112
Perfection Mfg. Co... 18
Pettijohn Co., The... 129
Phenix Mfg. Co... 121
Phillips Co., A. J... 21
Phoenix Sliding Blind Co... 18
Potter Bros... 23
Prentiss Vise Co... 19
Progressive Mfg. Co... 14
Prybil, P... 13
Radford Architectural Co... 123
Radford Sash & Door Co... 120
Rehm Hardware Co... 124
Rockford Mitre Box Co... 125
Roth Bros... 18
Russell Jennings Mfg. Co... 19
Safety Rule Holder Co... 105
Samson Cordage Works... 114
Sargent & Co... 122
Sasgen Bros... 102
Sayre & Son, L. A... 106
Schacht Motor Car Co., The... 90
School of Applied Art... 105
Seager Engine Works... 125
Sears Roebuck Co... 111
Sedwick Machine Works... 20
Seippel Lumber Co., Peter J... 104
Seneca Falls Mfg. Co... 125
Sharp Co., W. M... 85
Shattuck & McKay Co... 130
Shelby Spring Hinge Co... 14
Sheldon, E. H... 25
Shultz, C. H... 126
Sidney Elevator Mfg. Co... 112
Sidney Tool Co... 15
Silver Lake Co... 17
Simmons Hardware Co... 135
Simonds Mfg. Co... 84
Slatington Slate Co... 18
Smith, Otis A... 26
Smith Machine Co., H. B... 4
Smith & Heminway Co... 12
Southern Cypress Mfrs. Asso... 89
Speedwell Motor Car Co... 124
Sniegel May Stern Co... 99
Standard Screen Co... 22
Stanley Rule & Level Co... 10
Stanley Works, The... 96
Starrett & Co., L. S... 10
Swan Co., Jas... 122
Sykes Metal Lath & Roofing Co... 131
Syracuse Corner Block Factory... 119
Tabor, John L... 114
Taylor Mfg. Co., Jas. L... 20
Trussed Concrete Steel Co... 129
United Machinery Co... 9
United Pump & Power Co... 112
United States Gypsum Co... 106
Van Guildler Hollow Wall Co... 110
Waddell Mfg. Co... 126
Waterloo Cement Machinery Co... 112
Weber Mfg. Co... 5
Whipple & Co., R. P... 24-122
Wilkinson & Co., A. J... 11
Willis Mfg. Co... 16-119
Winthrop Asphalt Shingle Co... 124
Wolgamood Sinclair Co., The... 5
Wood Mfg. Co., John... 115
Wood Mosaic Co... 92
Wright Co., Chas. E... 11

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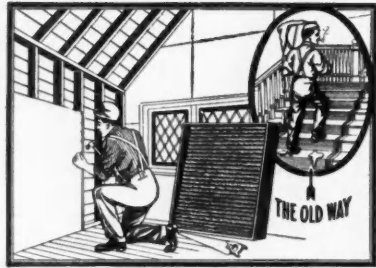
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# BISHOPRIC WALL BOARD AND SHEATHING

**BISHOPRIC** Wall Board is cheaper and better than lath and plaster. It is the **ONLY** Wall Board **COMBINED WITH LATHS** and Asphalt Mastic. Laths are necessary in a Wall Board, just as they are in plaster walls, to prevent warping and to insure solid rigid stiff, substantial

## WALLS AND CEILINGS



*Bishopric Wall Board Easily Applied*

factory into 4 x 4 feet sheets. Shipped in crates ready for immediate nailing to studs. It is guaranteed not to swell, shrink, warp, crack, flake or blister. It is clean, sanitary and odorless; proof against moisture, cold, heat and vermin; saves fuel and keeps out summer heat; also deadens sound.

It is suitable for dwellings, factories, new partitions in old buildings, finishing attics, porches, laundries, cellar ceilings, garages, etc.

**PRICE OF WALL BOARD AND SHIPMENT**—Crate of 16 sheets, covering 256 sq. ft. of surface, \$6.40 per crate, or \$2.50 per 100 sq. ft., f. o. b. New Orleans, Cincinnati, or Alma, Mich. We ship from nearest point.

T. W. Hanes, Carpenter and Contractor, Mounds, Ill., wrote August 15: "I have used 13 crates of Bishopric Wall Board, and the waste could be put in a hat."

Wm. Cooper, Taxidermist, Milo, Me., March 9 wrote the Philadelphia Farm Journal: "Your interesting paper has been a real bonanza to me. I wanted a cheap, warm method of lining my new work room. An advertisement in your paper gave me the very idea and material at a price that suited my pocket. I wrote to two firms who advertised with you, but selected 15,000 ft. of sheathing from the Bishopric Wall Board Mfg. Co. of Cincinnati. If the stuff was made on purpose, it could not suit me better; and a most prompt, obliging firm they are, too."

**Bishopric Sheathing is Cheaper than Lumber; saves 75% in Labor; does away with Building Paper**

Bishopric Sheathing is made of same materials as Wall Board, but finish is not necessarily so fine, therefore costs less. It is of uniform thickness, insuring a perfectly even surface when applied.

