

# AMERICAN CARPENTER AND BUILDER



THE WORLD'S GREATEST BUILDING PAPER

A Christmas Suggestion—



**Radford's Cyclopaedia of Construction**  
Carpentry — Building — Architecture

Thousands of Ambitious Carpenters are ordering "Radford's Cyclopaedia" as a Christmas Gift either for themselves or for some other member of the family, for Home Study these long Winter nights, and it is helping them to Increase their Earning Powers.

Sent to Our Friends on Approval— See Page 103



## WHAT WILL SANTA CLAUS BRING YOU THIS YEAR?

Shall it be some trifle that you do not want and do not really need, or shall it be an

# ATKINS SILVER STEEL SAW

If you are married—why not suggest to your wife a Genuine SILVER STEEL SAW? Is there anything that you actually need more?

If you are not married—then your Sister or best girl would surely rather give you something that is going to save your time, your strength—your very lifeblood—than a gewgaw that you do not want and that will soon be forgotten.

If you are one of those crusty old bachelors, why not make yourself a present that will be a source of gratification for years to come?

### ITS ALL UP TO YOU

Why not work your plans to get what you want most—a really fine new saw that you will be proud of?

### OUR GUARANTEE

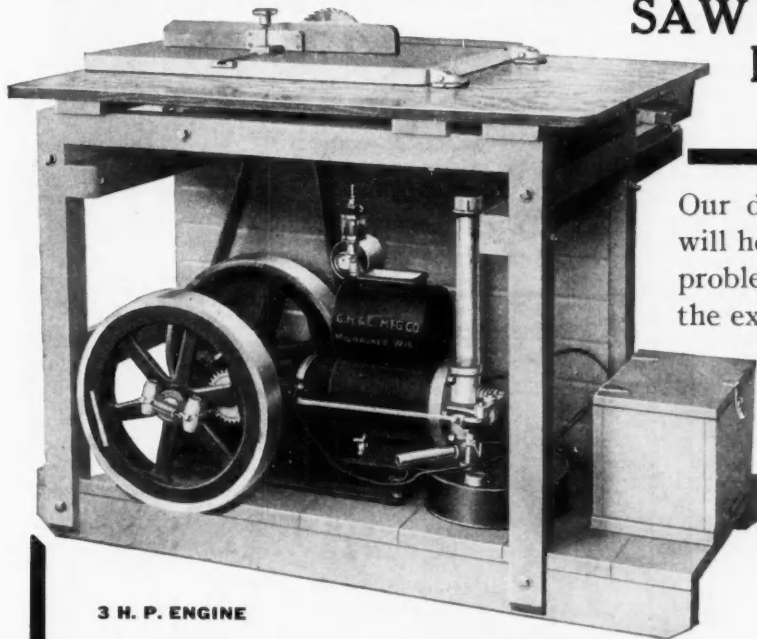
And remember that if your ATKINS SILVER STEEL SAW is not the very best saw you ever used, take it back to your dealer and get your money back. This is the only real guarantee that protects you. We are not afraid to stand behind our Saws.

## E. C. ATKINS & CO., Inc.

INDIANAPOLIS, IND.

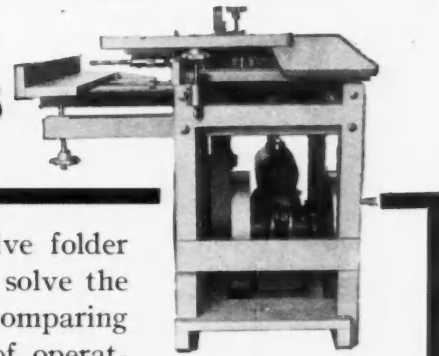
# WE ARE THE PIONEERS

IN THE MANUFACTURE OF PORTABLE  
SAW



3 H. P. ENGINE

RIGS



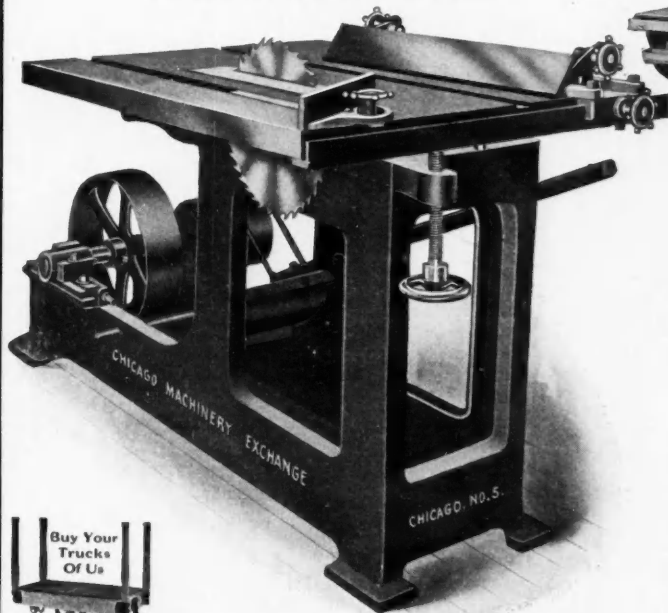
Our descriptive folder will help you solve the problem in comparing the expense of operat-

ing this portable saw rig at twenty cents a day as against the high wages which you pay your men. We are manufacturers of contractors' equipment, having three sizes of portable saw rigs, hoists, hand derrick, pumps, concrete chutes, mortar mixer, etc.

C. H. & E. MANUFACTURING CO., Inc., 322 Mineral St., Milwaukee, Wis.

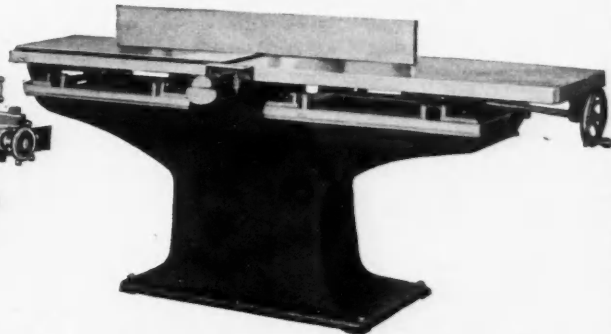
## Ask for Price on One if You Cannot Use Both

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, Eabbling, 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.

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, 1219-1227 W. Washington Blvd., Chicago, Ill.

# The American Floor Surfacing Machine

**IS NO EXPERIMENT.** Its work since 1903 has established a standard for finely surfaced and polished floors. It is the only machine whose work is specified by leading architects and used in the best government buildings and will surface and polish any kind of a floor from common pine to the finest parquetry.

**IT IS THE ORIGINAL** and only two-roll, self propelled, dust collecting machine, that surfaces close to the wall and can be used in small rooms. Anyone can operate it.

**ITS WORK IS RAPID, regular smooth and even** because the power that drives the rolls, also propels the machine at the same ratio of speed. It has surfaced and polished millions of square feet of the finest floors in America and Europe.

**GET A MACHINE** that does first class work and in paying quantities, that is fully guaranteed and sold on its merits.

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

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



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

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

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

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

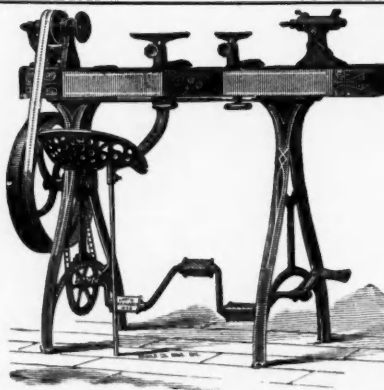
Try us with your next order. Send us your specifications and ask for our prices.

### AMERICAN VENEER CO.

Specialists and Manufacturers of Built-up Veneer Panels

We appreciate small orders as well as large ones

12 Market St., - - - KENILWORTH, N. J.



## COMPLETE OUTFIT

Hand and Foot-Power MACHINERY

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

Write for Particulars

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

## 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.

**Hurley Machine Company**

31 S. Clinton St  
CHICAGO

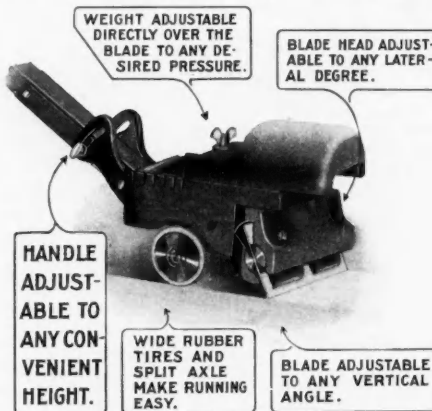
NEW YORK:  
1011 Flatiron Bldg.

DETROIT:  
246 Woodward Avenue.



## \$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



WEIGHT ADJUSTABLE DIRECTLY OVER THE BLADE TO ANY DESIRED PRESSURE.

BLADE HEAD ADJUSTABLE TO ANY LATERAL DEGREE.

HANDLE ADJUSTABLE TO ANY CONVENIENT HEIGHT.

WIDE RUBBER TIRES AND SPLIT AXLE MAKE RUNNING EASY.

BLADE ADJUSTABLE TO ANY VERTICAL ANGLE.

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



## 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.

**Thirty Times** faster than hand.

**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.*

**Wolgamood, Sinclair Co.**  
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

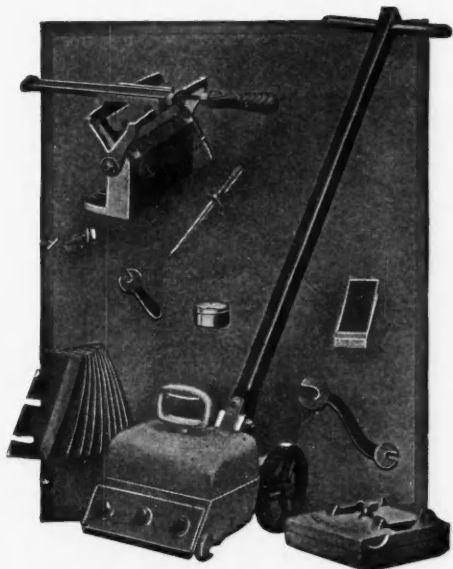
five days free—then you'll know. Give it the hardest test a scraper ever has to undergo. If its work isn't faster—smoother and done with less effort than is the case—with any other scraper made—return it at our expense. The Weber sells strictly on the merits of its work—no other way.

**Write Today**  
for descriptive circulars and details of free trial offer.



**John F. Weber**  
President  
**Weber Mfg. Co.**  
670 71st Avenue  
West Allis, Wis.

## WHY SCRAPE FLOORS BY HAND



The Acme Floor Scraping Outfit.

when you can do it so much better and in one-fourth the time with the **Acme Floor Scraping Outfit**? If you are still using hand scrapers you are losing 75 per cent on every job of floor scraping that you have to do.

This is a positive fact and can be vouched for by thousands of Carpenters and Contractors who have bought my equipment during the past five years.

Every Acme Outfit I sell is guaranteed to give satisfaction or I do not want any money for it. You can judge the merits of my tools on your own work for I will ship the machines to you on **One Week's Free Trial** and if they do not meet with your entire approval just return them to me at my expense and you will owe me nothing. This is my method of doing business. Does it sound reasonable to you? If so, write me now for booklet describing the best floor scraping outfit on the market.

**JOSEPH MIOTKE**

247 Lake Street :: MILWAUKEE, WIS.

# PAINE LUMBER CO., LTD.

OSHKOSH, WISCONSIN, U. S. A.

These Plants Produce TWO THIRDS of All th



*We Make Everything in Mill W*

OUR SPECIALTY

## Korelock Veneered Doors

Cost but little more than Pine

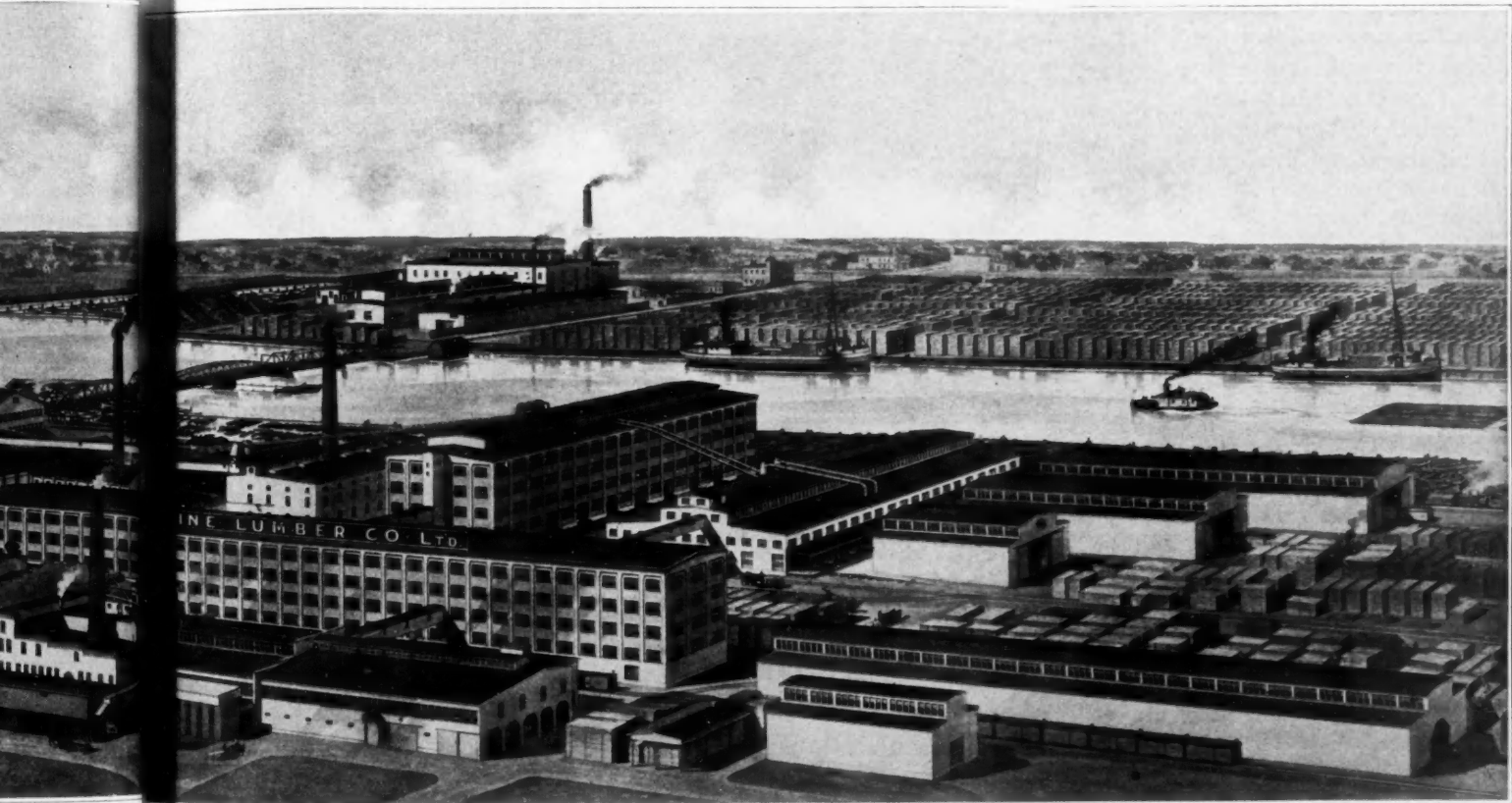
WRITE FOR CATALOGUE A

Whenever you See a Korelock Joint Think of

# PAINE LUMBER CO., LTD.

OSHKOSH, WISCONSIN, U. S. A.

of All the Standard Veneered Doors Used in the World



*Mill Work in any Kind of Wood*

OUR SPECIALTY

## Korelock Veneered Doors

Birch and Oak Doors Ready to Ship

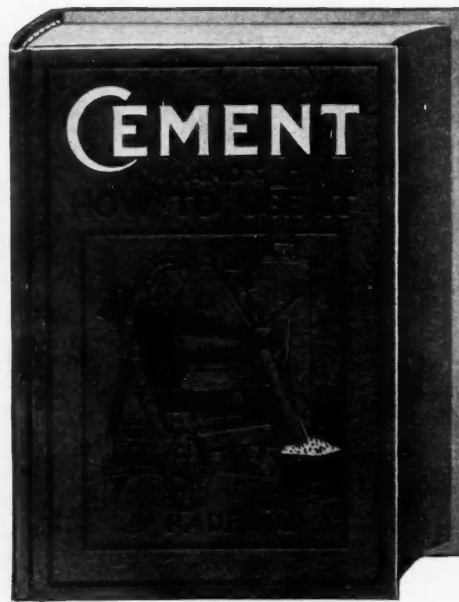
WRITE FOR CATALOGUE A

Think of Paine Lumber Co.—The Originators

# 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.



**"Cement and How to Use It"** is the largest book of its kind ever published. It consists of 370 pages, 6x9 inches, and is printed from large, clear type on a high-grade book paper. It is illustrated with over 250 drawings, diagrams, details, etc., including many pages of full-page plates reproducing architects' original drawings and details of construction. Two thousand topics relating to cement are discussed in this great, new book. No book attempting to treat this important subject has ever before so successfully covered the ground.

### 370 Pages—350 Illustrations—2,000 Topics

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.

This book contains only practical information. By practical is meant information that can be successfully applied to the every-day work of the average builder, contractor and cement user. The book presents and solves problems as they have been met and worked out by well known architects and the man on the job.

**"Cement and How to Use It"** is written so that any reader can understand every page, every term used and every detail shown. It is entirely free from technicalities and yet its pages are full of instructions for all classes of cement users. It shows the easiest and most common-sense way to do the work. Its methods, formulas and tables can be relied upon to be absolutely correct.

**FREE** WITH ONE YEAR'S SUBSCRIPTION TO **CEMENT WORLD**  
**"THE WORLD'S GREATEST CEMENT PAPER."**

**USE THIS COUPON—PIN \$1.00 TO IT—AND MAIL TODAY.**

CEMENT WORLD Co., 241 So. 5th Ave., Chicago.

Gentlemen:—Enclosed find \$1.00 for which enter my subscription to the **Cement World** for one year, and send me, absolutely free, postage prepaid, one copy of the big, new 370 page book, "CEMENT AND HOW TO USE IT."

Name.....

A.B.C.12.11

Post Office..... State.....





GARAGE TYPE—MADE IN ALL SIZES.

**Pruden System Buildings are used for Garages, Stores, Cottages, Warehouses, Engine Houses, Implement Shelters, etc.**

A big new field is opened up to the contractor by the Pruden System. Take automobile garages alone. You know the widespread demand for Fireproof garages, both in and out of fire limits. You can now meet this demand quickly, efficiently and at low cost. The profits are large compared to other contracting work. Why not get your share?

Don't form any opinion of the Pruden System based on anything you have ever seen or heard of, for there is **nothing like it.** It's absolutely original with us. We own the patents and are the only manufacturers. Thousands are now in use all over the country. This wonderful new fireproof construction is an established, proven success. Learn ALL about it. Send for catalogs, pictures, and our proposition to contractors.

**THE METAL SHELTER CO.**

2-23 WEST WATER ST.

ST. PAUL, MINN.

**You Can Put Up the "Pruden System" Portable Fireproof Buildings Quickly—**

—many times in a few hours. No high cost labor— one ordinary helper is all you'll need. No foundation or framing. You don't have to bother with plans. Everything is shipped to you in completely finished unit sections all ready to be set up. The sections interlock into a self-supporting, strictly fireproof building, that is strong enough, durable and handsome enough to rank with solid masonry, but costs only one-third as much, often less.

COTTAGE TYPE



**Samson Spot Sash Cord**

Samson Cordage Works  
Boston, Mass.



Trade Mark Reg. U. S. Pat. Off.

Can be distinguished at a glance, even after the label is removed, by our trade mark, the Spots on the Cord. You don't have to waste any of it by cutting out rough places.

SEND FOR SAMPLES AND TESTS.

**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."

MANUFACTURED BY BRAUNSDORF-MUELLER COMPANY

ELIZABETH, NEW JERSEY

Interior and Exterior  
**CAPITALS AND ORNAMENTS**

**DETROIT DECORATIVE SUPPLY CO.**  
Limited  
810 14th Avenue, : : DETROIT, MICH.  
Most Complete Catalog Ever Issued

**TAYLOR PORTABLE STEEL DERRICK**  
2000 Pounds Capacity

Adjustable capacity and speed to three ways. One man operates both cranks and can hoist with ease 700 pounds. Weight 160 lbs. Made in two sections. A man can climb a ladder with either section. Beam section connects to post by tipping in a vertical position. Consider the durability of a derrick constructed of malleable iron and steel, and that of Wood, more compact, more powerful. Roller bearing circle swing. Clears side wall of building three feet. With special platform attachable to side of railroad gondola car for unloading water-pipe, etc. Price of derrick with three way block, brackets, and bolts for attaching to building. \$40.00 F. O. B. Chicago.

Manufacturer

**John L. Taylor**  
1036 W. Lake St. CHICAGO  
Telephone Monroe 3066



COPYRIGHTED, 1909, BY THE STANLEY RULE & LEVEL CO.

## Stanley Tools

AMONG THEM

### "BAILEY" WOOD PLANES

THEY HAVE

The same adjustment as the celebrated "BAILEY" IRON PLATE—differing only in detail where the extra thickness of the Wood Bottom has been taken into consideration.

The Bottom is made from selected and well-seasoned Beech.

The name "BAILEY" and the number are cast on every Plane, and the name "STANLEY" is stamped on each cutter.

INSIST that your orders be filled with Planes made by the STANLEY RULE & LEVEL COMPANY, which carry with them a GUARANTEE backed by a Company that has been manufacturing Carpenters' and Mechanics' Tools for over half a century.

Send for Catalogue

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 |
| " 2 ".....            | 2 85   |
| " 3 ".....            | 3 00   |
| " 4 ".....            | 3 75   |
| " 5 ".....            | 4 00   |
| " 6 ".....            | 4 50   |
| " 7 ".....            | 5 00   |
| " 8 " heavy.....      | 7 50   |
| " 9 ".....            | 8 50   |
| " 10 ".....           | 9 50   |
| " 11 ".....           | 11 00  |
| " 12 ".....           | 12 50  |
| " 13 ".....           | 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.

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

Write for circular Dept. H.

### CALIPERS and DIVIDERS For CARPENTERS

We make several different styles, all good. Get our free Catalogue, No. 186, of the largest line of Fine Tools for all kinds of mechanics.

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 183J.

JOSEPH DIXON CRUCIBLE CO.  
JERSEY CITY, N. J.

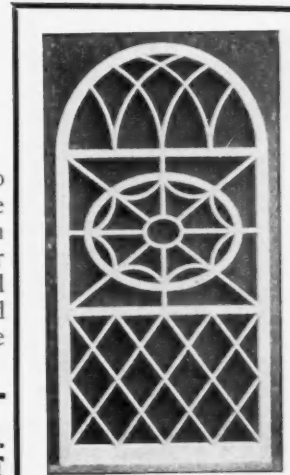


## HOW DO YOU FIT UP YOUR FANCY SASH?

When you have a nice job to do such as is shown here, what have you got for tools to do it with? Do you have to depend on using a jack-knife and chisel, or do you do it the right way on an

### American Sash Trimmer

With this machine the workman is able to cut each piece of sash bar to the exact length required, on any angle required, and at the same time the cutters form the end of the piece to exactly match the piece of sash bar to which it is fitted, thus making every joint a perfect one in much less time than poor ones can be made by hand. Thousands who used to fit sash the old fashioned way, have learned the better way and we are willing to help YOU get started in the right way. We will send this machine on approval to any responsible concern.



**THE HEALD MACHINE CO.** WORCESTER, MASS.  
2 NEW BOND STREET

#### THE FOLDING DRAW KNIFE

It's the Draw Knife of the foreman  
In the best accoutered shop  
It's the quickest and the slickest;  
Half the labor it will lop.

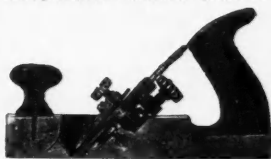


If your hardware dealer does not keep it, we will send it to your address postage paid. : :

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

#### INTRODUCTORY TRIAL OFFER

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



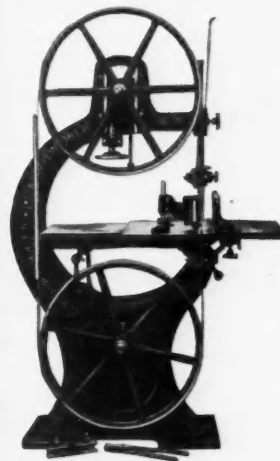
As this paper guarantees we will do as our advertisement says, you know the plane must be O. K.  
ALL WE ASK is to have you TRY the SELF-SETTING PLANE on your own bench, in your own way, with or against the grain, on the WORST cross-grained, oaty, knurley, knotty, hard or soft wood you can find, THAT IS FREE FROM SAND OR DIRT.  
If it is not worth to YOU, OR YOUR MEN, TWICE ITS COST, return it at our expense as above stated.

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

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

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

## A Free Copy



Secrets of Successful Band Sawing by

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

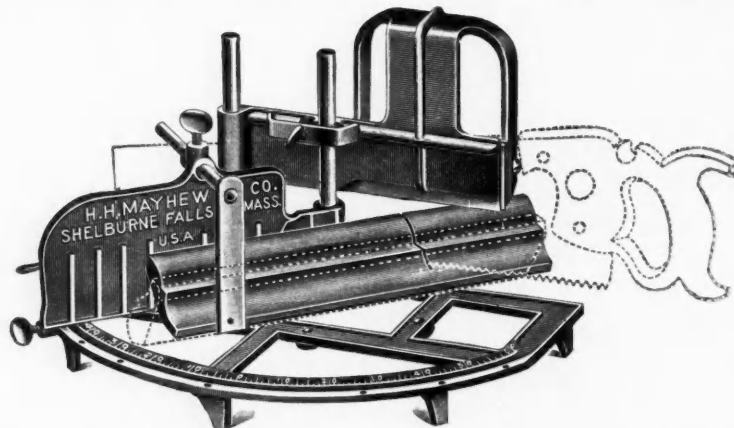
Would be mailed free. Send for a copy before our supply is exhausted. We illustrate fifteen new model machines.

**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 mitring.  
 Box embodies a new feature in reversing the principle commonly used on other boxes.  
 Any of three saws may be used — Panel — Hand or Back saw.  
 Saw guide adjustable for any thickness of saw.

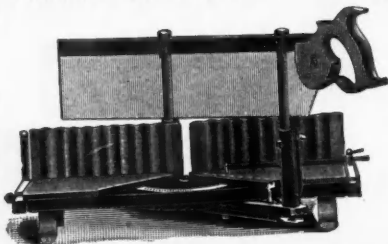
Extreme mitre to 60° without makeshift. May be used as a stationary or pivot box by use of the pin posts.  
 In mitring duplicate cuts there is no restriction on length.  
 Will cut compound mitre.  
 Parts take down into space 10x10x4 inches.  
 Weight 15 lbs. complete.  
 Box contains full directions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

PRICE EACH, \$10.00

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

## 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.**

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



SEND FOR CATALOG

**THE LUFKIN RULE CO.**

SAGINAW, MICH.

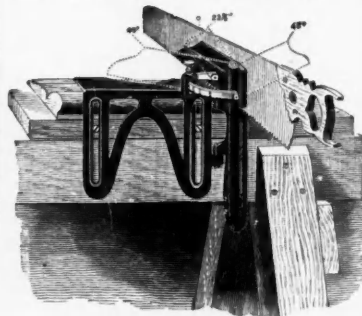
NEW YORK  
 LONDON, ENG.  
 WINDSOR, CAN



## MITRES

Cut with a "Red Devil Seavey" Mitre Box are Cut True—

Accurate and quick. The adjustment is always correct. You can use any saw. You can carry it in your tool box. It weighs but 2 pounds. All good hardware stores have the "Seavey" in stock. It is the only practical mitre-box made.



Over 100,000 mechanics say so. You ought to use it and to give you an opportunity we continue our

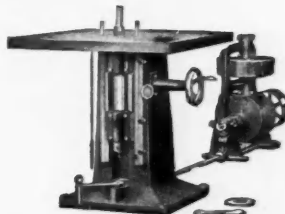
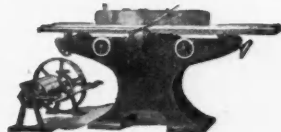
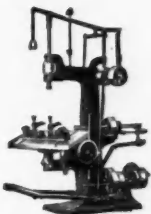
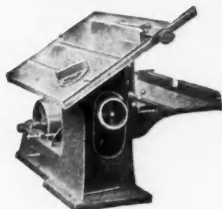
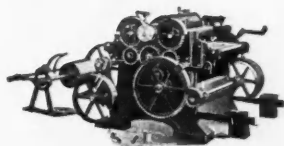
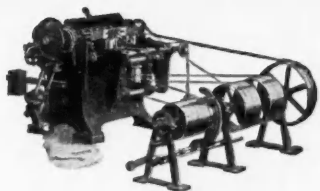
**Special Offer** On return of this "Ad" and \$2.00 one of these Mitre Boxes will be shipped to any reader of "Carpenter and Builder." Offer good for 30 days from date of issue.

**Smith & Hemenway Co.**  
 MANUFACTURERS

Chambers Street - NEW YORK, U. S. A.

Red Devil Tools are the Best on Earth

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.



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

**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.

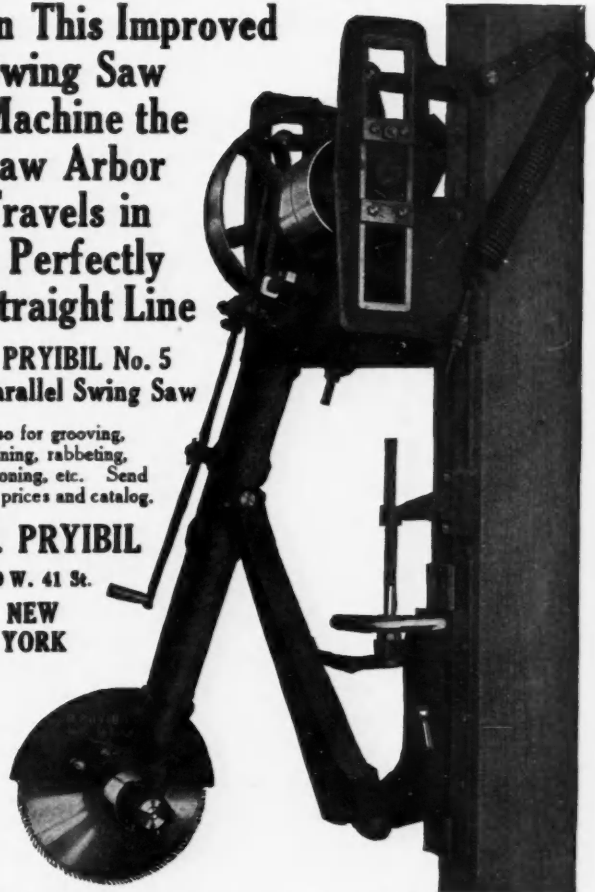
**Grimm Manufacturing Co.**  
46 Erie Street - BUFFALO, N. Y.

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

**PRYIBIL No. 5  
Parallel Swing Saw**

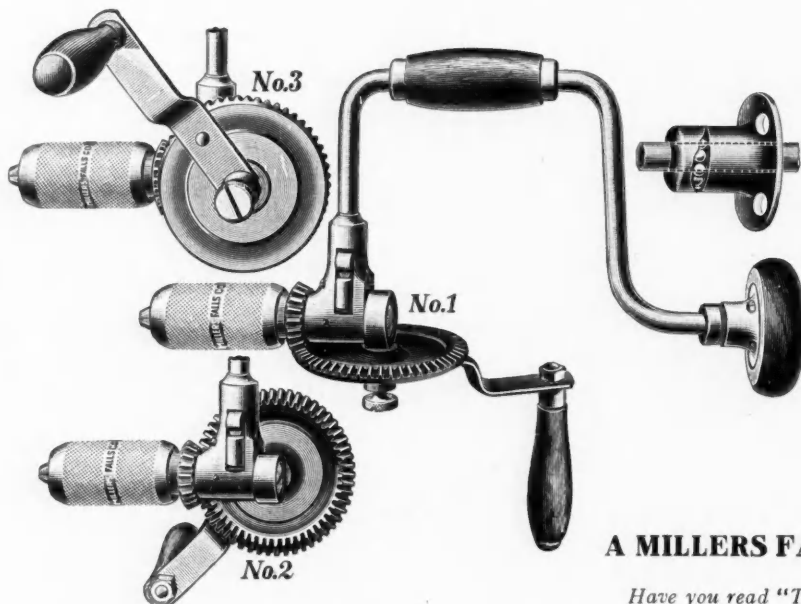
Also for grooving,  
gaining, rabbeting,  
tenoning, etc. Send  
for prices and catalog.

**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

## BE SURE The Shelby CHIEF

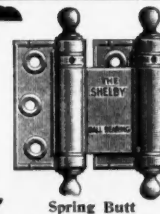
is stamped on the Floor plate when you buy double-acting ball-bearing surface floor hinges. They are genuine, all others are imitations.

You will also make no mistake by selecting Shelby Spring Butts, Door Holders, Bumpers Inside Locks, and many other articles of Builders Hardware.

Ask your dealer or us to tell you more about the Shelby line of Builders Hardware.

**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

# "HERE'S A SAW RIG"

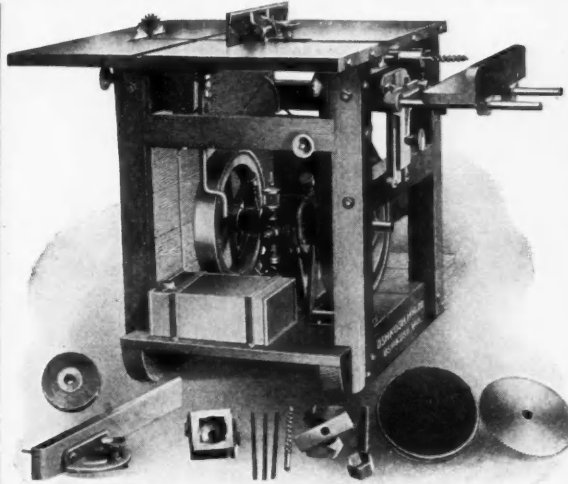
That will live up to your expectations, one that will do all we claim for it and then some besides. Our Saw Rig is built from the best materials by the most expert workmen, which enables us to guarantee these machines to be free from defects for life.

We have equipped it with the very best attachments we could manufacture, and together with a most reliable and powerful engine, we are able to put before you a Portable Saw Rig which we are satisfied to sell on the following conditions:

**IF NOT SATISFACTORY RETURN AT OUR EXPENSE**

**NO CHARGE FOR THESE ATTACHMENTS:**

- 10-inch Rip Saw
- 10-inch Cross Cut Saw
- 12-inch Jig Saw Boring Outfit
- 10-inch Sander
- 6½-inch Dado Head
- 2½ inch Jointer Head Miter Device
- 6-inch Emery Wheel



**THE  
OSHKOSH  
EVEREADY**

**Guaranteed  
for Life**

Write for Attractive Folder and Price

**OSHKOSH MANUFACTURING COMPANY, 316 S. Main Street  
OSHKOSH, WISCONSIN**

## The Advantages of a Portable Woodworker

### Especially the "FAMOUS"

Stop hauling your millwork to the machine-shop—and hauling it back. Bring your machine-shop to your millwork! It's cheaper—and the saving goes into your pocket.

The FAMOUS Portable Woodworker is really a movable machine-shop. When you've completed your contract on one job, move the machine to the next. Seven useful woodworking machines—practically all that a contractor requires—are combined into one. And a gasoline engine, complete with belting, is included in the outfit.

### A Remarkable Machine

Combining all the remarkable features of the FAMOUS Universal Woodworker—over eight hundred, of which are in use—our Portable Woodworker is a real boon to contractors everywhere. Surfacing and edging, boring, band-saw work, ripping and cutting-off, sanding—all these, and more can be done on this machine right at the place where your work is! No planing-mill delays and no unnecessary expense.

The FAMOUS Portable Woodworker is mounted on skids and can be moved around without any trouble. A wheeled truck can also be furnished. The engine is three horse power, and batteries and belting come with it. This is by far the best proposition today in woodworking machinery. Write for full details.

**The Sidney Tool Co.**

Sidney, Ohio

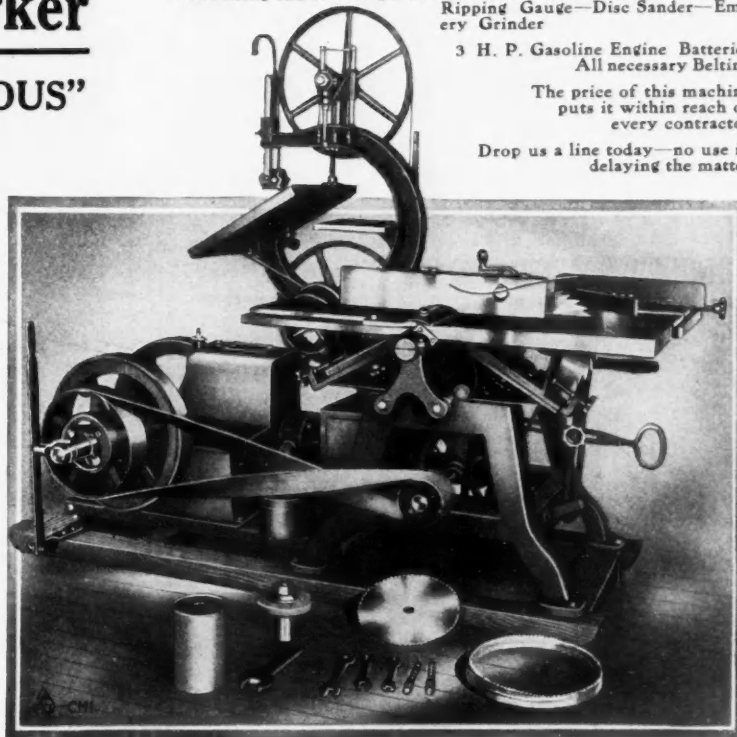
### Several Woodworking Machines Combined in One

The machines combined in the FAMOUS Portable Woodworker are: 8" Jointer—20" Band Saw—Saw Table (carrying a 14" saw blade) with raising and lowering arbor—Mitering Attachment—Cut-off and Ripping Gauge—Disc Sander—Emery Grinder

3 H. P. Gasoline Engine Batteries  
All necessary Belting

The price of this machine puts it within reach of every contractor

Drop us a line today—no use in delaying the matter



**"YANKEE"**  
No. 1530

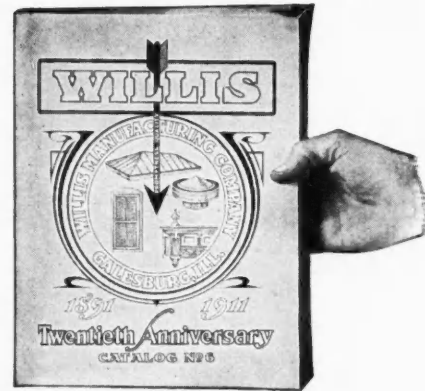


The Newest  
**"YANKEE"**  
Hand Drill No. 1530  
A Tool for every Mechanic

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.

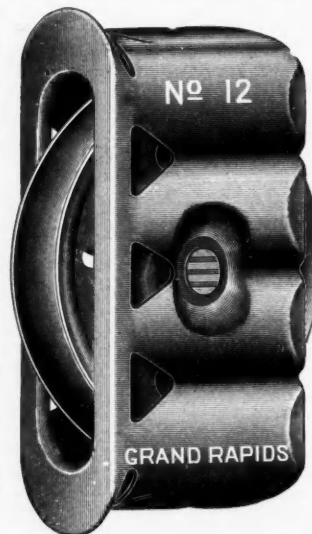


WE take the pleasure of offering to Architects and Builders our Catalog No. 6, just received from the printer, containing 180 pages, which fully describes and illustrates the most complete line of Architectural Sheet Metal Building Material.

*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





## Perfect Pipe Protection in the Coldest Weather

The freezing of pipes conveying water, gas, chemicals, etc., can be avoided by insulating with J-M Zero Sectional Pipe Covering. It is a combination of hair and wool insulating felts specially designed for the protection of such pipes.

### J-M Zero Sectional Pipe Covering

is made in sections 3 feet long, to fit all standard pipes. It is easy and economical to apply and lasts indefinitely.

When exposed to extreme conditions of cold, two thicknesses should be used—one section over another, breaking all joints—and the surface coated with J-M Waterproof Cement.

Ask nearest Branch for Sample and Booklet

## H. W. JOHNS-MANVILLE CO.

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

|           |           |             |             |              |               |
|-----------|-----------|-------------|-------------|--------------|---------------|
| Baltimore | Cleveland | Kansas City | Minneapolis | Omaha        | San Francisco |
| Boston    | Dallas    | Los Angeles | New Orleans | Philadelphia | Seattle       |
| Chicago   | Detroit   | Milwaukee   | New York    | Pittsburgh   | St. Louis     |

Toronto, Ont. For Canada—THE CANADIAN H. W. JOHNS-MANVILLE CO., LIMITED 1499  
Montreal, Que. Winnipeg, Man. Vancouver, B. C.

## 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



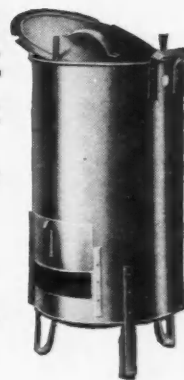
substitute as our name is stamped on every foot of cord. Silver Lake Sash Cord is the Original Solid Braided Cotton Sash Cord, and has been the standard since 1868. No other is just as good.

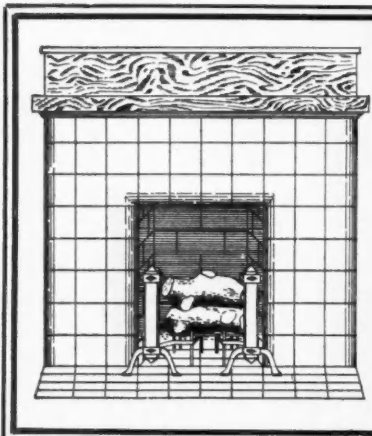
## SALAMANDER

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





## Do You Want our handsomely illustrated MANTEL-CATALOG?

We show the most complete and up-to-date line of  
**Mantels, Grates and Tilings at the Lowest Prices.**

*Catalogue free upon application*

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

### 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*

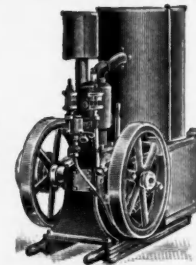
**Slatington Slate Co.** Established 1852 **Slatington, Pa.**

## 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.

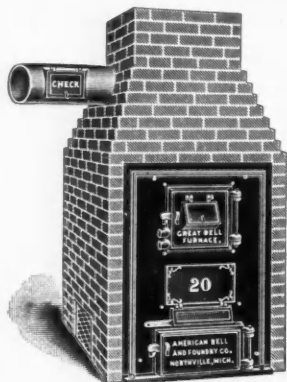


#### Amazing "DETROIT"

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 cranking. 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.



#### 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.**

## \$15 SAVED ON EVERY FRAME HOUSE YOU BUILD WITH WHEELER SAFETY SCAFFOLDS

Use no lumber or nails—Save their cost on two jobs—Last a life-time—Self-locking—Safe—Fold compactly—Convenient to handle—Self-adjusting—No loose parts to get lost—Always ready to use—They carry 1500 lbs.

*Write today for our trial offer.*

**AMERICAN STEEL SCAFFOLD CO.,** 65 McGraw Bldg., DETROIT, MICH.

## PHOENIX INSIDE SLIDING BLINDS

WIKES 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!**

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.

**PHOENIX SLIDING BLIND CO.**  
BRIDGE & CANAL STS. PHOENIX, N. Y.

## Reason It Out! Individual Motor Drive with ROTHMOTORS will Save Money.



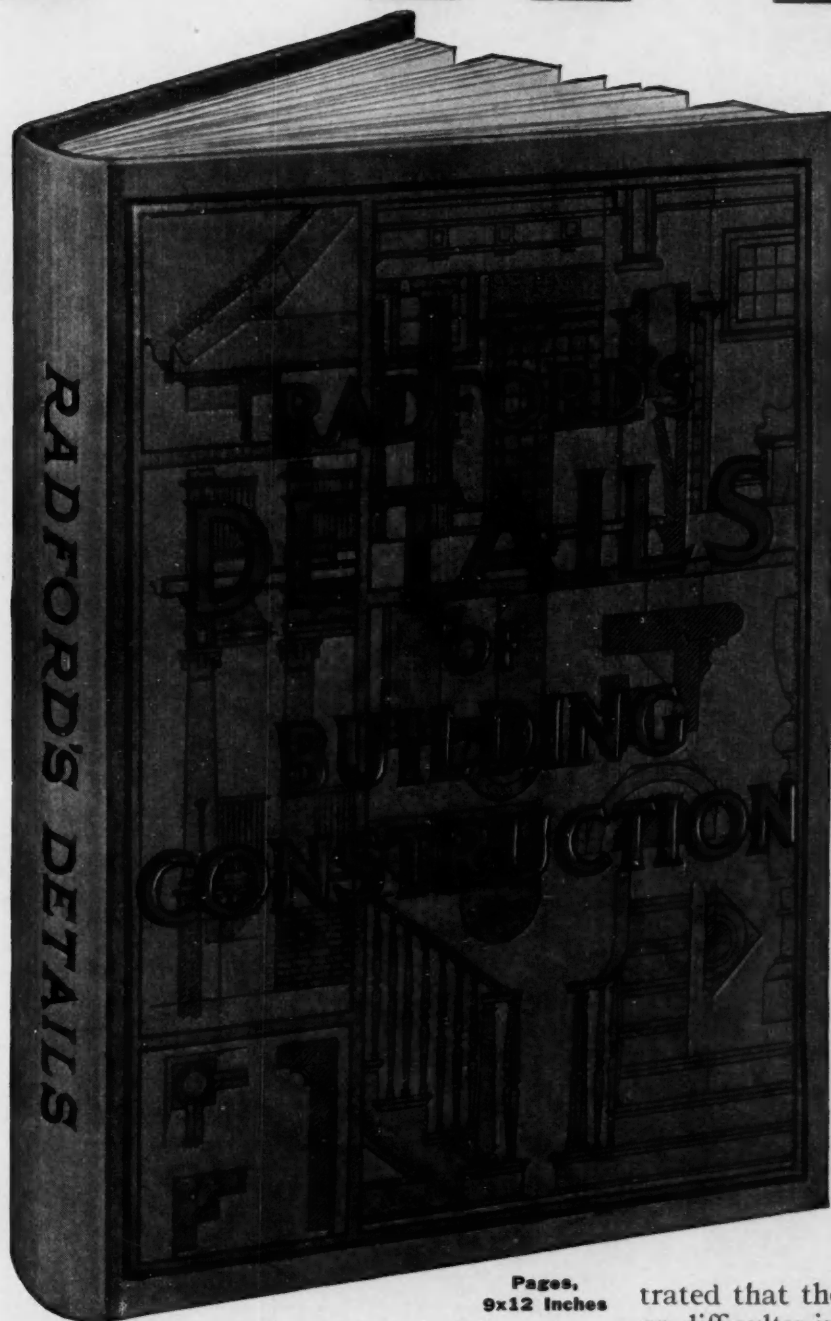
Only the machines that are in actual operation consume power. Over 25 other advantages.

Let us act as your engineers. We will save you money.

**Roth Bros. & Co.**  
1422 W. Adams St., Chicago  
New York: 243 Canal St.

# FREE

## THIS GREAT BIG NEW BOOK



Radford's Portfolio of "DETAILS OF BUILDING CONSTRUCTION" is a complete manual of building practice, as applied to carpentry, construction and the use of millwork. It is a remarkable collection of full-page plates, accurately drawn and reproduced to exact scale, showing clearly every detail of modern building construction and finish. These plates make plain the framing and construction of residences of every type—frame houses, brick houses, brick-veneer houses, "stucco" or cement-plaster houses, cement-block houses, etc. Every popular and attractive style of interior trim is fully detailed. Special ideas are presented for the appropriate interior finish for every room or part of the house. These ideas are worked out complete, the drawings showing both the arrangement of the room and all the interior trim, including built-in features fully detailed.

### 200 PAGES OF ILLUSTRATIONS

Every part of a building and every kind of a building is shown in Radford's Portfolio of "DETAILS OF BUILDING CONSTRUCTION." All dimensions, angles, curves, measurements and joints are made so plain and are so well illus-

Pages,  
9x12 inches

trated that the "man on the job" will have no trouble or difficulty in doing the work. It has all been figured

out by men who have made a lifelong study and success of architecture and building.

This is the day of "built-in" space and labor-saving features in the home. Carpenters are called upon to plan and build buffets and sideboards for the dining room, kitchen cabinets, cases and cupboards for the kitchen and pantry, bookcases for the living room and library, wardrobes and linen closets for the chambers, fireplaces with wood mantels, window seats, etc.

Radford's Portfolio of "DETAILS OF BUILDING CONSTRUCTION" is a regular gold mine of new and attractive designs and practical ideas from which the carpenter or the architect or the builder can draw for all or any of these. In every case complete details are presented—all accurately drawn to scale—so that the work can be gotten out directly from the Portfolio, if need be, without redrawing.

**See Our Wonderful Bargain Offer on Next Page**

# Radford's Details of

Wm. A. Radford, Editor-in-Chief of the American Carpenter and Builder, Editor-in-Chief of the Cement World, author of "Radford's Cyclopaedia of Construction; Carpentry, Building and Architecture," (12 volumes); "Radford's Cyclopaedia of Cement Construction," (5 volumes); "Practical Carpentry," "Steel Square and Its Uses," and many building and plan books, is the editor of "DETAILS OF BUILDING CONSTRUCTION." It is his latest work, and the only book of its kind in the world.

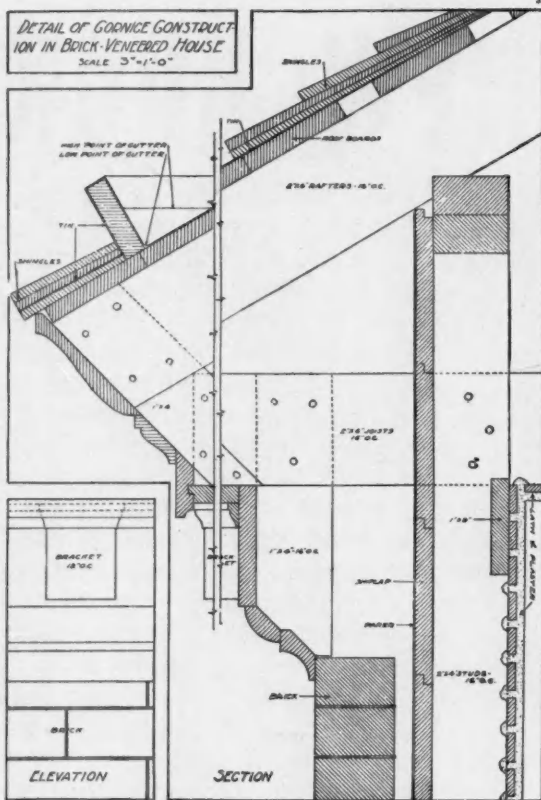


PLATE 27—BRICK VENEER CONSTRUCTION

Cornice framing. Details drawn to large scale showing approved method of framing at the cornice for brick veneer houses.

MINIATURE REPRODUCTIONS TO SHOW STYLE OF ILLUSTRATIONS

Each Page in the Book is 9 inches wide by 12 inches long

200 Big Pages of Detail Plates

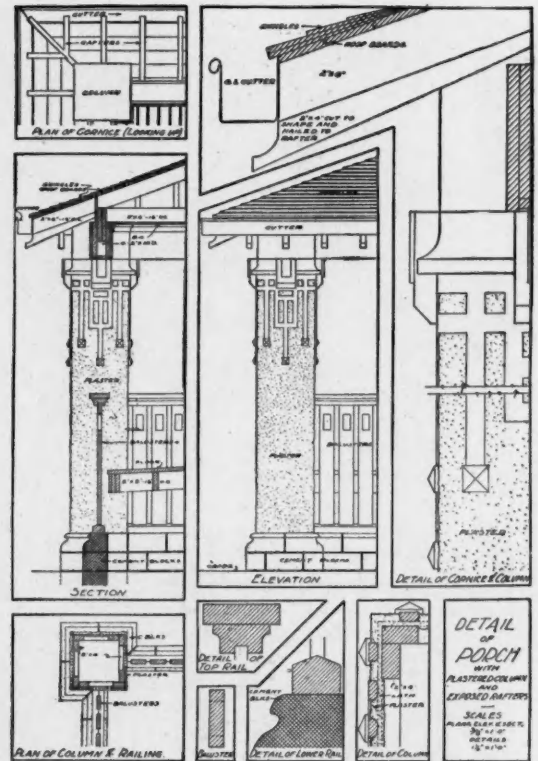


PLATE 1—PORCH WITH PLASTER COLUMNS, MODERN STYLE

Popular decorative details, and approved construction for use with cement stucco houses. The columns are built up with two-by-fours and the ornamental bands are nailed to the lath before any plastering is done. Attention is called to the method of constructing the porch railing which extends down to the block course in front of the edge of the porch floor; thus serving the purpose of both rail and lattice. The roof is the ordinary exposed rafter style with the addition of a shaped piece nailed to the bottom of each rafter to give extra depth.

## PARTIAL TABLE OF CONTENTS

### Part I. Details of Construction and Finish

38 Full Page Plates, showing complete details of interior trim with special "built-in" features for every room and part of a modern residence, as follows:

Porch with Stucco Columns, Designed in the Modern Style—Colonial Porch with Balcony Above—Colonial Door with Lattice Hood—Elaborate Entrance Door in Colonial Brick House—A Simple Colonial Doorway—Stair Hall in Modern Straight-Line Style—Library or Den with Fireplace and Built-in Cases—Combined Living and Dining Room (Buffet, Bookcase and Mantel Details)—Brick Mantel Design and Fireplace Construction—Dining Room with Beam Ceiling—Dining Room with Arched Ceiling (Built-in Sideboard Details)—Details of Trim for Colonial Dining Room—Beautiful Dining Room Buffet Completely Detailed—Kitchen Cabinet Designs—Kitchen and Pantry with Built-in Cupboards and Cases—Bed Room with Wardrobe and Clothes Closet—Double Casement Windows with Stationary Transom in Brick Wall—Slip-Head Window in a Brick Wall—Wall Sections and Sill Construction—Roof Dormer Windows—Shingled Hip and Colonial Dormers—Roof Dormer Windows—Sloping Roof and Bungalow Dormers—Cornice Construction for Frame Buildings (Complete)—Framing for Cement Plaster Houses—Brick Veneer Construction (Complete)—"Slow Burning" Mill and Warehouse Construction—Standard Warehouse Doors and Windows (Complete Details)—"Saw Tooth" Skylight for Factory Construction—Cement Block Construction for Residences (Complete)—Cement Block Veneer—Modern Store Front Construction—Store Fixtures—Counters and Cases (Complete Details)—Store Fixtures—Shelving and Display Racks (Complete Details)—Ornamental Gateway and Fence, Architecturally Treated—Roof Truss with All Joints Fully Detailed.

Each plate and drawing is accompanied by descriptive text, pointing out the special features and making every part perfectly clear and easily understood.

TABLE OF CONTENTS CONTINUED ON NEXT PAGE

### Part II. Details of Frame and Masonry Construction

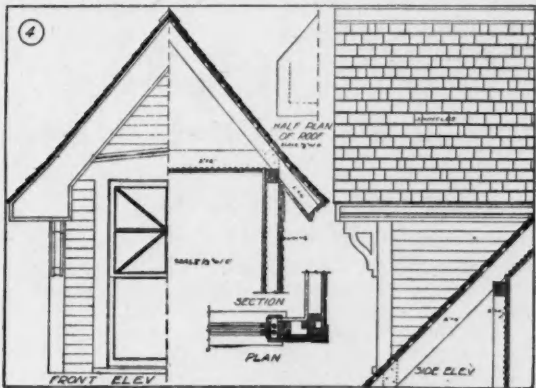
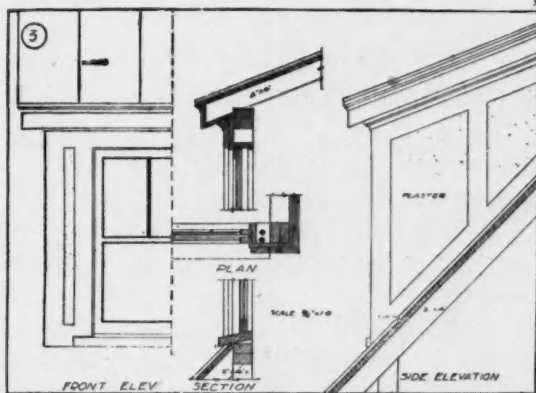
44 Full Page Plates, presenting a graded series of 197 figures detailing completely every point in frame, brick and stone construction, as follows:

Foundations—Brick, Stone, Cement, Piling—Brick work and Bonding—Brick Arches, Complete—Designs and Construction—Stone Masonry Work and Bonding—Cellar Windows in a Stone Wall—Sill Construction for Frame Houses—Braced Frame Construction—Joints Used in Heavy Timber Framing—Joist Framing and Connections—Floor Construction and Support—Fireplace Construction, Non-Smoking—Double Hung Window in Brick Cellar Wall—Double Hung Windows in Frame Walls, Both Expensive and Inexpensive Work—Double Hung Window with Screen in Frame Wall—Double Hung Window with Screen and Outside Blinds—Double Hung "Box Frame" Window—Back Plastered Walls with Double Hung Windows—Double Wall Construction, Frame—Window with Inside Sliding Blinds—Double Hung Window in Brick Veneer Wall—Broad Window with Segmental Head, Brick Wall—Window with Flat Arch, Brick Wall—Double Hung Window in 18" Brick Wall—Broad Window Spanned with Iron Lintel—Double Hung Window with Inside Blinds—Pocket for Inside Blinds—Projecting Boxes for Inside Blinds—Slanting Boxes for Inside Blinds—Simple Inside Blinds—Arrangement and Window Framing—Double Casement Windows with Stationary Transom—Outward Opening Casements (FIVE Styles Completely Detailed)—Inward Opening Casements (FOUR Styles Completely Detailed)—Casement Bay Windows (Complete Details Design and Arrangement)—Horizontally Pivoted Windows—Vertically Pivoted Windows.

Accept Our Wonderful Bargain Offer on Next Page

# Building Construction

The subscribers of the American Carpenter and Builder are given free consultation privileges on any problem of building, construction or any questions relating to it that may arise. The job that is troubling one subscriber today may have been successfully worked out by some other subscriber yesterday. Ask us how it was done. If we don't know, we will use every effort to find some one who does, and will give the benefit of expert advice to all accepting this offer.

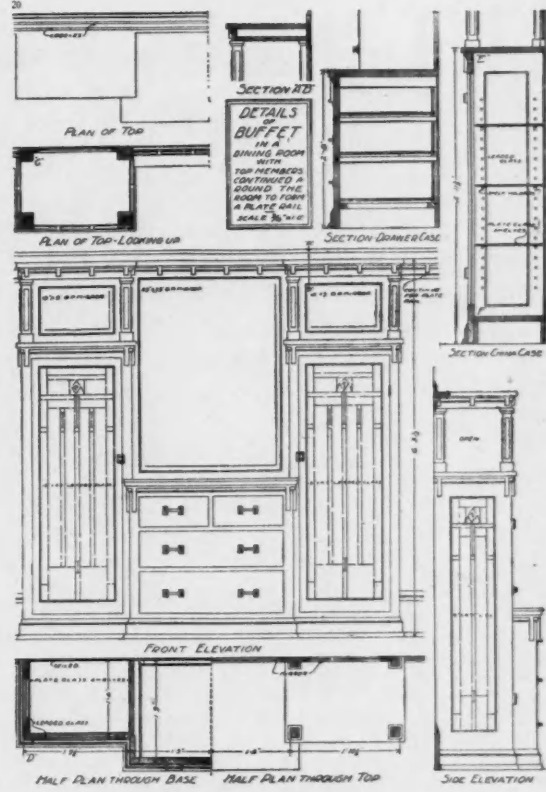


**PLATE 23—ROOF DORMER WINDOWS**

3—Sloping roof dormer. The simplest kind of a dormer and very satisfactory if the main roof runs high enough to allow it. 4—Gable end dormer, appropriate on steep-roofed buildings. All of these dormers are well suited for both new and remodeling work.

**Miniature Reproductions of Full Page Plates Accurately Drawn to Scale, Each Plate Having Explanatory Text**

**A Big Bran-New Up-to-the-Minute Book**



**PLATE 14—BEAUTIFUL DINING ROOM BUFFET**

A modern design for a dining room buffet, or china case, have leaded glass doors and sides, built-in sideboard, with top member containing around the room to form the plate rail. The lower portion of Plate 15

## PARTIAL TABLE OF CONTENTS—Continued

### Part III. Details of Miscellaneous Building

**57 Full Page Plates**—A veritable Treasure House of practical and reliable information for Carpenters and Builders—especially those working in the country—Working drawing and details which solve completely every building problem, including the following:

Green-House Construction (Complete Details)—Conservatory or Sun-Room for Residence—Summer Cottage Construction—Model Country School, Design and Details—Small Cold Storage House—Modern Ice House—Front for General Store, Design and Details—Out-Buildings, Details of Board Construction—Remodeling Frame Buildings with Tile Veneer—Portable Open-air Stage—Large Hen House, Plan and Details Complete—Portable Knock-Down "Bleachers"—Working Plans for Small Grand Stand—Modern Dairy Barn (Complete Details of Several Standard Designs)—Stock Barns and Stables—General Purpose Barns, Designs and Details—"Plank Frame" Barns (Complete Details)—Details of Silo Construction—Modern Poultry House—Interior Trim and "Built-in" Features for Dwellings, including 8 Buffet and Built-in Sideboard Designs, 8 Fireplace and Mantel Designs, 8 Styles of Interior Trim, Completely Detailed; Book Cases, China Closets, Beam and Paneled Ceilings, Plate Rails, Paneled Wainscot; Medicine Cases, Window Seats, Columned and Casement Openings, Stairways, All Styles Completely Detailed; Linen Cases, Wardrobes, Kitchen Cabinets—Porch Work, Designs and Details of Construction—Cornice Framing.

### Part IV. "The Handy Man's Friend"

#### How to Make a Thousand and One Useful Things

**61 Pages**, packed full of practical helps for doing all the various pieces of work that the Carpenter and the "handy-man-about-the-house" is called upon to do. Details and working drawings with brief explanatory text, including the following:

How to Make a Morris Chair—How to Make a Mission Rocker—How to Make a Library Table—How to Make a Leg Rest—How to Make a Straight Chair—How to Make a Magazine Stand—How to Make a Writing Desk—How to Make a Porch Swing—How to Make a Taboret—How to Make a Serving Table—How to Make a Dining Table—Burner for Kitchen Waste (Complete Details)—Septic Sewage Disposal System—Cement Cistern with Filter for Drinking Water—Catch Basins and Grease Traps—Window Ventilating Device—"Open Air" Sleeping Room (Complete Details)—Support for Metal Awning—Ornamental Shingling—Dumb-Waiters—Sleeping and Living Porches—Floor and Partition Deadening—Log House Construction—Flour Bins—Wooden Trusses—How to Make a Drawing Table (Several Designs)—Cedar Chest, Dust Proof—Carpenters' Tool Chests (Several Patterns)—How to Make a Serviceable Dray Sled—House Movers' Trucks and Rig—Campers' Wagon—Pile Driver—Barn Raising Rigs—Milk Cooler—Rustic Furniture—Fireless Cooker—Saw Clamps—Scaffold Brackets—Insulated Construction for Cooling Rooms—"Overcoating" with Cement Stucco—Remodeling Stores into Small Theaters—Scaffolding and "False Work"—Tents for Tuberculosis Cure—Lumber Yard Construction—"Bowled" Floor Auditorium—Forms for Concrete Work.

**4 Great Bargains for the Price of One—See Next Page**

# Greatest Offer We Ever Made

We have made some wonderful subscription offers and have always given just a little more to our subscribers than they could obtain elsewhere for the same money, but never before have we been able to come anywhere near what we offer you in this proposition. We are sure you will realize what an immense opportunity this is for you, but advise you to act quickly, as we may have to withdraw this tempting offer at any time and don't want to disappoint you.

**Just fill out the order blank and put it in the mail today, together with \$2.00 (at our risk) and we will send you for your money:**

- 1—The American Carpenter and Builder for one year (twelve numbers), the largest, best edited, most handsomely illustrated monthly magazine for the contractor, builder and carpenter or any one in the building trades.
- 2—Radford's Portfolio of Details of Building Construction. a 200-page, profusely illustrated, artistically bound book, the first and only book of building details ever gotten together.
- 3—Full Privileges of our Consultation Service Bureau, giving its members free information on any question relating to building, engineering, paving, plumbing, heating, painting, sanitation, etc.
- 4—The Buyers' Market Guide, just published, a directory of manufacturers and dealers in over 1,000 different articles, appliances, tools, machinery and materials used by contractors, builders and carpenters, containing names and addresses, a book of 160 pages, printed from new, clear type on high-grade paper, bound in convenient pocket size.

## Free to Our Subscribers

Send us \$2.00 to pay for one year's subscription to the American Carpenter and Builder (the regular yearly rate), and we will send you absolutely free, postage prepaid, these two books.

**This Offer is open to New or Old Subscribers, but in all cases Cash to Pay One Year's Subscription (\$2.00) Must Accompany Order**

The AMERICAN CARPENTER AND BUILDER is too well known to architects, contractors, builders and carpenters to need an extended description here. It should be sufficient to say that it is the largest, most complete and best paper published for the building trades. Each issue contains 132 to 164 pages, and it is brimful of useful, valuable and practical information contributed by the best authorities in the building field. It has upward of 100 fine copper half-tones and zinc etchings in each number, completely illustrating the subjects covered, and no expense is spared to make it a high-class and representative journal of this great industry.

No trade magazine has ever had such a phenomenal success nor enjoyed such a widespread popularity. It is read by nearly 35,000 subscribers in 8,000 cities, villages and hamlets. Thousands of letters of enthusiastic praise have been received by its publishers. It is steadily improved and no expense will be spared in the future to continue its present superiority over all other building papers.

The American Carpenter and Builder is but six years old, but owes its prestige and leadership to the fact that its subscribers and readers have been a wonderful factor in lending their support and encouragement. Their co-operation is a tribute that they have always received their full value and money's worth.

## 4 Great Bargains for the Price of One—Use this Coupon

Cut or Tear Along This Line—Pin \$2.00 to it (at our risk)—Get it in the Mail To-day

AMERICAN CARPENTER AND BUILDER,  
Medinah Building, Chicago, Ill.

.....1911

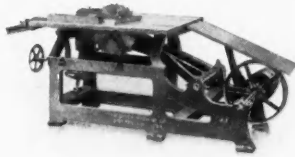
Enclosed find TWO DOLLARS in payment of my subscription or renewal to the AMERICAN CARPENTER AND BUILDER for ONE YEAR, beginning with..... Also send me, absolutely free, postage prepaid, one copy of Radford's Portfolio of DETAILS OF BUILDING CONSTRUCTION and one copy of the BUYERS' MARKET GUIDE. It is further agreed that I am to have all rights and privileges of the Consultation Service for one year.

NAME .....

POST OFFICE.....BUSINESS.....STATE.....

# Woodworking Machinery

H. B. SMITH MACHINE COMPANY SMITHVILLE, N. J.



Universal Saws are made in different sizes and styles, and some with TWO saws. The above machine carries an 18 inch Saw, is self contained and the Table tilts for Bevel Sawing. Send for Circulars relating to all kinds of Saws and other

## Wood Working Machines

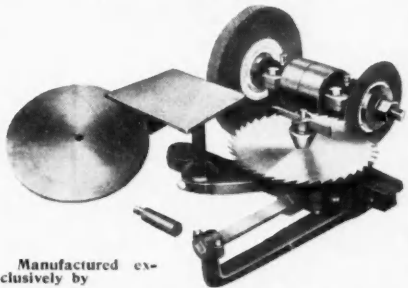
Address

**H. B. SMITH MACHINE CO.**  
SMITHVILLE, N. J.

NEW YORK      CHICAGO      ATLANTA

### 4 TOOLS IN 1

Combination Saw Sharpener, Saw Setter, Tool Grinder and Sander



Manufactured exclusively by

R. B. McKIM CO., Inc., 116 Pearl St., Boston, Mass.

As a Saw Sharpener it sharpens cut-off or rip saws 8-in. up to 26-in. Rip saws can be sharpened square or bevel, and are kept perfectly round and ground even at all times.

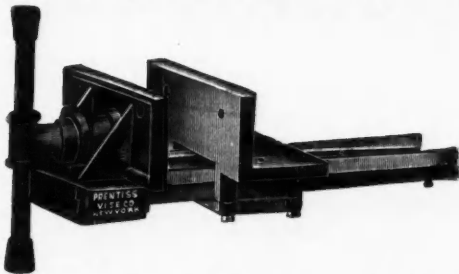
As a Saw Setter. Remove plate in front of wheel and insert anvil, which is beveled for different degrees of set.

As a Tool Grinder it is furnished with a 12-in. emery wheel and has movable table 10 1/2 x 8-in., which can be tilted so small knives may be ground rapidly and accurately.

As a Sander. The face plate is 14-in. diameter and furnishes a convenient means for sanding and smoothing up stock.

Write for full particulars and price.

### BLAKE QUICK ACTING VISE

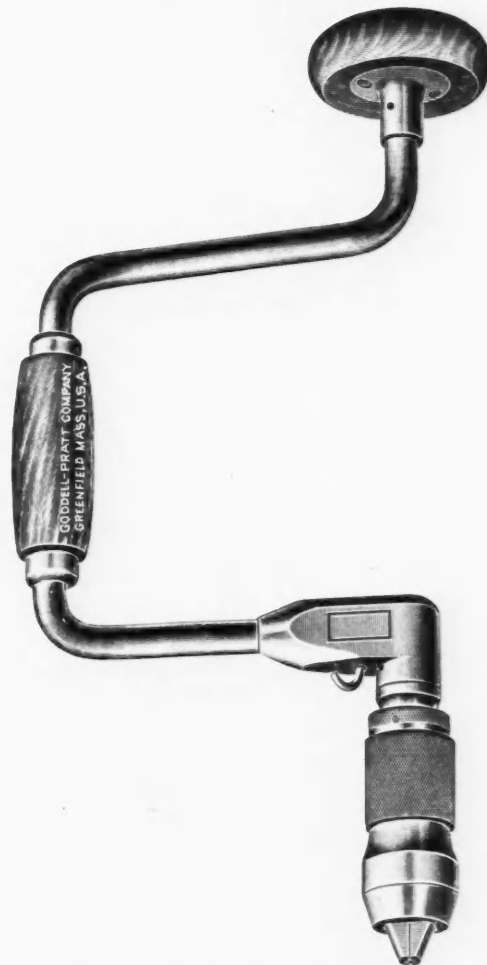


For Cabinet Makers and Wood Workers. Simplest—Strongest—Cheapest—Best

Send for Catalogue of all kinds of Vises

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

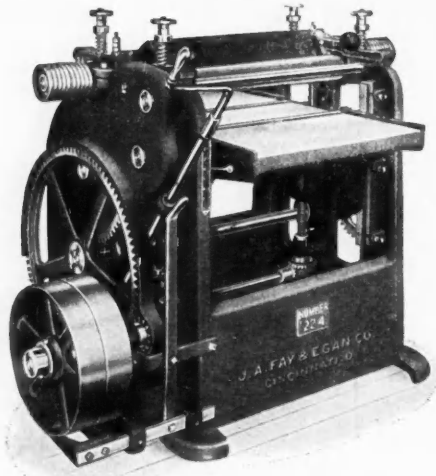
# When Buying Tools



Do you insist on what you want or do you take the first thing the dealer shows you? Did you ever stop to think that many dealers push lines of large profit rather than those of high quality? Goodell-Pratt's tools combine highest quality with reasonable prices. Our No. 10 catalog sent free.

**Goodell-Pratt**  
**Company**  
*Toolsmiths*

Greenfield, Mass., U. S. A.



No. 224 Single Cylinder Surfacer

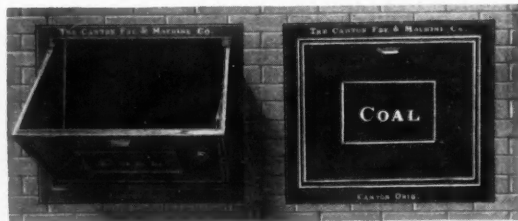
**Why not do Your Own Surfacing and Save the Loss of Time in Waiting on Planing Mills and other Inconveniences ?**

Our No. 224 Surfacer is especially designed to meet your requirements—it is built on modern high-duty principles, enabling it to produce high grade surfaces on either hard or soft woods.

*Write for our special pony planer catalog.*

**J. A. FAY & EGAN CO.**

545-565 W. FRONT ST. CINCINNATI, OHIO



No building is up-to-date without a Coal Chute. They are necessary for sanitary reasons—for the time and labor they save—and for looks.

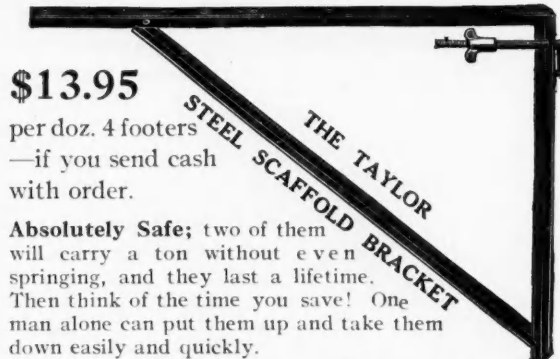
**The Canton Improved Coal Chute**

is made to last and at the same time be practical and ornamental. It is burglar proof, locking automatically when closed, but can be opened from the outside by special key furnished with it, when the owner wishes to avoid crawling over his coal pile. There is no more excuse for blackened walls, soiled and battered window frames and sash, littered walks and lawns.

**MADE IN VARIOUS SIZES**

Write Dept. B for catalogue of Contractor's and Builder's accessories.

**THE CANTON FOUNDRY & MACHINE CO.**  
CANTON :: :: OHIO

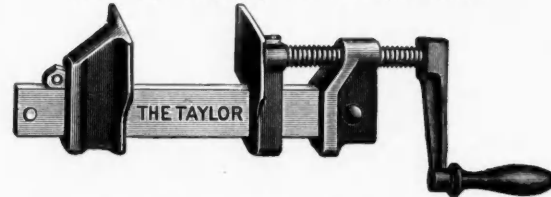


**\$13.95**

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.

**Dumb Waiters**

Can Contracting Builders handle Dumb Waiters and Hand Power Elevators profitably? You can if you will select some reliable manufacturer who makes a complete line of these goods for all purposes and then get familiar with his line of goods.

No one Dumb Waiter will give best results under all conditions.

Send to the Sedgwick Machine Works, 132 Liberty St., New York, and get their complete catalogue so as to have it for reference.

The Sedgwick Dumb Waiters and Hand Power Elevators are so good that when properly installed they give satisfaction and invariably produce orders for more.

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

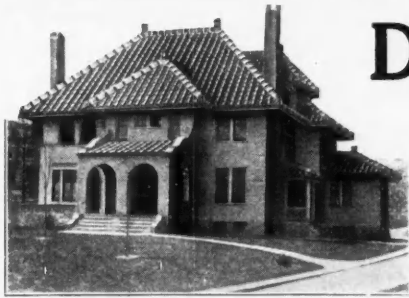
SEND no money—just mail us your name and address. Your book will reach you by return mail. Keep it 5 days—use it—then either send one dollar or return the book.

**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 terra 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.



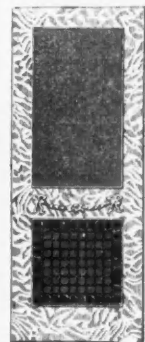
Note the construction of patented interlocking device, protecting nail heads from weather and providing perfectly for expansion and contraction of the metal.

## 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

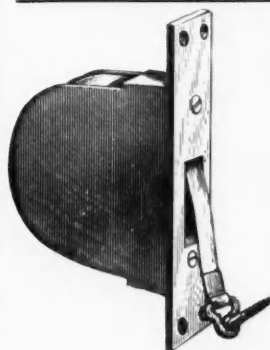


By far the most durable instrument in existence. 1912 models now on sale.

Write to-day for CATALOGUE and SPECIAL PRICES

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

## 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 the saw. This saw will be known as our "GREYHOUND" and will be the only Bishop Brand of saw known by name.

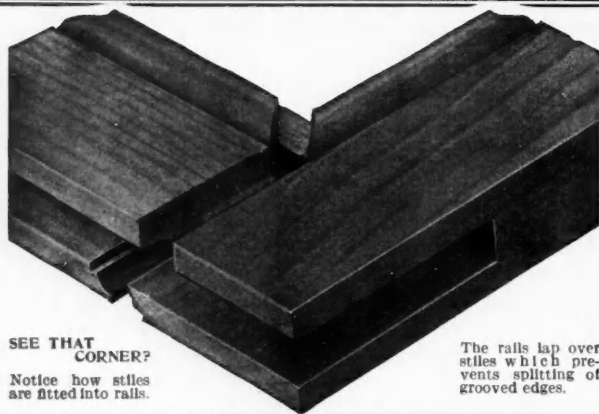


We have had a Chemist experimenting for years to originate a purity of steel with a fine grain and tough body that would stand up under such a fearless warranty as we place on our "GREYHOUND" brand of saws. We now have it. We know its worth as well as its value. As workers of steel we understand it.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

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

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

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



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

The rails lap over stiles which prevents splitting of grooved edges.

**MADE TO ORDER FLY SCREENS AND SCREEN DOORS**

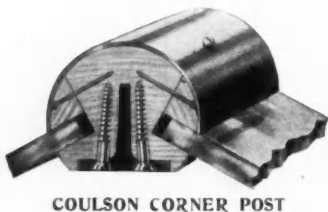
For Residences, Apartment Houses, Hotels, Clubs, Hospitals, Schools, etc., no order too large or none too small, from a single screen or door to a thousand.

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 waterproof glue and pinned with steel pins, will last a life time.



COULSON CORNER POST

MODERN STORE FRONTS ARE OBTAINED BY USING

**The Coulson Patent Store Front Construction**

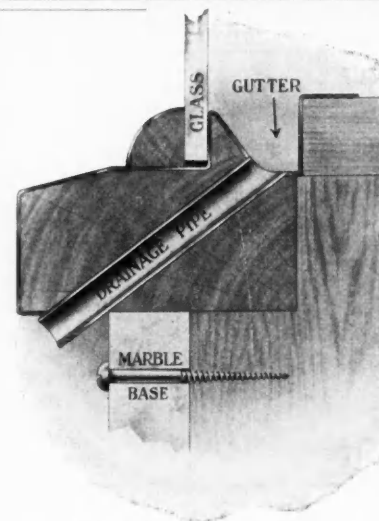
WRITE FOR CATALOGUE E-800, AND FOR PAMPHLET DESCRIBING THE COULSON DRAINAGE SILL.

**J. W. COULSON & CO.**

Office and Factory, 234-236 N. Third St., COLUMBUS, OHIO

Branch Office, 202 Builders' Exchange, Dallas, Texas

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN CARPENTER AND BUILDER



COULSON DRAINAGE SILL

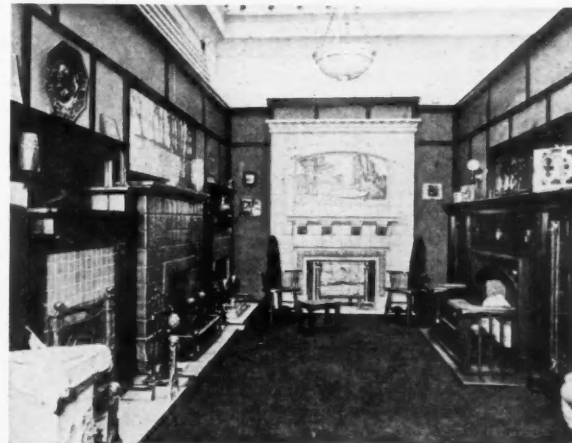


One view of our exhibit room.

**Wood Mantels,  
Grilles,  
Colonnades,  
Fireplaces,**

**Why Not Save Money by Buying Direct from the Manufacturer**

**Mosaics**  
also  
**Rookwood Tiles**  
and **Faience**



Another view of our exhibit room.

CATALOGS AND DESIGNS ON APPLICATION  
SEND FOR OUR 100 PAGE CATALOG

**CHAS. F. LORENZEN & COMPANY**

GENERAL OFFICES AND SHOW ROOMS  
701-709 N. Sangamon St.

**CHICAGO**

Down Town Office and Tile Display Rooms  
128 REAPER BLOCK  
Cor. Clark and Washington Sts.

**PLUMBERS' SUPPLIES**  
AT WHOLESALE



When in the market for Plumbing Supplies and you wish to

**SAVE  
20 to 40 Per Cent**

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

**B. B. KARO**

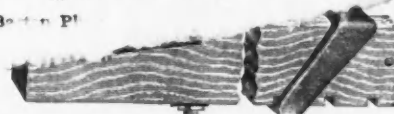
Small on  
with 3rd Street  
Minneapolis

**"Last a Lifetime and Give Satisfaction  
To the End"**



**BUTT CHISEL**

The celebrated Best of Pl  
carpenters  
by



Write for Catalog of Sheldon's Clamps and Vises.

**E. H. SHELDON & CO.**

84 N. May Street      ::      ::      CHICAGO, ILL

# A NEW METAL TILE

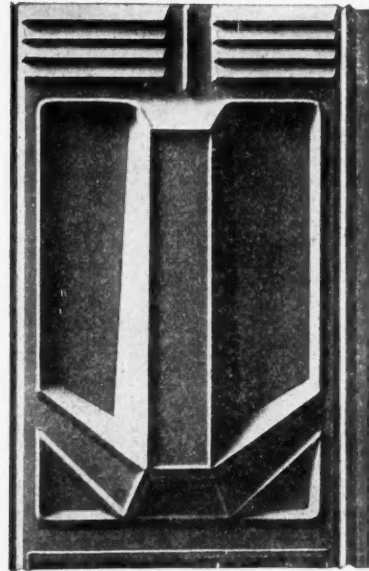
ABSOLUTELY WATER TIGHT—PERFECT FITTING  
OF THE WELL KNOWN

## KANNEBERG QUALITY

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

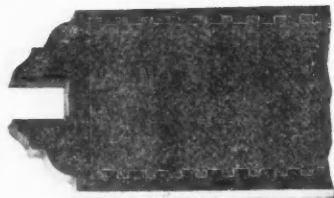
Catalog Ec for Metal Tile, Catalog Dc for Ceiling

**Kanneberg Roofing & Ceiling Co.**  
Canton, Ohio



# 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

## BOVEE FURNACES at Manufacturer's Prices

SAVES 50 PER CENT of COST; 40 PER CENT of FUEL  
Most Durable, Most Economical Furnace Sold



Has a perfect ventilating system for  
every part of the building

### RESIDENCE HEATING PLANT

Hot air registers in five rooms; cold air return  
in two rooms; 40-in. Furnace, 20-in. Fire Pot,  
28-in. Combustion Chamber, 10,000 cubic feet  
Heating Capacity.

Special Price, \$65

### CHURCH AND SCHOOL HEATING PLANT

One large hot air, two cold air registers, 54-in.  
Furnace, 32-in. Fire Pot, 40-in. Combustion  
Chamber, 40,000 cubic ft. Heating Capacity.

Special Price, \$95

Horizontal Furnaces with large doors or larger  
furnaces and more piping at proportionately low  
prices.

Bovee Grinder & Furnace Works, 50 8th St., Waterloo, Ia.

## Huther Bros. Patent Groover or Dado Head

Will save it's cost in three days' time



Can be used on  
any Circular Saw  
Mandrel

For cutting any  
width groove from  
3/4" to 2" or over.  
Will cut a perfect  
groove, either with  
or across the grain,  
and leave edges  
smooth. Will ship  
to any responsible  
firm on ten days'  
approval; if not  
satisfactory you  
are at liberty to  
return at our ex-  
pense. We also  
make a speciality  
of concave ground smooth cutting circular Mitre Saws, for either rip or cross  
cut; Grooving Saws for all kinds of special work; Lock, Corner Cutters  
Concave Saws, etc.

Showing Arrangement of Cutters

Try our Scraper Blades and you will use no others.

**HUTHER BROS. SAW MFG. CO.**

1000 University Ave.

ROCHESTER, N. Y.



## Headquarters For Sash, Door and Blind Makers' Supplies and Special Machines

**WINDOW PULLEYS** (Cast and Sheet Steel). All sizes and finishes. Write for Catalogue.

**ENTERPRISE PULLEY MORTISER.** Equipped with Four Bits. Cuts Full Stile in same  
time required for single mortise

**COULSON CORNER ENTERPRISE POCKET CUTTER.** Makes a Pocket both wind and water tight.

**MOULDING SANDER.** Finishes Mouldings and Interior Trim equally as well as

WRITE FOR CATALOGUE E-800, AND WITH THE COST.

DESCRIBING THE COULSON DRAINAGE SILL'S **Points** (Standard and Machine), **Blind**  
**Nails and Dowels.**

## J. W. COULSON & CO.

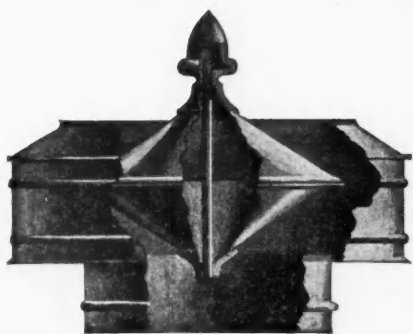
Office and Factory, 234-236 N. Third St., COLUMBUS, OHIO

Branch Office, 202 Builders' Exchange, Dallas, Texas

Chicago, Ill.

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN CARPENTER AND BUILDER

COULSON DRAINAGE SILL



## Ventilators THAT VENTILATE

**Improved Metal Ceilings  
with Punched Nail Holes  
and Repressed Beads**

Those particular features that saves so much time in the erection and increases your profits. They produce a nicer job.

### METAL SHINGLES

in two sizes, 10 x 14 inches and 19 x 26 inches.

**Metal Hip Shingles  
Sheet Metal Goods**

of all kinds for interior and exterior of buildings.



**The Canton Art Metal Co.**

*"Quality Products"*

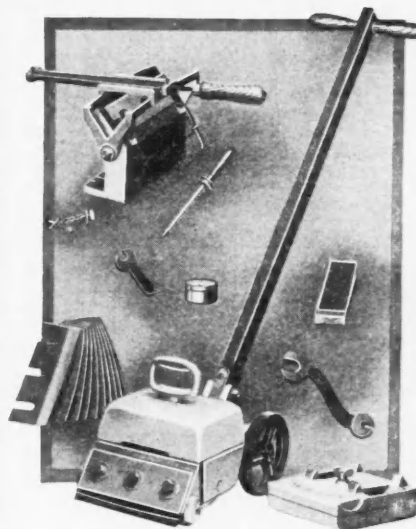
**CANTON, OHIO.**

**ADDRESS FACTORY No. 1**

**EASTERN BRANCH**  
Cor. 11th Ave. & W. 25th St.  
New York

**WESTERN BRANCH**  
No. 206 South 3rd Street  
Minneapolis

## The Acme Floor Scraping Outfit



An equipment that has revolutionized the work of floor scraping. It is a time and money saver, and is guaranteed to do perfect work.

Write for  
particulars

Price  
Complete  
**\$50.00**

FOR SALE BY

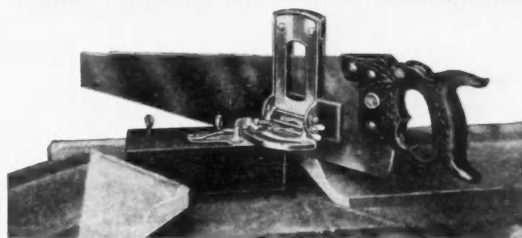
**ORR & LOCKETT  
HARDWARE CO.**

Established 1872

14-16 W. Randolph St.

CHICAGO

## THE CROWN SAW GAUGE

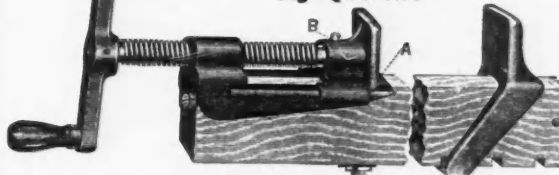


A miter box on the saw. For weatherboarding, cornice work; also inside finishing, stair building and making picture frames, etc. Compact, weighs but two pounds, can be folded up and takes little room in tool box. The handiest and most practical miter box made. Sent on receipt of \$2.50.

**GEM MFG. CO., ELIZABETHVILLE, PA.**  
L. R. BENDER, Manager

## 50c FOR THIS Clamp Fixture

*It is Unequalled for Strength—  
Quick Action and Lasting  
Qualities*



Write for Catalog of Sheldon's Clamps and Vises.

**E. H. SHELDON & CO.**

84 N. May Street

::

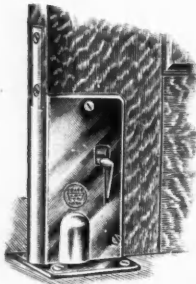
::

CHICAGO, ILL



**REPUTATION**

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



**Chicago "Relax" Spring Hinges**

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

is of recognized merit and utility.

Send for Catalogue C 26. It fully illustrates and describes the most complete line of Spring Hinges manufactured.

**Chicago Spring Butt Company,**

CHICAGO



NEW YORK

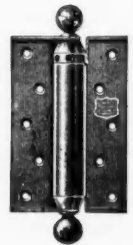
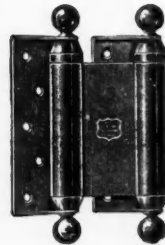
**BOMMER**  
**SPRING HINGES**

ARE

**Quality Goods**

BUT COST NO MORE THAN THE SUBSTITUTES

*This trade mark*



Reg. U. S. Pat. Office

*on every genuine Bommer Hinge*

**Durable—Neat—Reliable**

**BOMMER**  
**SPRING HINGES**

ARE THE BEST

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

**FREE BOOKLET**



We have just issued a booklet called "Saw Points," that will show you the proper way to care for your Saw.

Every user of a Saw should know how to care for it, as a Saw won't saw unless it is properly set.

A Saw will render poor service if not kept in good condition and a Saw, to obtain the best results with the least possible effort, must be properly set and sharpened.

Send a postal for our booklet No. 9, "Saw Points." It will tell you the correct method of using the Morrill Saw-Set.

**CHAS. MORRILL**

277 BROADWAY

NEW YORK

**The Fale's Patent**  
**COMBINATION BENCH PLANE**

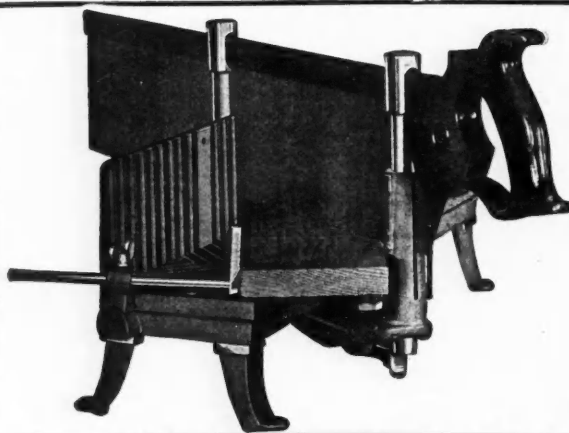
Means  
**QUALITY**  
at the  
**LOWEST**  
**PRICE**



Full Description and Prices upon Request

**Otis A. Smith**

**Rockfall, Conn.**



CARPENTERS PREFER THE POPULAR

**Marsh Ayer Miter Box**

**Because:**

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

*Let us send you our illustrated circular.*

**H. C. Marsh Company**

606 Race Street

::

::

ROCKFORD, ILLINOIS



*The*  
**World's Greatest  
Building Paper**

**Important Notice**

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

*The*  
**World's Greatest  
Building Paper**

**American Carpenter and Builder**

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

*Published on the first day of each month by*

**AMERICAN CARPENTER AND BUILDER COMPANY**  
178 W. JACKSON BOULEVARD, CHICAGO

NEW YORK OFFICE, 178 FULTON STREET

**EDITORIAL DEPARTMENT**

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

**BUSINESS DEPARTMENT**

**WM. A. RADFORD, PRESIDENT AND TREASURER**  
**H. M. RADFORD, SECRETARY**  
**E. L. HATFIELD, BUSINESS MANAGER**  
**H. W. WALKER, ADVERTISING MANAGER**  
**E. B. WOLFROM, EASTERN REPRESENTATIVE**

VOL. XII.                      DECEMBER, 1911.                      No. 3

**SUBSCRIPTION RATES**

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

**ADVERTISING RATES**

Furnished on application. The value of the AMERICAN CARPENTER AND BUILDER as an advertising medium is unquestioned. The character of the advertisements now in its columns, and the number of them, tell the whole story. Circulation considered, it is the cheapest trade journal in the United States to advertise in. Advertisements, to insure insertion in the issue of any month, should reach this office not later than the 20th of the month preceding.

**An Appropriate Gift**

**A**S the Christmas season approaches, many of our readers, no doubt, are planning to remember friends with appropriate gifts. The thought of others is uppermost.

If among our host of readers there are some who have not yet solved the perplexing question of what to give, and if they have relatives or friends in any way engaged in the building industry, we have a suggestion.

On pages 19 to 22 of this issue there is an announcement of a new book, "Details of Building Construction," the only book of its kind ever published. It will make a most valuable and useful Christmas gift.

The publishers of the AMERICAN CARPENTER AND BUILDER will send this book, absolutely free, carrying

charges prepaid, to any one sending \$2.00 for a year's subscription. Subscribers who are now paid in advance may have their subscriptions extended for one year from the expiration date.

If any reader of this magazine wishes to make a present of a year's subscription and the book "Details of Building Construction" to a friend; or if he wants the magazine sent to one address and the book to another, we shall be glad to comply with his wishes. In this way he can make two presents, or he can keep the book for himself, or he can renew his subscription and make a present of the book. We will divide the parcel in any way to suit the donor.

If you have a friend or friends who are not subscribers of this magazine let them know about this offer. You will be doing them a favor. You will give them an opportunity to make two presents for the price of one.

**Mill Men Should be Given "Uniform List" and Itemized Specs. When Asked to Figure a Method Suggested for Saving the 5% Now Wasted on Practically Every Job**

**W**E have received the following letter from the Paine Lumber Co., Ltd., Oshkosh, Wis., referring to a common practice among builders and one that is losing them money—viz., calling for bids without furnishing definite specifications and itemized lists.

Oshkosh, Wis., Nov. 15, 1911.

Editor AMERICAN CARPENTER AND BUILDER,  
Chicago, Ill.

Dear Sir:

Your publication is always interested in benefiting the carpenter and contractor, and we are very glad to be able to put you in the way of starting a little campaign in the way of educating both of these classes of men to assist themselves financially. Every manufacturer of millwork receives hundreds of sets of plans, on which he is asked for an estimate. Now, in the first place, it takes experienced help to do this kind of work, and somebody has to pay for it.

Various little angles come to light in doing this kind of figuring, whereby the manufacturer necessarily adds slight amounts here and there to protect himself on quantities, sizes, etc. In addition he must protect himself against the chances of his having overlooked some items, or not having figured on exactly what was wanted. These little differences, additions, etc., will average at least 5% of the entire bill.

(Continued to Page 37)

## The Boy and the Hammer

A PAPER PRESENTED BEFORE THE FORTNIGHTLY CLUB OF ONEONTA, N. Y.

By Clarence M. Lyman

IT probably is a safe assertion that if two "Want" advertisements were to be inserted in tomorrow's paper, one reading: "Wanted—An apprentice to learn the trade of carpentry"; the other: "Wanted—A boy to be clerk in a store," there would be ten applications for the latter position to one for the former.



There would be 10 for the Sales Position and 1 for the Carpentry

Again, it is a safe assertion to state that in the leading trades there is less than one apprentice to every five journeymen. An exact canvass of four shops in this city employing tin-smiths or plumbers resulted in finding three apprentices. A canvass of a large number of blacksmith shops resulted in finding none, unless, perhaps, in two instances, where sons of the proprietors were "helping father."