Bishopric Sheathing is nailed to studs, with lath and asphalt side exposed. Over laths weather boards are nailed or cement applied.

Bishopric Sheathing makes a more solid and substantial wall than lumber. There are no gaping joints; no widening cracks due to shrinkage; no knot holes.

The Asphalt Mastic in Bishopric Sheathing is a non-conductor, moisture cannot penetrate it. It is proof against vermin. The pests cannot bore through the tough, gummy Asphalt Mastic. In applying weather-boards over laths, dead air space is left between the laths; forming splendid insulation. Does away with the expense of building paper and cost of its application.

**An Ideal Bishopric Home**



*Ideal home showing Weather-boards, over Bishopric Sheathing, lath side exposed, also Bishopric Roofing over Bishopric Sheathing. (smooth side of sheathing exposed)*

The cost of applying Bishopric Sheathing is but \$2.50 per 1,000 feet—A **SAVING OF ABOUT 75 PER CENT.** Furthermore, 1,000 square feet of wood sheathing covers but 750 feet of surface, 20% less being due to tongue and groove. In Bishopric Sheathing 1000 sq. ft. covers 1000 square feet of space.

Write for Descriptive Booklet and Samples—all Sent **FREE.** Dealers Write for Proposition.

**THE MASTIC WALL BOARD AND ROOFING MFG. CO.,** 24 E. Third St. Cincinnati, O.

Bishopric Wall Board also is the only Wall Board with a waterproof body. The Asphalt Mastic in which the laths are imbedded affords absolute protection against dampness. Does away with delays in building. Applied winter or summer. Is nailed to studding dry ready for immediate application of paper, paint, burlap or any other kind of decoration.



Applied Dry Winter or Summer

*Shows Construction of Bishopric Wall Board*

Bishopric Wall Board is made of kiln-dried, dressed laths imbedded in hot Asphalt Mastic, surfaced with sized cardboard and cut in the factory into sheets ready for immediate nailing to studs.

## BISHOPRIC SHEATHING

**Ideal Material for Cement Buildings or Stucco Exteriors. Proof against Dampness, Heat and Cold**

Bishopric Sheathing insures comfort during the construction of the building. As soon as the building is closed in with Bishopric Sheathing, the men may work in comfort on the inside during bad weather, finishing the outside on suitable days. This insures continuous work, without loss of time, enabling the contractor to hold his men and complete the work in the least possible time.

Bishopric Sheathing is used with equally splendid results under flooring and as a substitute for roofing boards. Used under floors, it serves as a sound deadener and keeps out dampness; used under the shingles, it keeps out cold and summer heat.

**ITS MANY USES**—Bishopric Sheathing also is used with excellent results as a lining for dairy barns, ranch houses, poultry houses, driving stables or any out-door building where protection from the elements, Summer or Winter is desired.

**PRICE OF SHEATHING AND SHIPMENT**—Crate of 16 sheets covering 256 square feet of surface, \$6, or \$2.35 per square of 100 square feet, f. o. b. New Orleans, La., Cincinnati, or Alma, Mich. We ship from nearest point.

## BISHOPRIC ROOFING SELF-PROTECTING

The materials used in Bishopric Roofing are self-protecting. Other roofings require protection in the way of paint or coatings to prevent drying out, cracking or rotting. Bishopric Roofing requires no paint. The Asphalt itself in this patented Roofing is toughened and perpetuated by an exclusive process. Carbonate of Lime is mixed with pure asphalt, making one homogeneous mixture, which stands a pressure of 500 pounds to the square inch. This is a positive guarantee against breaks and cracks. Asphalt Mastic may be exposed direct to the weather in any climate without danger of softening, drying out, cracking or crumbling. Write for free sample and literature.







## The Proper Way to Keep Tools

Keen Kutter fitted tool cabinets have a place for everything—and every Keen Kutter guaranteed tool in its place, where you can put your finger on it in a jiffy. No stooping, no handling of big tools to see if smaller ones are hidden under them; no rubbing of one against another and chipping its edge. Everything in plain sight—*ready*. Besides the advantage of convenience, you'll have the double advantage over the man with ordinary tools in an ordinary chest—the advantage of better work and faster work that always follows the use of

# KEEN KUTTER Tools

because they excel in quality and efficiency; because they are made to last and make good for a lifetime. When you ask a dealer for *a* tool you *hope* you are getting quality—and when you tell your dealer you want a Keen Kutter tool, you are *sure* of it. The Keen Kutter trade mark guarantees it. The transaction carries the force of an insurance policy. It *is* insurance—you *cannot* lose. Your money back if any Keen Kutter tool fails you.

***"The Recollection of Quality Remains Long After the Price is Forgotten."***

Trade Mark Registered

—E. C. SIMMONS

If not at your dealer's, write us.

**SIMMONS HARDWARE COMPANY (Inc.)**  
St. Louis and New York, U. S. A.

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