### The Change in Conditions

Factories and machines have altered the demands made upon the skilled mechanic. My father built the stairs and window frames and worked out the trim by hand of the homes erected a half century ago. Now, it is safe to say not one carpenter in ten can lay out the stairs in a house unaided, yet the skilled woodworker is in constant demand. The old-time tinner no longer spends the winter turning out piece ware, but there are a thousand-and-one jobs requiring the services of a skilled sheet metal worker who can develop his own patterns and make the article required.

### Portent of Present Conditions

Reduced to its simplest form, we are face to face with a diminishing supply of skilled mechanics and are making almost no provision whatever to change this condition. The boy is not interested in the hammer and we are doing nothing to make him wish to be.

Nothing! What about our manual training and our trades school, do I hear you say? Yes, nothing; for when less than 1 per cent of the boys of school age are getting any instruction whatever along mechanical lines, how can the little that is done, and in the way it is done, be counted?

Our educational systems; the stories our children read; the implied slur in the term "workingman" (as if the mechanic labored harder than the clerk in store or bank); the advertisements of business colleges, commercial, law and medical schools; the sensational newspaper articles, even the home conversation itself, has given the average-spirited boy with the average high

school training a definite, even if an undefined, idea that a trade is menial and that the opportunities and emoluments of the skilled mechanic are small. Nothing could be further from the truth, and the opportunities of the boy with a hammer are so great that if this paper succeeds in arousing personal interest in the boy and a skilled trade its purpose will be accomplished.

### Relative Earnings of the Mechanic

As most of those who have never given this subject a thought will ask first, "What is there in it?" and mean thereby the financial gain, let me venture this assertion, that given three years' training in either case, the average clerk in the bank or store receives a daily wage 25 per cent lower than the average journeyman mechanic in the same community.

In our city the daily wage of skilled mechanics, such as carpenters, tin-smiths and plumbers, who are employed steadily, is somewhat lower than in surrounding cities, like Albany, Schenectady, Utica, Syracuse or Binghamton, but this is offset by the lower cost of living and steadier employment. But even here, where a good clerk, a married man supporting a family, can be hired for \$10 to \$14 per week and a young unmarried man for \$8 to \$12, with hours of labor from 7 a. m. (sometimes 6) to 6 p. m., with six extra evenings a month, when he must work until 9 or 10 p. m.; the mechanic commencing at 7 a. m. quits at 5 p. m. and finds from \$15 to \$18 in his pay envelope every Saturday night. And it means much, too, that with the dropping of the hammer at the stroke of 5 not a care or bit of responsibility rests on him until 7 the next morning. Pay!

From the journeyman's standpoint it pays—better than preaching the Gospel. Of the rewards awaiting the mechanic in business we will speak later.

But, some one impatiently asks, can a young man learn a trade as formerly? Prob-

ably not; factory methods and large business interests have led us to treat men collectively rather than as individuals. Once a boy was apprenticed to a master, bound out, if you please. He became a member of his master's family, was boarded and clothed by him, and master and apprentice were brought into intimate personal relations. The apprentice was bound to render obedient service in all things; the master to teach him



When the Clerk Receives \$14 per week, the Mechanic Receives \$18



all the arts and secrets of the craft. A pride in fine handiwork was fostered and the apprentice became a finished workman when he had served his time.

To-day a boy applies for a position in a shop to learn a trade. His potential earning power as proportioned to the wage he must be paid is the philanthropic thought of the employer; he himself is more than likely not a master of the craft. The boy is put to work and all the effort that is made to make a good mechanic of him is to give him a chance to work as a helper with his shopmates. If a good journeyman happens to take an interest in him and the boy is quick to assimilate what he sees done around him, he may pick up a fair working knowledge; then if he has had enough educational advantages to make him willing to study, he is in a fair way to become a skilled workman, but the chances are against this. Probably, however, he will be set at the work most likely to yield the largest material returns to the employer, irrespective of the knowledge he may gain. When the boy perceives this, and if he is ordinarily bright, it does not take him long to begin to reason that he is giving more than value received; he gets a grouch and quits. He has picked up a smattering, knows the shop lingo, and, half baked, seeks a job elsewhere, posing as a full-fledged mechanic, but a botch always.

#### Time Not Taken to Develop Mechanical Skill?

Perhaps the ease with which machine-made products are turned out is another factor in unconsciously shaping the habits of the poor mechanic. He is impatient of the time necessary to turn out a good, honest-made article, and so neglects the constant practice necessary to make a skillful craftsman.

Our mill men try to copy the old colonial doors and trim, but do you think their work will stand with the beautiful specimens of joiner work that you will still



Poses as a Full-fledged Mechanic—but a Botch Always

find mellowed and ripened in our older communities? And remember, these were wrought by the "ordinary mechanic," untrained for the most part in any school of architecture.

Can anything be done to bring our boys and the hammer again together? Not until

we change their point of view; and to do that we must change the ideals we hold out. If we would show the boy the possibilities for a mechanic, handicraft must be dignified in our speech and in our writings, in our school training and our home conversation.

I would like to see advocated a course in manual training that shall be as comprehensive, systematic and

persistent as that required in teaching piano, for instance. Parents decide that the boy or girl must take music lessons, and then proceed to enforce the requirement of one, two, or more hours' daily manual practice. Why not some such course by which our children are daily drilled in the use of tools, through all grades of school work—first with the simple common tools of constant common use, and then, as they advance in grade, to the selection of some definite handicraft that could be taught both in theory and practice so that by the time the boy graduates from high school he would have a fair working knowledge of some useful trade?

Do you say "the unions will oppose such training"? Possibly in a few sections; but I hardly think so,

provided the fundamental principles of unionism are taught. And they should be, for with all the mistakes that union labor has made it still stands both in theory and in the minds of the better element of mechanics, for trained workmanship and well-paid, intelligent service. But this paper does not contemplate any discussion of the question of union labor or open or closed shops.

#### A Master Workman the Goal

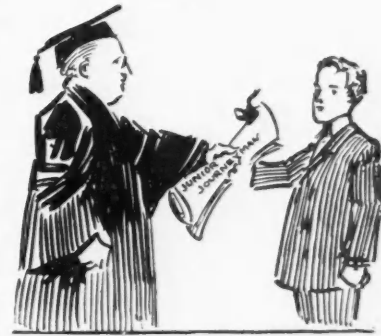
After all, the training of the boy is not to have him imbued with the idea of always remaining a journeyman. He should have the ideal of becoming a master always before him. What are his chances? There is scarcely a hamlet where two roads cross that will not support a well skilled carpenter, blacksmith, tinsmith and plumber.

#### Suggestions for Public School Instruction

A complaint of existing school conditions is not a remedy. I hesitate to offer the suggestion of what seems to be needed for fear I shall be told that the present school system is so nearly perfect that the iconoclastic ideas of a layman are entirely out of order. But I would like to see elemental manual training persistently followed from the third grade on, not as a side issue, but as part of the main disciplinary work of the schools. By the time the boy reached the high school he should then have a fair working knowledge of the simple tools and raw materials for working.

Beginning, say, with the high school, I would have a distinctly mechanical course, and this to contain one major subject that should be the trade selected as the pupil's probable vocation. I would cut from such a course all languages except English, and that I would drill and drill until a student writes without effort and correctly the ordinary good business forms of corre-

(Continued to Page 44)



I would make the Course an Honor

# BETTER BUILDING

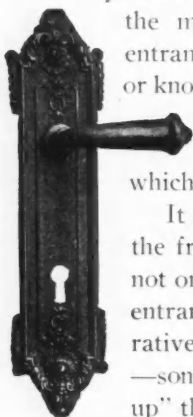
## WHY AND HOW



### Builders' Hardware—The Gauge of Quality

"SHOW ME THE HARDWARE TRIM AND I WILL RATE FOR YOU THE WORTH OF THE OWNER"

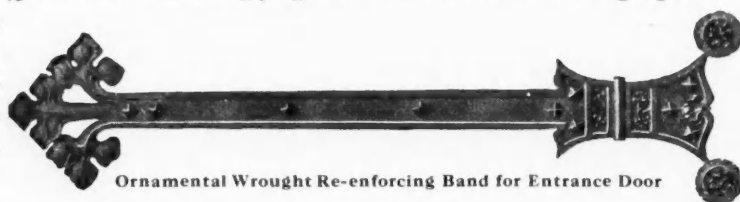
**D**ID you ever size up a residence by the looks of the front door knob and lock? Of course you have, and so too have many others. Quite the most prominent thing about an entrance door is its hardware—the bell or knocker announcing your arrival, the lock giving safe security to those within and a knob to which the hand instinctively goes out.



It seems needless then to say that the front door hardware is important. It is not only the most prominent thing about the entrance door, it may also be the most decorative, and by its appearance we have come—sometimes without knowing it—to "size up" the quality of the entire house.

And if this is true of the front door hardware, how much more true it is of the hardware trim on the inside of the house. The one feature that more than any other indicates the quality of a residence is the builders' hardware that is used—a very small item of expense itself, amounting to less than two per cent of the total cost of a dwelling even when the finest grade of hardware is used, the hardware trimmings are in such prominence that they dominate the entire structure. Cheap builders' hardware goes with a cheap

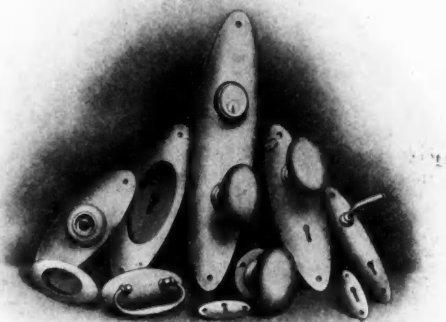
house; high grade builders' hardware gives the entire interior the look of quality. For these reasons it is an exceedingly good investment to use high-grade



Ornamental Wrought Re-enforcing Band for Entrance Door

hardware trimmings on all work.

The building public in general is coming to realize this. There is to-day a perceptible turning back again to the spirit of the old-time craftsmen who hammered and wrought their very heart's blood into their work, giving the best that was in them and producing honest works of real beauty, which were to be used in every

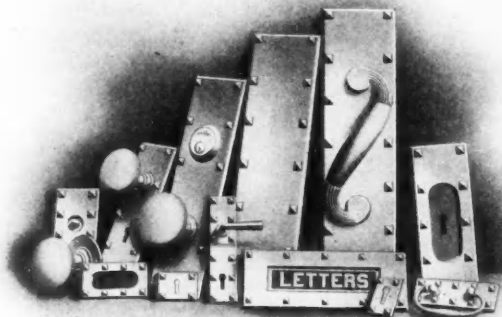


Rich Colonial Design—Wrought or Cast Bronze

day life; so to-day we are getting back to this old conception that things of beauty are to be used; or to put it the other way, that what we see and use in our every-day life should be strong and beautiful.

And to nothing does this apply with quite so much force, as to builders' hardware.

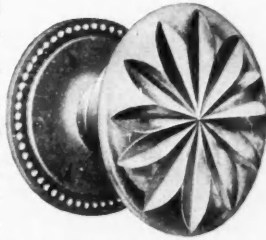
The mantle of the art-craftsman of the Middle Ages has fallen onto worthy shoulders. The great hardware concerns of America to-day have kept true to the spirit of the old; they have held fast to the quality



A Design Inspired by the Old Hand Wrought Work



idea, and, at the same time, have brought the well-known "Yankee ingenuity" into play, developing the mechanism of locks and catches, casement hardware and transom adjusters, etc., until they are now mechanically perfect. At the same time, the manufacturing processes have been so improved that the best in builders' hardware can now be afforded by all builders for all types of structures. In fact, even though the cost were far greater than it is, good builders' hardware would still be the only really economical sort.



Nothing is More Effective Than Glass Knobs on Mahogany Doors



Thumb-Latch Handles are now the Thing

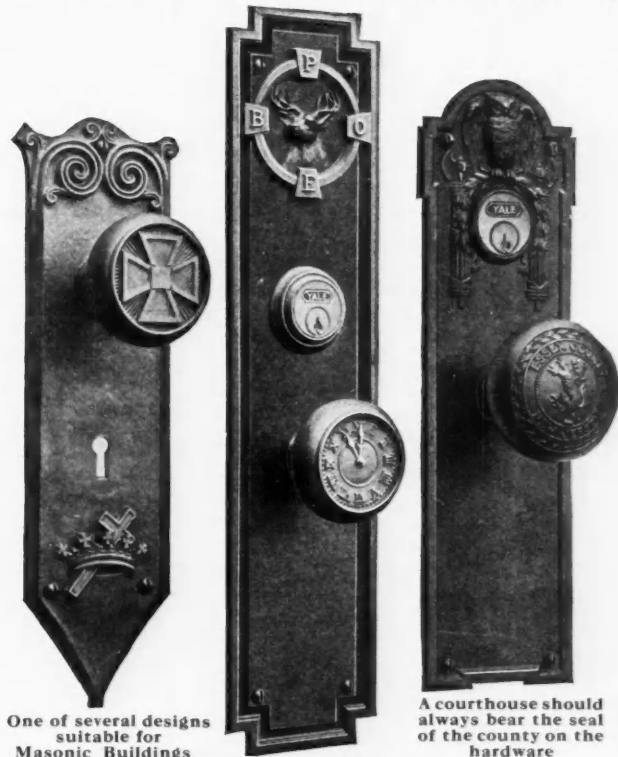
And for this very reason, we suppose—namely, that the builders' hardware is such a relatively small item of the total cost of a building—the practice has been all too common of putting off the selection of the hardware until practically everything else has been provided for. When the builder "gets right up against it," he hustles out and picks up almost anything that looks like hardware—without giving it any thought or study. He spends the few dollars that are left, after most everything else has been arranged for. And the owner has to be satisfied as best he may.

The object of this article is to impress carpenters, builders and architects with the importance of builders' hardware and the necessity of making an early and careful selection.

Urge and advise the owner to make a large enough appropriation for this item so that real satisfaction can be had. The locks are the defense of the home, and the proper selection of the ornamental trim is an important factor in the decorative treatment. The builders' hardware is in such prominence that it sets the

style for the entire building. The builder's reputation is sure to suffer if he allows "any old thing" to be used. With builders' hardware, as with most other things pertaining to building, "quality is the only real economy."

It is interesting to note some of the present day developments in builders' hardware. There are styles here the same as in millinery or dress goods—though they come on more gradually and last longer. The tendency to-day in builders' hardware is decidedly



One of several designs suitable for Masonic Buildings

The emblem of the B. P. O. E. has been used on many designs

A courthouse should always bear the seal of the county on the hardware

toward simplicity of outline and the return of Colonial standards. This is shown in the decreased demand for ornate designs. The substitution of handles with thumb-latches, instead of knobs, and the increased use of glass knobs on inside doors are both decidedly Colonial features. There is also a growing demand for the simple finishes, as the old brass, dull brass and bronze.

The popularity of casement windows has brought special casement hardware into prominence; and, at the same time, the ingenuity shown by the hardware people in designing sash adjusters, casement locks and bolts, etc., has augmented the popularity of this style of window. We must mention, however, in passing, that a whole lot has yet to be learned by the car-

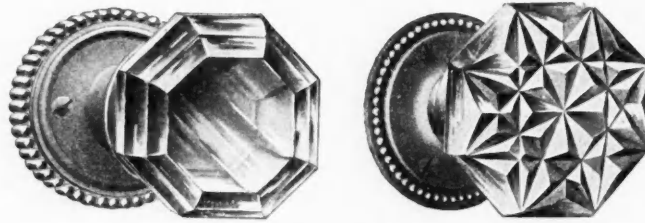


L'Art Nouveau Designs are Popular





Special-Order Monogram Hardware—Costly Perhaps; but worth the Price.



Glass Door Knobs for Colonial Houses

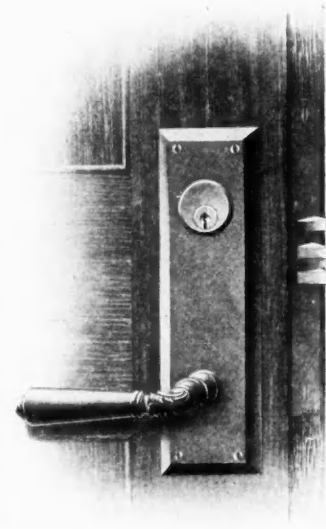
penters and builders, not to mention the planing mill men, about making and hanging casement windows so that the hardware can be put on and operated satisfactorily. Yes, even the architects have something yet to learn about this, as many a practical hardware man can testify to his sorrow. This is an important subject and deserves study.

We are glad to be able to state that the "American Carpenter and Builder" has secured a series of articles on this subject, by probably the best posted builders' hardware man in this country. These articles are illustrated with detailed drawings, showing how casement windows, French windows, etc., should be made and hung from the point of view of the builders' hardware people, in order that their fixtures may do the satisfactory work they are designed to do. These articles will begin next month and will be the "backbone" of a new department we are inaugurating in the "American Carpenter and Builder," beginning with next month—BUILDERS' HARDWARE.

The subject of Builders' Hardware offers a broad and interesting field for study. Carpenters and builders will have more and more need of being thoroughly posted along these lines, for the day of

poor hardware for good buildings is past. The subject has become so broad that it cannot adequately be considered in a single article. All the various interesting phases of it will, accordingly, be taken up individually in this new department for the benefit of the readers of the "American Carpenter and Builder."

Note: For the use of the illustrations shown in this article, showing attractive, high grade, modern builders' hardware, we acknowledge indebtedness to P. & F. Corbin, The Yale & Towne Mfg. Company, and Sargent & Company.—Editor.



Anti-Panic Lock with Lever Handle

## "Better Building" and Our Readers

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

### Says Contractors and Builders can be Trusted

To the Editor:

Baldwin, Kan.

I notice that Mr. J. M. Kane, proficient in roof repairing, would urge the architects to have the contractors and workmen to toe the line a bit; and wonders why "architects will allow contractors, and in fact anyone to nail on shingles with three-penny nails." If Mr. Kane would find such a course an easy matter he would, no doubt, find ready engagement in the employ of architects to look after the details of the execution of their designs.

But under the present regime—and I trust under the regime of the coming decades—architects or owners can trust to the honesty and judgment of those in whose hands their plans are placed that their plans will be executed so conscientiously, and with such material, that they will not have to stand over us with the "big stick" of their authority; while we as humble and obedient servants execute their orders in silence.

Brethren, with all deference to the "powers that be," I for one wish no more arbitrary and stringent authority over me; and I trust that the boys likewise have self respect enough to desire to use materials of such quality—if trusted to their honesty—that they will use nails whether "galvanized" or "cut" which, under the test of time, will prove adequate to hold the shingles. All, with this end in view that the architects can busy themselves with their designs; while we as men can busy ourselves with the execution of the same.

BURR GUNSAULLUS,  
Contractor and Builder.

### Knows a Good Thing

To the Editor:

East Martinsburg, N. Y.

The October number of the AMERICAN CARPENTER AND BUILDER is at hand, bringing a liberal offer for renewal of subscription. I have only to say that I take pleasure in grasping this offer. Enclosed find \$2.00 herewith. I find much valuable information in your paper. I would not be without it for many times the cost.

I. W. ATWELL.

## To Educate People In Architecture

### Government Plans to Give Small Cities Better Federal Buildings

WHAT is regarded as a move in the right direction is the campaign inaugurated by the Government to educate the people of the United States up to architectural ideals, thereby stimulating a demand for the very best that the modern designer of buildings can produce. While the Government has always advocated high ideals in architecture, the effect of its efforts heretofore has been seen only in the large cities of the country, where the magnificent public buildings are ever an attraction for lovers of architectural symmetry.

To broaden the field and to give more people an opportunity to feast their eyes on buildings beautiful, the Federal authorities recently began a campaign to improve the architecture of the nation's buildings in the smaller cities of the country. The plan necessitated securing the services of the very best architects in the land, which, in view of the fact that the best architects as a rule are too busy to fritter away time on small Government commissions, was no easy task. But, through the diplomatic management of Secretary of the Treasury MacVeagh, it was actually accomplished.

Secretary MacVeagh has been able to attract the leading designers of the country, by directing an appeal to the patriotism of these men, with the result that 17 responded to the very first call.

They will prepare plans for post office and customs buildings to be erected in the smaller cities and towns.

The U. S. will without doubt before long be freckled with Architecture.

### Change of Names for Oak Flooring Grades

ON November 1st, the manufacturers of oak flooring found it very necessary to make some changes for the oak flooring grades. Heretofore the grades were generally known as "Clear," "Sappy Clear," "Select," "No. 1, Common" and "Factory."

The names are now, for quarter-sawed flooring "A" Grade in place of Clear and Sap Clear in place of Sappy Clear. For plain-sawed flooring "A" Grade in place of Clear, "B" Grade in place of Select and Common in place of No. 1 Common. The Factory grade remains same as heretofore.

The specifications for these several grades are as follows:

Quarter-Sawed. "A" Grade (Clear).—Shall have one face practically free of defects, except  $\frac{3}{8}$  of an inch of bright sap; the question of color shall not be considered; lengths in this grade to be 2 to 16 feet, not to exceed 10 per cent under 4 feet. Sap Clear (Sappy Clear).—Shall have one face practically free of defects, but will admit unlimited bright sap. The question of color shall not be considered. Lengths in this grade to be 1 to 16 feet.

Plain Sawed. "A" Grade (Clear).—Shall have one face practically free of defects, except  $\frac{3}{8}$  of an inch

of bright sap; the question of color shall not be considered; lengths in this grade to be 2 to 16 feet, not to exceed 10 per cent under 4 feet. "B" Grade (Select).—May contain bright sap, and will admit pinworm holes, slight imperfections in dressing; or a small tight knot, not to exceed 1 to every 3 feet in length; lengths to be 1 to 16 feet. Common (No. 1 Common).—Shall be of such nature as will make and lay a sound floor without cutting. Lengths 1 to 16 feet. Factory.—May contain every character of defects, but will lay a serviceable floor with some cutting. Lengths 1 to 16 feet.

The reason for these changes was brought about on account of the confusion caused by the old names. For instance, the Select grade often was misunderstood for the Clear. For the present, or until the architects, dealers, contractors and all concerned, are thoroughly familiar with the new names, the old names will be carried along in parenthesis for comparison. It is hoped that within a year the use of the old names can be eliminated.

When these new names will have been established, the results will be far reaching towards the right utilization of oak flooring grades. Each bundle of oak flooring is stamped by the manufacturer to show the name of its grade, to avoid any misunderstanding by the dealer or the ultimate buyer.

### A Way to Save 5%

(Continued from Page 31)

Now all of this could be avoided if the architect or contractor would draw off his own plans, and submit a "uniform list" of specifications to each manufacturer.

There is always a difference in the grades that the different manufacturers agree to furnish when figuring on a set of plans, whereas if each manufacturer knows exactly the items that he is expected to furnish, the grades, sizes, etc., there will be no guess work, and he will be enabled to quote them intelligently. One can hardly realize what the 5% wasted in a year's time amounts to.

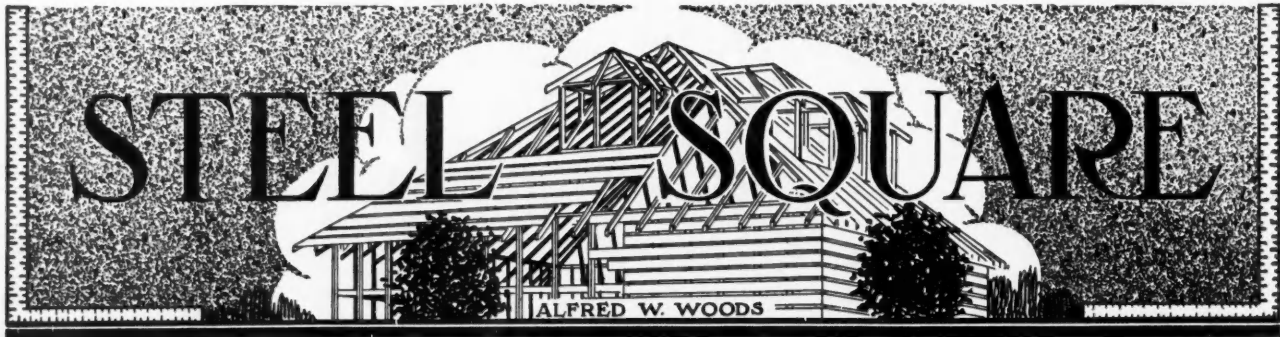
We are giving you this information with an idea that you will see the importance of it, enlarge on it and carry it along in a series of articles, pounding it in on the architect and contractor, showing him where he is spending foolishly either for himself or for some one else, at least 5% of the millwork bill, which he can save by drawing off the plans himself.

We trust that this appeals to you as it does to us, and if there is any further information along these lines we can give to you, do not hesitate to ask for it.

Yours very truly,

PAINE LUMBER CO., LTD.

This is certainly a condition of things that should be set right. There are today too many desirable things one could better buy with that 5% to allow it to continue to be lost. Luckily in this case you don't have to wait for "the other fellow" to act. Every reader of the AMERICAN CARPENTER AND BUILDER can fix this at once, as far as *himself and his work are concerned*—and *save* this 5%—by taking the slight extra trouble to submit such detailed information to all concerns he asks to give estimates.



## Practical Uses of the Steel Square

GOING OUT OF THE ORDINARY TO EXEMPLIFY THE ORDINARY WAY OF ROOF FRAMING

**W**E are going to take for an example a roof out of the ordinary shape to illustrate how to proceed with an ordinary shaped roof. What we mean by "the ordinary" is the common square cornered building, for which every carpenter is presumed to know how to frame a hip roof with any desired pitch. But how many would know how to proceed to frame the roof for a five-sided building, without first having to do a whole lot of thinking and diagram work? Now, it does not necessarily follow that a four or five-sided building has equal sides, as it is the angle of the corner we are after, but for illustrative purposes we will consider the building of equal sides.

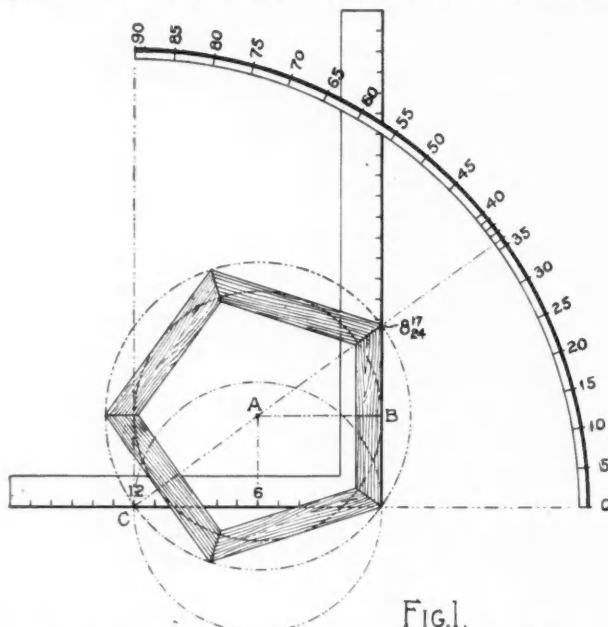


FIG. 1.

Most all of the rules in general use apply to the common square cornered and to no other.

Too many builders are contented with such rules, because they answer for the roofs that they are accustomed to framing; and when called out of the ordinary they are lost, because they do not understand the principles involved. It is well to understand a general rule for emergencies, if for nothing else. For that reason we have selected something out of the ordinary to illustrate a universal rule that applies to all alike, regardless of the shape or pitch of the building.

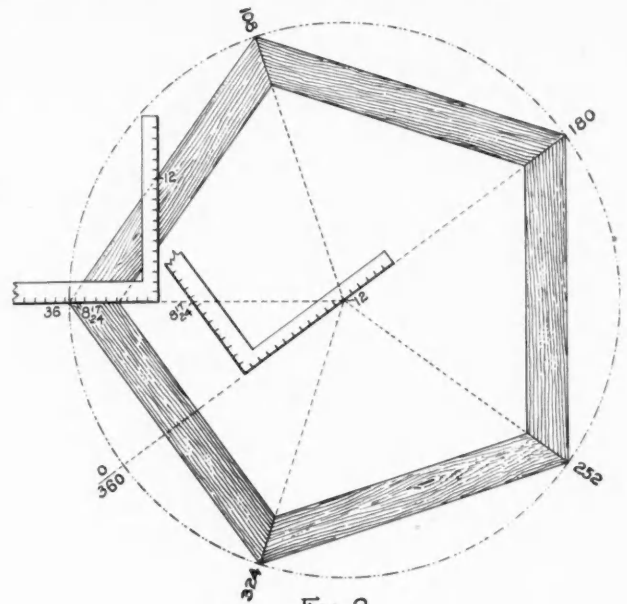


FIG. 2.

In Fig. 1 is shown the angle to take on the square and why it is taken to obtain the pentagon miter—namely, 12 and 8 17/24, which represents 36 degrees. This is so because 1/5 of a circle is equal to 72 degrees and represents the angle that the miters for each side stand with each other. But to get the angle on

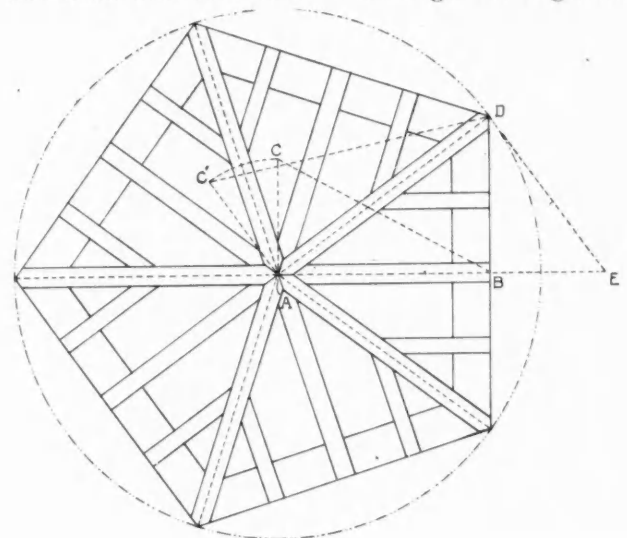


FIG. 3.

the square to obtain the miter, it takes  $\frac{1}{2}$  of 72, or 36 degrees, as shown by the square at the center of Fig. 2. But we are not through talking about Fig. 1 yet. There is a whole sermon that could profitably be preached from this as a text; but we are going to cut it short because we have gone over this before. Yet for the benefit of new readers, we will call attention to a few of the main points, as follows:

At A is the center for either inside or circumscribed diameter; and AB and AC represent their respective diameters. The 36 degree line passes at 8.72 inches on the blade, which is practically  $8 \frac{17}{24}$  inches, and is the reason 12 and  $8 \frac{17}{24}$  are used on the square to obtain the miter. The latter figures and the length of the common rafter for one foot run, will give the side cut of the jack. The cut will be on the side of the square on which the length is taken.

Another interesting thing about these figures, is that when the inside diameter is 12 inches, the length of the sides will be  $8 \frac{17}{24}$  inches. Thus, having the proportion for one foot of the diameter, it is an easy matter to find the required length of the sides for any diameter.

In Fig. 2 is shown the divisions of the circle for a five-sided frame and how the proportions shown in Fig. 1 apply to same.

In Fig. 3 is shown a roof plan with the proportion to take for the cuts, as follows:

AB and AC will give the seat and plumb cuts for the common rafter and BC will represent its length.

BD and BC will give the side cut for the jack.

AD and AC' will give the seat and plumb cuts for the hip and DC' will represent its length.

DE and D'C' will give the side cut of the hip.

But we fancy we hear someone say, "What has this to do and where is the connecting link with a four-sided building?" Only this, it emanates as with all other forms from the same source—namely, the proportion of the angle to circular measure. Practical results may be arrived at by bisecting the angle, and from this the proportional parts may be arrived at without knowing the degree of the angle, but back of it all is the underlying principle upon which determines the angle

In the case of the square corner, it is 45 degrees and, the degree line would pass at 12 on the blade instead of  $8 \frac{17}{24}$ , as shown for the pentagon corner,

and with this point established, the procedure is the same as here given for the pentagon or five-sided building.

A few more words and then we close. This is our last article for this year, and we desire to thank the readers for their kind indulgence.

We have received a number of personal letters during the year, containing words of praise for the efforts we have put forth to help make this the best paper of its kind published. To these we extend special thanks, and to all of the readers we present a star for their long suffering, but we can assure them that there is no sham about this star. It is set with pentagonal diamonds and all cut on the square. The same proportions are used as

described above for the five-sided roof—but in this emblem we have it in all its fullness, as all of its angles pertain to five.

Again thanking the readers, we wish all a Merry Christmas and a Happy New Year—and best of all, a prosperous year.

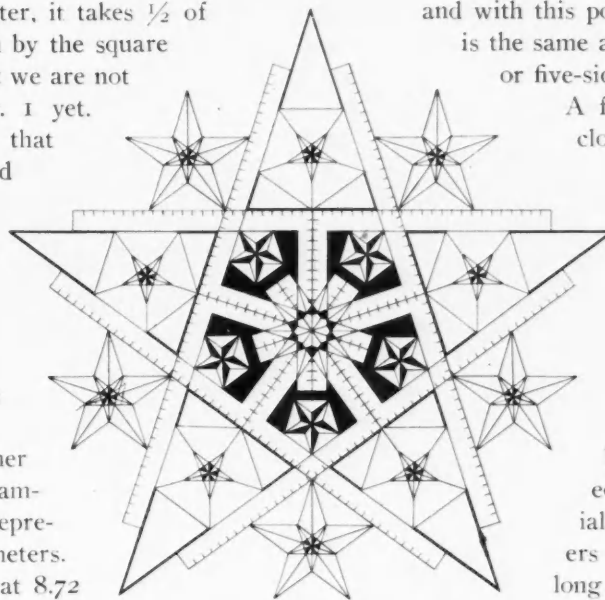
A. W. Woods.



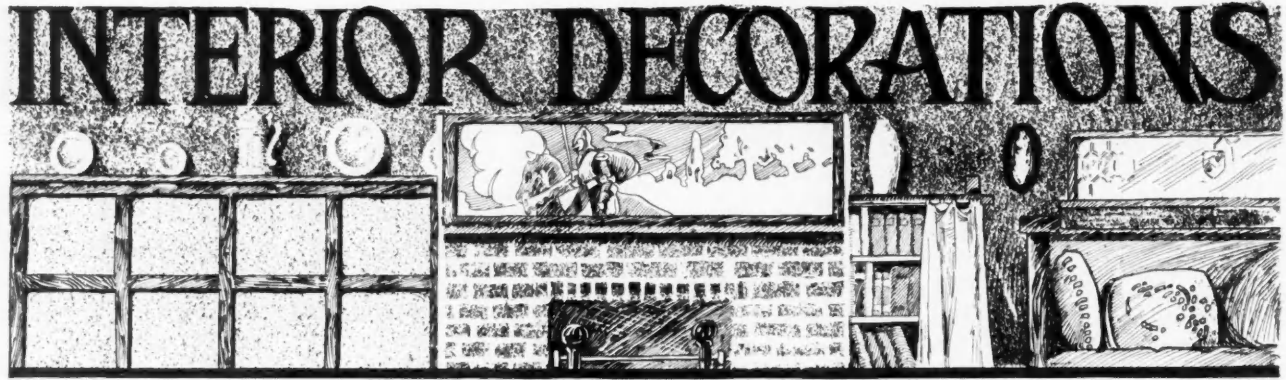
### Economical Proportioning of Concrete

"Economical proportioning of concrete does not always consist in using the leanest possible mixture. If the quantity to be laid is small, it is sometimes cheaper to use materials at hand, selecting the proportions arbitrarily and adding an excess of cement to insure the required strength and water-tightness, rather than to make the tests required for the more scientifically proportioned mixture. On the other hand, upon large or important work it pays from the standpoint of dollars and cents to make thorough studies of the aggregates, carefully grading the materials so as to use the smallest possible quantity of cement, which is always the most expensive ingredient.

"This fact has been seriously overlooked in the past, and thousands of dollars sometimes have been wasted on single jobs by neglecting laboratory tests and studies or by errors in theory," says Sanford E. Thompson, Consulting Engineer. "By adjusting the proportions of the aggregates instead of selecting them arbitrarily, a concrete of equal density, strength and water-tightness may be made almost always with the use of less cement. On a certain job, for example, where water-tight concrete was required, a net saving was effected of 74 cents per cubic yard by carefully grading the materials, the resulting concrete being as watertight as the richer mixture, having proportions selected by judgment."



Front Elevation of Diamond Studded Prize Star Offered by A. W. Woods as a Christmas Greeting to the Faithful Students of this Department.



## Single-Color and Compound Stenciling

HOW TO GET MOST ATTRACTIVE AND DURABLE WALL AND CEILING DECORATIONS BY MEANS OF STENCILS—FLAT OIL PAINTING FOR INTERIORS

By Clyde E. Horton

**T**HERE certainly are enough good reasons for having plain walls in the modern home to keep such decorations in vogue for many years to come. It is hardly necessary to illustrate the effect of hanging pictures against an highly decorated, large figured wallpaper, since everyone has seen attractive pictures practically ruined and lost by being brought into competition with such walls. This tendency to plain walls carries with it a desire for the durable and sanitary wall which can only be obtained by means of a good quality oil paint, producing the much desired flat tones. In the decorating of any rooms it is no more desirable to have over plain effects than over decorated effects. There must be a balance of attractions. The fact that plain walls can be most attractively offset by stencil decorations as well as decorative fabrics and other such furnishings, gives them a balanced effect and makes them very satisfactory.

Stenciling is not by any means a new method of decorating walls. It was extensively employed by ancient peoples as well as the artisans of the Middle Ages, and, being of sufficient merit, has by the formula, "The Survival of the Fittest," been continued up to the present time; and is now becoming more popular than ever. There are several methods of decorating walls and ceilings by means of stencils. There are single-color stencils, two or three-color stencils,

blended stencils, outline stencils, etc.

The impression that stencil decoration means considerable expense is erroneous. It may be considered expensive when applied over a cheap water paint or calcimine, because usually a wall finish of this kind is not worth stenciling well. The following description of stencil application will indicate the ease and

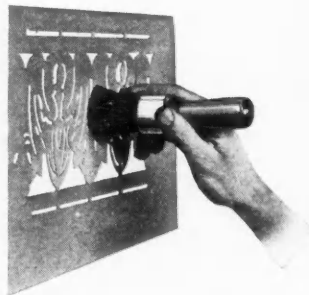


Plate II. Hold the Brush up Straight Against the Stencil

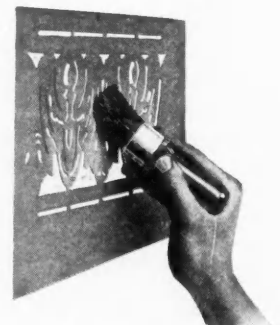


Plate III. Showing How Not to Hold the Brush

satisfaction with which this work can be carried on.

*Single-Color Stenciling*—The work shown in Plate I is an example of this method. The entire design is applied in one color through the openings of the cut stencil. Thumb tack the stencil onto the surface at the top of the sheet in a position for stenciling. For the first experimental work any color can be used. Place a small amount of color on a piece of glass about one foot square; and thin it down slightly with turpentine. The size of the stencil determines the size of the brush. A brush about 1 inch in diameter will be found most satisfactory for this. The ends of the brush should be thoroughly covered with color and then all superfluous color wiped off the brush out on the clean glass. Then apply the color to the wall through the openings in the stencil. Hold the brush up straight against the wall, as shown in Plate II, and apply the color in a sort of revolving or pouncing motion. Do not attempt to brush the color on as in ordinary painting; and do not hold the brush as indicated in Plate III. The position of the brush shown



Plate I. The Design is Applied to the Wall Through the Openings of the Cut Stencil



in this plate forces the color up under the stencil and gives the design rough or ragged edges. Too much color on the brush will give the same difficulty, even if it is held properly.

Plate I shows just how to apply a stencil on the wall. A thumb tack at one corner will be found sufficient to hold the stencil securely in position as long as one hand is free to hold the other end. The stencil is then placed in position for the next repeat, registering by means of the guide opening in the stencil or by marks on it which keep the motifs of the design equally spaced. In this way the design is carried around the entire room. When a corner is reached the stencil is carefully bent into it as far as possible and any parts of the design which can not be applied through the stencil openings up into the corner are touched up by hand with one of the small brushes. Frequently all corners are left until the straight wall work is completed, then the bending of the stencil is not an inconvenience.

This simple operation should be repeated over and over again, using different colors, until it is possible to get clear and clean results and know the exact

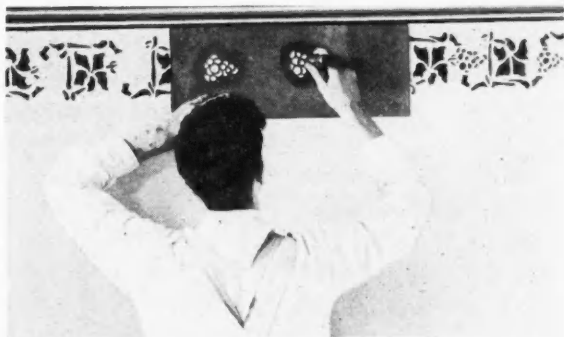


Plate IV. Leaf Part of Stencil has Been Previously Applied. Grapes are Then Stenciled in Another Color

consistency of the color and just how much to have in the brush. Use different designs for variety's sake.

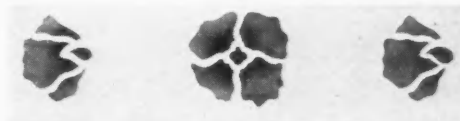
*Two-Color Stencils*—The next step is the two-color stencil, which is usually made in two parts, one for each color. Illustration Plate IV shows the method of applying this style stencil. The leaf part of this stencil border should be applied as per instructions for single-color stenciling using Olive Lake. The grape part of the stencil is then applied in Cobalt and made to register exactly by means of the guides. Guide points appear in both parts of all two-part stencils, so that in moving the stencil along a wall the second part can easily be registered with the first part every time it is moved. In this way you can stencil an entire room quickly, carrying the first part of the stencil in its color around the room and then following with the other.

The reader should not understand by the above that in order to get two or three-color effects on this work, it is always necessary to have a separate part for every color. Some designs are made up of leaf and flower forms all cut on one piece of stencil paper. In such

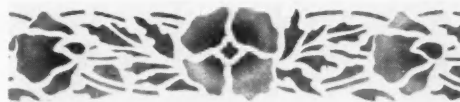
cases stencil the leaves of the design in one color, using a brush small enough so that the green does not spread out over the flower in the center. Then with another brush stencil in the flower, using Burnt Sienna reduced slightly with turpentine.



Plate V. No. 1. First Stencil in the Dark Shadows of the Flower



No. 2. Then Complete the Flower in its Natural Color



No. 3. The Leaves are Then Stenciled in Olive Lake

Very attractive results can be obtained by blending the colors in either the one-piece or two-piece stencils. This operation is very plainly indicated by the three illustrations in Plate V. The various operations are as follows: Plate V, No. 1. This shows a very slight blending in Olive Lake reduced slightly with turpentine. Apply the color in the center of the large flower and gradually blending (applying less color) as one advances outward. On the flowers at each side the blending is started close up to the stem and blended outward, not covering the entire flower.

Now refer to No. 2 of Plate V. Take another brush with the flower color (Burnt Sienna reduced) and stencil the entire flower, going right over the blended green color which was put on by the operation illustrated in No. 1. This gives the center flower a darker tone in the middle and the other two flowers darker tones nearest the stem.

The third operation is now reached (No. 3, Plate

*(Continued to Page 44)*



Plate VI. No. 1. Showing Stencil Design Applied Lightly and Heavily in Different Parts With the Same Color



No. 2. Showing Second Color Applied Heavily in the Lighter Parts of No. 1 and Blended Into the First Color

## Decorative Possibilities of Wall-Board

THE SPECIAL ADVANTAGES AND ECONOMY OF THIS NEW TYPE OF BUILDING MATERIAL

By W. F. MacGlashan

**A** WIDENING field of profit for builders is rapidly opening up in the use of wall-board for walls and ceilings, in either new or remodeled buildings. In facility of application, in cleanliness and hygienic quality, in enduring power under unfavorable conditions, wall-board has many advantages as a substitute for lath and plaster. Moreover, by its special adaptability to ornamentation, it lends itself readily to decorative work in panel designs or as a ground for the stencil effects now so much in vogue.

Plastered walls are constantly exposed to disruptive forces that tend to limit their life. Timbers shrink; a building settles; vibration is caused by machinery, outside traffic, or even the ordinary movements of the occupants; moisture is absorbed and water beats its way in or soaks through—all this weakening the plaster and in time possibly causing it to crack and fall. Even



Grill Room in Goetz Bros' Restaurant, New York City—Hand Painted Panels

at best, the handling of plaster is accompanied with muss and litter, with delay in waiting for drying, and, in case of alteration or repairs to piping, with untold annoyance from dust and dirt.

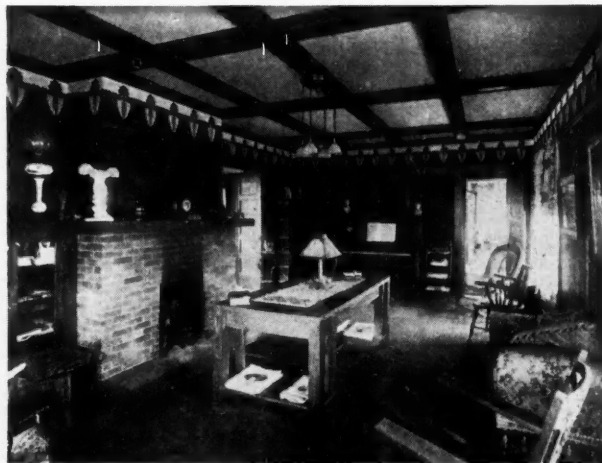
All such troubles are avoided where a good quality of wall-board is employed. This material comes in panels ranging from 2 to 4 feet wide, and from 4 to 16 feet long, and is thus readily adaptable to all structural situations.

On new buildings, wall-board is nailed directly to studding, and, after decorating, edges of panels are covered with strips of wood, stained to harmonize with the other features. By this method the modern trend of architecture is adhered to, in providing artistic paneled walls and ceilings instead of blank monotonous spaces.

The possibilities of profit for the carpenter are seen in the fact that not only can he do every part of the

construction himself, but also is freed from delay of waiting for the plaster work.

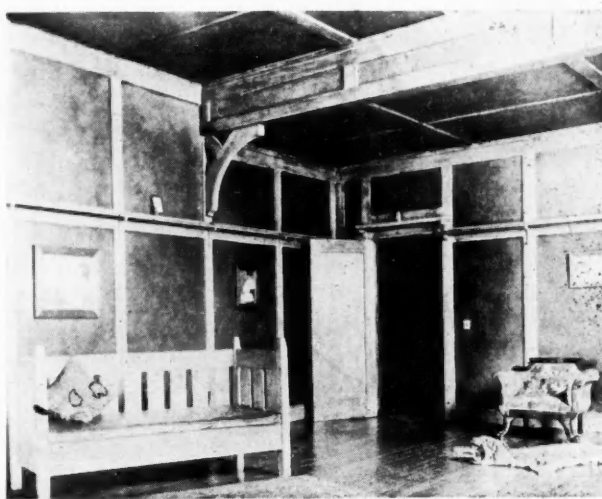
Wall-boards are made from various materials— asbestos, gypsum, wood fibre, paper pulp and composition, etc.—for each of which special advantages are alleged under various conditions. Chemical and physical tests, it is claimed, show that pure wood fibre, prop-



Living Room in Home of Frank Collins, Ft. Worth, Texas—Ceilings and Walls of Beaver Board

erly manipulated, makes a wall-board exceptionally well adapted to extreme variations of atmosphere and climate, the fibres being crossed to maintain uniformity in expansion and contraction. The board does not chip or crack, improves in firmness with age, is valuable as a sound deadener, and affords excellent insulation against heat and cold in summer and winter. By replacing wall-paper, it improves sanitary conditions, while the artistic qualities of modern decoration are preserved in the panel arrangement.

The photographs illustrating this article show the effectiveness of wall-board as a vehicle for decorative effects, "Beaver Board" being the material used.



Peck's Studio, Buffalo, N. Y. Finished with Wall-Board

# PLANING MILL WORK

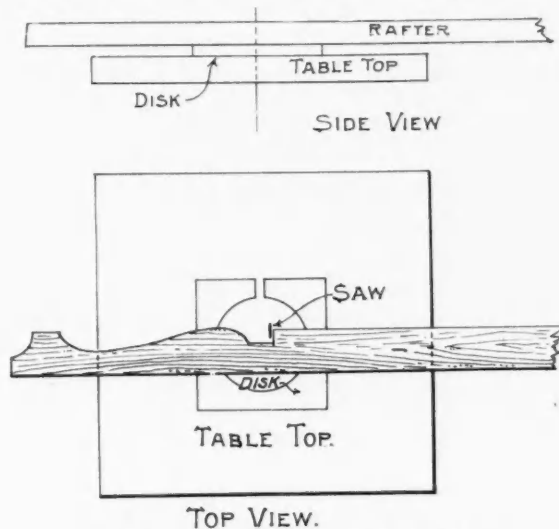
## More Shop Kinks

SOME THINGS WORTH KNOWING, FOUND OUT DURING SOME THIRTY YEARS OF CABINET SHOP AND MILLWORKING EXPERIENCE

By William C. Jasbury

**H**ERE are some more kinkish ideas for the class in millworking:

**Device for Band Sawing.** In band sawing a tail on a long rafter, where one man has to keep the saw to the mark and another hold up the other end, it is a hard matter for the man at the far end to tell just which way to swing the timber. He must be governed by the man at the saw end by a wigwag of his head as he must use his hands to keep the timber to cut to the mark. I find that by placing on the saw



Help for Sawing Ornamental Rafter Ends

table a thin block or disk of wood having a hole about eight inches in diameter on which to rest the rafter, the moving of the rafter is made much easier.

**Steaming Wood for Bending.** About steaming and bending wood, some mechanics say that hot soap suds is the proper thing, but I find that if I can add steam to the material in a place free from outside air (to keep from cooling) in addition to letting it lie in hot water, it works better. The time of leaving it in the hot or steam box depends on the size of the piece. Take, for instance,  $\frac{7}{8}$  by 6 inches and 6 feet long; I leave it in two and one-half hours. When taken out, it must be handled with gloves, because if it is not hot enough to burn or scald the hands, it is

not soft enough to bend, and this must be done quickly. Much more could be said about wood bending, but conditions vary.

What a great thing it would be if there were some liquid or paste appliance which, when applied to a straight piece of stair rail, would make it pliable so it could be bent by hand in the form of an easement, wreath, ramp, etc. Then, allowing the piece to lie quiet, it would assume its natural consistence. How is that for dope?

**Easy Way to Find Hip or Valley Rafter Curves.** Sometimes we get an order in the shop for so many rafters and so many hip rafters with only a detail for the common rafter, making it necessary for us to figure out the elongation required for the hips. Now, the way I get at it (and get it correct every time) is by measuring each cut, or member back from the end as at c; and for each inch the cut is on the common



Ornamental Hip Rafter to Match Common Rafters

rafter, I take  $1 \frac{5}{12}$  inches, or about  $1 \frac{3}{8}$  inches for the hip or valley. Say from x to x is one inch on the common rafter, then the distance is  $1 \frac{5}{12}$  inches on the hip. The depth of the cuts remains the same on both rafters. If the hip is for an octagon corner, the cuts should be elongated  $1 \frac{1}{2}$  inches instead of  $1 \frac{5}{12}$  inches.

**Lasting Timber.** A carpenter in our neck of the woods says cypress exterior mill work will last forever; he knows, because his father tried it.



### How to Remove Old Putty

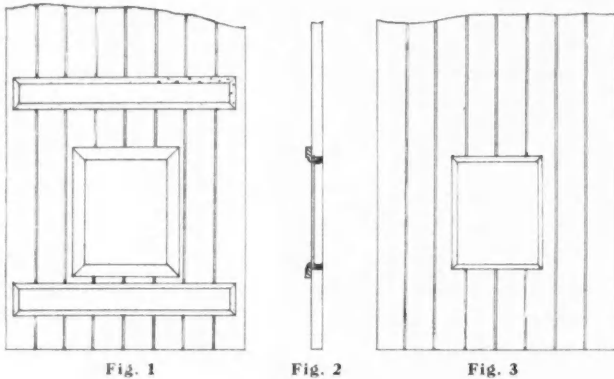
Remove the window sash and lay it flat on a table with the putty side up. Take a common spring bottom oiler filled with gasoline and squirt a small quantity of gasoline on the putty all around the sash. Apply a match, and the heat of the burning gasoline will soften the old, hard putty so that it can be removed with a putty knife.

### Lights in the Batten Door

By Charles Claukey

It is quite a puzzle to a good many men to know just how to go about putting a light in a batten storm door without taking a sash and screwing it fast to one side of the door. But as the sash costs a good deal more than the glass, it is better to make a place for the glass in the door.

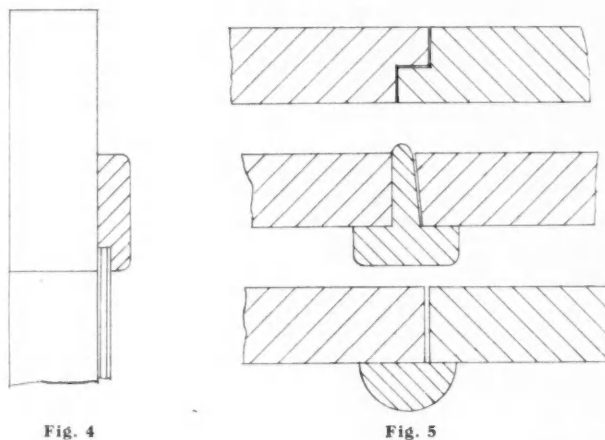
Figs. 1, 2 and 3 show both sides and a section of the upper part of a batten storm door, in which a



hole is cut just a trifle larger than the light of glass to be used, and a door or window stop mitred around the hole as shown in Fig. 3, forming a rabbet for the glass. The glass is then set in and stopped with a strip or regular glass bead, if it is to be had.

Fig. 4 shows a still simpler way of fastening the glass to the door. The stop is rabbeted to fit over the glass and does not require the extra run of stops to hold the glass in place.

Fig. 5 illustrates three different ways of joining



double storm doors at the open edges. The first or common rebate is the simplest and costs nothing extra except a little work, provided the doors are wide enough to allow for the lap. The second is the best of the three and is the regular "T" astragal, and is the same pattern as that used for heavier doors. The third and last shown is the flat astragal, and many different patterns are used, the half round, as shown in the figure, being the most popular type.

### The Boy and the Hammer

(Continued from Page 33)

spondence and can spell properly the commonly used words. In mathematics I would substitute the ordinary business transactions involving persistent drill in the rapid elemental operations involving addition and multiplication, the use of fractions and per cents, or discounts. I would drill again and again the common every-day problems that involve mensuration of surfaces, etc., perhaps including elemental algebra and a very simple practical course in plane geometry.

#### What the School Product Should Be

But I would have at least half the time in this course devoted to distinctly manual work or mechanical study, this to include mechanical drawing, care and construction of tools and machines, and practice, practice, practice, until at graduation the boy should have a working knowledge that will enable him to commence work as a junior journeyman.

I would make this a course with honor, so that there shall not be that underlying feeling that apparently exists now that the young man taking a college preparatory course is somehow a little superior to the youth who elects the present so-called business or commercial course.

While my idea of instructors for such courses contemplates the employment of men trained in our higher scientific schools, such instructors should have at least two years' practical experience as journeyman or master working mechanics to enable them to eliminate or reduce to a minimum the teaching of purely theoretical unworkable ideals.

All this is needed. Some will say it is not the office of the State to furnish such instruction. But if the State sees that in such teaching as this lies the salvation of the delinquent in the reform school or penitentiary, why not a thousand times better take the boy before he is branded as a criminal and place him in a position where he can always earn a comfortable living and retain the confidence and esteem of his fellow citizens?

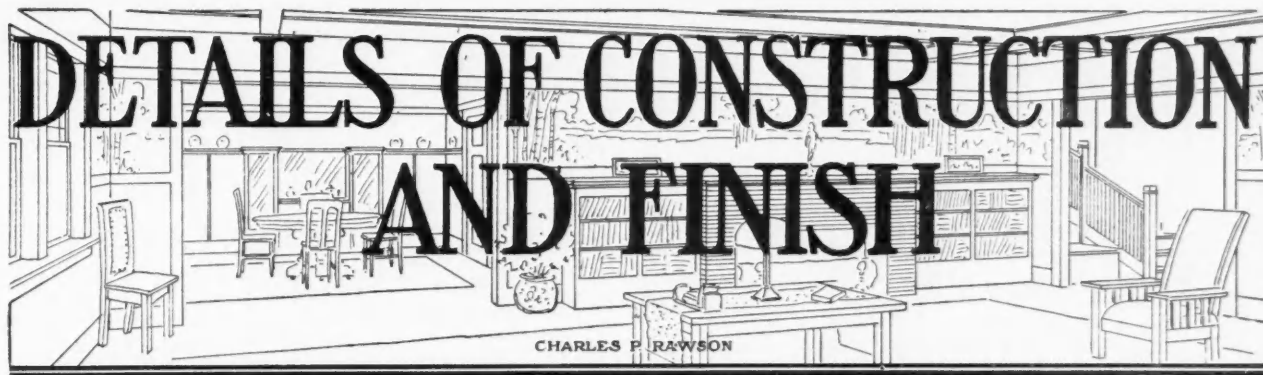


#### Single-Color and Compound Stenciling

(Continued from Page 41)

V). Take the green brush again and stencil in the leaves and stems. These leaves and stems can be easily blended in the green color alone, making some parts light and other parts dark (applying more or less color). Apply the darker tones on the flower nearest the stem.

The illustration, Plate VI, shows how to blend with different colors on a simple stencil. One color is first applied in spots and blended as indicated by No. 1. Over the lighter parts of the first color the second color is then applied and both effects are blended together. Many different experiments should be conducted with the blending of designs, and it will be found that an unlimited number of effects can be obtained.



## Official Grades of Doors and Sash

DETAILED RULES ADOPTED BY THE SASH, DOOR AND BLIND MANUFACTURERS' ASSOCIATION OF THE NORTHWEST—TWO COMPLETE SCHEMES FOR INTERIOR TRIM OF SIMPLE DESIGN

**B**ECAUSE of the large number of requests from all parts of the country for details of simple and inexpensive trim, we are showing this month two examples of such. A large part of trims of this kind is usually carried in stock by most mills and lumber yards, and can be obtained in soft wood at reasonable prices. Both doors shown are stock doors, one and three-eighths inches thick. In each case the elevations of the doors, windows, etc., are drawn to the scale three-fourths inch equals one foot; and all parts of the trim are detailed to the scale of six inches equals one foot. In this cheaper grade of work, many different effects can be obtained for different rooms by placing the picture moulding at various heights, making the head casing as shown, or by making it continuous around the room, and by the addition of chair rail, plate rail, etc., according to the use to which the room is put. By the use of a little careful study the attractiveness of a house can be materially added to without increasing the cost.

It may be of interest to contractors in connection with this series of articles on Interior Finish to know the official grades of doors and sash, which are graded under rules adopted by the Sash Door and Blind Manufacturers' Association of the Northwest.

*AAA Oil Finish Doors.* Material for AAA oil finish doors must be clear, no white sap admitted. Workmanship must be good.

*AA Oil Finish Doors.* Material for AA oil finish doors must be clear, with the exception that white sap will be admitted, not to exceed twenty-five (25) per cent of the face of any one piece. Workmanship must be good.

*A or No. 1 Quality.* Material in No. 1 doors must be clear, with the exception that water stains and small pin knots not exceeding on fourth ( $\frac{1}{4}$ ) inch in diameter may be admitted. No piece to contain more than two (2) such defects and no door more than five (5) such defects on each side; white sap not considered a defect. Workmanship must be good.

*B or No. 2 Quality.* Material in No. 2 doors may

contain knots not to exceed one (1) inch in diameter, and blue sap showing on both sides not to exceed fifty (50) per cent in any one piece of the door and gum spots showing on one (1) side of a piece only and other slight defects, shall not exceed ten (10) in number on each side; and each white pine stile, bottom and lock rail must contain at least one (1) and not to exceed three (3) such defects; plugs admitted and not regarded as a defect. Slight defects in workmanship admitted.

*C or No. 3 Quality.* Material for No. 3 doors may contain all stained sap and small worm holes and fine shake; also knots not exceeding one and three-fourths ( $1\frac{3}{4}$ ) inches in diameter. Twenty (20) defects may be allowed on each side, also slight defects in workmanship. Each piece of white pine in a No. 3 door must contain a defect. Not more than six (6) defects in any one piece.

*No. 4 Quality.* No. 4 doors are regarded as cull door and must contain large coarse knots and may contain rot, worm holes, shake and other serious defects.

Check Rail Windows may contain two (2) knots three-eighths ( $\frac{3}{8}$ ) inch in diameter, or one red knot five-eighths ( $\frac{5}{8}$ ) inch in diameter in each piece of a window. White sap and not over thirty-three and one-third ( $33\frac{1}{3}$ ) per cent blue sap may be admitted in any one window. Workmanship must be good.

Plain Rail Windows and Sash may contain blue sap and small knots.

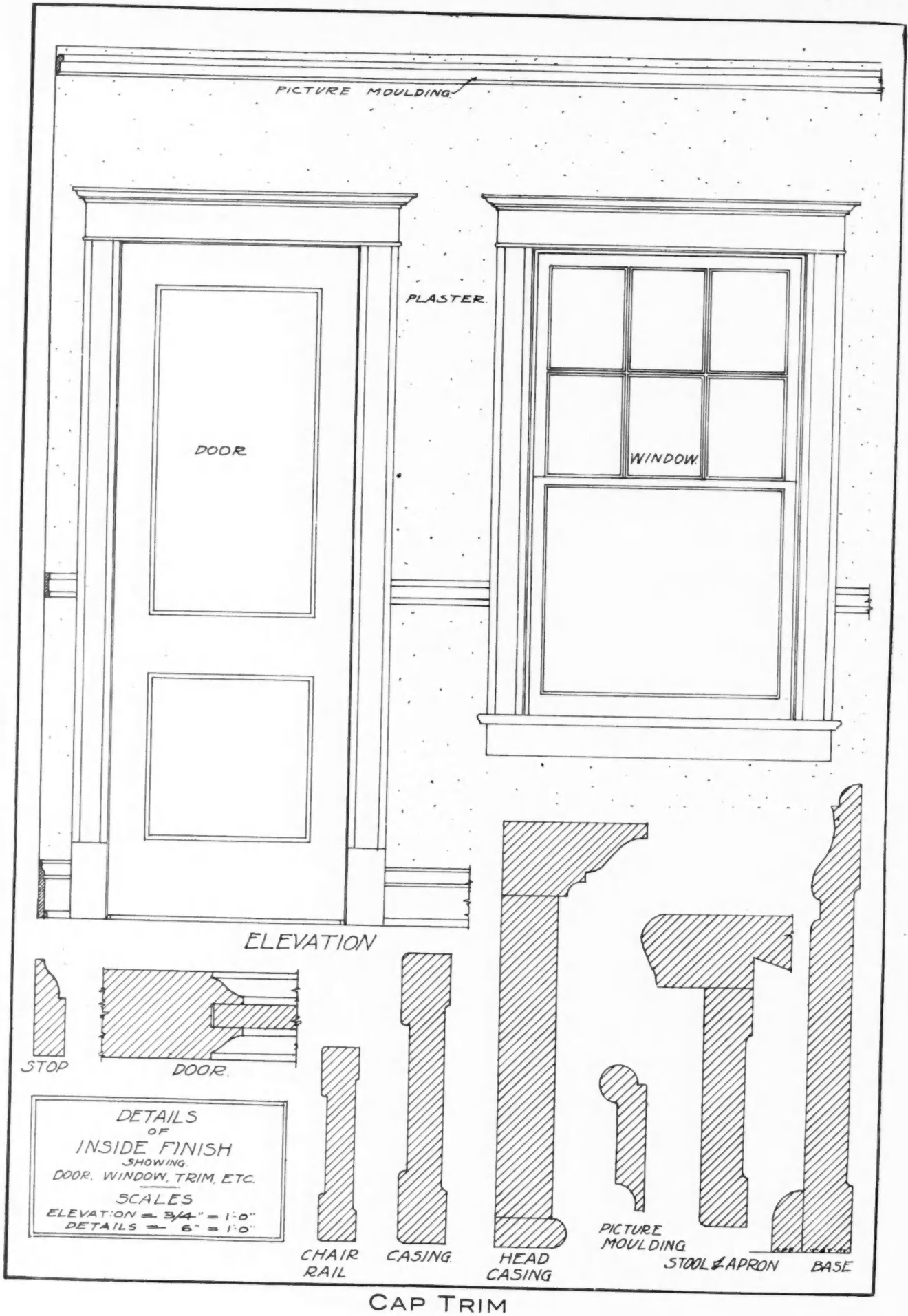


### Concrete Cold Weather Advice

Don't let the weather deceive you—the days are warm, but the nights and mornings are cold. Cold weather is not conducive to quick setting, and long time sets mean slow hardening, thus reducing the strength of the concrete for a considerable period.

Mr. Contractor, as a precaution, watch the weather—give your work ample protection, and—most important of all—heat the material and the water. This will insure satisfactory work.

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



PICTURE MOULDING

DOOR

PLASTER

WINDOW

ELEVATION

STOP

DOOR

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

CHAIR  
RAIL

CASING

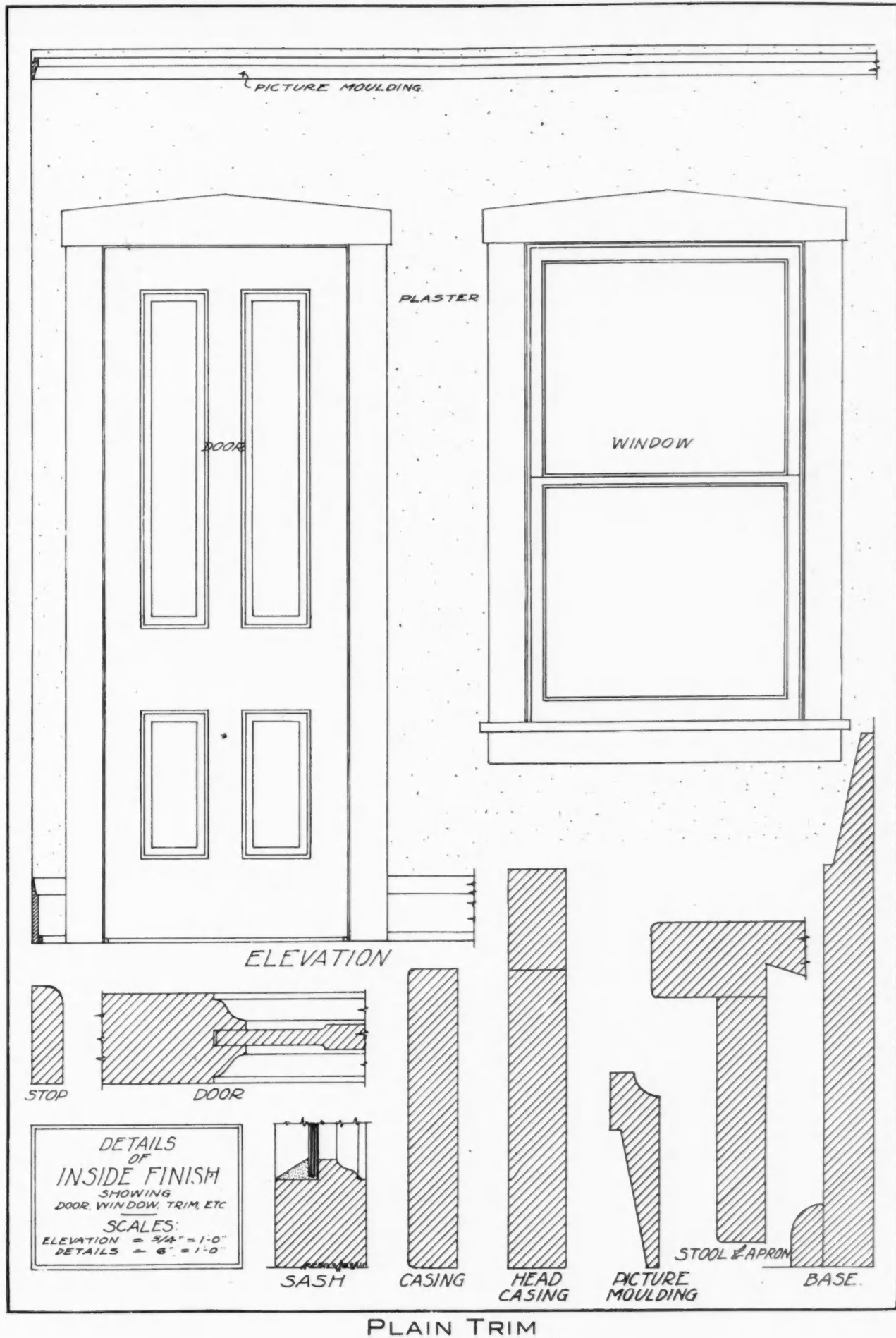
HEAD  
CASING

PICTURE  
MOULDING

STOOL & APRON

BASE

CAP TRIM



# BRICK AND TILE WORK

## General Specifications and Instructions for Setting Tiles on Floors and Walls

Compiled by The Associated Tile Manufacturers

F. W. Walker, Secretary

THESE "General specifications and instructions" are presented herewith for the purpose of improving tile work, and bringing the standard up to a more uniform basis, giving to those in sections of the country where tile is not in general use, the necessary information to secure first-class work, thereby creating an increased demand for this worthy material.

If builders will follow these "specifications" the manufacturers of tile can guarantee first-class and satisfactory work, as the details have been most carefully prepared.

We trust that every person doing tile work will cooperate with us in this effort to improve tile setting, and preserve these specifications for future reference.

FOUNDATION FOR FLOORS. A good foundation is always necessary, and should be solid and perfectly level,

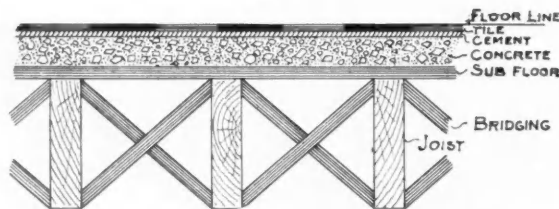


Fig. 1. Tile Flooring Laid in New Building

free from spring or vibration. Tile *must* always be laid upon a concrete foundation, prepared from the best quality Portland cement and clean, sharp, washed sand and gravel.

*Cinders should never be used*, as they tend to destroy the life of cement, *but if used*, all ashes must be screened out and the *vitrified cinder or clinker* thoroughly washed. (The sulphur in cinders will destroy reinforcing in concrete.)

Concrete should be allowed to thoroughly harden before laying floor; thoroughly brushed to remove all dust; well-soaked with water, dusting on concrete thin coat pure Portland cement before applying cement mortar for laying tile.

Concrete should never be allowed to stand more than three or four days before laying the tile.

LIME MORTAR should never be mixed with concrete.

CONCRETE should consist of one part Portland cement, two parts clean, washed, sharp sand, four parts clean gravel.

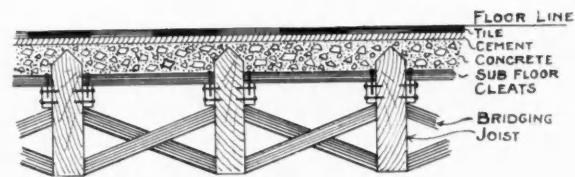


Fig. 2. Tile Floor Laid in Old Building

Mix cement and sand thoroughly dry, add gravel and mix, adding sufficient water to form, when laid, a hard, solid mass when well beaten to a bed. Bed should be not less than three inches thick. Surface of concrete must be level and finished to within one inch of finished floor line (when tile  $\frac{1}{2}$  inch thick is used), which will leave space of  $\frac{1}{2}$  inch for cement mortar.

CEMENT MORTAR should consist of one part best quality Portland cement, two parts clean, washed, sharp sand, thoroughly mixed as directed for concrete. All mortar should be used fresh, before it has its initial setting.

REINFORCING. Place on top of the concrete an open metal lath and spread the cement mortar over it. This will prevent the tendency to contraction of the cement mortar and separation of the tile into floor cracks.

Before laying Tile sprinkle carefully with fine sand

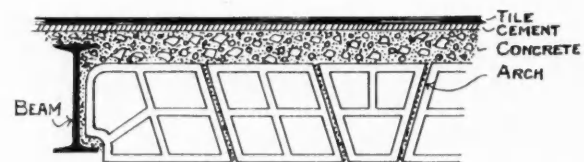


Fig. 3. Tile Floor Over Iron Beams and Tiles



screen a little dry cement over floor on top of cement mortar.

**GROUTING.** Joints to be grouted with pure Portland cement, mixed with clear water, cleaned soon as grouting is done, leaving no cement scum on surface.

**FLOORS IN NEW BUILDINGS.** When tiles are laid on joists in new buildings, *if possible*, joists should be set five inches below intended finished floor line,

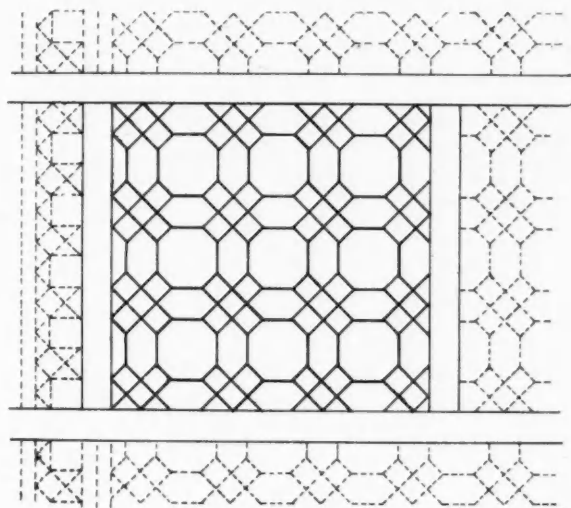


Fig. 4. Method of Laying Ornamental Tile Floor—Top View

spaced 12 inches on centers, thoroughly bridged, to make stiff floor, covered with one-inch rough boards not over six inches wide (three inches preferred), *thoroughly nailed*, and joints  $\frac{1}{8}$  inch apart to allow for swelling (see Fig. 1).

A layer of roofing paper on top of rough floor will protect boards from moisture of concrete, and prevent moisture from dripping through to ceiling below.

**FLOORS IN OLD BUILDINGS.** Cleats are nailed to joists five inches below intended finished floor line, and short pieces of boards (not over six inches wide),  $\frac{1}{8}$  inch apart, fitted in between joists upon cleats and well nailed. Joists must be thoroughly bridged. Place roof paper as above directed. Corners on the upper edge of joists should be chamfered off to sharp point (see Fig. 2), as flat surface of joists will give uneven foundation. When strength of joists will permit, cut an inch or more off top. Where joists are too weak, strengthen by thoroughly nailing cleats six inches wide full length of joists.

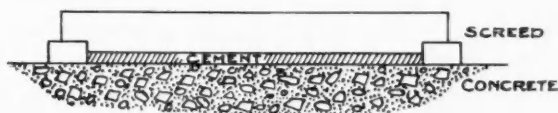


Fig. 5. Preparing Foundation for Floor Tiles

When solid sub-foundation is thus prepared, concrete is placed upon it as above directed.

**IRON BEAMS.** Where iron beams and hollow tile arches are used, frequently very little space is left for preparing proper foundation for setting tile. The

rough coat is usually put in by hollow tile contractor to protect his work. *This cover should always conform to requirements for a solid tile foundation.* Should this not be the case, the tile contractor *must remove sufficient* of covering to allow him to put down a foundation that will insure a satisfactory tile floor. Cinders, lime, mortar or inferior material *must never be used.*

*The tops of iron beams should be three inches below the finished floor line to prevent floors showing lines on the beams* (see Fig. 3).

**METHODS OF LAYING FLOOR TILE.** *Semi-Vitreous or Vitreous Tiles* for floors are first laid out to ascertain if they are all right, and compared with plan provided for laying floors. Strips are then set, beginning at one end of and in center of room, and level with intended finished floor line. Two sets of guide strips running parallel about 18 to 30 inches apart, should be set first (see Fig. 4). Mortar is then spread between them for six to ten feet at a time, and leveled with screed notched at each end to allow for thickness of tiles (see Fig. 5). Tiles are placed upon mortar, which must be stiff enough not to work up between the joints. Tiles are firmly pressed into mor-

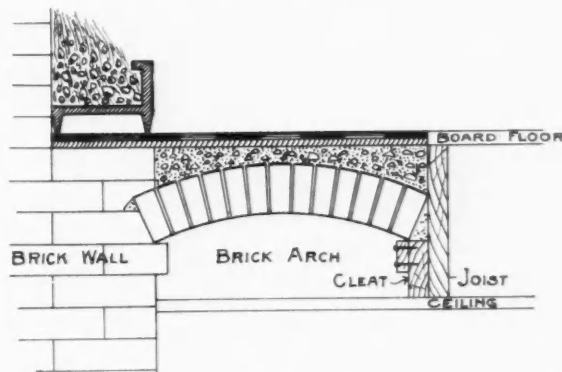


Fig. 6. Foundation for Tile Hearth

tar and tamped down with block and hammer until exactly level with strips. When space between strips is completed, strips on one side of tile are moved out 18 to 30 inches and placed in proper position for laying another section of tile, using tiles which have been laid for one end of screed, and laying of tile continued in same manner until floor is finished.

Figures 4 and 5 are given to show one approved method of installing floor tile. In some cities different methods have been worked up by mechanics, which are just as satisfactory as those shown.

When cement is sufficiently set, which should be in about two days, floor should be well scrubbed with clean water and broom, and joints thoroughly grouted with pure cement, mixed with water to consistency of cream. As soon as this begins to stiffen, it must be carefully rubbed off with sawdust or fine shavings and floor left perfectly clean.

**METHOD OF LAYING CERAMIC MOSAIC TILE.** *Ceramic Mosaic Tiles* are first examined to ascertain if design

is right, and laid as directed above. Cement mortar is spread evenly and leveled with screed. Sheets of papered Ceramic Mosaic are laid carefully on mortar with paper side up. After space is covered, the tile setter should press tile into mortar, gently at first, firmly afterwards, using block and hammer, leveling tile as correctly as possible.

In large areas of floor work every third or fourth row of sheets should be laid to a chalk line to avoid bad kinks in line of tiling after floor is finished.

Tile should be beaten down until mortar is visible

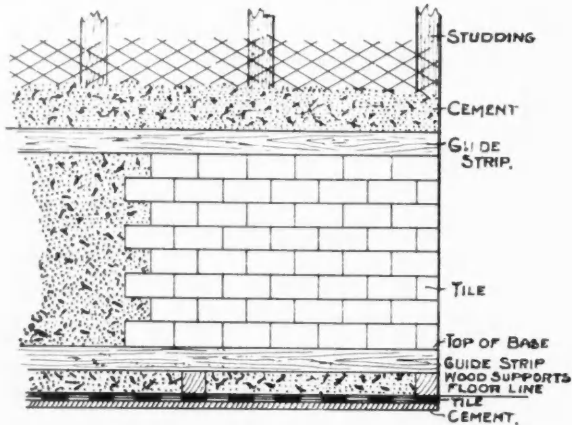


Fig. 7. Method of Laying Tile Wainscoting

in joints through paper, however without breaking it.

Paper is then moistened, and, after well soaked, can be easily removed. It is pulled off backwards, starting from a corner. After removing paper, tile should be sprinkled with white sand before finishing the beating, so that tiles will not adhere to beater, owing to paste which is used in mounting them. Corrections of surface are then made by leveling with block and hammer. The filling of joints and cleaning of surface is a delicate operation, as the looks of this work depends largely upon it. Joints are to be filled with clean Portland cement, mixed with water. This mixture is forced into joints with a flat trowel (not with a broom, which often scrapes out the joints). After joints are filled, surplus cement is removed from surface by drawing a wet piece of canton flannel over it. This cloth must be washed frequently with clean water. After the floor is cleaned, it should be allowed to stand for a day or two, when whole floor is to be rubbed with sharp sand and a board of soft lumber. This treatment removes the last traces of cement. In laying tile sheets on cement, care should be taken to have width of joints spaced same as tile on sheets to prevent floor having a block appearance.

**CLEANING FLOOR TILE.** Remove with sawdust, and afterwards with flannel cloth and water, all traces of cement left on surface of tile, as it is hard to remove after it is set. After thoroughly cleaning floor, cover with sawdust and boards placed on floor for several days where there is walking upon it.

A white scum sometimes appears on surface of tile, caused by the cement. This can generally be removed

by washing frequently with plenty of soap and water. If scum or dirt can not be removed by washing, then use a solution of muriatic acid and water (six ounces of acid to a bucket of water), applied with scrubbing brush. Allow acid to remain on floor for a few minutes only, then thoroughly wash off.

**FOUNDATION FOR HEARTHES** should be placed upon brick arch if possible, to insure perfect fire protection, then covered with concrete in same manner as directed for tile floors (see Fig. 6).

If placed upon sub-foundation of wood, concrete should be at least six inches thick.

**Hearth and Facing Tile** are set in the same manner as for floors and walls.

**FOUNDATION FOR WALLS.** A good foundation is absolutely necessary, and should be solid and perfectly plumb, free from any spring or vibration before applying scratch coat, to prevent tile coming loose.

**SCRATCH COAT.** The Scratch Coat should consist of one part best quality Portland cement, two parts clean, washed, sharp sand. Mix the cement and sand thoroughly dry and add sufficient water to form a thick mortar.

The Scratch Coat should be allowed to harden for at least one day before commencing to set tile, thoroughly brushed to remove all dust, and well wet, brushing on thin coat of pure liquid Portland cement before putting on cement mortar for setting tile.

**TILES PLACED ON STUDDING.** When Tiles are placed on studding, the studding should be placed fifteen-inch centers, thoroughly braced about every twenty inches

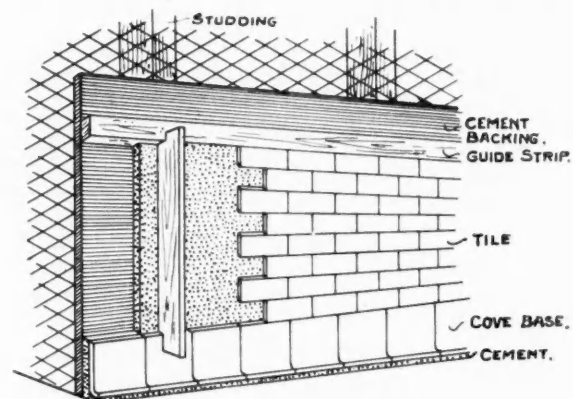


Fig. 8. Where a Cove Base is Used

with horizontal strips to prevent vibration, and covered with expanded metal lath.

Scratch coat on metal lath should be  $\frac{1}{2}$  inch thick, or sufficient to make even and true surface to within  $\frac{7}{8}$  inch of intended finished surface of tile when tile  $\frac{3}{8}$  inch thick are used. Scratch coat should be roughly scratched.

**TILE PLACED ON BRICK WALLS** When Tiles are placed on brick walls, mortar must be raked out of joints of brick work before using to form key for scratch coat.

**NEVER PLACE ON WOOD OR PLASTER.** Tile must never be placed on wood lath or on plaster. If placed

on plaster blocks, they should be driven full of nails, or wire lath placed over them. Plaster block material does not form a good bond with cement and in a short time tile tend to come loose and drop off.

**CEMENT MORTAR** should consist of one part best quality Portland cement, two parts clean, washed, sharp sand, thoroughly mixed, as directed for floors.

If any lime is mixed with cement mortar to prevent it setting too quickly, it should never ex-

ceed 10 per cent, and great care should be used to have lime well slacked and made free from all lumps by passing through a fine sieve to guard against "heaving" or "swelling" and thus "loosening" or "lifting" tiles. White rock finish can be used as above in place of lime. Before setting tile and after carefully placing last coat of cement mortar to receive tile, *place over it with a plasterer's trowel a very light coat of pure cement mixed to a consistency of thick cream.*

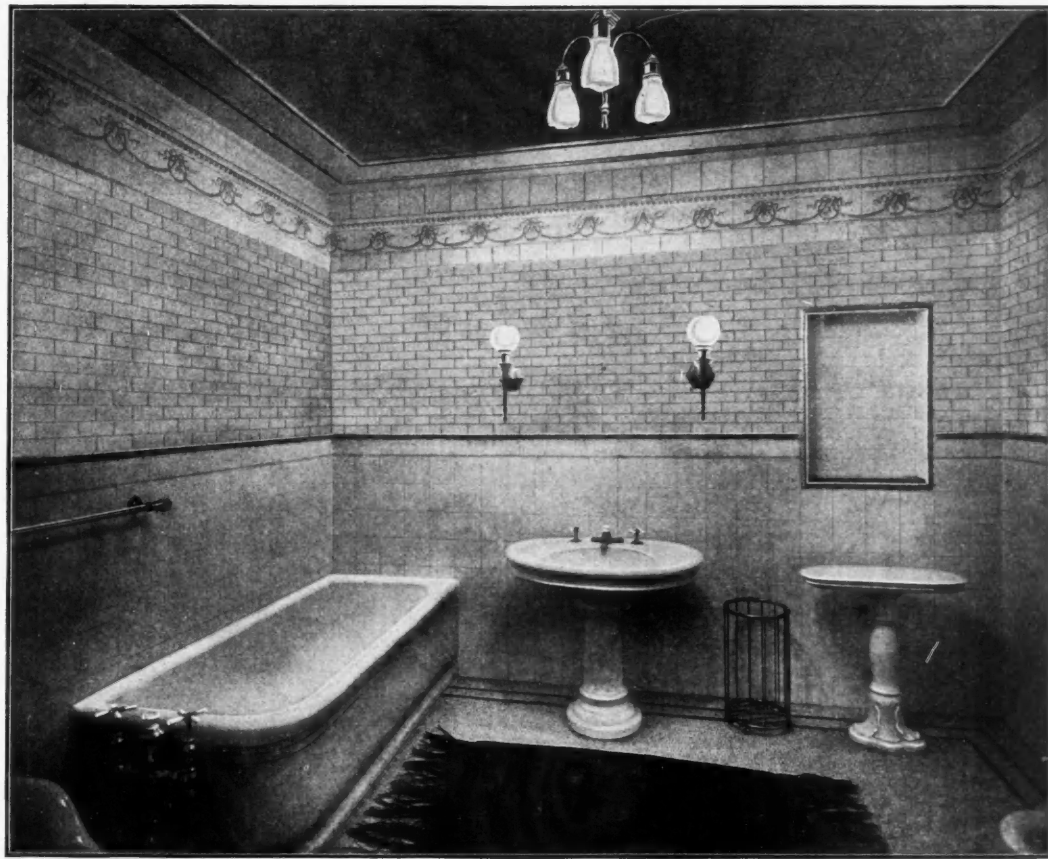
**GROUTING.** Joints should be grouted with Keene's white cement or with pure light gray Portland cement if more character is desired to tile work.

**SOAKING TILE.** All tiles should be thoroughly soaked in clean water before placing on the wall. *Dirty water or water off of cement will stain tile, causing variation in shade and making an unsatisfactory job.*

**METHOD OF SETTING TILE FOR WALL OR WAINSCOTING.** Tile are first laid out and compared with plan provided for setting them. Guide strips are then placed on wall, parallel, and about two feet apart, bottom one being arranged to allow base to be set after body is in place (see Fig. 7).

When a cove base is used, it may be necessary to set it first, but in all cases must be well supported on the concrete (see Fig. 8). The strips must be placed plumb and even with intended finished wall line.

The method of setting wall tile is governed to some extent by conditions of wall on which they are to be set, and mechanic must decide at time which process



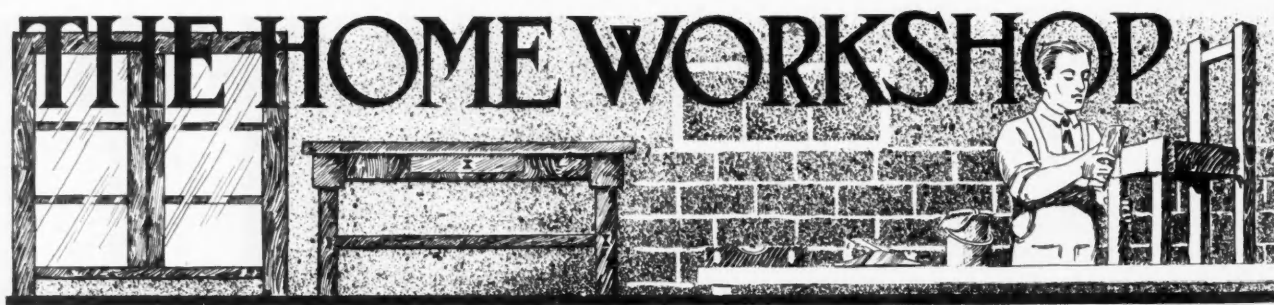
Modern Bathroom. Floor, Wall and Ceiling Tiled.

he will use, whether buttering or floating, as equally good work can be done by either by following instructions as stated below.

**FLOATING WALL TILE.** Mortar is spread between guide strips about five feet at a time, and leveled with screed notched at each end to allow for thickness of tile (see Fig. 5). Tiles are placed in position and tamped until firmly united to cement and level with strips. When space between strips is completed on one side of room, strips are removed and work continued in same manner until completed. When tiles are all set, joints must be carefully washed out and neatly filled with thinly mixed pure light gray Portland cement or Keene's cement. All cement remaining on tile must be carefully wiped off.

**BUTTERING WALL TILE.** Cement mortar is spread on back of each tile, and tile placed on wall and tamped gently until firmly united and plumb with guide strips. When tiles are all set, joints must be carefully washed out and filled with cement, and tiles cleaned as directed above.

**FIXTURES.** When Fixtures of any kind are to be placed on tile work, such as plumbing in bath-room, provision should be made for them by fastening wood strips on wall before rough or first coating of cement mortar is put on, strips to be same thickness as rough coating. Tiles can be placed over strips by covering them with cement mortar, and, when thoroughly set, holes can be bored in tiles for fastening fixtures without injuring tiling.



## How to Make A Foot Stool

COMPLETE DETAILED INSTRUCTION WITH WORKING DRAWINGS FOR MAKING THE SIMPLE BUT USEFUL PIECE ILLUSTRATED

By Ira S. Griffith

A FOOT stool is always a popular piece with boy craftsmen. The accompanying design is one that has proven popular with a good many boys who have worked after it in their manual training woodwork.

That the stool may withstand hard usage, it should be made of some hard wood, such as oak. The following stock bill specifies stock of the exact thickness wanted, but to the width of the finished pieces one-quarter of an inch is added to allow for squaring up, and to the length one-half an inch.

### STOCK BILL FOR FOOT STOOL.

Top, 1 piece,  $\frac{3}{4}$  by  $9\frac{1}{4}$  by  $16\frac{1}{2}$  inches; surfaced on two sides to  $\frac{3}{4}$  inch.

Legs, 2 pieces,  $\frac{3}{4}$  by  $9\frac{1}{4}$  by 8 inches, S-2-S.

Rails, 2 pieces,  $\frac{3}{4}$  by  $2\frac{1}{2}$  by  $15\frac{1}{2}$  inches, S-2-S.

Begin work by removing the mill-marks from all the broad surfaces, using the smooth plane. Take off no more shavings than are necessary to leave the surface smooth and clean, as the stock is to be surfaced at the mill to the thickness desired.

Square up the top to the dimensions indicated in the working drawing. A quarter of an inch chamfer, or a round would serve to keep the edges of this piece from being splintered when the rough shoes are placed against the top.

Work the two ends to size and shape. In working these, it will be necessary to plane a face-edge on each and square the two ends in the usual manner. From this face-edge the measurements can be laid off at each end of each piece and the slanting lines put on

to indicate the sides of the legs. Saw to these lines, nearly, and then plane to them exactly.

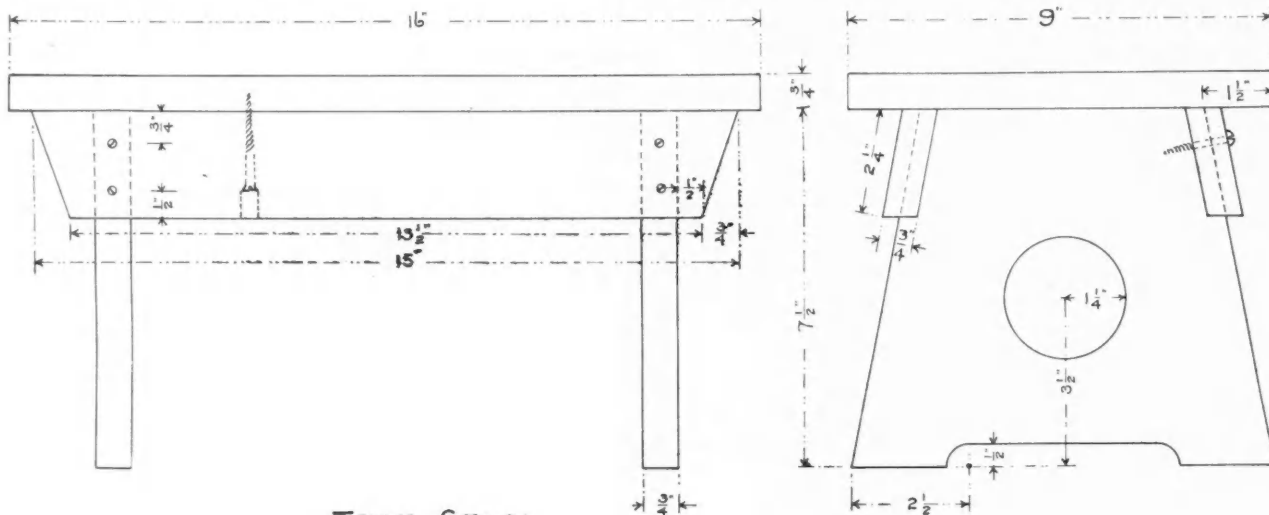
Shape the lower ends. An easy way to do this is to place the lower ends together and



Foot Stool with Decorated Ends

bore two holes with a one-inch bit. Connect the edges of these holes and either chisel or saw and then chisel to these lines. The circle on the ends is merely suggestive of an appropriate place for a decorative design.

Now, make the two side rails. These edges are to be planed beveling. To get the angle lay the T-bevel upon the drawing so that the blade or handle rests on the line which represents the edge of the leg and move the blade until it rests on the line which rep-



FOOT STOOL

resents the top edge of the leg. Plane one edge straight as to its length, but beveling as the T-bevel indicates. Gauge for width and bevel the second edge. Lay off and saw and plane the ends to the slants indicated in the drawing.

These rails are to be grooved on their inner surfaces so as to receive the edges of the legs. This is to give the stool greater rigidity. With the knife and trysquare score lines to indicate the sides of the grooves, and then gauge on the edges between these lines the depth—one-fourth of an inch. Saw to the lines and chisel out the waste wood. Keep the saw cuts or kerfs in the waste, of course.

#### Finishing and Decorating

Before putting the parts together, the finish should be applied. If the wood is oak or chestnut or other coarse-grained wood, apply a coat of filler first. Fillers are to be purchased at any paint store in small or large cans. It is thick and will need to be thinned with turpentine until it is like thick paint. Brush it on and allow it to stand about ten minutes, then rub it off with excelsior and polish with a cloth. Allow the filler to harden, then put the parts together with screws, as shown in the working drawing. The parts might be put together without waiting for the filler to harden, no harm would be done. On the filler, brush a coat of thin shellac and on the shellac, after it has hardened, apply several coats of floor wax. Wax, like filler, comes in small or large cans. It is of a consistency similar to shoe polish and is applied with a cloth and then polished exactly as one would apply shoe paste and polish it.

Fillers are colored in various tones and colors, so that one can get any finish he may desire, golden, English, mission, etc.

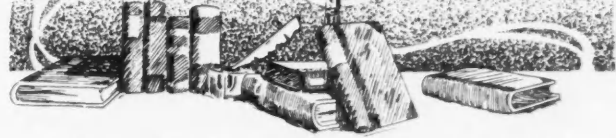
For the decorative design, should one be desired, use spirit stains and apply these before the filler. Make a design and transfer it to the wood by means of carbon paper. With a nail filed to a chisel edge, cut the outline of the design on the wood deep enough to break the fibres and thus keep the stain from "running." The spirit stain or wood dye is to be applied with small brushes. When the filler coat is being applied, it may be brushed right over these colors. No harm will be done, for the filler wipes off the highlights and leaves the design colors standing out. In most instances the filler darkens the design colors just a little. This is a good thing, for most wood dyes are too bright for the best effects without this greying.



#### Durn Him

A newspaper writer suggests that the halaietus leucocephalus be taken off the \$20 gold pieces and meleagris americana substituted. In other words, the educated son of a gun wants to take off the eagle and put on a turkey.—*Milford (Tex.) Bugle.*

## BOOK REVIEWS



The Editor will review books in this department of interest to builders.

### "Our New House—How We Plan to Build It"

By Louise Perrett, Published by The Reilly & Britton Company, Chicago.

This is one of the "gift books" of the year that will be really acceptable to anyone who is planning now, or ever expects to plan, a home of his own—or perhaps we had better say, of her own. This is an indexed book of blank pages, that is they are blank except for the two-color decorative headings and borders on each page. They are arranged to give place for sketches, prints, photos or ideas from any source pertaining to the building, finishing and furnishing of a home. For many this will be an "air castle" book. We judge it will probably mean woe to the architect who runs up against one of these books in his practice.

### "The Copper Hand Book," Vol. 10

Horace J. Stevens, Editor and Publisher, Houghton, Mich.

A valuable book for those interested in copper, copper mines or copper mining. It lists and describes over eight thousand copper mines and copper mining companies in all parts of the world. There are also chapters on the history, chemistry, mineralogy, metallurgy, grades, alloys and substitutes for copper. The book weighs 4 pounds.

### "The Contractors & Builders Hand Book"

By William Arthur. Published by the David Williams Co., New York City.

In this book the author shows his long experience in dealing with building problems. The titles of the three divisions of the book, viz. "The Contractor as a Business Man," "The Contractor as a Constructor" and "The Contractor as a Tax Payer," indicate in a broad way the scope of this book.

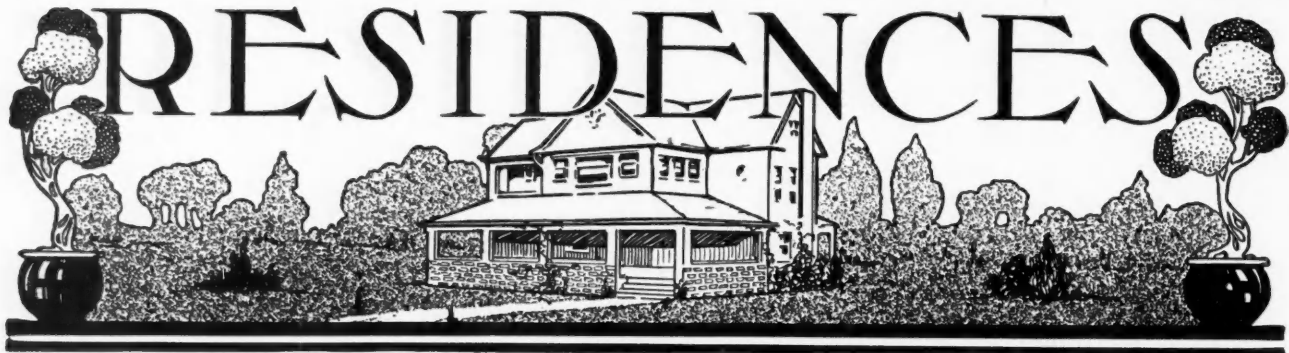
### "Woodworking Safegards"

For the Prevention of Accidents in Lumbering and Woodworking Industries.

By David Van Schaack. Published by the Accident and Liability Department, Aetna Life Insurance Co., Hartford, Conn.

In this 217-page book, a wealth of practical information has been gathered together concerning methods and devices for preventing as far as possible accidents in lumbering and woodworking industries. When we consider the alarming frequency with which machine woodworkers are maimed for life, or killed outright, the importance of this subject is realized.

While this book necessarily confines itself to machines, operations and conditions which are more or less common, it is hoped that the suggestions contained therein will aid in impressing upon manufacturers the possibilities in safeguarding themselves and their operatives. Many home-made as well as patented safety devices are illustrated and described. The illustrations are, for the most part, actual photographs of shop conditions with the safety appliances in place. The book is well arranged in groups and is fully indexed.



## The Favored Bungalow

[ARCHITECT'S COMPLETE WORKING PLANS, DRAWN TO SCALE, FOR A FIVE-ROOM COTTAGE OF CONVENIENT ARRANGEMENT AND ATTRACTIVE DESIGN.]

IN devotion to commercial activity and the pursuit of wealth, the real home life is always in some danger of sacrifice. But the good sense of the American people is working out a golden mean between a useless, sentimental dreaming and an all-absorbing worship of the money god. As a people we are at last learning how to live; and nothing reveals this more than the growing recognition that home ownership is the chief foundation stone of the ideal home life and the inspiration to all that is substantial and uplifting in community citizenship.

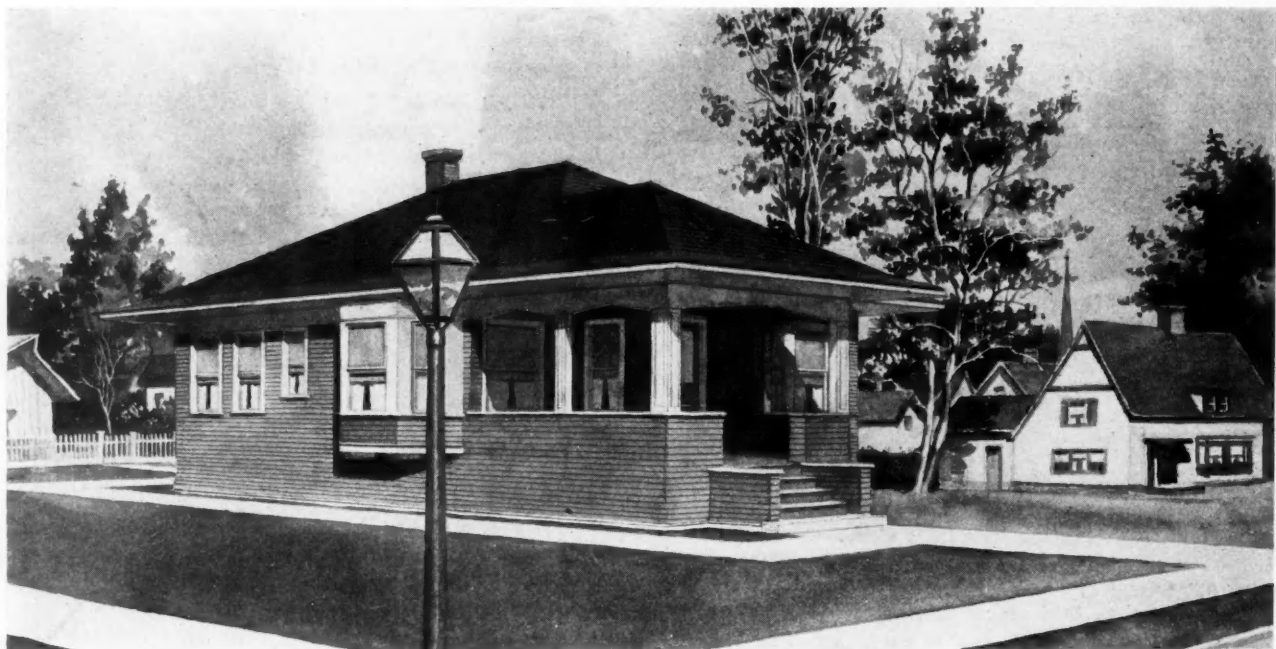
In crowded urban centers, with their high realty values, home ownership is forever beyond the great majority of men; but in outlying suburbs or in the country, anyone of moderate means can now buy or build. Modern transportation eliminates the distance that formerly put this out of the question; and the popular bungalow offers itself as a favorite type of dwelling for the moderate-priced ideal home. Its very name suggests a coziness that appeals to home lovers.

The principal features of attraction in the bungalow in general, are its ground-floor sleeping and living

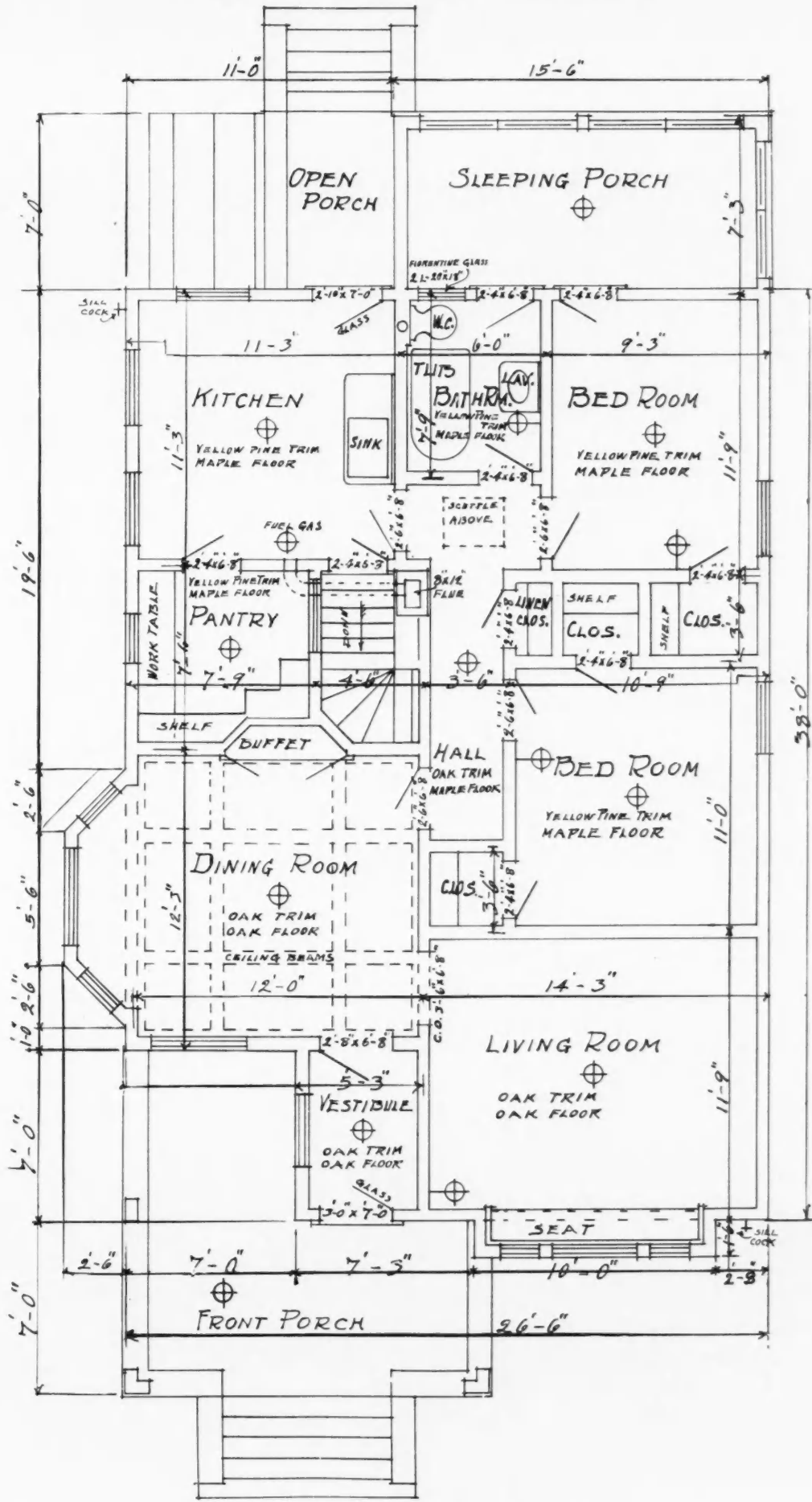
rooms and its convenience of arrangement, planned to "save steps" for the busy housewife, combined with its possibilities of up-to-date equipment in heating, lighting, and plumbing, and of harmonious adaptation to existing conditions in its entire trim and decorative scheme, both exterior and interior.

The little cottage shown in perspective in the accompanying half-tone cut, is of the bungalow type, though unlike many of the bungalows built for the warm climate of California, which merely stand on piers or posts, this one has a commodious concrete basement affording facilities for heating plant, storage, etc. On the succeeding pages will be found complete working drawings, all dimensioned and drawn to scale, from which every detail of the actual construction of the house can be easily carried out by the builder. These drawings comprise basement, floor, and roof plans; front, rear, and side elevations; and details of interior trim.

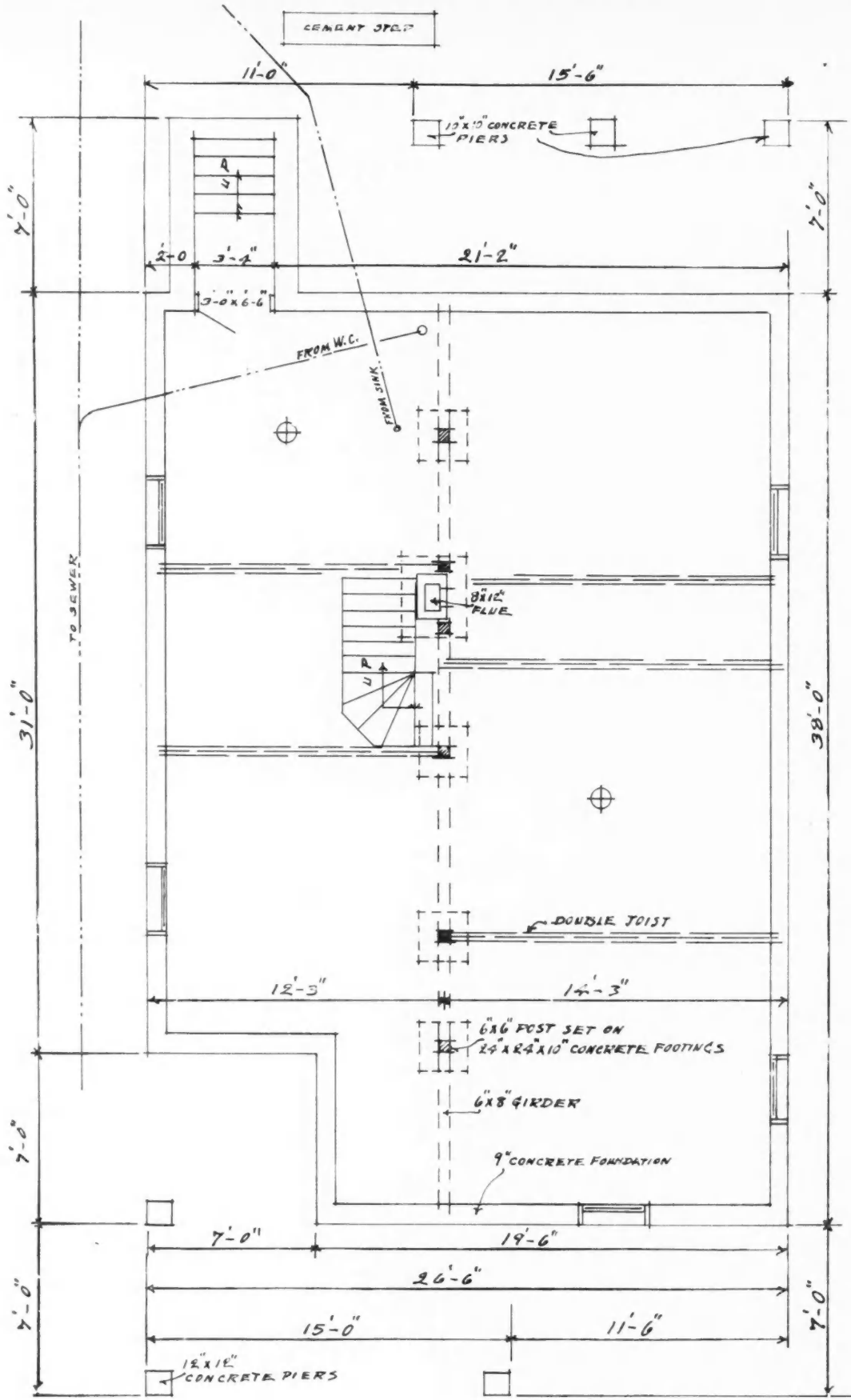
The main body of the house contains five rooms, besides which the up-to-date provision is made for an open-air screened-in sleeping porch at the rear. The



Very Attractive Five-Room Cottage Designed for S. H. Barrows, Park Ridge, Ill.  
COMPLETE WORKING DRAWINGS FOR THIS HOUSE ARE PRESENTED ON THE 4 PAGES FOLLOWING



FIRST FLOOR PLAN  
(Bungalow Shown on Page 54)

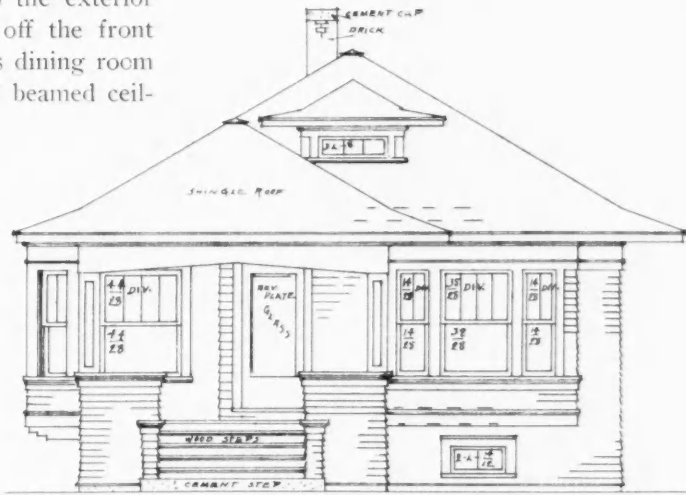
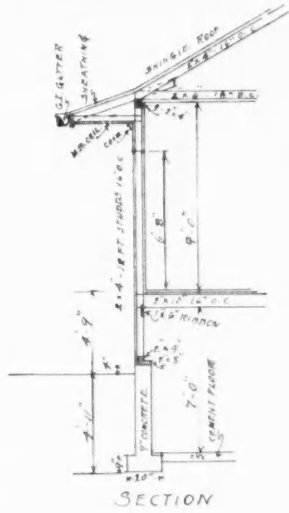


CEMENT STEP  
**BASEMENT AND FOUNDATION PLAN**  
 (Bungalow Shown on Page 54)

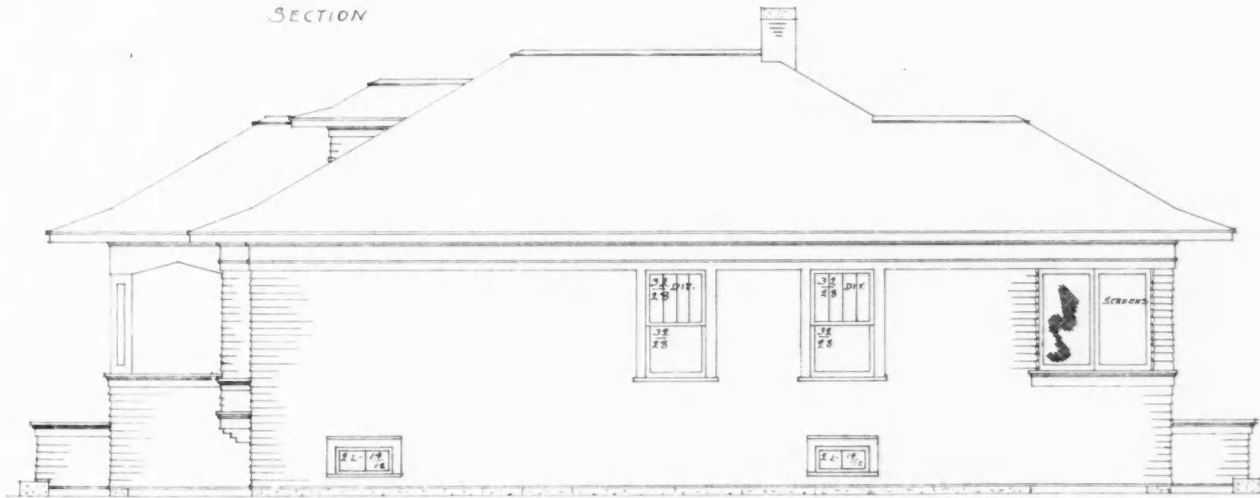


large, sheltered front porch affords an outdoor gathering place where the family will no doubt spend much time when the weather is favorable. Along the coping of the porch and step side-walls, could be arranged flower vases or boxes, adding much to the exterior decorative effect. A vestibule opening off the front porch leads directly into the commodious dining room with its bay window, built-in buffet, and beamed ceiling.

A cased opening to the right of the vestibule door connects the dining room and the living room, the latter having an inviting window-seat under the front window. Access to the kitchen and pantry from the



FRONT ELEVATION

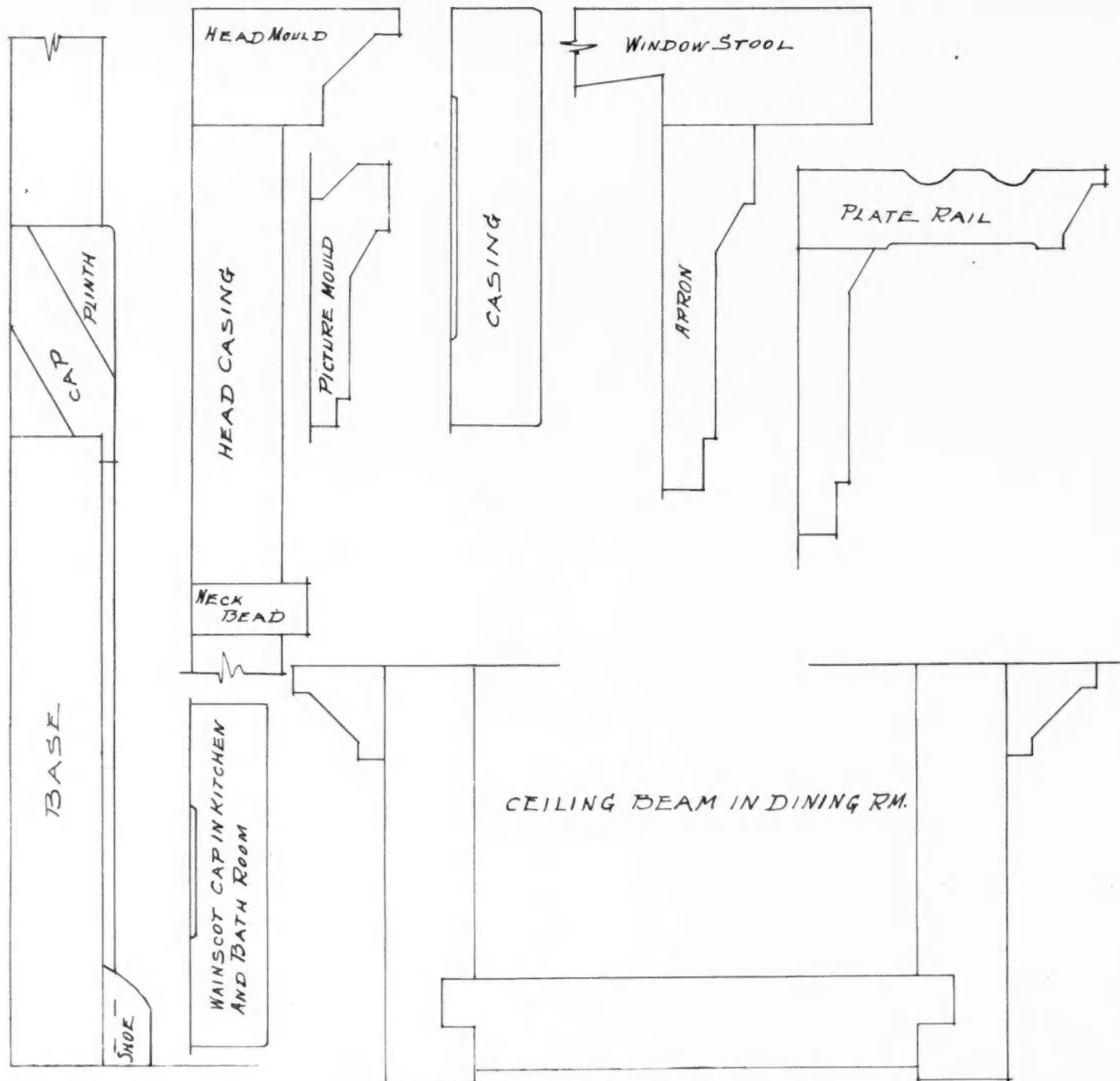


RIGHT SIDE ELEVATION



LEFT SIDE ELEVATION

(Bungalow Shown on Page 54)



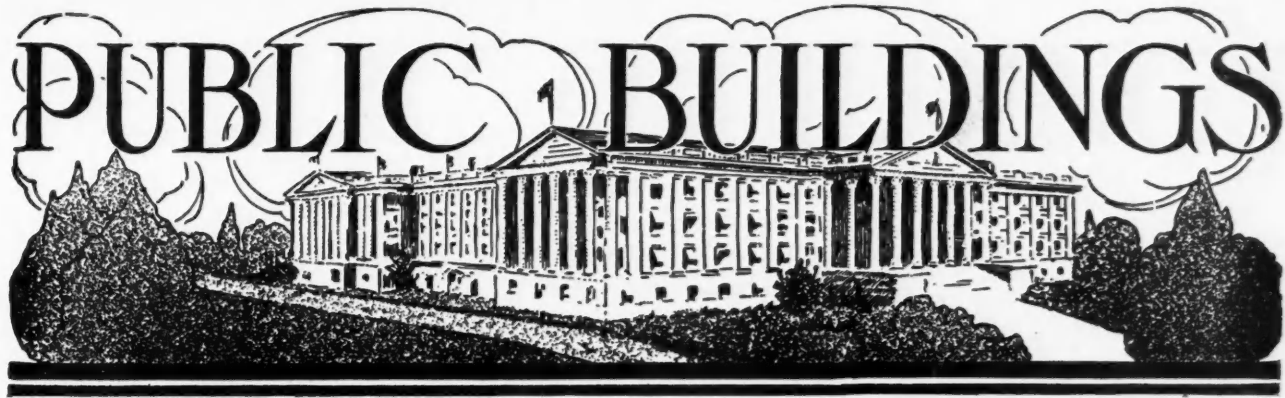
DETAILS OF INSIDE TRIM

dining room is through a central hallway, though if it had been desired by the owners, an opening might have been cut directly through the wall connecting the dining room and pantry. The two bedrooms, each with ample closet accommodation, open off the hall on the right; and the bathroom may be entered either from the hall or from the sleeping porch, which is also connected with the rear bedroom. The basement stairs lead directly down from the kitchen, which also opens onto the back porch, giving access to the yard. In interior finish and trim, the house is in perfect conformity with advanced modern ideals, and its external appearance adapts it admirably to any suburban residence district. The plans call for electric lighting. Under favorable conditions, this house could be built complete for about \$2,500.



REAR ELEVATION

(Bungalow Shown on Page 54)

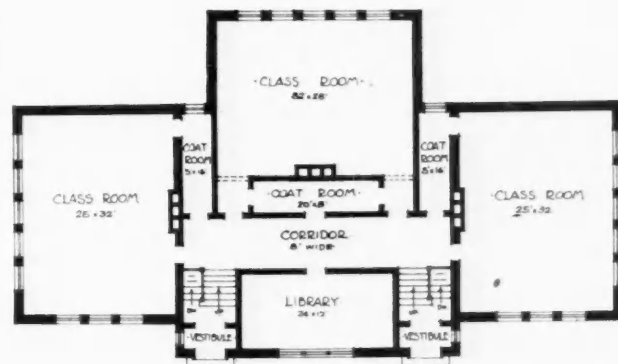


## A Modern Country Schoolhouse

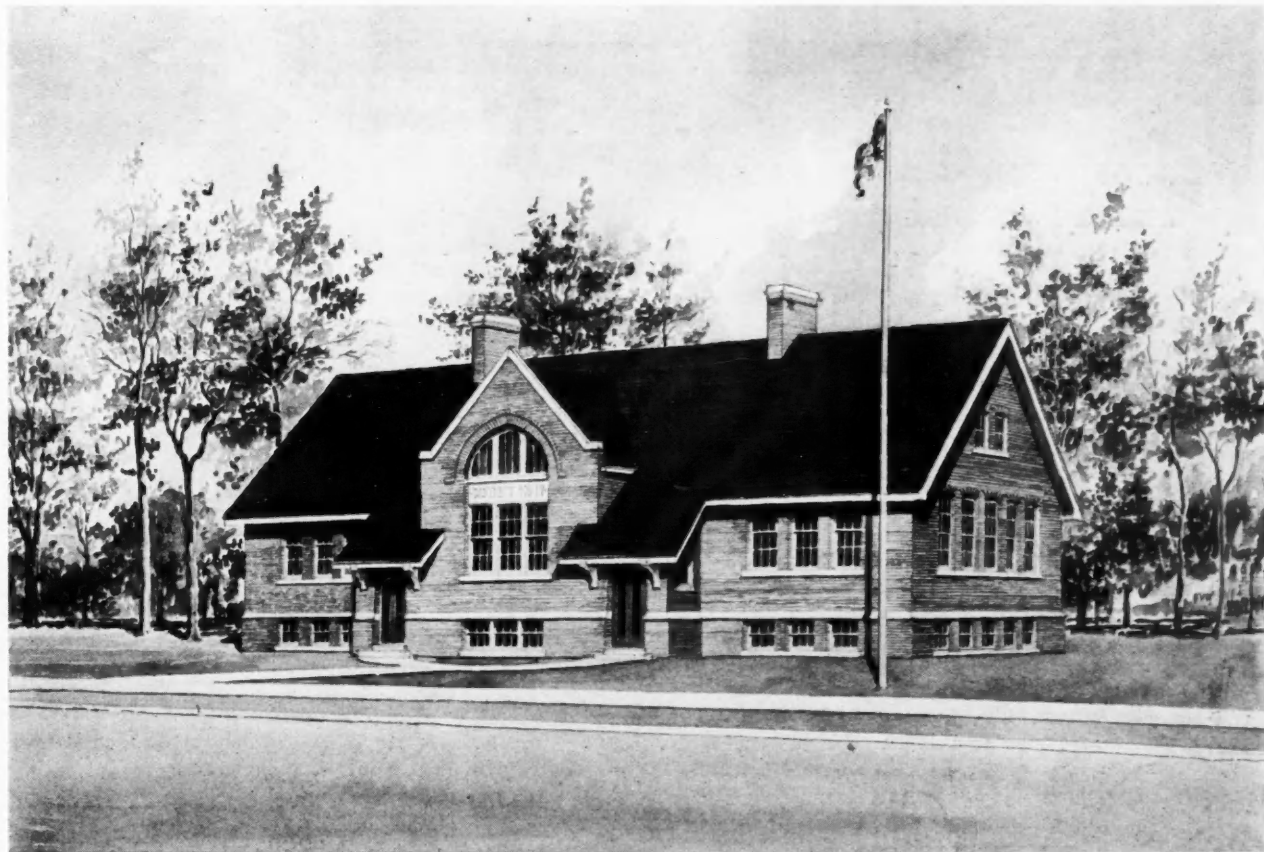
ATTRACTIVE DESIGN FOR AN UP-TO-DATE PUBLIC SCHOOL BUILDING ADAPTED TO CLASSROOM USE AND COMMUNITY GATHERINGS

VENERABLE as was the "Little Red Schoolhouse" where the birch rod formerly held sway, that historic relic which laid our fathers under tribute is fast becoming a mere memory. A structure built on broader lines and with a more intelligent eye to the increasingly complex educational needs of a later generation, is taking its place. The same old fire, however, is still kept burning on the altar.

In the accompanying perspective and floor-plan of a school building for a suburban or rural district, designed by the well-known school architect, George W. Ashby, of Chicago, Ill., we find a perfect adaptation to the most advanced modern ideals, combined with conformity to limitations of moderate cost.



Main Floor Plan



Attractive Modern School Building for Suburban or Country District; Architect, G. W. Ashby, Chicago, Ill.



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

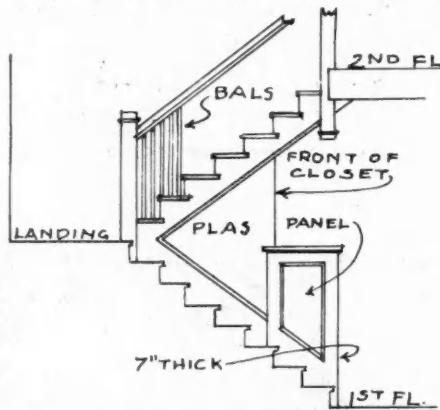
**Glad to Help Where We Can**

To the Editor:

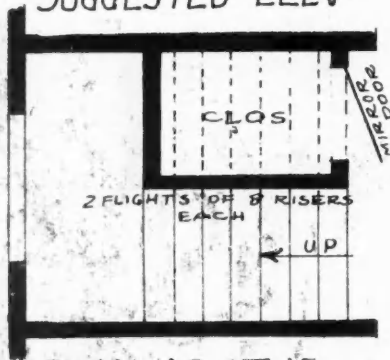
Oswego, Ill.

Although a charter member of your subscribers, I have never availed myself of the privileges of your consulting department. Just now, however, I have a problem which I am at a loss to know just how to work out to the best advantage.

Changes in the original plans have brought about conditions like the sketch; and I would like to know how to arrange for proper trim for this stairway, to be suitable for a house costing about \$5000. Would like an immediate answer



SUGGESTED ELEV



PLAN AS IT IS.

Improving A Bad Stair

by return mail if possible, and if there are any charges, send along the bill.

I. E. HAINES,

Contractor and Builder.

Answer: We take pleasure in enclosing herewith a sketch showing the best method of doing this work. There is no charge at all; we are glad to help out our subscribers in this way, whenever they will give us a chance.

It would practically be impossible to make the closet the same size as shown in sketch and use any sort of a newel. In case you do not care to go to the expense of putting in the panel work shown on the sketch, the front partition

of the closet could be moved back about nine inches and the corner of the first step rounded and returned back again to the partition. In any case, there should be a newel placed at the bottom of the second flight and also one at the top of same, connected by an open rail. If desired, the hand rail supported on iron brackets can be supplied on the left hand side of the first flight.

EDITOR.

**Some Good Questions**

To the Editor:

Colon, Mich.

Enclosed you will find \$2.00 for Radford's "Details of Building Construction," and the AMERICAN CARPENTER AND BUILDER for the coming year. Please don't miss me with either, as I would not know how to get along without my trade magazine. Each succeeding number is better than the one before it. I am a charter subscriber.

I would like to ask a question for the brother craftsmen to answer through the columns of the AMERICAN CARPENTER AND BUILDER. It is this: How to remove stains from any hardwood polished floor? And here is another: How to remedy a door that is warped or twisted and hangs away at top or bottom? Still another: Where can red gum and Circassian walnut be bought? What is the price of each? Where does it grow?

I like the correspondence column very much and am waiting to hear from the gentlemen from Florida.

W. E. WARE.

**Working Conditions in Florida**

To the Editor:

Leesburg, Fla.

In answer to John Holliday's question regarding conditions in Florida, would say: Yes, we work all the year around; and it is the finest climate in the world to work all the year round in, and builders work steady if they want to. Wages are from \$2.50 to \$3.60 per day, and the hours are from 8 to 10 hours per day, according to the location. In the large cities usually 8 hours is a day's work; but in small towns 9 and 10 hours are worked.

W. M. TRUNNELL,  
Contractor and Builder.

**How Long to Cut the Ridge Piece**

To the Editor:

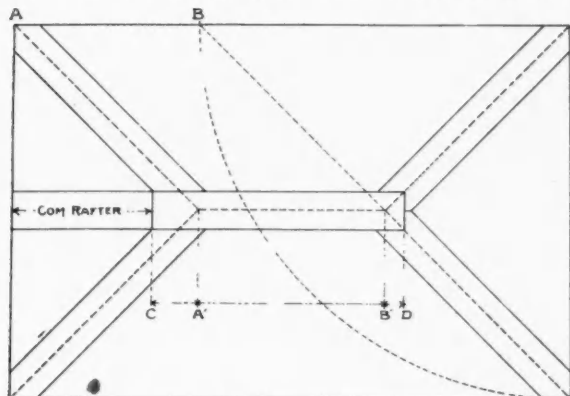
Gibbon, Nebr.

In cutting the ridge of a hip roof, should the ridge be the exact length of the difference between the length and width of the building, or should  $\frac{3}{4}$  of an inch be added on each end?

FRANK CHAMBERS.

Answer: Assuming that the pitch is the same on all sides, the length of the ridge piece between the center line of the hips where they intersect the ridge line should equal the difference in the length and width of the building, as shown in the illustration, as at A B; but since the hips cannot run to the center line of the building on account of the space

that the ridge occupies, it is necessary that it (the ridge) be cut longer than shown at A B. The extra length should be the diagonal (45 degrees) of the hips' thickness, plus the thickness of the ridge piece. This should be equally di-



Length of Ridge Piece Determined by Method of Framing

vided at each end and beveled to coincide with the roof pitch. This distance at each end is equal to C A'. Or if it is desired to let the center line on the back of the hip intersect the corner of the ridge piece, then the amount to add should equal the thickness of the ridge piece, one-half of which at each end, is shown at B' D.

This, of course, requires deductions in the length of the rafters as follows:

For the common rafter, measure square back from the plumb cut one-half the thickness of the ridge piece. Proceed the same for the hip, but measure back one-half the diagonal thickness of the ridge.

A. W. WOODS.

**He Sends in Two**

To the Editor: Ashley, N. D.  
As per your suggestion for the brother chips to chip in their pick ups, I am sending two.

Fig. 1 shows a simple method for obtaining the side cut for either a hip, jack or valley rafter.

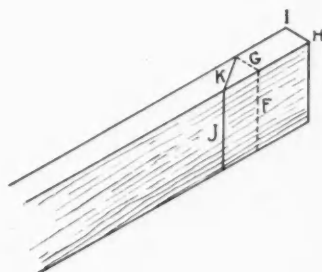


FIG. 1.

First draw the plumb cut (F) on the face of the rafter. Parallel to the plumb cut, at a distance equal to H I (thickness of the rafter) draw J. Draw G square across the top edge of the rafter. Draw K intersecting J and G; K gives the side cut.

This gives the side cut for the above named rafters for square - cornered buildings having roofs of equal pitches, but will not apply to any other kind.

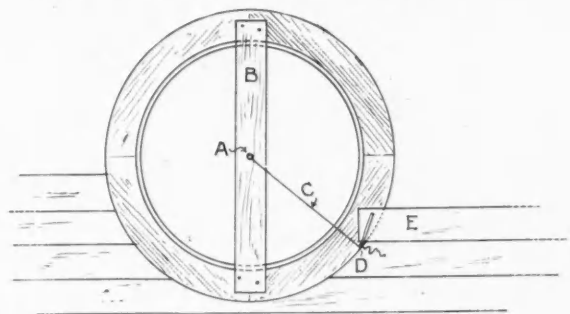


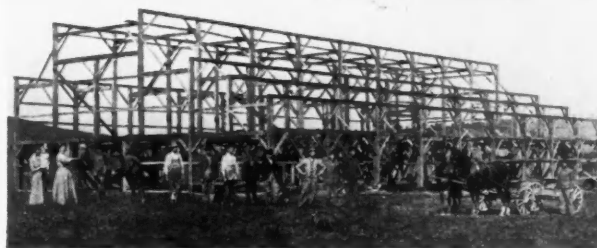
FIG. 2.

In Fig. 2 is shown an easy way for fitting siding against a round window frame. B is a board nailed across frame in a position on which the center may be located. In the center drive the nail A; securing to same the string C by means of a loop. The lead pencil D is tied to the string so that its point will exactly trace around outer edge of casing. A siding board placed as at E may be readily marked so that when sawed it will fit exactly. The same method may be used on a Gothic top frame. The centers, of course, being at the point from which the Gothic casing is formed.

CHAS. J. MOORE.

**Your Wish will be Realized**

To the Editor: Athens, Ohio.  
Find enclosed picture of another barn I have built near here. This one is 54 by 108 feet. I would like to see this published.



The AMERICAN CARPENTER AND BUILDER is the best building paper I have ever seen. I wish it a long life.

GEO. C. BOLES.  
General Contracting and Building.

**A Friendly Feeling Which We Reciprocate**

To the Editor: Gualala, Calif.  
I am sending you herewith a picture showing some of my recent work. Many of the ideas I received from the AMERICAN CARPENTER AND BUILDER and from your books.



I have not yet received my September number. Be sure and get it to me, as I and my paper are the best of friends.

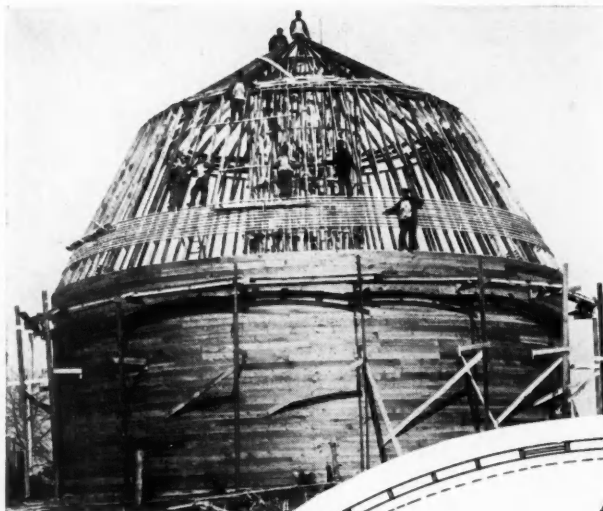
BRUCE E. DAKE.

**Offer Acoustical Help**

To the Editor: Seattle, Wash.  
In your October issue, one of your correspondents, Mr. H. Woodsock, Spokane, Wash., asked for information regarding acoustical defects in a church which he built. Our Company have been very successful in remedying defects in acoustics in a number of buildings and would be glad to confer with any one who experiences difficulties along these lines.

H. W. JOHNS-MANVILLE COMPANY.  
JNO. F. MATTHEWS, Mgr. Acoustic Dept.

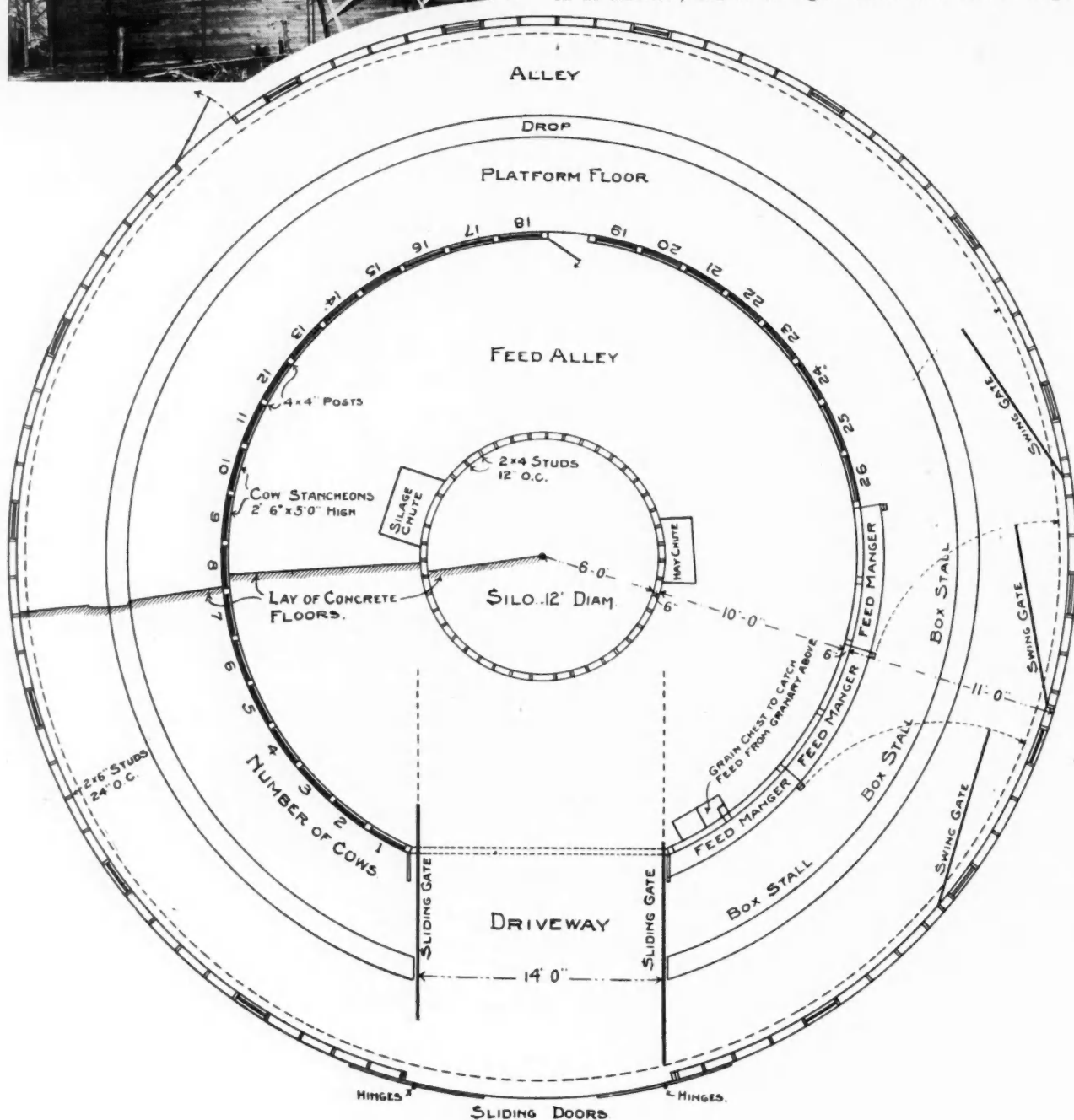
**Large Round Dairy Barn**



To the Editor: Strawberry Point, Iowa.  
 I am a charter member of the AMERICAN CARPENTER AND BUILDER, having been a subscriber since it started. I enjoy the correspondence column, to read what the brother craftsmen have to say; so I will send herewith some views of a barn which I built this year. It is, as you will see, round in construction.

This barn is a novelty in some respects. It always brings forth the question, "is it any good?" People come here from miles and miles around to look at this building; and after inspecting it they pronounce it all right; for it is convenient and handy.

This barn is 56 ft. in diameter; is designed for a dairy barn and is used for such. In the center it contains a silo, 12 ft. in diameter, and 46 ft. high. The first 8 feet in height



**FLOOR PLAN OF DAIRY BARN.**

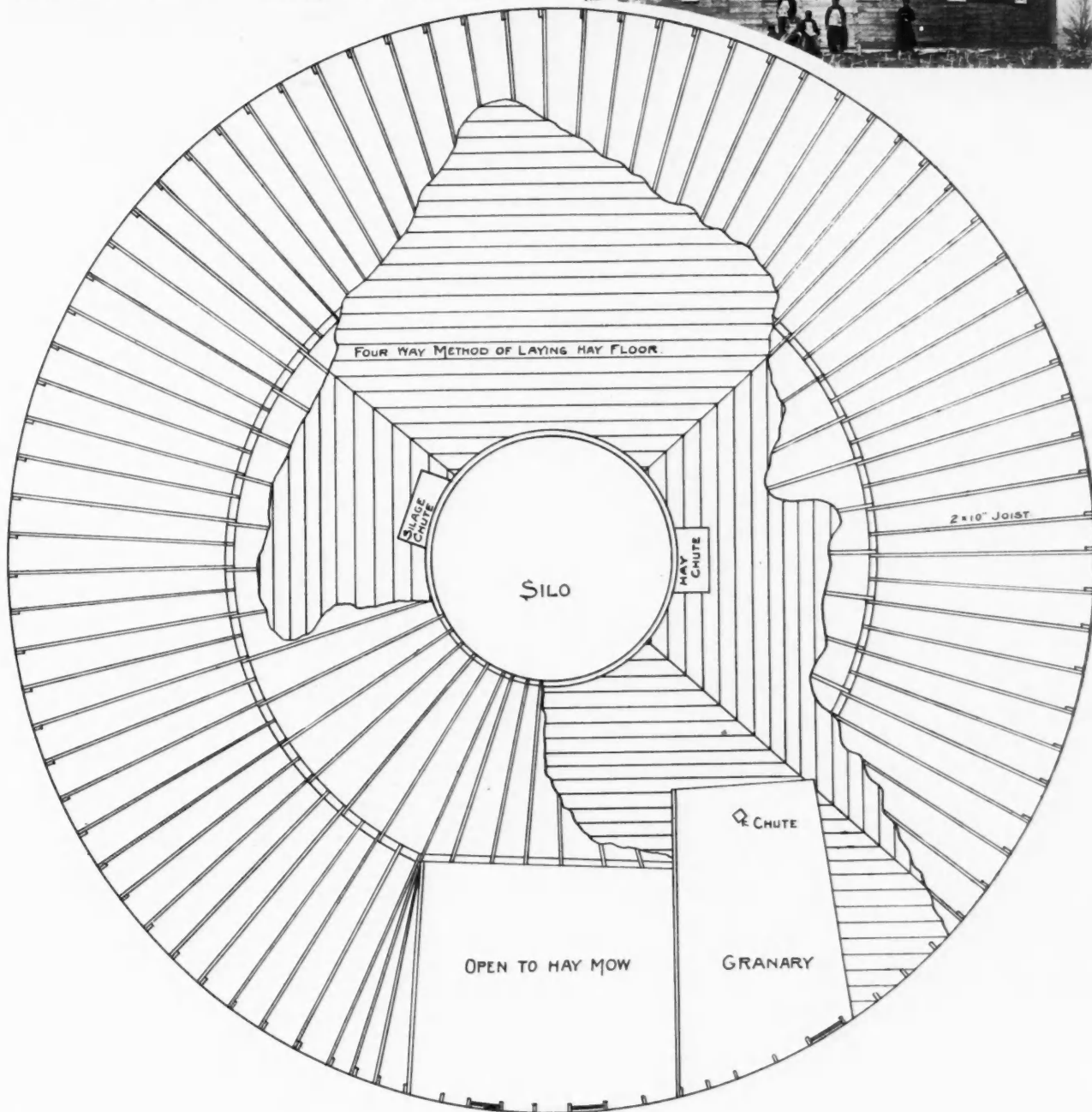
G. E. GRATKE, ARCHT

of balance of barn is to accommodate 28 cows, the rest of room is for calves. The cows stand in circle form, heads toward center, which makes a short feed alley. For cleaning out the barn back of the cows there is plenty of room to drive in with manure spreader, and haul the manure out in the field. Over head in hay mow is ample room for hay and straw. The owner thinks he has enough feed in the barn to last till spring.

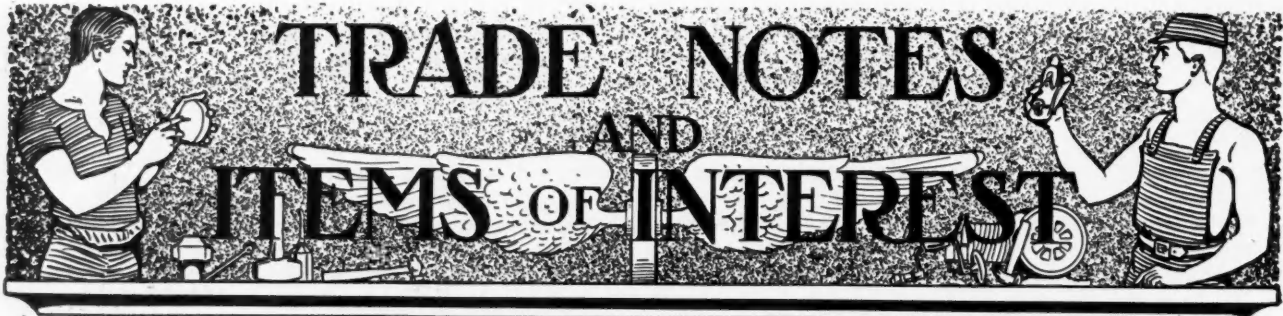
The plans and specifications of this barn I prepared myself, so if any Brother Craft likes I can supply a copy.

G. E. GRATKE.

I wish to express my high appreciation of your Radford's "Details of Building Construction." It certainly meets the needs of the builder. It came just in time for me. I found just what I wanted—all so plain, yet up-to-date. It certainly will be appreciated. The AMERICAN CARPENTER AND BUILDER gets better all the time. W. D. McBRIDE. Corpus Christi, Texas.



PLAN OF HAY FLOOR



## Final Solution of the Water Supply System

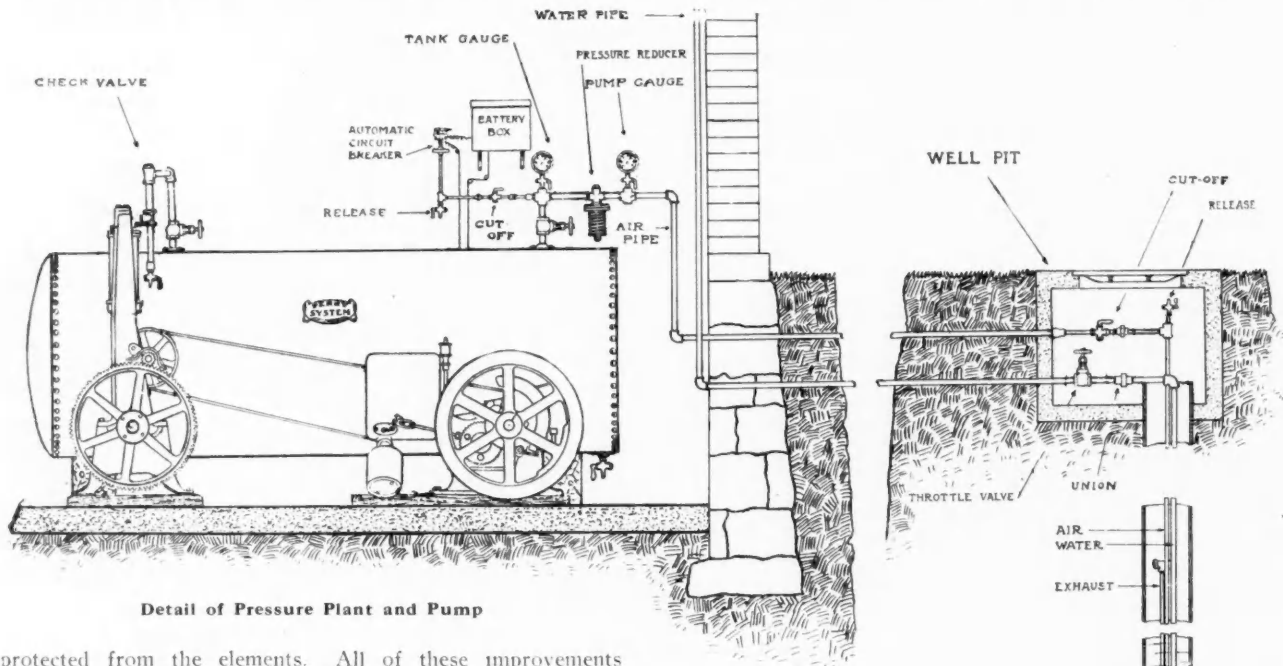
By Geo. C. Huppertz

The water supply problem has always been one of vital importance to people who build outside of the area supplied by municipal water works; yet it appears that the attention of engineers and inventors has been turned in other directions, and those that have occupied themselves with the domestic water supply problem have not left the beaten track very far and have made, comparatively, little advancement.

The advancements made in the field of domestic water supply all hinge on the ancient idea of storing water in a tank. First—an open tank placed on an elevation, or tower, outside of the buildings; then for better protection against freezing, the idea of the attic tanks was devised. Next came the idea of the pressure storage tank, which of late years has been very largely used because it could be placed in the basement of a house, or buried in the ground, and be thus

protected from the elements. All of these improvements merely contemplated the construction of new forms of storage tanks, their location, and changes in the method of filling them.

Mr. Thomas O. Perry, a well known Chicago inventor, spent many years of study on this problem. In his opinion, the solution did not lie in improving old methods, in arranging a new way to construct a storage tank, or in locating it where it would be less liable to suffer from exposure. Having been raised on a farm, he knew that water stored in a tank becomes impure in a very short time, and in order to obtain water fit to drink, it had to be drawn direct from its source. To accomplish this, he found it necessary to abandon all old methods and establish an entirely new principle—viz.: "To store the power instead of the water." This meant the invention of a pump that would automatically deliver water direct from the source whenever a faucet was opened. He succeeded in designing a two cylinder pneumatic pump which when submerged in the water would fill by gravity and from which the water could be forced by the direct action of the compressed air. A pressure of air necessary to raise the water to the desired height is at all times applied directly upon the water in one or the other of the cylinders. The cylinders of the pump discharge directly into the service pipes, there being no intermediate storage tank between the pump and the fixtures. When an outlet for water is provided by opening a faucet, the pump automatically starts to operate and will continue to operate until all faucets are closed.



Detail of Pressure Plant and Pump

protected from the elements. All of these improvements merely contemplated the construction of new forms of storage tanks, their location, and changes in the method of filling them.

Mr. Thomas O. Perry, a well known Chicago inventor, spent many years of study on this problem. In his opinion, the solution did not lie in improving old methods, in arranging a new way to construct a storage tank, or in locating it where it would be less liable to suffer from exposure. Having been raised on a farm, he knew that water stored in a tank becomes impure in a very short time, and in order to obtain water fit to drink, it had to be drawn direct from its source. To accomplish this, he found it necessary to abandon all old methods and establish an entirely new principle—viz.: "To store the power instead of the water." This meant the

The piping lay-out for a Perry System is very simple, requiring merely an air pipe leading from the storage tank to each pump, and a water pipe to connect the pumps to the plumbing fixtures. The pipes, of course, will vary in diameter according to their length and the volume of water to be delivered. Where hot water is desired the heater is installed in the same way that it would be connected to a municipal water supply.

Pump in Well or Cistern





## Where the Big Bargains Come From

Out from these great concrete warehouses come the greatest millwork and lumber bargains that the American market affords.

Our whole business revolves around the bargain idea. The present building season finds us better equipped than ever before to save money for contractors and builders. You will be amazed to see the big reductions on staple millwork and lumber of highest guaranteed quality.

### New Bargain Catalog Ready

This catalog is in itself an immense exhibit of the finest building material on the market. It offers an almost unlimited variety of the latest styles in millwork of every description. Doors in all regular sizes and in scores of new and beautiful patterns and in various woods—veneered doors in Colonial, Mission, Craftsman and other popular styles—art glass doors in exquisite designs and colors—doors for every purpose. Windows to correspond with every style of door. Mouldings, inside finish, flooring, mantels, stair and porch material—everything that goes into any home, down to the very last detail. A bargain price and a guarantee of quality, safe delivery and satisfaction on every item. Send for the catalog and see for yourself.

### New Plan Books—Sent Free

The new Gordon-Van Tine Book of Plans, prepared at a cost of over \$5,000, is now ready for free distribution to carpenters and contractors. A complete and practical work that gives 32 designs for city, suburban and country residences, cottages and bungalows costing from \$600 to \$6,000. Also 12 plans for barn, dairy and cattle barns and other outbuildings. This book keeps cost within original estimates, for every plan has been proved again and again by actual construction.

The Plan Book will be mailed free on receipt of 10 cents in stamps or a dime to cover cost of packing and mailing.

### You Are Invited to Visit Our Vast New Millwork and Lumber Plant

Although we conduct our business entirely by mail, we like to have carpenters and contractors visit our plant. Hundreds of them do this every year. Our warehouse is the busiest place in Iowa. Come and see us loading 22 cars at a time from our loading platforms, extending the entire length of the plant. Meet personally the men who stand behind this gigantic enterprise. The latch string is always out.

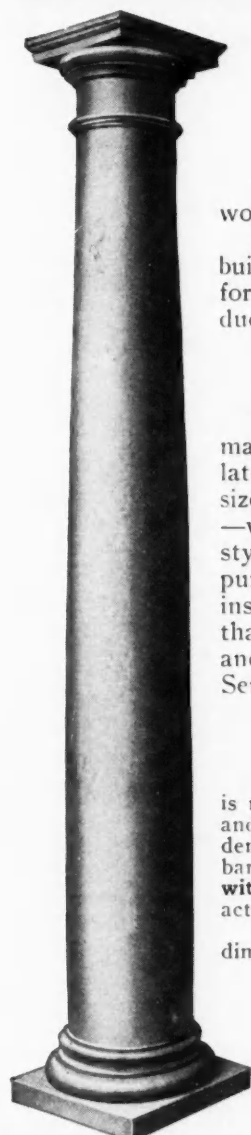
### We Can Save You Hundreds of Dollars This Season

Why pay middlemen's double prices for millwork, lumber and other building material? Save several hundred dollars this season by buying at net wholesale prices direct from (167)

## GORDON-VAN TINE COMPANY

595 Federal Street

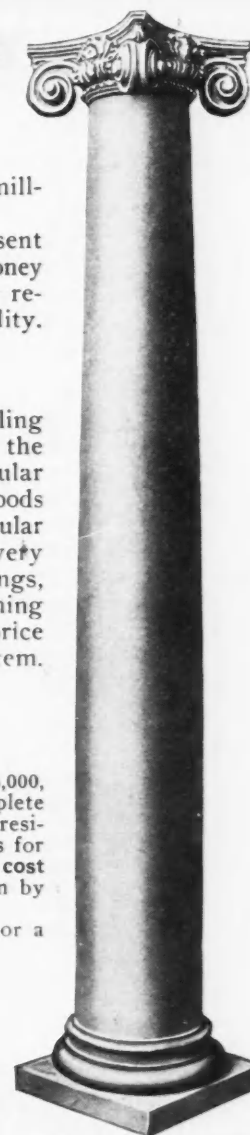
Davenport, Iowa



No. E 322—Colonial Built-up Column; Cypress, Plain Cap.

**\$163**

Dealer's Price, \$3.25



No. E 323—Colonial Built-up Column; Cypress, Fancy Cap.

**\$222**

Dealer's Price, \$4.75

|               |         |                     |
|---------------|---------|---------------------|
| COMMON        | RAFTERS | LENGTH PER FOOT RUN |
| HIP OR VALLEY |         |                     |
| JACK RAFTERS  | 12°     | 17.32               |
| JACK RAFTERS  | 15°     | 17.32               |
| JACK RAFTERS  | 18°     | 17.32               |
| JACK RAFTERS  | 21°     | 17.32               |
| JACK RAFTERS  | 24°     | 17.32               |
| JACK RAFTERS  | 27°     | 17.32               |
| JACK RAFTERS  | 30°     | 17.32               |
| JACK RAFTERS  | 33°     | 17.32               |
| JACK RAFTERS  | 36°     | 17.32               |
| JACK RAFTERS  | 39°     | 17.32               |
| JACK RAFTERS  | 42°     | 17.32               |
| JACK RAFTERS  | 45°     | 17.32               |
| JACK RAFTERS  | 48°     | 17.32               |
| JACK RAFTERS  | 51°     | 17.32               |
| JACK RAFTERS  | 54°     | 17.32               |
| JACK RAFTERS  | 57°     | 17.32               |
| JACK RAFTERS  | 60°     | 17.32               |
| JACK RAFTERS  | 63°     | 17.32               |
| JACK RAFTERS  | 66°     | 17.32               |
| JACK RAFTERS  | 69°     | 17.32               |
| JACK RAFTERS  | 72°     | 17.32               |
| JACK RAFTERS  | 75°     | 17.32               |
| JACK RAFTERS  | 78°     | 17.32               |
| JACK RAFTERS  | 81°     | 17.32               |
| JACK RAFTERS  | 84°     | 17.32               |
| JACK RAFTERS  | 87°     | 17.32               |
| JACK RAFTERS  | 90°     | 17.32               |
| JACK RAFTERS  | 93°     | 17.32               |
| JACK RAFTERS  | 96°     | 17.32               |
| JACK RAFTERS  | 99°     | 17.32               |
| JACK RAFTERS  | 102°    | 17.32               |
| JACK RAFTERS  | 105°    | 17.32               |
| JACK RAFTERS  | 108°    | 17.32               |
| JACK RAFTERS  | 111°    | 17.32               |
| JACK RAFTERS  | 114°    | 17.32               |
| JACK RAFTERS  | 117°    | 17.32               |
| JACK RAFTERS  | 120°    | 17.32               |
| JACK RAFTERS  | 123°    | 17.32               |
| JACK RAFTERS  | 126°    | 17.32               |
| JACK RAFTERS  | 129°    | 17.32               |
| JACK RAFTERS  | 132°    | 17.32               |
| JACK RAFTERS  | 135°    | 17.32               |
| JACK RAFTERS  | 138°    | 17.32               |
| JACK RAFTERS  | 141°    | 17.32               |
| JACK RAFTERS  | 144°    | 17.32               |
| JACK RAFTERS  | 147°    | 17.32               |
| JACK RAFTERS  | 150°    | 17.32               |
| JACK RAFTERS  | 153°    | 17.32               |
| JACK RAFTERS  | 156°    | 17.32               |
| JACK RAFTERS  | 159°    | 17.32               |
| JACK RAFTERS  | 162°    | 17.32               |
| JACK RAFTERS  | 165°    | 17.32               |
| JACK RAFTERS  | 168°    | 17.32               |
| JACK RAFTERS  | 171°    | 17.32               |
| JACK RAFTERS  | 174°    | 17.32               |
| JACK RAFTERS  | 177°    | 17.32               |
| JACK RAFTERS  | 180°    | 17.32               |



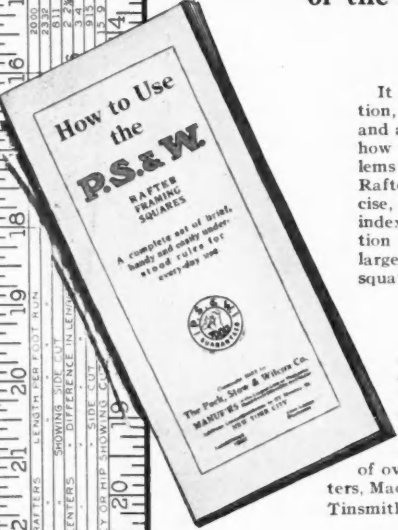
**With the P. S. & W. Rafter Square and Book You Can Solve Any Roof-Problem**

**YOU** get all the lengths of common, hip, jack and valley rafters quickly and easily from the figures on the face of the square, as well as all the necessary cuts.

P. S. & W. Rafter-Framing Squares are made in many different styles and finishes and like every item in our large line of Guaranteed Tools for Carpenters are all branded with

**The MARK of the MAKER**

**This free book makes the use of the Rafter-Framing Square easy**



It gives accurate information, illustrations, diagrams and actual examples showing how to work out roof-problems with the P. S. & W. Rafter Square. Simple, concise, carefully arranged, fully indexed. Complete description and price list of our large line of guaranteed steel squares sent free.

We will also gladly send you a free copy of our "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 Correspondence **22 Murray St., N. Y. City**  
 Established 1819 **Five Large Factories**

It was found necessary to construct a compressor of special design to prevent the admission of oil into the air tank, which under pressure, forms a gas that when coming in contact with the water, causes it to taste badly and become impure, thus defeating the purpose of the system. The Perry Air Compressor is single acting, two or four cylinder type, slow speed and back geared. This means the minimum consumption of power, and prevents, to a great extent, the generation of heat which causes a loss of efficiency.

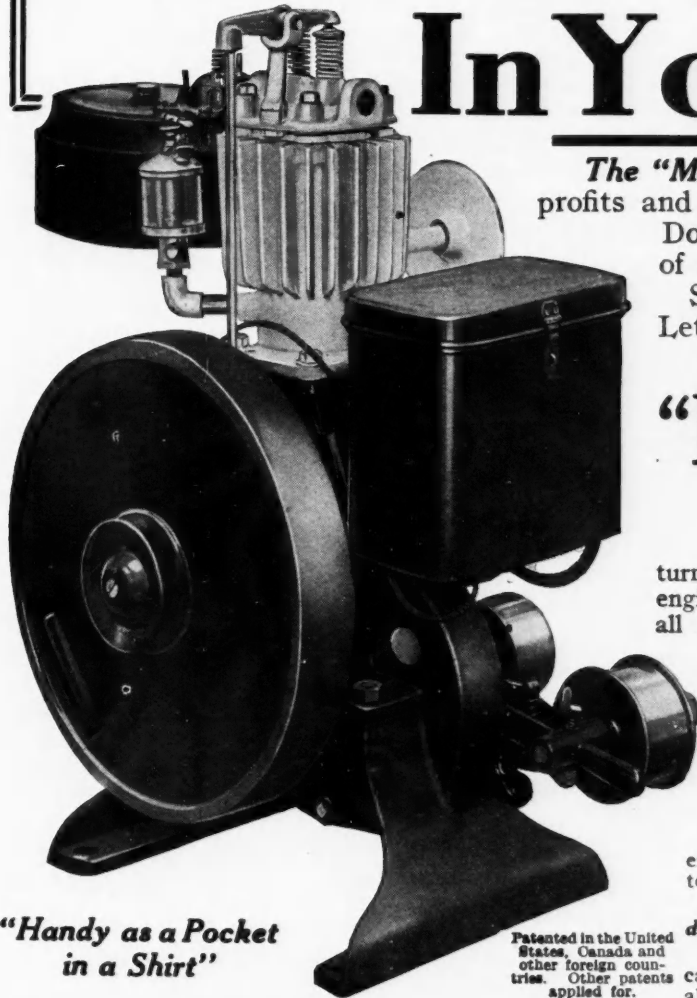
While the Perry pump possesses the distinctive feature of delivering water direct from the source of supply to the faucets, this is by no means its only advantage. The elasticity of the Perry System is a very important and desirable feature. With the older methods of employing storage tanks, where water from a well and a system both is desired, two separate tanks were required, in fact, frequently two separate and complete systems had to be installed. With the Perry System it is only necessary to provide an extra Perry pump for each kind of water required. Thus water may be drawn from any number of sources, such as well and cistern for household use, lake, spring or river for sprinkling and general domestic use. The motive power, air compressor and air storage tank may be placed wherever desired, without regard to the depth of, or distance to, the sources of supply, and without considering the number of, or the relative position of the several sources from which water is to be drawn, or buildings to be supplied. Very seldom the equipment for a Perry Water System will occupy a floor space of more than 100 sq. ft., and the fact that it can be located anywhere, generally saves the purchaser the expense of a special pump house. This is usually an important item. Frequently, the motive power, air compressor and air tank are installed in the basement of the residence, but usually they are placed in the garage, or other out-building. The garage is the most convenient place, as compressed air can be used for charging automobile tires, cleaning the carbon out of engine cylinders, etc. As there is no storage of water, the building in which the equipment is housed need not be frost proof.

The Perry System has a decided advantage in the matter of power, as the air may be compressed at any desired intervals, using the larger power for a short time, to compress the air quickly, or smaller power, by operating over longer periods, and compressing the air more slowly. Thus it can be seen that the air compressing equipment can be easily added to any existing power installation. The amount of pressure necessary depends, of course, upon the height to which water is to be raised, but the storage of air is governed by the amount of water used and the facilities for compressing it. For instance—a 500 gal. air tank charged to a pressure of 100 lbs., will deliver approximately 1000 gals. of water to a height of 50 ft. For an average family of five people, using 300 gals. a day, this tank of air will last three days. The time required to charge the tank to a pressure of 100 lbs. would be from one to one and a half hours, according to the power applied. When electric current is available a much smaller air tank may be used, as an automatic electric controller can be added to the equipment to start the motor, when the pressure is used down to a given point, and stop it when the highest desired pressure is reached. Over three thousand



**Perry Pneumatic Pump**

# 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!

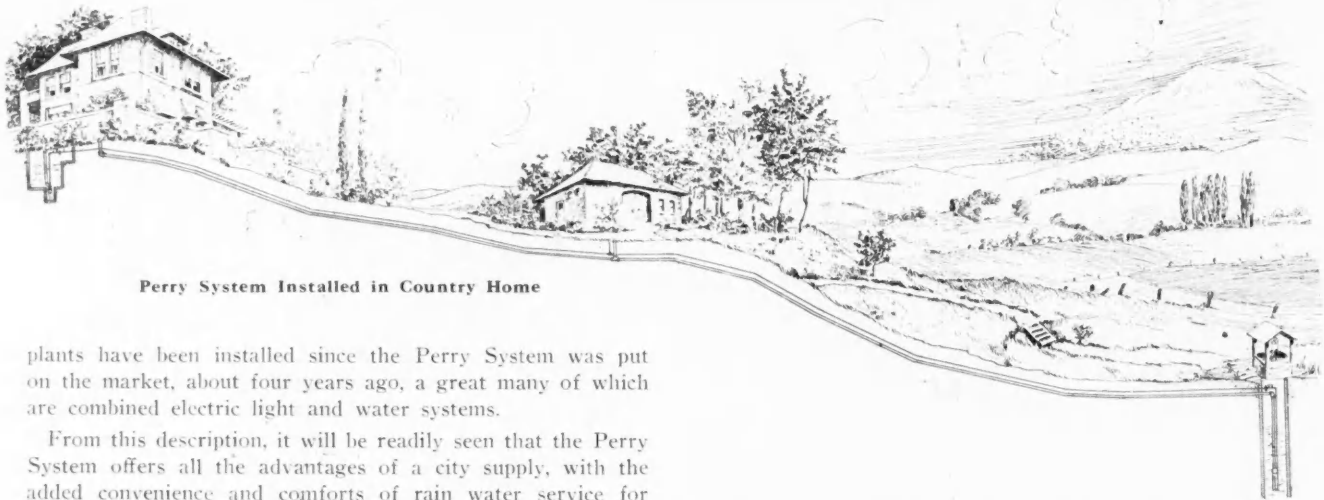
Book, giving full information about "Multimotor" and Farm Pump Engine, sent FREE on request. Let us tell you more about these amazing little power-producers. Let us send you the name of the nearest dealer, who will show you the engine and *explain* what it can do. (264)

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.** 12 Ames Street (Established 1840) **Madison, Wis., U. S. A.**



Perry System Installed in Country Home

plants have been installed since the Perry System was put on the market, about four years ago, a great many of which are combined electric light and water systems.

From this description, it will be readily seen that the Perry System offers all the advantages of a city supply, with the added convenience and comforts of rain water service for bath and laundry, and the very desirable feature of being able to obtain water pure, cool and direct from a deep well. Detailed descriptions, new plans and comprehensive lay-outs are furnished by an interesting series of pamphlets and books, which can be obtained upon request from the United Pump & Power Company, 495 Old Colony Bldg., Chicago, Illinois. Mention the AMERICAN CARPENTER AND BUILDER in your request.

#### "Specifications for Setting Tile"

The Associated Tile Manufacturers have issued a handy size little booklet giving complete specifications and recommended practice for setting tile, both floor tiling and wall

tiling, as in bath rooms, kitchens, vestibules, etc. It is fully illustrated with line drawings. This book will be sent free of charge to any of our readers, writing for it. Address, Secretary Associated Tile Manufacturers, Beaver Falls, Pa.

#### Niagara Falls Metal Stamping Works Make Addition

The Niagara Falls Metal Stamping Works, Niagara Falls, N. Y., U. S. A., have completed their addition to factory. At the request of some of their employees, who have been for years with the firm, a two-story flat building is being erected in the rear of the property to accommodate from four to six families.



## The Life of a Roof Depends On the Nail

**T**HEN why hesitate over the Nails? Insist on the SIMPLEX with its large head. Roofing Nails are for paper, not metal, and an ample sized head is required.

The life of a roof, and the reputation of the roofing manufacturer and the dealer are all hanging on the question—has sufficient nail head surface been secured? The very nature of prepared roofing demands a nail with a large head. If the roofing were wood or metal, a small head would answer, but being made of a substance that tears readily it is vitally important to have a head with a large area. When ordering smooth surface roofing, insist on SIMPLEX NAILS. Shipped in cans (marked

TRADE MARK  
**SIMPLEX**) in prepared roofing, store stock in 100 lb. kegs.  
REGISTERED

### H. B. SHERMAN MFG. CO.

Battle Creek, Mich.

Manufacturers

# DOLLARS SAVED

# UNDERFEED

## HEATING WAY

### Send for Free Catalog

ARCHITECTS and Builders are vitally interested in the *proper* heating of structures of their planning and construction. The right finishing touch for comfort and economy—CLEAN, EVEN heat at LEAST cost—is provided by the Underfeed Heating Systems. Securities of undoubted worth that pay 5% interest are rated profitable investments. What *small* return that seems in comparison with the profits insured by an Underfeed heating system investment! Of every dollar now spent for coal in heating the

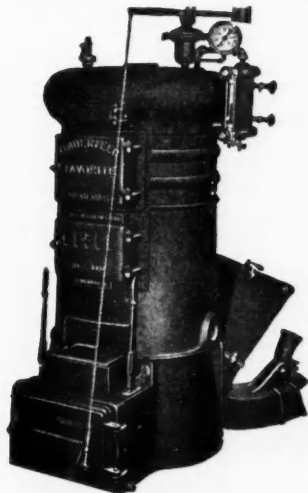
old-fashioned way, 50% to 66 $\frac{2}{3}$ % can be *saved* by installing the UNDERFEED system—coal-fed-from-below and all-fire-on-top. The tremendous *every-winter* coal waste—smoke and gases, which result from the usual coal-burning way, means *needless* waste. By the Underfeed plan these *generally wasted* elements must pass through the fire, are consumed and converted into heat units. A combination of this rational plan and the use of the *cheapest* coal insures a *tremendous* saving.

## 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



Pea and buckwheat sizes of hard and soft coal and *cheapest* slack, which would *smother* fire in other heaters, yield in the Underfeed as much *clean, even* heat as *highest* priced coal. The few ashes are removed by shaking the grate bar as in ordinary furnaces and boilers.

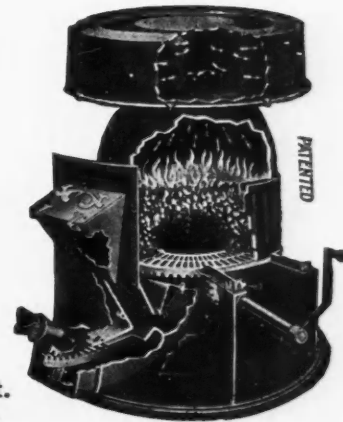
Adapted to all buildings, large or small, Underfeed heating systems ADD to the renting or selling value of *any* building.

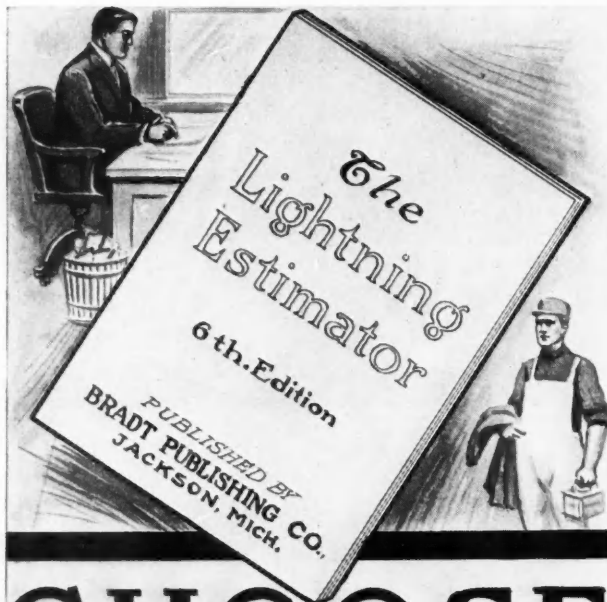
J. L. Wilcox, of Green Bay, Wis., writes: "I have used the Underfeed for five years, and heated my whole house throughout. My season's coal bills of from \$42 to \$47 have been *less* to heat eleven rooms than it once cost me to heat only *part* of my house. I consider it the best and most economical furnace."

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 Winter Sales Proposition. Write TODAY.

THE 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.





## CHOOSE

**I**T'S up to you to be the man at the top instead of the man with the dinner pail.

Don't hesitate to grasp this opportunity to win success, for there's always room at the top for the man who knows how.

### The LIGHTNING ESTIMATOR

stops worry, lying awake nights, over or under estimating and guessing—in fact, by showing you how to estimate the cost correctly, it spells the word **\$ucce\$\$** for you. Don't do yourself an injustice by passing up the greatest opportunity ever offered to Carpenter, Contractor or Builder.

### The New Sixth Edition of the LIGHTNING ESTIMATOR

will teach you: How much time and material involved in each part of your work; how to figure on unfamiliar work; how to estimate quickly and correctly on a large job; how to estimate on time, material and prices in all parts of the country.

This Book is written by a man who has made good in this profession, and is based on hard, solid facts, secured by the knocks of experience, making it an invaluable guide to any one engaged in or those about to enter the building business.

If you are just starting out, here is your chance to get a firm foot hold. If you are an old timer and getting a little behind the times, here's your chance to brighten up and get some new ideas.

This Edition is bound in cloth, profusely illustrated—a feature not found in other books of this kind. The price, \$1.00. Don't delay. Send for it **today**.

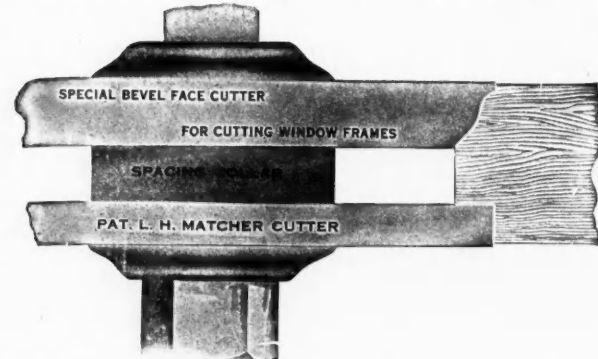
**BRADT PUBLISHING CO.**

1260 Michigan Avenue

JACKSON, MICH.

### New Huther Cutting Heads

The patent groover or dado heads made by Huther Bros. Saw Manufacturing Company, 1000 University Ave., Rochester,



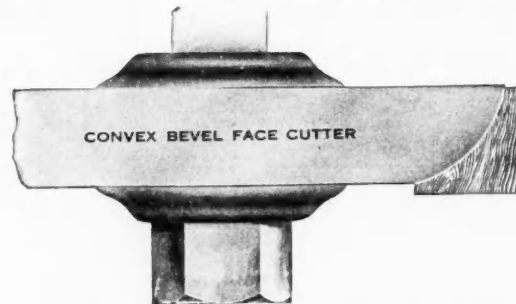
N. Y., have become well and favorably known to all users of woodworking machinery. These heads can be used on any circular saw mandrel and special heads are obtainable for turning out every kind of special work.

Three new heads have recently been added to this already extensive line that are of especial interest to carpenters and



contractors. It is pointed out that those who have portable saw-rigs can use these heads for cutting out their trim, right on the job. The Huther Bros. heads cut either way of the grain and are made to fit any sized mandrel.

This company issue a very interesting catalog, illustrating and describing their complete line of circular saws, patent dado heads, special saws of all kinds and saw dressers' tools. It is a revelation to many, who are not familiar with the



modern uses of groovers and dado heads, to look through this catalog and see the range of work turned out by them. This catalog will be sent free of charge to any of our readers who will write for it.

### Cow vs. Milkman

A Philadelphia lawyer maintains an admirable stock-farm on the outskirts of the Quaker City. One day last summer some poor children were permitted to go over this farm, and when their inspection was done, each of them was given a glass of milk.

The milk came from a \$2,500 cow.

"How do you like it, boys?" asked an attendant, when the little fellows had drained their glasses.

"Fine! Fine!" said one youngster with a grin of approval.

Then, after a pause, he added:

"I wisht our milkman kept a cow."—*Harper's Magazine*.

*"Holland Furnaces Make Warm Friends"*



# Holland Service

Direct to You

Mr. Architect, Mr. Contractor, Mr. Builder  
Explains Why



**T**HE HOLLAND  
Furnace has a repu-  
tation second to none

*For Fuel Economy  
Cleanliness  
Simplicity and  
Durability*

We furnish detailed plans  
for proper installation—  
detailed list of Fittings and  
cost—without cost or ob-  
ligation to you. Send us  
your floor plans or write for  
"Holland Service."

**HOLLAND  
FURNACE  
COMPANY**

HOLLAND, MICHIGAN

### Paint Makers Meet in Chicago

**National Association of Manufacturers Elects Officers—  
Will Meet Next Year in Washington, D. C.**

The Paint Manufacturers' Association of the United States ended its two day annual meeting Oct. 19 at the Hotel Sherman, Chicago, with the election of officers.

E. T. Trigg of Philadelphia was elected president, Z. E. Martin of Chicago first vice president, E. D. Dyer of St. Louis second vice president, G. B. Heckel of Philadelphia, secretary, and S. L. Sulzberger, of Chicago, treasurer. The next annual gathering will be in Washington, D. C. Papers read before the convention were devoted to technical subjects pertaining to paint manufacturing.

### Iowa Architects Meet

**Chapter of American Institute Elects Officers at  
Ottumwa**

Ottumwa, Iowa, Nov. 11.—The Iowa chapter of the American Institute of Architects in annual convention here elected the following officers:

Frank E. Wetherell, Des Moines, president; H. E. Ratcluffe, Keokuk, vice president; Eugene H. Taylor, Cedar Rapids, secretary-treasurer; G. W. Bird, Des Moines, and G. M. Kerns, Ottumwa, members of executive committee. The next convention goes to Keokuk in order to bring the architects of the state together for an inspection of the Keokuk dam.

### Holland Service in a Nutshell

The Holland Furnace Company of Holland, Mich., have taken an advance stand on the "service" method of doing business as applied to heating furnaces, that is sure to win them many ardent friends among the readers of the AMERICAN CARPENTER AND BUILDER.

Their heating engineers have had thorough, actual experience of installing furnaces, and therefore, know how to make plans so plain and specific that any mechanic can follow them.

Full instructions for installing the complete system are supplied with each outfit and in their fitting department they cut in the collars, put in the dampers, supply adjustable pipe so that the desired length can be had without trouble; and the installer of a "Holland Furnace" supplied under their system will in nine cases out of ten not even have to use a pair of snips to cut any metal.

Hundreds of contractors and builders have been delighted to find how easy it is to install the "Holland Furnace" complete, supplied with "Holland Service" in 1911. They simply send floor plans and say which rooms are to be heated; then by return mail the Holland Furnace Company send heating plans and detailed specifications, showing just what each part costs delivered. It is then easy to name a price and to know actual profit for installing.

You, Mr. Contractor and Builder, can do a neater, better job, installing a "Holland Furnace" with "Holland Service" than the average tinner. Then why not have the profit.

Give Holland Service a trial and you will know why "Holland Furnaces Make Warm Friends."

Write to this company today for full information about their furnaces.



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 carpenters' rule in use for measuring inside window trim. No inside measurement can be taken with the old style rules.

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



This illustration shows a 5-foot MASTER SLIDE RULE with lower slide extended 2½ inches, which makes distance between the two extreme points of the rule 10½ inches as indicated by the arrow.

You will find that once using the

## 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 the name of your nearest hardware dealer.

Send 15c 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**





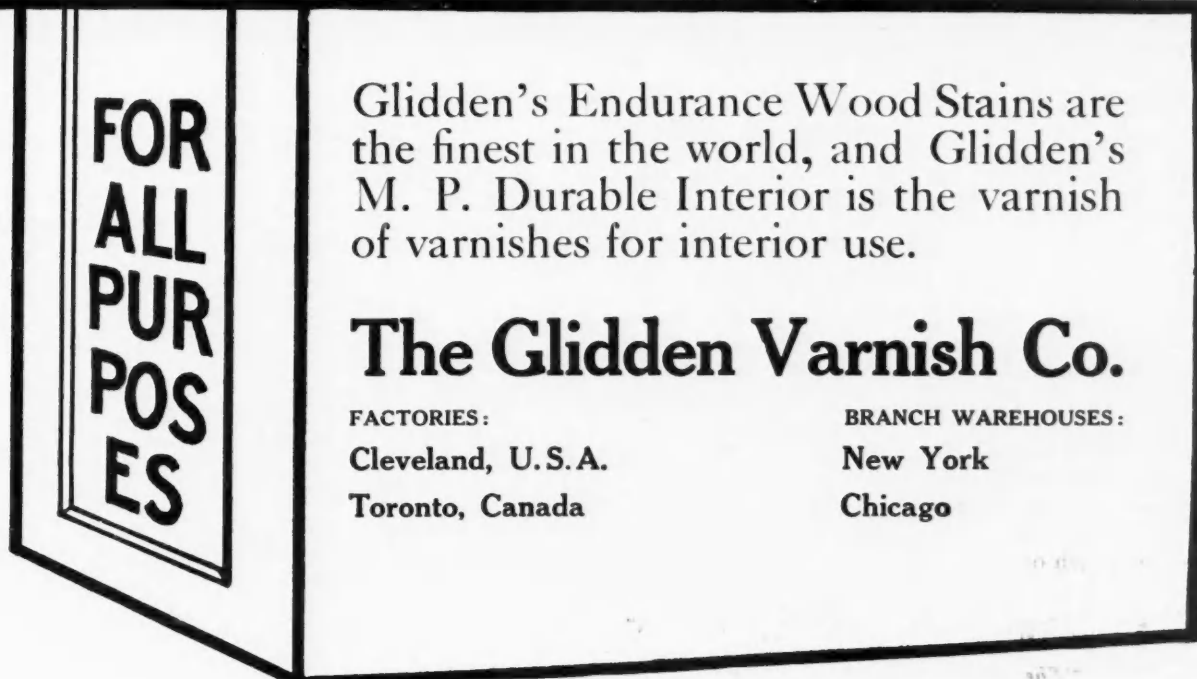
**IF  
YOU  
WANT  
THE  
BEST  
USE**

## To All Architects and Builders

At your request we will send you a beautiful panel frame showing Glidden's Endurance Wood Stains in fourteen different color effects, and the same stains varnished with our M. P. Durable Interior (Green Label Brand.)

# GLIDDEN'S

**GREEN LABEL VARNISHES**



**FOR  
ALL  
PUR  
POS  
ES**

Glidden's Endurance Wood Stains are the finest in the world, and Glidden's M. P. Durable Interior is the varnish of varnishes for interior use.

## The Glidden Varnish Co.

**FACTORIES:**

Cleveland, U.S.A.

Toronto, Canada

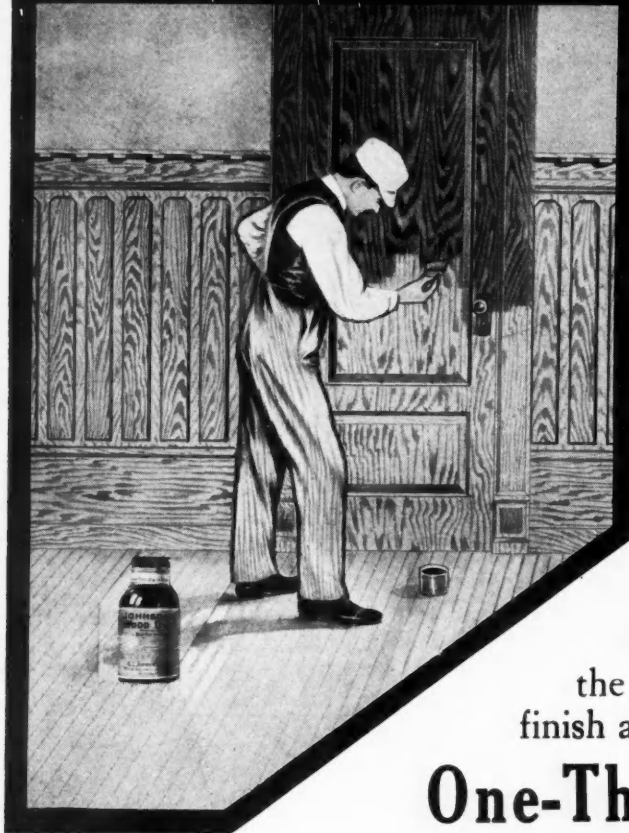
**BRANCH WAREHOUSES:**

New York

Chicago

# Try FREE Samples

# Johnson's FLAT WOOD FINISH



## Johnson's Flat Wood Finish

**A** LIQUID--an easy spreading preparation made especially for finishing interior woodwork of all new buildings, equally valuable for re-finishing old surfaces.

When applied with a brush, produces the soft, velvety effect of the hand rubbed finish at

### One-Third the Cost of Labor

It dries in an hour without the slightest suggestion of a gloss. One coat *thoroughly brushed* in is sufficient.

By use of Johnson's *Flat Wood Finish* you can make estimates on those artistic and expensive hand-rubbed effects and get away with the contract every time. What's more, you can guarantee perfect satisfaction, and besides

### Make a Good Substantial Profit for Yourself

A single gallon covers 500 square feet—the price, \$3.00 per gallon, places this extraordinary wood finish within reach of everyone.

**S. C. Johnson & Son, Racine, Wis.**

*"The Wood Finishing Authorities"*

### Painters, Decorators, Architects, Contractors

Get Liberal Samples Free

We want you to send for a free test can of Johnson's Flat Wood Finish and copy of Instruction Book (A. C. B. 12). Try it yourself and be convinced. Fill out coupon. We'll also send you artistically finished and convenient wood panel, finished with this new preparation, showing the beautiful effects possible with popular woods, when you use Johnson's Flat Wood Finish. All FREE—it doesn't cost a cent to try it and see.



# “The Proper Way”

to Treat Floors, Woodwork and Furniture—the only proper way

WITH Johnson's Wood Dye you can make inexpensive, soft woods, such as fir, pine, cypress, etc., look as beautiful and as artistic as the costliest of woods—not a mere stain, but a deep, fixed dye, giving a rich, permanent color not possible with ordinary “skin deep” stains—brings out the natural beauty of the wood in every case.

**Master Painters Say:** *“You Simply cannot go wrong when you use Johnson's Wood Dye”*

All painters, decorators, builders and contractors who have used Johnson's Wood Dye are agreed that it is far superior in soft color, deep staining qualities and lasting richness.

### Made In 15 Attractive Shades

- |                             |                             |
|-----------------------------|-----------------------------|
| No. 126 Light Oak           | No. 123 Dark Oak            |
| No. 122 Forest Green        | No. 172 Flemish Oak         |
| No. 131 Brown Weathered Oak | No. 132 Green Weathered Oak |
| No. 128 Light Mahogany      | No. 121 Moss Green          |
| No. 129 Dark Mahogany       | No. 110 Bog Oak             |
| No. 130 Weathered Oak       | No. 178 Brown Flemish Oak   |
| No. 125 Mission Oak         | No. 120 Fumed Oak           |
| No. 140 Early English       | Gallons, \$3.00.            |

S. C. Johnson & Son, Racine, Wis.

Get Two Test Cans and Specimen Panels

# FREE

Send the coupon—give numbers of the shades you want and we'll send you absolutely free samples of Johnson's Wood Dye. Also a copy of an interesting 48 page book, A. C. B. 12, in six colors, “The Proper Treatment for Floors, Woodwork and Furniture,” and a complete set of artistic panels showing what wonderfully beautiful effects are possible with this dye.

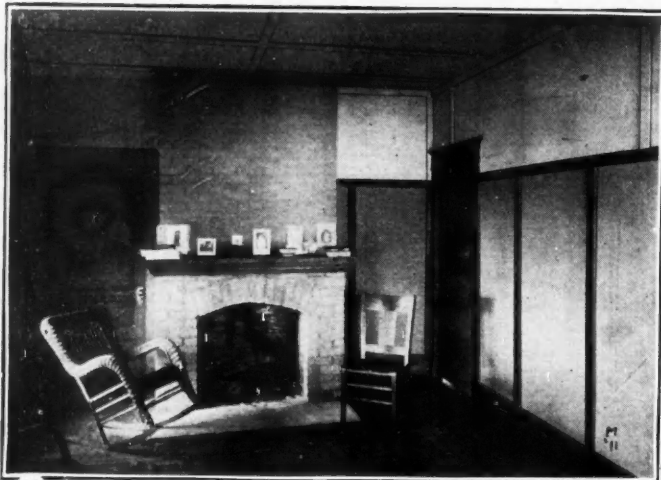
Send me samples of Johnson's Flat Wood Finish and Wood Dye Shade No. .... Also panels of wood finished with these two preparations and your 48 page book, A. C. B. 12, “The Proper Treatment for Floors, Woodwork and Furniture.” Mail coupon today.

**S. C. Johnson & Son,**  
Racine, Wis.

“The Wood Finishing Authorities”

Name .....

Town and State.....



## Just a Cozy Corner In a Summer Cottage

But it illustrates admirably the adaptability of Ideal Wall Board to interior finishing—

### Ideal Wall Board

is a fibrous, water-proofed board, made in convenient lengths and widths.

It is used instead of lath and plaster in new buildings or repair work and can be applied by any one who is handy with tools.

It is nailed right to the studs—is clean and easy to handle—is readily cut by a saw—fits any space and may be put on at any time, winter or summer—no waiting for plaster to dry—no dirt or muss—and less cost.

Ideal Wall Board is better than lath and plaster—it is warmer in winter and cooler in summer—makes a more handsome and more durable wall and costs less money—may be painted or decorated in any way desired.

If you are building a cottage, an extensive house, a garage, a church—any kind of a building—or if you are making over an old building—you can use **Ideal Wall Board**.

Write at once for sample and booklet.

**The Roberds Manufacturing Company**  
Marion, Indiana

### An Error Corrected

A great many of our readers have been interested in the article appearing on page 64 of our November number, illustrating and describing the Sharp Rotary Ash Receiving System. It has been brought to our attention that in one place in this article the address of the inventor, Dr. Warren M. Sharp, is given as Binghampton, Pa. It should, of course, have read, Binghampton, N. Y., Dr. Sharp's address being 500 Park Ave., that city. Our readers who are alive to good things for both themselves and their clients will write to Dr. Sharp at once for full information about his sanitary and labor-saving system for taking care of furnace ashes, garbage, etc.

### National Manufacturing Company

Sterling, Ill., gives promise of becoming a second New Britain, Conn. If present developments continue, and judging from the personality of the men that are back of these developments we feel entirely safe in predicting that they will, the time is coming when Sterling, Ill., will be the great builders' hardware center of the Middle West.

Without going into detail regarding the hardware interests in general that have grown up at Sterling, Ill., a single statement will serve to give the keynote to the whole situation—The National Manufacturing Company is located there.

Only ten years ago this company began business in the little two-story building seen at the extreme right in the illustration on page 78. The moving spirits in this organization, however, were practical experienced hardware manufacturers and something more; they were men of vision; they looked ahead and laid their plans; they looked into the future and saw the sure success in store for the hardware people bold enough, original enough and wise enough to *really start* something in builders' hardware.

They made good builders' hardware and they *didn't care who knew it*.

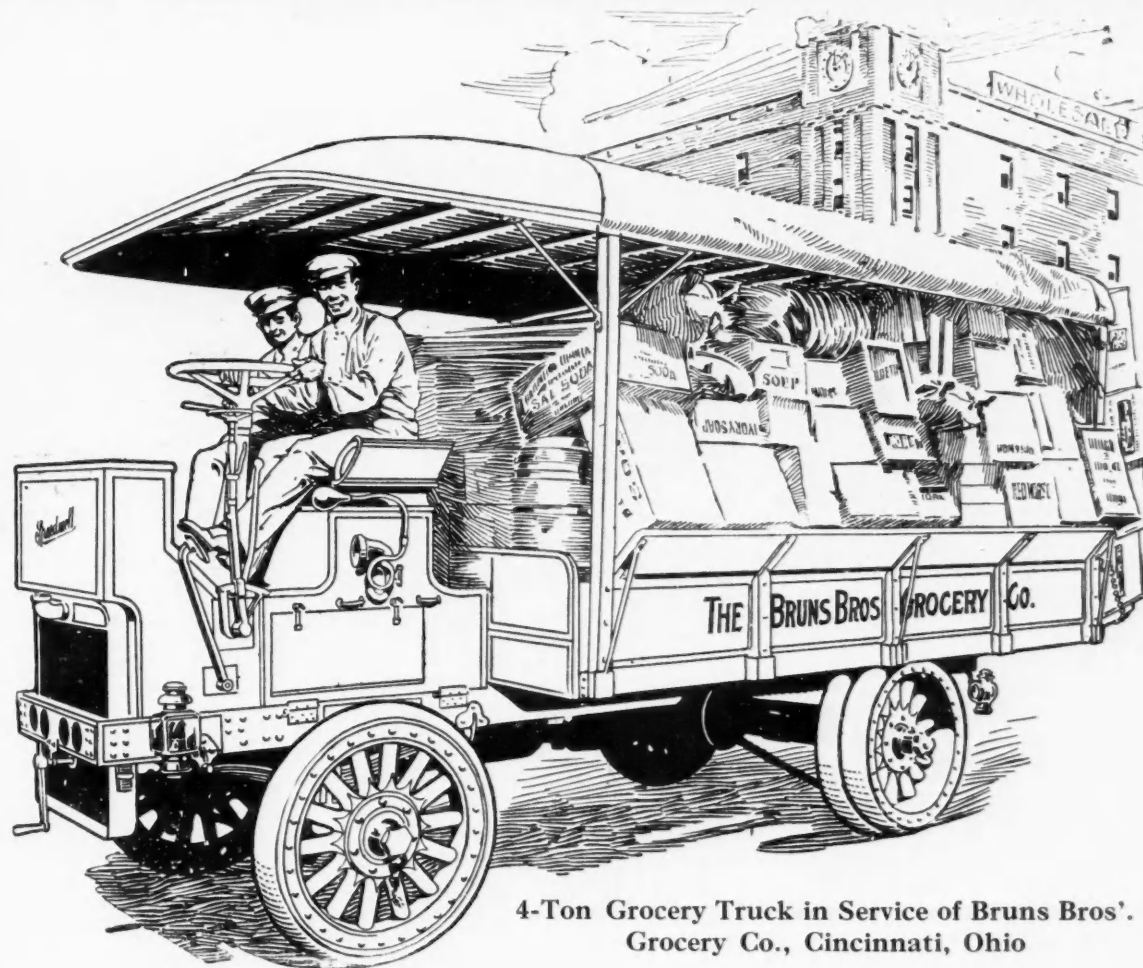
The idea came to W. P. Benson, the President of the company; L. A. Bittorf, Secretary; H. V. Bittorf, Vice President and Treasurer, and F. B. Kennedy, Publicity and Sales Manager, that there are some things to be said about builders' hardware!—That possibly everyone doesn't know builders' hardware as well as its manufacturers do, and so might like to be told about these things!

Builders' hardware is a mighty interesting subject with many ins and outs and new things being developed all the time. Why not get to the *users* of builders' hardware, and instruct and interest *them*? Why not make *them* realize the importance of choosing and using hardware fixtures rightly? To do this, early became the working publicity and selling principle of the National Manufacturing Company.

Other manufacturers might still continue to be satisfied with loading up the dealers and seeing the stock lie idle on their shelves. Not so, however, with these far-sighted folk at Sterling. They have been the first to come direct to the carpenters and building contractors—the users of builders' hardware—to instruct and interest them in their goods.

The success of this company and its remarkable growth testify to the wisdom of this policy.

Six years after the business was started, expansion became necessary. The three-story, fireproof building shown in the central part of the illustration was then added. This "held them" for three years, when again more room was needed; and the four-story fire proof



4-Ton Grocery Truck in Service of Bruns Bros' Grocery Co., Cincinnati, Ohio

## Speedwell Motor Trucks

A careful investigation of the remarkable qualifications of Speedwell Motor Trucks for your line of business will show them to be worthy a place in your transportation department.

Its mechanical design, its abundant power, its unusual strength, has caused the Speedwell Truck to be in great demand in almost every line of business.

Speedwell Trucks have proved to their owners their low cost of upkeep, their freedom from repairs, and their ability to stand the extreme punishment of continual service under the severest conditions.

They are built in 4-ton and 6-ton capacities and embody all the sterling principles of Speedwell products.

We want you to write for Speedwell Truck information, stating the exact nature of work you require of a truck.

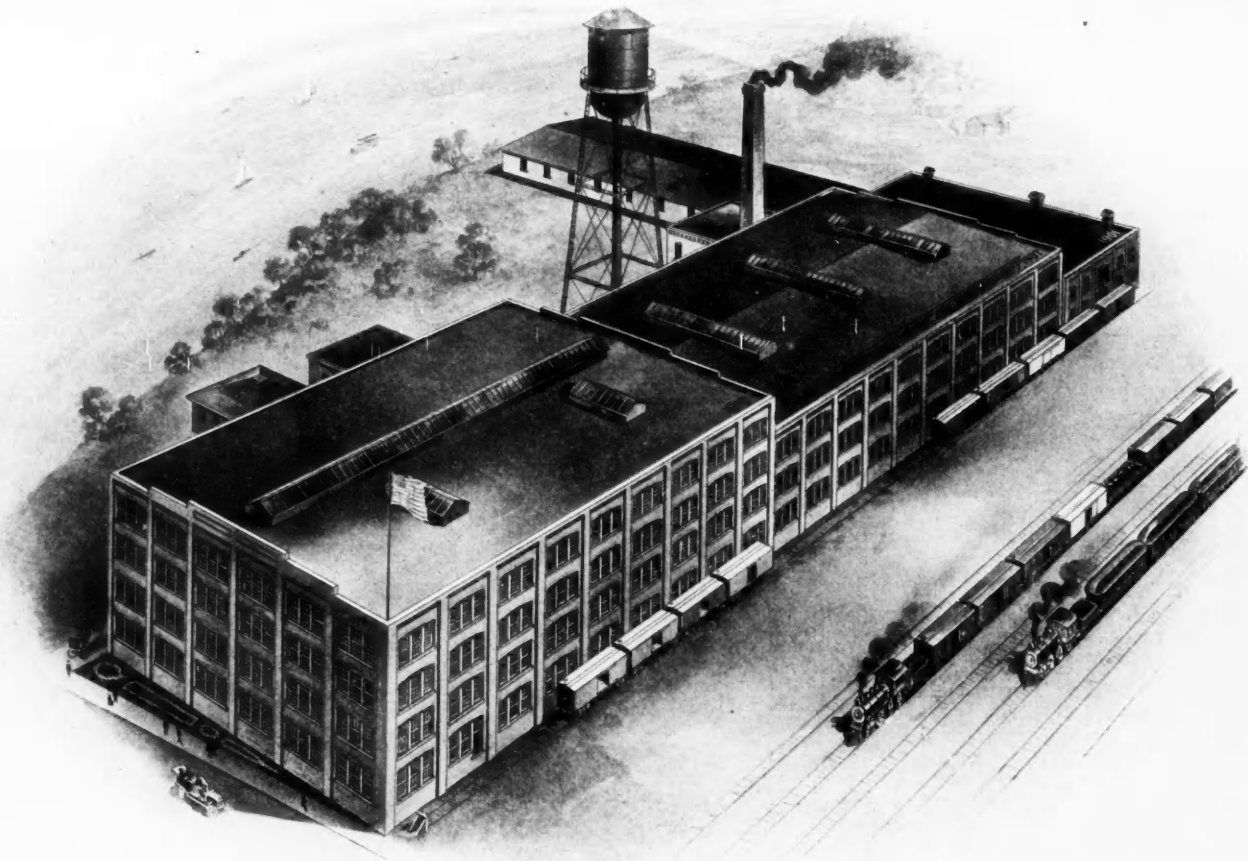
**The Speedwell Motor Car Co.**  
610 Essex Avenue - - Dayton, Ohio

### Grocery Truck in Service in Cincinnati, Ohio

The truck illustrated above was installed by the Bruns Bros' Grocery Company (wholesalers) in addition to present equipment of horse-drawn delivery, owing to the delivery needs of a larger business; and a comparison of the efficiency of the motor compared with the horse was made.

It was found that the truck carries nearly double the load of their largest two-horse wagons and makes long trips in half the time, while on short trips with many stops the time saved is somewhat less than half.

The advantages of the Speedwell Motor Truck are fully as great in winter when exposure from cold and when icy pavements are so trying to horses.



Plant of the National Manufacturing Co., Sterling, Ill.

## THE PERRY WATER SYSTEM

Will pull business your way—Help you to close complete building contracts—Satisfy your customers and increase your **profits**.

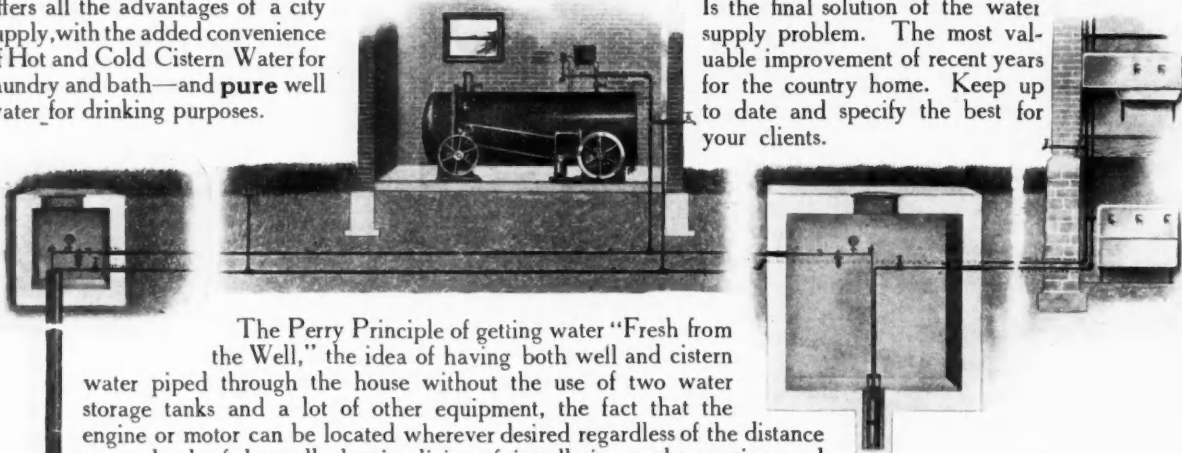
### The System that Supplies Water Fresh from the Well

#### THE PERRY WATER SYSTEM

offers all the advantages of a city supply, with the added convenience of Hot and Cold Cistern Water for laundry and bath—and **pure** well water for drinking purposes.

#### THE PERRY WATER SYSTEM

Is the final solution of the water supply problem. The most valuable improvement of recent years for the country home. Keep up to date and specify the best for your clients.



The Perry Principle of getting water "Fresh from the Well," the idea of having both well and cistern water piped through the house without the use of two water storage tanks and a lot of other equipment, the fact that the engine or motor can be located wherever desired regardless of the distance to, or depth of the well, the simplicity of installation and operation, and the feature of the entire system being frost-proof, have appealed so strongly to farmers and owners of country homes, that a big demand for Perry Water Systems has been created.

We also manufacture Air Compressors, Automatic Controllers for electric motors, Automatic Circuit Breakers for gas and gasoline engines, Automatic Belt Shifters, Reducing Valves and Special Air Valves.

**United Pump & Power Co.**

495 Old Colony Building  
CHICAGO, ILLINOIS

Write for Free Catalog

# HARDWOOD

## *VENEERED*

## *DOORS*



M. & G. 515



M. & G. 519



M. & G. 512



Unselected Birch and  
Plain Red Oak

**Q** Our plant is well equipped with the latest Machinery. Our goods cannot be excelled in workmanship or quality. We make everything in the Millwork line and will submit estimates at all times.

*Write for our New Catalogue.*

**MOORE & GALLOWAY LUMBER CO.**  
FOND DU LAC, WISC.

# You Should Have This Handbook on Concrete Brick and Block Making

We do not mean a machinery catalog but a REAL, STANDARD TEXT BOOK on concrete. The second edition is just off the press. You cannot afford to be without the up-to-date information it gives on any of these subjects:

- The field for concrete
- Selecting materials
- How to proportion
- How to cure product
- Plant arrangement
- How to estimate
- Comparative tests
- Table of compression working values.
- Ways of making products
- Various building systems
- Forming the Product
- Steam curing
- A waterproof building system fully illustrated
- Weights of materials
- Hints on selling
- Profits in concrete

Just think how often you have needed information on these subjects. It has cost a lot of money and time to gather this valuable information and while we should sell this book for no small sum, we only ask you to send 10c in postage for a copy. Many have told us it is the best book published on the subject. Better send 10c for your copy right now.

## Here Is Another Valuable Book on Concrete and Machinery Which We Will Mail to You FREE

FREE  
Send  
for it



## This Book Tells How to Make the Big Money in Concrete

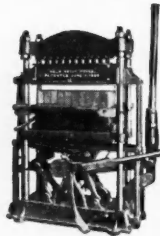
Learn about the most Profitable Products and how they are made, also learn about the patented

## Helm Brick and Block Presses 80,000 lbs. Pressure - Rapid - Easy Work

Built in two sizes to fit your pocketbook and built for power or hand operation.

You will make the best pressed brick and DRY WALL blocks all on the one machine. Only one of these RAPID OPERATING machines needed to equip a plant. The strongest, simplest and most economical for you to use.

**You Should Know** about the HIGH GRADE product of these presses—about the plain and ornamental PRESSED BRICK and the DRY WALL 2-PIECE BLOCKS. They save the cost of furring and lathing and always make DRY buildings. These are the best selling products. Their quality and adaptability mean increased sales.



### Let Our FREE Book Inform You

Helm Brick Machine Co.  
470 Bank Bldg.  
Traverse City, Mich.

- 10c postage enclosed for Hand Book
- FREE machinery catalog.

Name \_\_\_\_\_  
Address \_\_\_\_\_

Helm Brick Machine Co.  
470 Bank Bldg.  
Traverse City, Mich.

about these up-to-date, improved presses, and give you many hints on making and selling concrete. You really need this book to be fully posted. If you own a plant and want to increase your profit, or if you think of starting one, send for this book. Now is the time to prepare. Send the coupon NOW, and get both these valuable books.

building shown in the foreground and the one-story shop at the rear were added. This was in 1910, and the company already feel the need of more space.

The location of this factory is ideal. It is on one of the principal streets of Sterling, right at the river front by the big bridge. This is the Rock River. The huge Government dam just above is now completed and the power plant will soon be installed so that very cheap power can be furnished to all the Sterling factories. The main line of the Chicago & Northwestern Railroad skirts the north side of the factory, giving the best of transportation facilities.

Space here does not permit to tell of the line of builders' hardware manufactured by the National Manufacturing Company (our readers are already familiar with several of the items, notably the ornamental hinge), nor the very interesting processes of manufacture in use by them. They have, however, a new catalog illustrating and describing all of these, which will be mailed to our readers on request.

### The Simplex Nail

The accompanying illustration shows the Simplex Nail, made by the H. B. Sherman Mfg. Co., of Battle Creek, Michigan.

The manufacturers claim that this nail fills a long-felt want as it combines two features in one—the one-piece idea and the large head. The very nature of roofing material demands that roofing nails, to be a success, should have a head of sufficient size. The

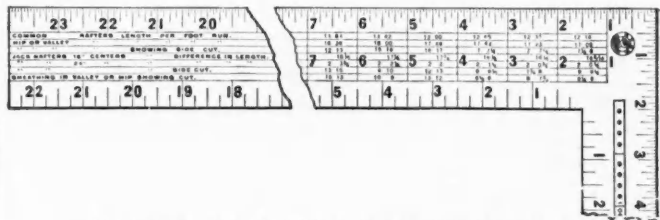


actual area of the head of the Simplex Nail is four times that of the so-called large-headed wire nail. If roofing material were metallic or wood, it would not be necessary to use large heads, but the material being paper, a large head is essential. The manufacturers advise that the Simplex Nails are handled through various wholesale houses, and for regular use are put up 100 lbs. to a keg. Where shipped by manufacturers of roofing paper, they are put up in cans.

### Valuable Booklet on Rafter Framing, Free

The P. S. & W. Co. of New York and Cleveland, makers of a line of take-down, rafter-framing and standard squares, have published a little pamphlet on the use of rafter-framing squares, which is of considerable assistance to the mechanic in getting the best results from their use.

The book is small enough to be convenient, but large enough for good type and illustrations. The back cover has an ex-



New Peck, Stow & Wilcox Rafter-Framing Square

tension fold which can be opened out showing a picture of the square, to be kept in full view while the mechanic is reading the instructions in the booklet.

These are very brief, clear and concise, and are arranged



## UNCLE SAM SPEAKS ANOTHER GOOD WORD FOR

"THE  
WOOD  
ETERNAL"

# CYPRESS

"THE  
WOOD  
ETERNAL"

Dept. of Agriculture, Forest Service, Bulletin 95, Page 44, issued June 30, 1911, says of *Cypress*:

"The properties which fit it for such wide use are the freedom of the wood from knots and other defects . . . and the *long period which the wood may be expected to last*. To this might be added handsome appearance, which frequently has much to do with popularizing a wood."



Further on CYPRESS, the same Government Report says: "The wood contains little resin and thus affords a *good surface for paint*, which it holds well. . . . It is a popular wood where it is subjected to dampness and heat. It shrinks, swells or warps but little. . . . For the parts of houses exposed to the weather it serves equally well."



Both quotations above are from Bulletin 95, (page 44) U. S. Dept. of Agr. (Forest Service), June 30, 1911.

### "The Money You Don't Have to Spend on Repairs is ALL PROFIT."

When planning new improvements or repairs to old ones, just remember—"With CYPRESS you BUILD BUT ONCE."

WRITE TODAY for VOLUME ONE of the CYPRESS POCKET LIBRARY, with Full Text of OFFICIAL GOVT. REPT. Also Full List of 31 Other Volumes. (FREE on request.)

Let our "BUILDER'S 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 AT YOUR LOCAL DEALER'S. IF HE HASN'T IT. LET US KNOW IMMEDIATELY

in logical order, with the paragraphs numbered.

The booklet has an index in which the carpenter can find the information he requires for measuring or cutting any particular timber without delay.

The pamphlet takes up first the meaning of various terms used in referring to the square or to the parts of a roof, inasmuch as there is some variation in the use of these expressions by carpenters.

It next brings out clearly the fact that conspicuously displayed upon the face of the square is a series of numbers giving all the necessary information about the lengths and cuts of the various timbers in any ordinary roof.

In order to find the right set of numbers without delay the reader is first informed that he must know the rise in inches per foot run of his roof; he then looks on the center of the body of the square for the number corresponding to this rise per foot run; thus if his rise of roof is nine inches he looks for the number nine column to the right of the figure nine.

The book then takes up in detail all of the ordinary cuts and measures employed in roof-framing, explaining just where they are to be found on the square by means of a typical example and in many cases a diagram.

The intention of the publishers is to make this pamphlet a foundation for a right understanding of the uses of the steel square.

Many carpenters have become very expert in the use of the square by "rule of thumb."

It is evident, however, that an understanding of the reason "why" in each case will enable the apprentice to learn faster and to remember longer.

Moreover, being thus versed thoroughly in the rudiments he will be able to apply the same principles to the framing of more difficult roofs, to stair-building and other problems which he meets as he becomes more proficient in his trade.

### Originators of "Compound" Doors

It may not be generally known that the oldest veneered door concern of the United States is located at St. Joseph, Mich.—The Compound Door Company. They make nothing but the highest quality built-up veneered doors, mostly to special order. They desire to get in touch with builders who want something extra high class in hardwood doors, one of their specialties being inlaid flush doors. Their catalog contains some beautiful illustrations of these doors and is well worth having.

### Isometric Drawing Paper

Isometric perspective of projection has never been popular because it has always been surrounded with technicalities until it seemed to be an art only to be mastered by hard study. The Norman W. Henley Publishing Company, of New York, have now, however, brought out a special isometric drawing paper, ruled vertically, horizontally and obliquely in two directions. With this paper isometric drawing is easy. Such a drawing when made is well worth while, since it will scale accurately in all three dimensions.

### Myers New Hanger and Tubular Track

F. E. Myers & Bro., Ashland, Ohio, wish to call the attention of carpenters and builders to their "New-Way" tandem door hanger and tubular girder track. This hanger is illustrated herewith, both front and side views being shown. The side view shows very nicely the tubular track also.

It will be easily seen that this hanger is adjustable to and from building, and to raise or lower the doors. These adjustable features are patented and used only on the Myers hangers. It has hard steel rollers, machine turned,

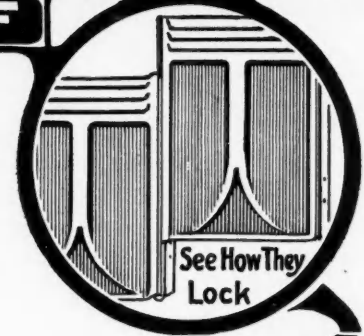
## CORTRIGHT METAL SHINGLES

### ARE STORM PROOF



*That's one of the best arguments you Contractors and Builders can offer to your clients.*

*CORTRIGHT Roofs are also fireproof, last as long as the building, and never need repairs.*



THESE facts have been shown so clearly to the consumer that the demand for the CORTRIGHT METAL SHINGLES has grown to tremendous proportions, and is ever increasing, and the contractors and builders who are handling them are reaping the benefit.

If you have not received our special proposition to Contractors and Builders, send for it now before you forget it.

*Simply sign and mail us the attached coupon to-day*

## CORTRIGHT METAL ROOFING COMPANY

PHILADELPHIA AND CHICAGO

**COUPON**  
Gentlemen—Please send me special proposition and catalog "Concerning That Roof" adv. in Amer. Car. and Bldr. Dec.  
Name .....  
Street Address .....  
City .....  
Business .....

# Sharpen Tools 30 Days FREE

No promises! No red tape! No money needed! You can try this all metal, shaft drive tool grinder, with its Dimo-Grit (artificial diamond grit) wheels for 30 days absolutely free, and without putting yourself under any obligations. You can put all your tools in bright, shiny, keen condition, and you will be amazed how quickly and easily you can do it. You can sharpen your chisels, twist drills, draw knives, hatchets, augers—gum your saws and put a keen edge on every tool—all at no cost. Use the outfit 30 days—then if you want to part with it, send it back at my expense.

**Dimo-Grit**—"the Wheel for Steel"—25 times faster than the grind stone—10 times more efficient than Emery—No danger of drawing temper, nor need of cooling with water.

Dimo-Grit is the new artificial diamond abrasive, a twin product of carborundum you have heard so much about, but Dimo-Grit is especially adapted to steel, leaving the keenest, smoothest edge. Dimo-Grit cuts hardest steel as easy as emery does copper. The Dimo-Grit wheels of this grinder, turning 4000 revolutions per minute, make the hardest job of grinding but a few minutes easy work. Prove it by trying this outfit on your own tools 30 days free. Dimo-Grit crystals are really artificial diamonds as hard as real diamonds, fused in the marvelously hot electrical furnaces at Niagara Falls in which fire brick and metal melts like bees-wax and is vaporized like water in a kettle. Genuine South African diamonds could cut steel no quicker than Dimo-Grit. Carborundum wheels furnished if wanted.



## Luther Hummer Tool Grinder

Mechanic's Outfit Consists of Machine and 14 attachments—16 other attachments from which you can select what you want

No machine ever built is like the "Hummer"—it is all steel and iron—nothing to wear out—steel shaft drive like automobile—ball bearing, dust proof bearing. Costs no more than cheap chain drive grinders. Runs as easy by foot as a sewing machine—engine power can be applied. The 14 mechanic's attachments equip you for all kinds of sharpening, buffing and polishing. From the other attachments, such as jig-saw, rip-saw, lathe, drill, etc., you can select what you want. No other machine so moderate in price saves money so many different ways. You can prove it by 30 days free trial. 5 years guarantee. Over half a million Luther Grinders now in use.

### Big Illustrated 40-Page Book FREE

Contains the story of artificial diamond sharpening substances, and of the marvelous electrical furnaces at Niagara Falls, exactly as printed in McClure's Magazine. It fully describes the Luther "Hummer" Tool Grinder and attachments and gives pointers on tool sharpening. You will find it valuable to you in many ways. This book is free. Return the coupon and get it, along with our 30 days Free Trial Offer.

### Return this Coupon for Free Trial Offer and Free Book

Send the coupon for full particulars about our 30 days Free Trial Offer—then decide if you would like to have us send this wonderful labor-saving tool for 30 days free trial, absolutely without the slightest risk or obligation on your part. Please remember that the coupon places you under no obligation—whatever—it is just a request for information. Send for our Free Trial Offer today and get a quick answer. With the Free Trial Offer we will send the 40-page book.

**Luther Grinder Mfg. Co.**  
305 Michigan St MILWAUKEE, WIS.

### The Wonderful Way the Grinder Saves Time and Money.

This grinder, because it makes tool sharpening so easy, enables you to keep your tools always in perfect edge, making all your work go twenty per cent faster and easier.

These patent tool rests enable an apprentice boy to sharpen twist drills, gum saws, etc., and do it exactly as well as a high priced mechanic.

DIMO-GRIT wheels do not draw temper—makes your tools last twenty-five per cent longer. This mechanic's outfit equips you to do all grinding, polishing, buffing, etc., for carpenters, mechanics, contractors, shops, etc.

#### Dimo Grit-Sharpener Stones

Ask your dealer for DIMO-GRIT sharpening stones, the fastest and smoothest cutting sharpening stones in the market—look for the name "DIMO-GRIT" on the stone.

#### What Others Say

**Most Practical Grinder Made**  
I received the grinder the 18th of April. I am highly satisfied with it. I consider it the best and most practical all-purpose machine so far manufactured.  
Allen Stoodley, Goldfield, Nev.

**The Best Grinder**  
I wish to write you with regard to my grinder. I am well pleased with it. It is the best grinder we have around here.  
E. N. Earles, Bealsville, Ohio.

**What Neighbors Say**  
I received your grinder a few days ago, and it more than comes up to expectations. I am pleased with it. It does everything you claim for it and more, too. I have shown it to my neighbors, and they say it is one of the finest things they ever saw.  
Lew Knuston, Leland, Ill.

**Obtains Keen Cutting Edge**  
Your machine reached me in due time in good shape, and as represented. I am a Template maker by trade, and I have a great many tools that require a very sharp edge, which I can obtain through using one of your machines. I enjoy good tools and have as many of them about me as possible.  
E. R. Weesner, New Castle, Ind.



### COUPON

Luther Grinder Mfg. Co.,  
305 Michigan St., Milwaukee, Wis.

Please send without cost or obligation, your 30 days Free Trial Offer and large free book.

My name is.....

My address is.....

# WIN NEXT \$1200

## TEN PEOPLE GET \$40,000

They Tell You How to Win

**LISTEN!** Stoneman (Nebr. photographer) actually received \$1200 one month, \$51.50 in 15 minutes, \$800 in 11 days; Korstad (Minn. solicitor) \$2212 in 2 weeks; Sevegne (N. Y. telegrapher) \$100 daily. Not a fairy tale, fake or humbug, but proven absolutely true by sworn statements.



M. Stoneman

### Government Patronage

Statesmen, judges, bankers, world's famed institutions, local references.

**Costs Nothing** to investigate. This gigantic, money-making contest no longer controlled a few—now open to any honest, industrious man or woman. Big money made by

### Mechanics, Clerks, Farmers,

teachers, doctors, lawyers, people

from all walks of life. Experience, capital, business training unnecessary. You can own, operate and control same private enterprise that brought Wilson (banker) \$3000 in 30 days; Rasp (agent) \$1685 in 73 days; Oviatt (minister) \$4000; Rogers (surveyor) \$2800; Juell (clerk) \$6800; Hoard (doctor) \$2200; Hart (farmer) \$5000; Schleicher (minister)



M. Juell

### \$195 first 12 hours.

Hundreds sharing similar prosperity — banking money, buying homes, automobiles. Don't wonder. Same appointment should mean

**Same Money for You** same power, prominence, dignity, respect, influence. Rise to big earnings, wage freedom, ownership and private monopoly. Knowing the reason dispels all doubt. Wonderful, but true.

## Strange Invention



"SEE IT ENERGIZE"

Gives every home a bath room for only \$6.50 excels others costing \$200. Abolishes tubs, bowls, buckets, wash rags, sponges. Turns any room into a bath room with hot or cold running water. Think of it! So energizes water, one gallon ample; cleanses almost automatically; no plumbing, no waterworks; self-heating. Gives cleansing, friction, massage, and shower baths. So simple child can operate. Truly marvelous. A modern home-bathing without drudgery, inconvenience, muss of lugging water, filling, emptying, cleaning, putting away. Could anything be more popular! Think of millions who want bath rooms! At sight people exclaim: "There, there, that's what I've been longing for." Little wonder.

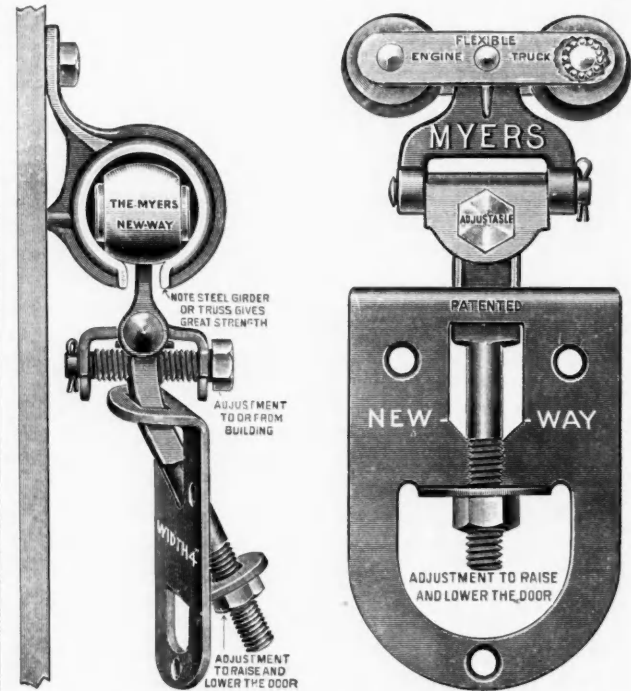
Wilson sold 102 in 14 days; Hart, 16 in 3 hours. Think what you could do.

Come—fall in line—make a fortune. Don't let another get there first. Your chance now to secure exclusive sale. Devote all or spare time. Means phenomenal earnings; no competition, fascinating, high-grade business. Credit given active distributors. SEND NO MONEY—investigate first. Send today for remarkable offer, it's valuable but free.

**ALLEN MFG. CO., 3442 ALLEN BLDG. TOLEDO, O.**

which revolve on hard steel roller bearings. This hanger has what is called a flexible engine truck.

The Myers people lay special emphasis on the "New-Way" tubular girder track. It is made of high carbon stiff steel with two flanges turning downward at the lower edge, making the truss or girders which stiffen the



Side and Front Views of Myers "New-Way" Door Hanger

track, enabling it to carry a much heavier load than any other style tubular track. In addition to this, there is no possible chance for dirt to lodge on the inner side of the track.

We are informed that this style hanger and track is coming rapidly into popular favor. Large quantities of them are being sold both in this and foreign countries.

An interesting booklet describing this line will be sent to you on request.

### Why Asbestos Roofing has Become so Popular

The satisfactory result of building construction is dependable to a great degree upon wearing, fire and water proof qualities and up-keep of roofing. The selection of a roofing which will not be too expensive in price, and yet wear for years without painting or graveling and furnish absolute protection against fire and climatic conditions, has always been a study of considerable moment to engineers and contractors. The list of roofing materials manufactured to-day is a long one, and some of them embrace excellent features. Men experienced in roofing problems look upon asbestos roofing as a natural protection against all destructive elements because it is made of a natural mineral that has already proved to be practically indestructible by not being injured by exposure to the elements for centuries; and the wearing and elastic qualities of the material are not deteriorated in processes of manufacture, or preparation for roofing uses.

The H. W. Johns-Manville Co., of New York, has the question and problem of asbestos roofing down to a science. Behind "J-M" Asbestos Roofing lies the prestige and experience of a corporation that has been linked to domestic and foreign industry for more than a quarter of a century.

The asbestos used in these roofings is procured in mines

# SUCCESSFUL DRAFTSMEN

## Draw Good Plans Draw Good Money

If You are Tired Being  
— a Hard Working —  
Carpenter or Builder  
then Make Yourself the  
Highest Grade and Highest  
Priced Man in Your Place

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;

**Who will qualify you at home in a few months to double your earning capacity**

*Don't waste time and money* trying to learn from books or printed lessons made for all alike, the same as patent medicine; you can only learn this right on *practical work* from a practical man.

**Free This Month** A high-grade Complete Drawing Outfit, including a \$13.85 Set of German Silver Tools.



If you want to be the "BEST MAN" write me to-day. Address—

### Chief Draftsman

Div. 17. Eng's Equip't Co. (Inc.) Chicago



owned by the Johns-Manville Co., at Danville, P. Q., and the fibre is specially prepared by their own experts and by their own particular process.

According to the "J-M" process several layers or sheets of asbestos felt are cemented together with genuine Trinidad Lake asphalt. This makes an all-mineral roofing that is shown to be practically as permanent as the brick walls or any other inorganic part of a building by the fact that it is still in good condition in many buildings after more than a quarter century of service.

Fire cannot get through an asbestos roof from the surface: and from underneath, only after the sheathing boards and timbers have burned away and allowed them to fall, the roofing being carried with them. The saturated and cementing oils cannot be drawn from "J-M" asbestos roofing by the heat of the sun, therefore it retains the waterproofing oils indefinitely. In the test which was recently made, the intense flame of a blow-torch was held on a piece of this roofing for nearly an hour without burning or injuring the roofing any more than to blacken it.

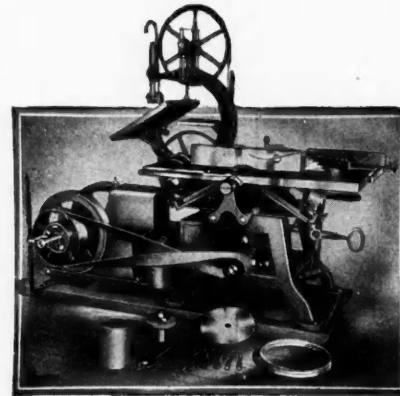
Owing to the increasing demand for a cool roof, the white surface "J-M" asbestos roof is especially valuable where comparatively low summer temperatures are desired on the inside of the building. An actual test made at a large Cleveland, Ohio, clothing factory in the summer of 1908, showed a difference of eighteen degrees between a black and a white surface roof, the thermometers being suspended four feet below the under side of the roof.

#### A Machine-Shop on Wheels

With the advent of the "Famous" Portable Woodworker, more opportunity is presented for the contractor to do his own millwork and to save the time and inconvenience accordingly.

This machine, which is really a combination of seven

or eight ordinary woodworking machines, is mounted on skids, or a wheeled truck, and can be moved from place to place without any trouble whatever. It is equipped with its own power plant—a three-horse power gasoline engine, together with batteries and all necessary belting.



"Famous" Portable Woodworker

The advantages of such a machine can hardly be realized by a description in cold type. The bare fact of one machine performing the work of seven or eight is remarkable enough; when it can be taken around from job to job, wherever the work is, the achievement becomes all the more wonderful.

The Sidney Tool Co., of Sidney, Ohio, are the builders of this latest woodworking marvel. This company is the pioneer builder of Universal Woodworkers, having over eight hundred of their "Famous" machines already in use. They will send full particulars of their portable woodworker to anyone interested.

## WHAT GOOD REASON HAVE YOU FOR NOT USING A TRUCK IN YOUR BUSINESS?

Just a moment, Mr. Contractor or Builder! We want to KNOW, and we think we have the right to know, why YOU have never considered the great possibilities of a motor Truck in your business—for hauling your lumber, cement, stone, brick, lime, or any other kind of material or heavy hardware.

Probably you've never been told or had occasion to figure it out for yourself how much time, labor and MONEY could be actually saved by the use of a truck. Undoubtedly you did not know that in six months' time a hard-working motor truck would easily pay for itself and for the three extra men you had been paying at least \$2 a day to.

#### The Schacht 3 to 4 Ton Truck

will be the biggest paying proposition you ever invested your money in and it can SHOW YOU! With it you will be able to handle twice

the work you are handling with teams and wagons. More trips—five to one—can be made with the SCHACHT; more material carried; more satisfaction given everyone of your buyers and more profits naturally will follow this additional business and that means a greater success.

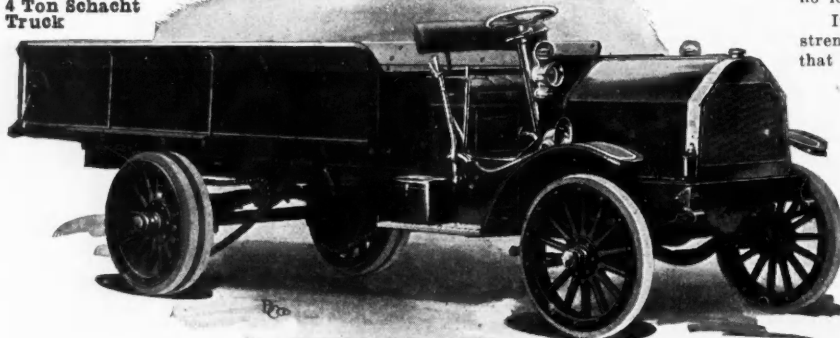
With the SCHACHT 3 to 4 Ton Truck you have an untiring, work-all-the-time employee that costs materially less to handle than your horse, requires practically no attention, is far less trouble and care than two or three horses, is much more powerful and dependable, don't grow old and worn out, will carry the heaviest loads to the farthest suburb or section of town in any kind of weather—good or bad—and one man can run the SCHACHT at a salary of \$2 per day and do much more work than your three teams and drivers could, although each one of them was costing you from \$1.75 to \$2 a day. And, of course, this does not include feed for horses.

The SCHACHT is built especially for heavy duty service. There's no load it can't safely deliver quicker than teams.

It is powerfully constructed—a forty horse-power strength that's ready to work for you all the time—that is SCHACHT SATISFACTION.

If you are interested, please write us and request further information and catalog.

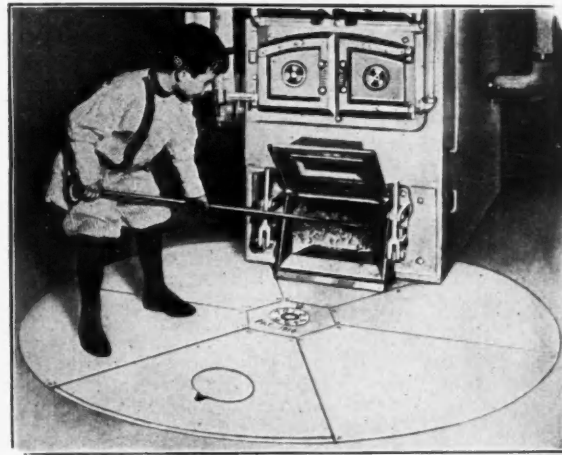
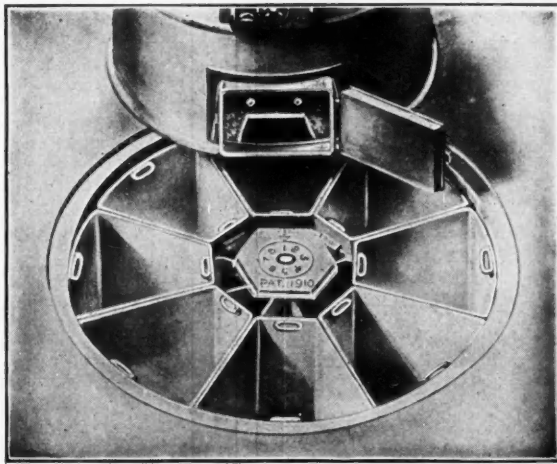
This is the 3 to 4 Ton Schacht Truck



"Made and marketed in Canada exclusively by the SCHACHT MOTOR CAR COMPANY of Canada, Ltd., Toronto and Hamilton, Ont."

**The Schacht Motor Car Co.**

3932 Spring Grove Ave.  
CINCINNATI :: OHIO



Ash pit of heater and receivers showing cover plates removed

So simple a child can operate it

## THE SHARP ROTARY ASH RECEIVER

Installed by DELAWARE, LACKAWANNA & WESTERN R. R. in stations, in office buildings by BELL TELEPHONE CO. and others, in homes of prominent people everywhere.

Most valuable acquisition to house construction in recent years. Idea easily grasped from illustrations. Value must appeal to every intelligent person. Eliminates ash and garbage nuisance, absolutely effective. Lessens fire risk. Safely disposes of ash dust, bad odors and germs from garbage. Cares for several month's accumulation.

A GARBAGE DISPOSAL PLANT for every kind of building. Easily installed before or after placing heater. No conditions prohibit installation. Satisfaction guaranteed. Requires no salesmanship but returns a larger commission than anything else. *Get in Line. Write for Special Agency Proposition.*

The W. M. SHARP CO. - 500 Park Av., Binghamton, N. Y.

Satisfaction guaranteed or money refunded.

### 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

Order now. Wrap a DOLLAR BILL in this advertisement and mail at our risk.

**FREE**

With all orders received during December we will include free one patented Perfection Sandpaper Holder.

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

# IT'S SO EASY TO TAKE ORDERS FOR MY HOT WATER HEATING PLANTS



Geo. C. Andrews

SINCE I began this series of advertisements to the contractors, which by the way was co-incident with a general advertising campaign I have been conducting to get agents all over the country to sell our Hot Water Heating Plants and other equipments for modernizing the home. I have been really surprised at the large number of orders that have come in through these agents. In many cases these agents have gotten, without any apparent trouble, a 10 or 15 per cent commission on top of our regular selling prices, and done this in localities that are generally considered competitive. I simply mention this as an indication of the wide-spread popularity of the Andrews Systems, the merits of each being so well known that many will insist upon having an Andrews, and will positively accept no other. This is the thing that gives me the most pleasure because

### Repeat Orders Come Easy

under these conditions, and every time you take an order you can rest assured that this plant is going to plug for you long after you have forgotten the sale. The best evidence of this lies in the fact that we are users of the largest magazine space in such mediums as the Ladies Home Journal, and Saturday Evening Post for the advertising of heating plants, all of which advertising pays, and yet every year we get more business through the recommendation of users of our systems than from any other one source.

### This Army of Users Will Work for You

and not cost you a cent, if you will only put yourself in position to take orders for these equipments. You are relieved of all responsibility of guaranteeing the plants, as each equipment is sold on 360 days' free trial backed by a bond.

A complete Andrews plant (vertical boiler) ready to ship. We pay the freight.

This plant complete for 7-room house \$239 00

Ready to Erect



360 Days' Free Trial Guaranteed by bond

### Identify Yourself With a Growing Concern

One of the best investments that you can make in a business way is to associate yourself with a growing and established concern by recommending and using advertised goods of a national reputation. By recommending the Andrews equipments to your customers you not only show that you are abreast of the times, but your recommendation of quality goods inspires confidence in you and that, after all, is what we all want, because confidence is the basis of all trade.

### Everything to Modernize the Home

is included in our stocks—Heating, Plumbing, Water Supply, Sewage Disposal and Gas Lighting Systems. Each built to order and shipped "knocked down" direct from "factory to your customer." Big output, one small profit on each makes it possible for us to sell your customer an equipment, which for actual efficiency, satisfaction, durability, and beauty of design, would cost 1-3 to 1-2 more if bought through your local dealer, and in which case you pay a profit to the manufacturer, to the jobber, and to the dealer and a high price to the labor of installation.

Interesting Book on Heating Free. If you are really interested in the lines we manufacture, we will gladly send you or to your customers, our 9x12, 72-page book, which contains the most valuable information published on "How best to heat and plumb the home." This book is written in a most readable and interesting way, and has more than four illustrations to a page. It is free and imposes no obligation, except your promise to examine it closely. Clip coupon and mail to-day.

## ANDREWS HEATING CO.

1222 Heating Bldg.  
MINNEAPOLIS  
MINN., U. S. A.

NOTE—Check subjects interested in and send names of two interested parties and get our architect's scale free. It's handy in measuring plans.

1222 Heating Bldg.  
Minneapolis,  
Minn., U. S. A.

Andrews Heat'g Co.,  
Minneapolis, Minn.

Gentlemen:—  
I am interested in Heating, Plumbing, Water Supply, Sewage Disposal, or Gas Lighting, and promise to examine carefully your 72-page book if you will send it free.

Name .....

Address .....

## New Company Take Hold of "Pocket" Miter Box

We are informed that a new company has taken up the manufacture and sale of the Milks Pocket Miter Box, advertised extensively through our columns during the first months of this year and manufactured then by the Parsons Manufacturing Company. This company, through extensive advertising, showed from the orders they received that the tool met with the approval of the carpenters, but for financial reasons they were not able to make good and fill the large number of orders they received.

The present company, known as The Parsons Tool Manufacturing Company, acquired the patents covering this handy tool the 16th of October, filed papers for incorporation on the 20th, and are equipping an up-to-date plant for the making of this tool and will be ready to fill orders after Dec. 1, 1911.

We have been informed that some parties who ordered this tool failed to receive them; and if any of our readers are of this number this new company will be glad to hear from them, giving date of their order and such other information as will be necessary in tracing same.

In taking over the patents covering this tool the present company did not assume any of the obligations incurred by the old company, but they will use their best efforts in assisting those who did not have their order filled in securing one of these tools. You will find on another page of this issue an illustrated advertisement of this tool. It is a tool that will fill the long felt want of the carpenters for mitering mouldings or timbers in places and under conditions where it would be impossible for them to take and use the common large miter box.

The Pocket Miter Box, as its name indicates, can be carried in the apron pocket and used on a scaffold or on a ladder with ease and saving of time. You will also find it very handy and accurate in putting down base boards, base mouldings, shoe mould, quarter round or cutting flooring, as you can take the tool with you and make the cuts necessary without taking your stick to a bench to cut in a long miter box. It is made of aluminum and weighs about 8 oz.

By Dec. 1st, The Parsons Tool Manufacturing Co., Parsons, Kans., will have a thousand or more on hand and will be able to fill orders upon day received.

### The Measure of Merit

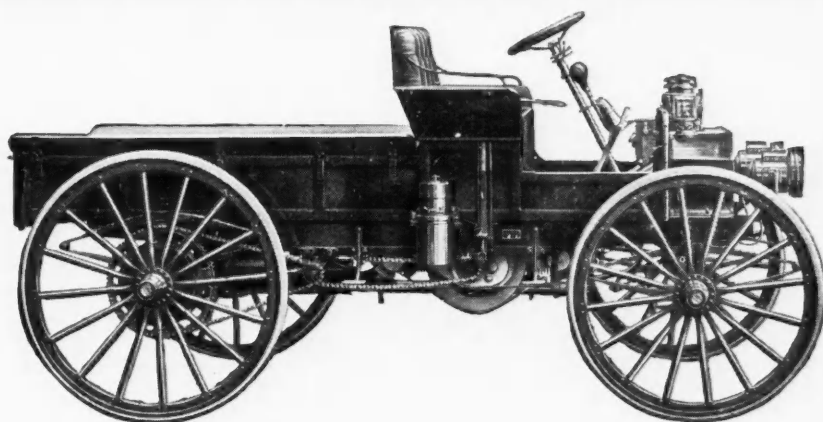
The average tool is like the average man. No one can tell its worth until it has proved itself. No one can tell whether its edge will stay sharp, firm and true when a hard knock comes, or whether it will nick or twist.

The man who values all tools by the same standard, and buys average tools over and over again, loses money that he could save by exercising a little care. In the old days he had no protection and had to buy his tools on faith.

There is a way, however, to judge a tool before it is used. For more than forty years, there has been a line of tools so good and so fine in quality, that every one is guaranteed by the makers, the Simmons Hardware Company of St. Louis, to meet every requirement and give the best of wear, or any piece will be replaced without cost to the owner.

In order to identify their tools the Simmons Hardware Company brand them with the Keen Kutter trade mark, known in all parts of the world as the mark of efficiency and quality. When a workman of any kind, or a farmer, sees that trade mark, he knows that the tool that bears it will more than meet his expectations. He knows that





**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**

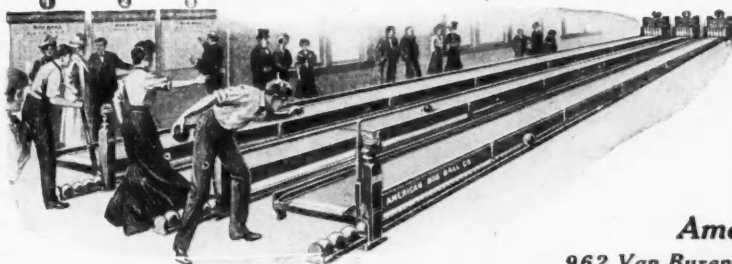
(Incorporated)

70 Harvester Building

: : : : :

Chicago, U. S. A.

**"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.

OUR SPECIALTIES

### Interior Columns and Consols

Established Twenty Years

Catalog (FREE) if you ask for it.

A piece of Grille work a Colonnade or Consol adds to the beauty of a dwelling, makes it worth more to you if you live in it, and increases the selling value.

Compare our prices with others before mailing your order. If you will do so, we are sure to get the order.

**Chicago Grille Works**

828-838 Wells Street

CHICAGO, ILL.



### 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.

any edged or handled tool, or any piece of cutlery that is marked Keen Kutter is the best his money will buy.

The man who uses a Keen Kutter axe knows that the handle is put in to stay, because it is held fast by the Grelner everlasting lock wedge. He knows that that axe is balanced with absolute correctness, and that the "hang" is perfect. He knows that his Keen Kutter axe will hold its edge and cut true and deep. So it is with his Keen Kutter hatchet or hammer, chisels, draw knife or planes. He knows that he can get the very limit of service out of any Keen Kutter tool from a lawn mower to a pocket knife.

Every Keen Kutter tool, of any kind, is thoroughly tested before the Keen Kutter trade mark is stamped upon it, and if it is not just what it ought to be in quality it is destroyed. This is done for your protection and their own. If Keen Kutter tools were turned out hit or miss, they could not hold their customers and sell the same firms year in and year out.

Suppose you bought three chisels before you struck one that would do all you required of it. You would pay three prices for one tool, and have two useless tools on your hands. If the chisel were a Keen Kutter you could trade it back for another without cost to you, and keep on doing it until you struck the right one. That is a guarantee that really guarantees something definite.

Suppose you paid a few cents more for your Keen Kutter chisel. The difference in quality would more than repay you, and you would only pay for one chisel, once.

Keen Kutter tools and cutlery are recognized as the finest made, in almost every hardware store, as is the famous Keen Kutter guarantee. But if your dealer does not carry them, you ought to write at once to the Simmons Hardware Company, St. Louis, Mo., and they will see that you get what you want.

### "Picture Book" of Roth Motors

Roth Brothers & Company, Chicago, Ill., manufacturers of motors and generators, have ready for distribution an attractive "Picture Book" containing over forty views of Roth motors applied to various machines. Brief description accompany each illustration. Write for your copy.

### New York Passes Law Compelling Use of Fireproof Booths for Picture Machines

The State of New York has followed the lead of Massachusetts, New Hampshire, Pennsylvania, Maine, Vermont, Connecticut and Rhode Island by enacting laws compelling the use of a fireproof booth or enclosure around moving picture machines. This is to do away with the possibility of fire in case the highly inflammable celluloid film used catches fire.

This law, effective July 24th, 1911, reads as follows:

"No cinematograph or any other apparatus for projecting moving pictures, which apparatus uses combustible films of more than ten inches in length, shall be set up for use or used in any building place of public assemblage or entertainment, unless such apparatus for the projecting of moving pictures shall be enclosed therein in a booth or inclosure constructed of iron framework covered or lined with asbestos board, or with some equally strong and fire resisting material, and unless such booth shall have been constructed as provided in Section 210 of this article and the certificate in section 211 of this article shall have been issued to the owner or lessee of the premises wherein such booth is situated."

One of the first to see the need of this protection for moving picture machines and films and to build booths to conform to the requirements of the insurance authorities and inspection departments of the States which passed such laws was the H. W. Johns-Manville Co., New York, whose booths have



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



Asbestos "Century" Shingle Roof — Eighth Church of Christ, Scientist — Michigan Avenue and Forty-Fourth Street, Chicago, Ill. — Architect, L. E. Stanhope, Chicago, Ill.

## Asbestos "Century" Shingles

*"The Roof that Outlives the Building"*

The time to think about the durability of your client's roof is *before* you put it on—not after the repair bills begin to bother him.

Look over all the roofings in the market.

You'll find that only one is truly permanent — Asbestos "Century" Shingles, made of reinforced concrete.

Asbestos "Century" Shingles are protected by basic patents. They are the only practical roofing made of reinforced concrete in the world today.

You can get Asbestos "Century" Shingles in shapes to suit any architectural style—in several sizes—and in three colors; Newport Gray (silver gray), Slate (blue black) and Indian Red.

Send for quotations, and booklet "Everlasting 1911".

**The Keasbey & Mattison Company, Factors**  
Ambler, Pennsylvania  
Branch Offices in Principal Cities of the United States



## Be the Man Who Gives Orders

Don't forever be at the beck and call of some petty, tyrannical "boss." It is every American's right to be independent. Your "boss" of this year may be your subordinate next if you make the effort to better your position. But you must have special and individual preparation to rise above the rank and file. We offer you an opportunity to become the man who gives orders. To carpenters, bricklayers, and all men in building trades, we offer a short but complete course in DRAFTING.

## Estimating, Plan Reading, etc.

BY MAIL

You know the advantages of being able to read plans and to 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 lesson. Hundreds of plans of buildings, in course of construction in Chicago, are studied from.

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 and increase your profits.

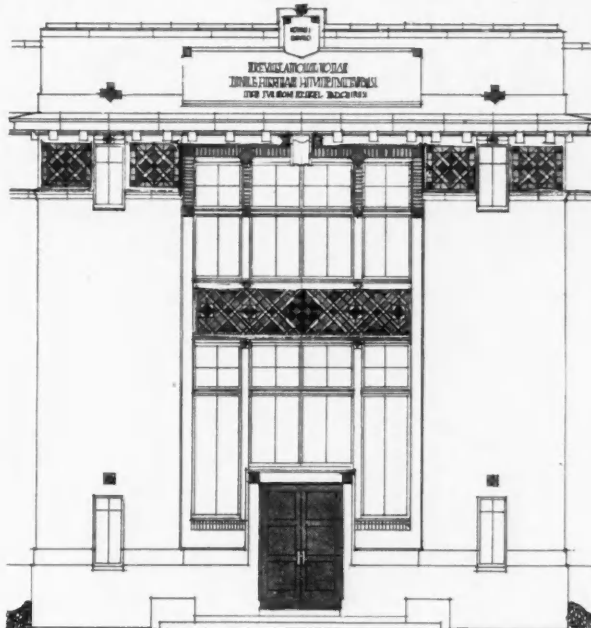
The lessons are approved by experienced Chicago architects. We have partial courses to fit your individual need, if you have had previous experience. Start now on your journey to success. Don't say you can't do it—you can; don't say you haven't the time—take it; don't say you haven't the money—earn it 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 ATHENÆUM BUILDING, CHICAGO, ILLINOIS

Short resident courses in our Chicago school in Architectural, Mechanical and Structural Drafting. Low tuition. Day and evening classes. Ask for catalog X if interested in the resident course.

ACB



## A TOUCH OF COLOR FOR CONCRETE

TILE offers a wonderful opportunity for adding color to the uniform surface of concrete in all kinds of construction. A tile decoration is both appropriate and durable, and the range of colors and designs offers the architect great opportunity for attractive designing.

We are anxious to lay before any architect the wonderful resources of tile.

THE ASSOCIATED TILE MANUFACTURERS  
Room 19, Reeves Building, Beaver Falls, Pa.

## This Engine Saves You 3 Men's Pay

### 15-Day Free Trial to Prove It

PUT 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.

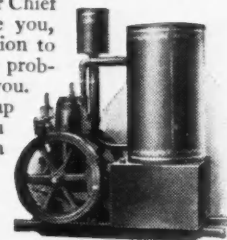
## FREE Advice on Power Problems

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.





The Carpenter's Greatest Aid  
to Smooth and Rapid Work

## Carborundum Sharpening Stones

**J**UST go to your hardware dealer, or write us direct for one of these wonderful sharpening stones—then begin your day's work by sharpening your plane bits, chisels, or other edge tools—note how quickly and easily the Carborundum stone brings the tool to an edge, it cuts the edge on—doesn't merely rub it on—gives an edge that will stay keen and smooth longer. Carborundum stones are always clean and free cutting, they don't fill or glaze. You can get them in any grit, shape, or size; their use means better conditioned tools—better work.

|   |           |        |
|---|-----------|--------|
| Carborundum Round Combination Bench Stone,<br>No. 107 | - - - - - | \$1.00 |
| Carborundum Oblong Stone, No. 108                     | - - - - - | 1.25   |
| Carborundum Pocket Stone, No. 149                     | - - - - - | .25    |

*From your hardware man or direct.*

**The Carborundum  
Company**

NIAGARA FALLS, N. Y.

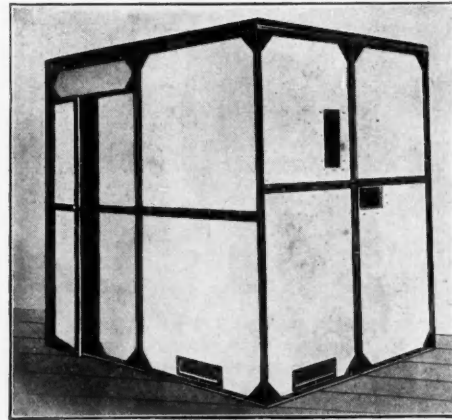
Branch in London, England



been tested also and approved by the New York City building department. These booths are known in the trade as "J-M Transite Asbestos Wood Booths."

The framework of these booths is of heavy angle irons or tees on which the asbestos wood panels are mounted, and when set up, the booth can be painted and decorated in keeping with any style of interior finish.

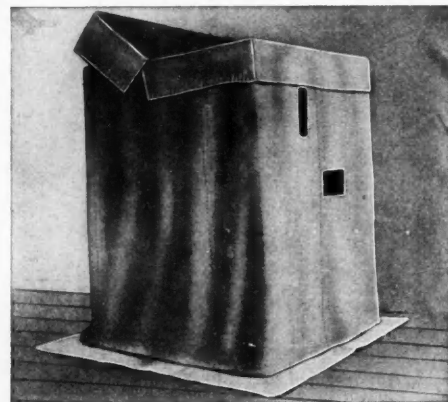
These booths are made in two styles, stationary and semi-



**J-M Transite Asbestos Wood Booth for Picture Machines**

portable. The permanent or stationary booth is shipped "knocked down" and is provided with a door and window shutters, which close automatically in case of fire. Also, when desired a complete ventilating system can be furnished for this booth, including galvanized iron pipe flues and an exhaust fan. In the semi-portable booths, the asbestos wood panels forming the walls and roof are interchangeable, and are marked so that the booth can easily be set up in an hour's time by any carpenter.

This concern also make a portable tent booth, which consists of an asbestos cloth covering in three pieces, forming the top, sides and flooring, over an iron pipe framework. The cloth, which resembles heavy cotton duck, is made wholly of asbestos, and is furnished plain or painted, or sized and tinted like asbestos fire curtains. A hinged trap affording



**Portable Tent Booth of Asbestos Cloth**

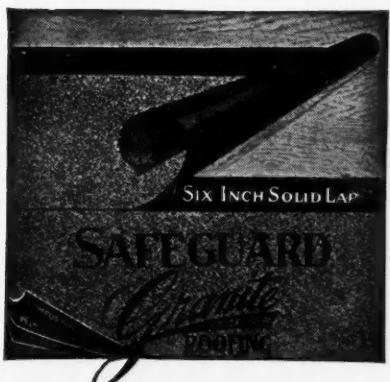
ventilating space is furnished with this booth, which closes automatically in case of fire. This booth is easily taken down and set up in a few minutes, as the frame is made with socket fittings and the asbestos cloth can be folded into a compact bundle. When packed for shipment, this booth weighs less than 160 pounds.

An attractive booklet illustrating and describing these asbestos booths, curtains and other theatre necessities, is being sent out by the H. W. Johns-Manville Co., a copy of which they will send on request to anyone interested.

# Granite

TRADE MARK

## ROOFING



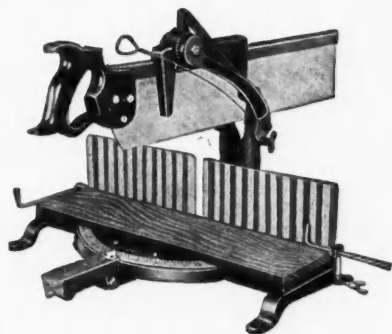
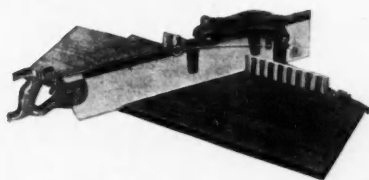
A six inch lap is better than a three inch lap. It gives better protection against leaks and permits nailing down on the under sheet only, so that no nail heads appear on the surface. Otherwise this is the same Granite Roofing that we have sold for 26 years for use on great factories. It is immune from 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

## Our Improved Union Mitre Box

We claim and believe has many important advantages over any box manufactured. This space is too expensive for us to describe the many features that will appeal to you so strongly.

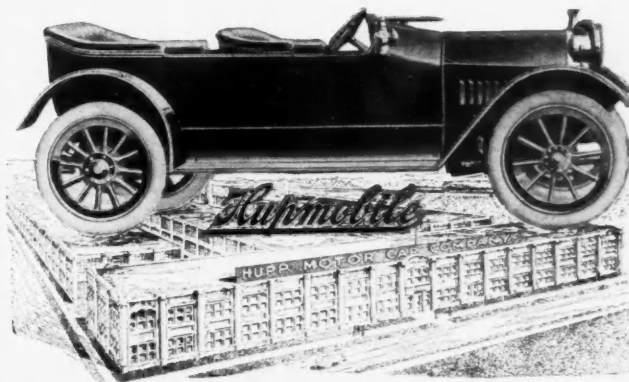


Send a postal for illustrated catalog fully describing this and our Floor Scraper.

**Dosch Mfg. Co.**

BRIDGEPORT

CONN.



**Hupmobile Long-Stroke "32" Five Passenger Touring Car—\$900**

F. O. B. Detroit, including equipment of windshield, gas lamps and generator, oil lamps, tools and horn. Three speeds forward and reverse; sliding gears. Four cylinder motor, 3 1/4 inch bore by 5 1/2 inch stroke. Bosch magneto. 106-inch wheelbase. 30x3 1/2 inch tires. Color—standard Hupmobile blue. The new touring car will be first exhibited at the Grand Central Palace, New York, Jan. 10-17; and subsequently at the principal automobile shows throughout the country.

## A totally new idea of what you ought to get for \$900

A new and larger Hupmobile which immediately thrusts upon your attention a score of tangible superiorities which set it in a class apart from cars of its price.

A five-passenger Touring Car for \$900 which rejects every characteristic of commonplace construction; and makes clear its invasion of the field above that price; by points of difference and departure which no motorist can mistake.

Evolved out of the experience which has built thousands of the Hupmobile Runabout—the quality car today, as it always has been, of the runabout class.

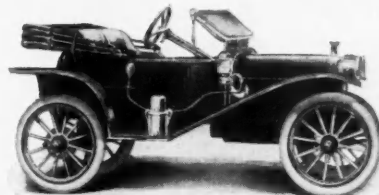
Designed by E. A. Nelson, Chief Engineer of the Hupp Motor Car Company since its inception, and designer of the original Hupmobile Runabout. To him and the skilled shop organization which he has continuously maintained, we owe the inimitable lines, the marked simplicity, the efficiency and the high quality of workmanship incorporated in the Runabout.

Impressed with the same strong individuality as the Runabout; and still further removed from comparison by:—

- First, the small-bore, long-stroke motor.
  - Second, the body design and construction which attains the purpose of the "underslung" and avoids all of its disadvantages; and
  - Third, The Americanization, after close study abroad, of invaluable engineering principles entirely new to this country.
- These highly specialized features speak so plainly of greater structural soundness; more progressive engineering principles; and costlier and more careful shop practice; that it is obvious they proclaim a product without precedent at the price:
- Small-bore, long-stroke motor—3 1/4 x 5 1/2 inches—60 per cent more pulling power for mountain work and heavy roads; 4 to 50 miles of speed; ability to pick up quickly without feeling the weight of the car, or throttle instantly to a walking gait.
  - Unit power plant.
  - Cylinders cast en bloc, with three bearing crankshaft (found only in other cars selling upward of \$2,500) instead of two. Bearings extra large, having bronze back, babbitt lined.
  - Valves enclosed by pressed steel cover, keeping oil in and dirt out—noiseless, minimum wear, minimum adjustment.
  - Thirteen-inch multiple disc clutch, action positive, smooth and easy.
  - Transmission gears of 40 H. P. size, run slowly and quietly.
  - Full floating rear axle, amply strong for a seven-passenger car.
  - Aluminum crank and gear case; drawn steel used in parts where lightness and strength are requisite.

4 1/2 x 8 1/2 Photogravure Free.  
Write for detailed description and the 4 1/2 x 8 1/2 photogravure of the new touring car.

**HUPP MOTOR CAR CO., 1255 Jefferson Ave., Detroit, Mich.**



**Hupmobile Runabout—\$750** F. O. B. Detroit, including top, windshield, gas lamps and generator, three oil lamps, tools and horn. Four cylinders, 20 H. P., sliding gears. Bosch magneto. In the new Hupmobile plant, now nearing completion, which will have when finished a capacity of 15,000 to 20,000 cars a year, the Runabout—always a car of unprecedented popularity—will continue to occupy the same large part in our manufacturing plans that it does at present.

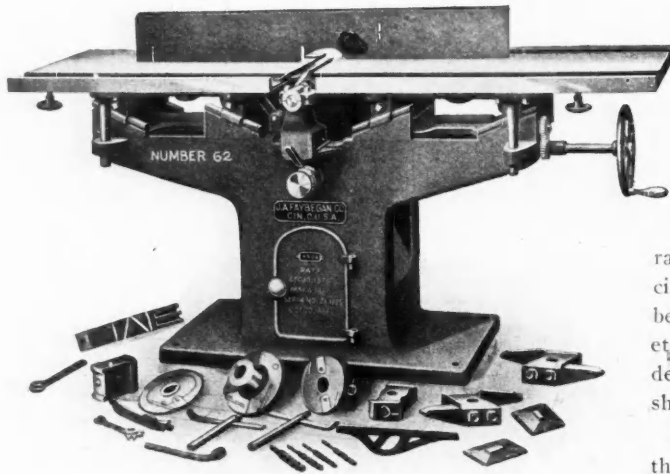
**Hupmobile Coupe**—Chassis same as Runabout—\$1,100 f. o. b. Detroit.

**Hupmobile Roadster**—Chassis same as World Touring Car—\$850 f. o. b. Detroit.

**A Universal Woodworker**

In the woodworking shop of every progressive carpenter, contractor, builder or retail lumberman, will be found a Universal woodworker.

This machine will directly produce a revenue sufficient to make it pay for itself in a short time, and in addition



J. A. Fay & Egan Co.'s., No. 62 Universal Woodworker

enables 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 universal woodworker especially to meet the requirements. This machine is shown on this page and will be found especially meritorious among carpenters, contractors, builders and retail lumbermen because of its simplicity. The manufacturer's chief aim in the construction of this machine was simplicity of construction so that any ordinary employee could operate it.

This is undoubtedly a great machine where one machine is required to do a large variety of work. In fact, the work that may be accomplished by this machine is practically unlimited. It will plane out of wind, surface straight or tapering, rabbet door frames, rabbet and face inside blinds; joint, bevel, gain, chamfer, plow; make glue joints, square up posts, table legs, newels; raise panels, either square, bevel or ogee; stick beads; work circular mouldings, etc., rip, cross-cut, tenon, bore, route, rabbet, joint and bead window blinds; work edge mouldings, etc. In fact, its name, "Universal Woodworker," well describes its uses, and it will be found a whole woodshop in itself.

A machine of this kind well fills the requirements of the term "efficient," as it seldom stands idle; for when through with one task it can be instantly changed to do something else.

The manufacturers, J. A. Fay & Egan Co., 545-565 W. Front St., Cincinnati, Ohio, have just issued a handsome booklet, containing two large photographs and full description of this machine, together with a number of illustrations of the work done on it, which can be obtained free on request and will prove of great interest.

**STANLEY'S**  
No. 160  
**Ornamental**  
**Surface**  
**Butt**

UNEQUALED IN  
QUALITY

**Time and Labor Saved and the  
Owner Satisfied**

With these butts it is not necessary to mortise the door, as the ornamental leaf screws on the surface.

The Butts can be changed to either right or left hand by simply unscrewing the slotted tip and reversing the pin. A screw driver is enclosed with each box that fits the slot in the tip, and can afterwards be fastened on your key ring.

Write us for a Handsome Booklet of  
Wrought Steel Hardware

**THE STANLEY WORKS**  
NEW YORK NEW BRITAIN CONN. CHICAGO

**RUNNING** in **\$42**  
**WATER** your home

**Complete Hot-Water and  
Steam-Heating plants \$120 UP**

Fresh running water for your bathroom, kitchen, laundry, stables, gardens. Plants all sizes, \$42 and up. Operated by hand power, electric motors or gasoline engines.

**This Complete Bathroom Outfit for \$38.95**

All kinds of plumbing supplies at factory-to-you-direct prices.

**Heating Plants  
Save \$100 to \$250**

on a modern Heating System. Steam Heating plants \$120 up. Hot water plants \$140 up.

**LIGHTING PLANTS.**—Complete Electric Plant including gasoline engine, dynamo, switch board and storage battery, \$256.

**IMPORTANT!**—We will furnish FREE with every water, heating or lighting plant special plans for your individual home. Anyone can install with these complete drawings.

This Big Free Catalog shows thousands of bargains. Gasoline Engines, Farm Tanks and Pumps, Hydraulic Rams, Pipe valves, Gas and Electric Fixtures. Buy from us and save 50 per cent. We have most complete line of guaranteed Plumbing, Heating, Lighting goods in U. S.

Write now.

**M. J. GIBBONS**  
Arcade Dayton, O.

# Have You Had Your Sample?

THERE is a free sample of Utility Wall Board and a handsomely illustrated book of interior designs waiting for every reader of the American Carpenter and Builder.

If you havent had yours

## Write for It Today!

Ten thousand carpenters and builders all over the country are using **Utility Wall Board** regularly—They are making more money—Their work is easier and their customers are better pleased as a result.

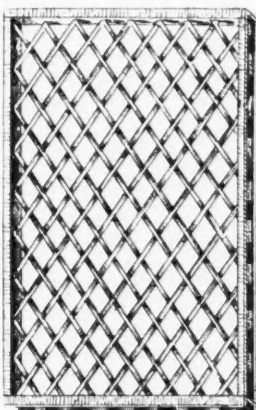
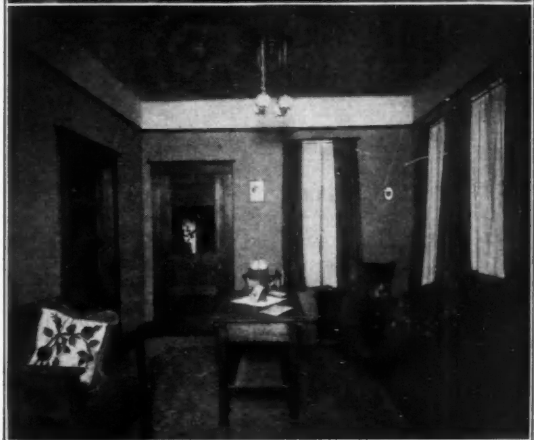
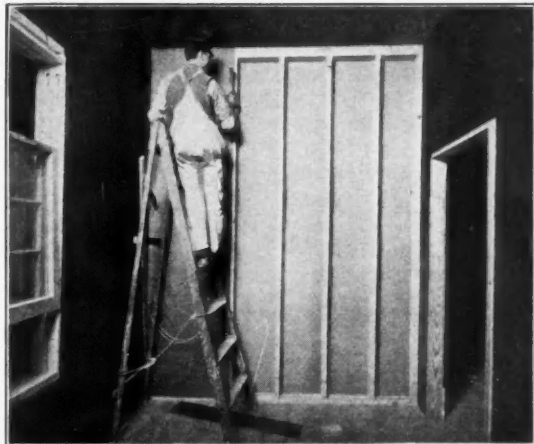
Utility Wall Board is extremely tough and durable—Takes the place of lath and plaster—Is easy to put up and makes a wonderfully attractive wall or ceiling when it is up. Positively moisture-proof—Will not shrink or warp—Lasts as long as the house does.

Every carpenter and builder needs it every day of his life.

*Write today for your sample.*

### THE HEPPE'S COMPANY

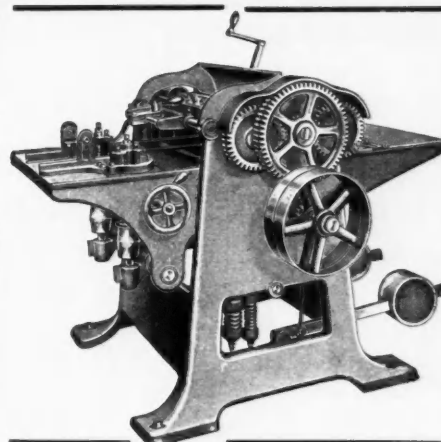
4503 Fillmore Street Chicago, Illinois



### Wire Window Guards, Railings, Signs, Etc.

Manufactured by  
**McLaren Brothers,**  
337 THE ARCADE  
Cleveland Ohio

Architectural and Ornamental  
Wire and Iron Work



A high grade modern

### WOOD WORKING MACHINE

for Contractors, Builders, Planing Mills and general use.

Many exclusive features

Send for Catalog and get posted. It will pay you.

**CORDESMAN, MEYER & CO.**  
41-45 Central Ave. CINCINNATI, O.

## Let us help you

We have prepared a folder showing successful color schemes and fashions and colors for 1911 which we will send free to any builder, contractor or carpenter.

It gives an idea of the handsome effects received by using

### **Lowe Brothers** **HIGH STANDARD** **Liquid Paint**

and other products. Try "High Standard" and demonstrate its economy. Practical tests show it covers more square feet to the gallon and wears longer—hence is most economical. Forty years on the market. See our nearest dealer about the supply. Send for the color folder at once, telling us how and where you buy.



### **The Lowe Brothers Co.**

Makers of  
"Mellotone"—Linduro—Vernicol and other  
"Little Blue Flag" Products

450-452 E. Third Street, DAYTON, OHIO

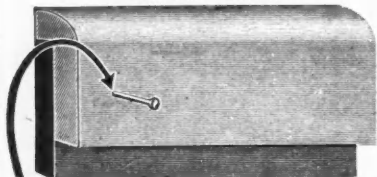
Boston New York Chicago Kansas City

## CARPENTERS

In the booklet "Simonds Guide for Carpenters" you are told some of the true facts about the very high quality of Simonds Hand Saws. Made of Simonds Steel. You are also given a mass of useful Carpenter's information. A copy mailed FREE if you mention this paper and write today.

**Simonds Mfg. Co.** FITCHBURG, MASS.

### **THE DENNIS "CLINCHER" FELT WEATHER STRIP** PATENT PENDING



**NOTE - NAIL PASSES THROUGH  
BOTH MOULDING AND FELT.**

Specify The

**W. J. Dennis  
Clincher Felt  
Weather  
Strip**

**If You Want  
the Best  
Made**

Manufactured only by

**W. J. Dennis & Co.** - 2226 W. Lake St., Chicago  
Free Sample to any address for your Hardware dealers' name.

### **"Red Devil" Chain Drill**

New appliances and devices for lightening and simplifying hand labor keep on the increase.

Drilling attachments for hand braces are not new. Many of these attachments have been put on the market and some of them have met with some success; but the majority of them have been dismal failures.

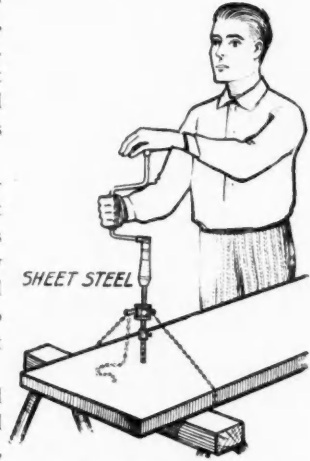
The Smith & Hemenway Co., No. 150-152 Chambers St., N. Y., are putting on the market the "Red Devil" Chain Drill for use with a bit brace, as shown in the illustration.

This attachment is so compact, simple and practical that it has met with instantaneous success, and has been very highly commended by several hundred master mechanics who have used it during the past year.

The "Red Devil" Chain Drill is an attachment to be used wherever pressure is required, as in drilling steel or iron girders, iron tanks and cylinders, slate, stone, marble, etc.

It consists of an iron yoke with a ball-bearing journal through which a threaded steel spindle works. A "Giant" Chuck with alligator jaws for round or square shank drills is fitted to one end of this spindle. The other end of the spindle is square tapered to fit an ordinary brace. The speed of the spindle may be regulated by a set or thumb screw in the yoke.

One end of the steel chain is permanently fastened to the yoke. This chain is used as a clamp or for pressure by looping it around the material to be drilled and fastening it in the groove provided on the opposite side of the yoke, as shown in the illustration. The "Red Devil" Chain Drill is practically a portable drill press. It weighs but two pounds and can be put in the tool bag or box, and is especially suitable for metal workers.



**"Red Devil" Chain Drill in  
Use for Drilling Steel  
Plate**

### **Old and Reliable Hardware Manufacturers**

The McKinney Mfg. Co., of Pittsburgh, Pa., whose advertisement appears on another page of this issue, is one of the largest and oldest manufacturers of builders hardware in the country, having been in business for nearly 50 years. Their goods are known for quality. Builders and dealers can feel satisfied that goods of this firm's manufacture, stamped with their well-known Trade Mark, are of the highest quality and finish.

Their Anti-Friction door butts, fitted with patented Non-Rising pin, is filling a long-felt want in the building line.

The Non-Rising pin obviates all the troubles and unsightliness of pins sticking out of butts, as is the case with the old style ordinary butts. The anti-friction washers are made of a special metal which they have developed and perfected after long experimentation and at a heavy cost, and which has successfully withstood the severest tests to which it could be subjected.

The Butts have no delicate parts to become deranged or lost. They require no adjustment—need no oiling—will permit the heaviest doors to swing easily, freely and noiselessly and will not wear away at the joints.

They manufacture a number of other articles also of special interest to the building trade.



Mr. **DEALER**

IN ACCOUNT WITH  
**DECO-VENEER CO.**  
INDIANAPOLIS

Terms: 2% 10; Net 30 Days

To Mdse.

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  
**45 30**

**This Room in Plain Oak, \$31.65**  
**Or in Circassian Walnut, 63.65**

**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.

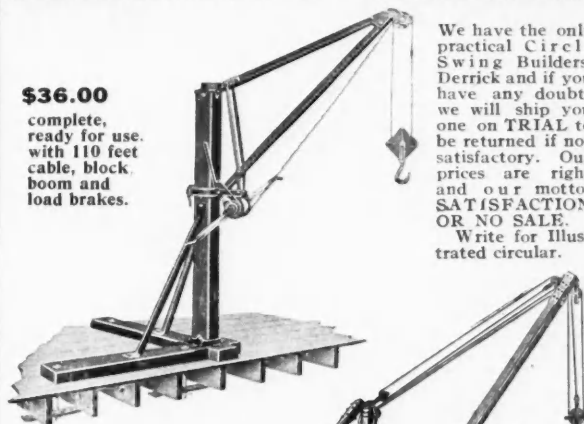
A sample order will convince you that Deco-Veneer makes wainscots in moderate-priced homes possible and practicable.

We Sell to Dealers Only

**Deco-Veneer Co., Indianapolis**

**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.



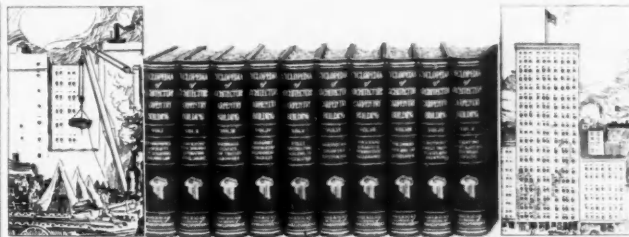
We have the only practical Circle Swing Builders' Derrick and if you have any doubts we will ship you one on TRIAL to be returned if not satisfactory. Our prices are right and our motto: **SATISFACTION OR NO SALE.** Write for Illustrated circular.

**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 cricable 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.



**FROM FOUNDATION TO FLAGSTAFF**

Don't stick along at an **under** job through all the best years of your life. Don't let the humdrum drudgery of every-day routine **CRUSH** your ambition. Don't be satisfied with merely pushing a saw and driving nails. Learn to **PLAN** as well as to work—to use your **BRAIN** with the **same skill** that you use your hands. Learn to fill a **BIG-SALARIED** job—the kind of a job that hundreds of other men, with no more natural ability than you, are filling with ease and success.

**HOW YOU CAN LEARN MORE AND EARN MORE**

You can **MASTER EVERY DETAIL** of your line of work. **EVERY BRANCH** of building construction. **EVERY ANGLE** of architecture and carpentry—can do it in your spare moments and at almost no expense at all. You can have the knowledge and experience of over **FOUR SCORE EXPERTS** at your command ready for instant use whenever you want it—can fit yourself to **fill any first-class position above you that you desire**—simply by allowing us to place in your hands this great ten-volume set, without your sending us one cent in advance.

THIS CYCLOPEDIA OF

**Architecture, Carpentry and Building**

is the most exhaustive, comprehensive and **practical** work on the building trades that has ever been published. It covers **every detail** of building construction from foundation to flagstaff, from common carpenter work to reinforced concrete and steel, from masonry to heating and ventilation; from specifications and estimates to building laws and superintendence. It covers all the **PRACTICAL** things that you **WANT TO** know, all the things that you've **GOT** to know if you're going to be a success. It contains over 4,000 drawings, full page plates, diagrams, etc., has 4,760 pages, is bound in handsome half morocco and printed on special paper in large clear type. No **CARPENTER, CONTRACTOR** or **BUILDING OWNER** can afford to be without it a single day.

**Get these books FREE and see for yourself**

just what they are **before** you send us a single cent. Look them over carefully at your leisure. Keep them for **seven days** before you decide whether you want them or not, and then if you don't believe that **each volume** is actually worth more to you than the price of the **entire set**, send them back at our expense and the **transaction won't cost you one penny**. If you do decide to keep them, our charge will only be \$24.80, spread out thin in easy payments of only \$2.00 a month. We don't ask you to buy these books on our description of them. We don't ask you to trust our judgment. We simply ask you to **get the books and see for yourself**.

**Free with every order received before January 1st, 1913**

With each set we include a Consulting Membership entitling you to the advice of our business and engineering experts free. This will give you practical help in handling working problems which are too specific to be taken up in detail in the cyclopedias. There will be no limit to this service. A single problem solved for you might be worth more than first cost of the books. Order the books now.

**American School of Correspondence**  
CHICAGO, U. S. A.

**FREE EXAMINATION COUPON**

American School of Correspondence, Chicago, U. S. A.  
Please send set Cyclopedia of Architecture, Carpentry and Building for seven days' free examination. I will send \$2.80 within seven days and \$2.00 a month until I have paid \$24.80, or notify you and hold the books subject to your order. Title not to pass until fully paid. Am. Carp. & Bldr. 12-11

NAME .....

ADDRESS .....

OCCUPATION .....

REFERENCES .....

### New Kanneberg Metal Tile

In this era of metal building construction when iron beams, metal sides, metal lath, and metal ceilings have so extensively displaced wood and other materials, it is fitting and natural that metal roofing should assume its place of importance. The advantages of metal in building construction have been established and in no other article are these advantages so pronounced as in roofing.

Roofing like all other parts of metal constructions has had acknowledged deficiencies and has undergone periods of slow development to its present stage of perfection. The Kanneberg Roofing & Ceiling Co., Canton, Ohio, are now offering their Metal Tile as the culmination of the most critical and careful investigation and experimenting, and the application of the knowledge gained by their experience of twenty-five years in the manufacture of sheet metal goods.

Kanneberg's sheet metal products have for two decades occupied a position of pre-eminence for excellence in quality and design; but we believe that they have perhaps never offered an article in which greater confidence in its absolute perfection could be placed than in this metal tile.

We want to advise builders, owners or others interested, to write for their new catalog "E." It contains much interesting and valuable matter besides demonstrating the superior features of their Metal Tile.

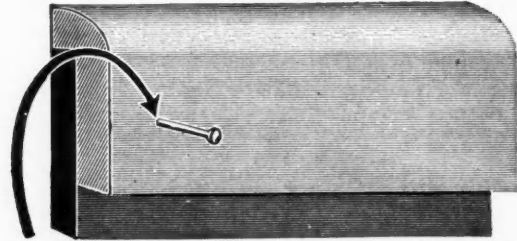
Address the Kanneberg Roofing & Ceiling Co., Canton, Ohio.

### Dennis "Clincher" Felt Weather Strip

The successful business man buys the best goods obtainable. W. J. Dennis & Co., of Chicago, are offering the trade a

"clincher" felt weather strip which they claim is the best that has ever been offered to the trade. They say that a trial order will convince any carpenter or builder.

The Dennis (Clincher) Felt Weather Strip is claimed to be the most practical and durable strip made. The felt, which is extra heavy, is glued to the bottom of the moulding,



Note that Nail Passes through Both Moulding and Felt

and the nail used to apply the strip passes through both moulding and felt. This feature assures complete satisfaction, and makes the strip much easier to apply.

The mouldings are made in two finishes (oiled finish, imitation walnut), or (shellaced polish, imitation oak or mahogany).

### Modern Method of Fitting Fancy Sash

In years gone by it was necessary when making up diamond light or fancy sash, to fit all the joints by hand, whittling out the shape with either a jack knife or chisel. This method required a great deal of patience and time, and the fit obtained was usually so poor that considerable putty had to be used to make the joints look well. Today, however, this method is very rapidly disappearing, due to the bringing out of a machine designed especially to do this work, which is illustrated on page 100.



## OAK FLOORING

*Attracts Your Attention Immediately and Holds Your Admiration Permanently*

Builders and owners use OAK FLOORING, because it is the one flooring that women of today want. There are reasons. OAK FLOORING will harmonize with any kind of furniture, interior trim or any decoration scheme. It imparts an air of refinement and elegance. In color, it is rich and cheerful.

OAK FLOORING  $\frac{3}{4}$ -in. thickness by  $1\frac{1}{2}$  in. or 2 in. faces can be laid over old floors in old homes or over sub-floors in new homes at a very low cost. It is cheaper than carpets or pine flooring. When laid, it has all the appearance of a heavy floor.

Any truthful landlord will tell you that OAK FLOORING increases the renting and selling values of any building, more than any other part of the interior construction. Besides a better class of tenants is assured when OAK FLOORING is used.

Write us for further information

THE OAK FLOORING BUREAU, 857 Hammond Bldg., DETROIT, MICH.



### THE PEERLESS 5 1/2 "STORK'S BEAK" Combined Compass and Scriber (No. 55)

Superior as a compass, because double joint and thumb screws make it the most secure and rigid compass on the market. Insert any style or length pencil for scribing. Cut shows its superiority as a scriber.

Explanation of figures in cuts: 1—Steel point inserted. 2-2—Adjusting slot. 3—For round pencils. 4—Lever for fastening pencils. 5—Steel point. 6—Any style pencil for the steel point can be inserted in this holder equally well. 7-7—Double locking device.

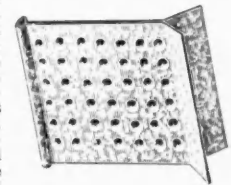
**SPECIAL OFFER**—To introduce this wonderful compass (regular price 45c) we will fill orders until April 15, 1912, at 30c. each; add 5c. for postage. Pencil 5c. extra, if desired.

No. 100—PEERLESS FLEXIBLE BIT-GAUGE—Highest and most durable made. Nickel-plated, 30c. No. 30.—3-inch polished steel PEERLESS SCRIBER, 30c; No. 35, nickel-plated, 35c.

We refer dealers to Sargent & Co. Mail orders promptly filled. Postage stamps accepted by  
**Potter Bros., Specialty Mfrs., 612 W. 110th St., New York**

## Niagara Galvanized Wall Plugs

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.

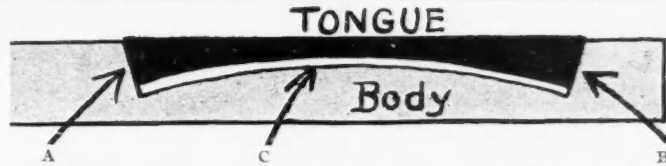
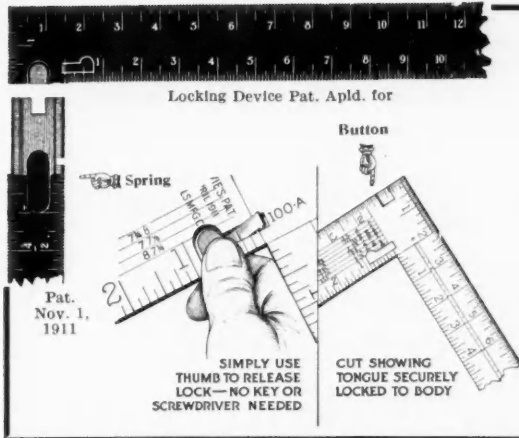


for building into  
**Brick,  
Stone or  
Concrete,  
Walls**  
as a base  
for Nailing

## 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



**NICHOLLS NEW TAKE-DOWN SQUARE**  
and How It Is Constructed so It Will Remain True

The bevels at point A and B are so slight they act the same as a square shoulder and are machined perfectly square down as wear comes in taking square apart, thereby producing constant accuracy. End of tongue springs down under a button and is held down at other edge of body by a very rigid spring. Rust proof canvas case with each square.

If your dealer does not handle our goods and will not order them for you, write us. We have a special inducement to those who order first square in every town. We prepay express.

NICHOLLS MFG. CO.

OTTUMWA, IOWA

**The Standard Portable Combination Woodworker**

FOR BUILDERS AND CONTRACTORS

**NINE MACHINES in One**

**Equipped with 6 H.-P. ENGINE**

Large Facilities. Prompt Deliveries.

Send for illustrated catalogue A.

**Atlantic Engine Co.,**

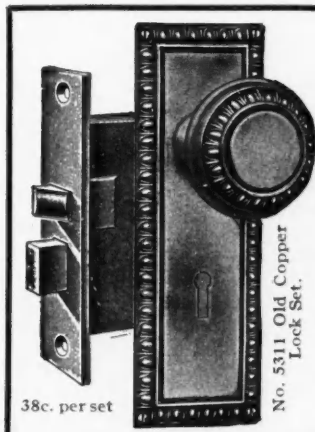
67 Mercer Street, MEADVILLE, PA.

Canadian Office: BRIDGEBURG, ONT.



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

**Andrews Heating Co.,** 1165 Heating Bldg., Minneapolis, Minn.



**Do You Know**

What it means to buy Builders' Hardware at the right prices?

Send for our No. 5 illustrated catalog and net price list free to contractors and material men.

When sending for catalog state whether contractor, carpenter, or material man.

We do not sell to contractors, carpenters or material men in Cook County.

**Rehm Hardware Co.**  
1501 Blue Island Avenue.  
CHICAGO, ILL.

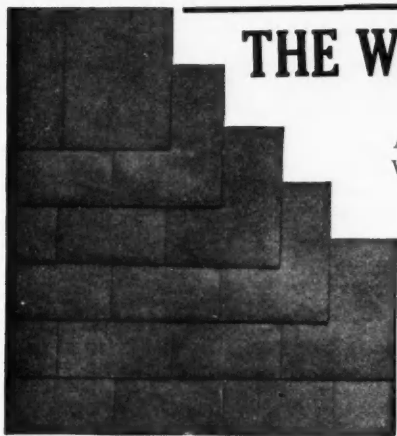


**Wood Carvings for Interior Finish**

Our beautiful Catalogue No. 21 will be sent upon receipt of 15 cents in stamps. Our product is of the highest grade, and too large to list here.

Write today

**Waddell Mfg. Co.**  
Corner of Taylor and Coldbrook Streets  
Grand Rapids, Michigan



**THE WINTHROP SOLID TAPERED ASPHALT SHINGLES**

ARE OF A COOL, GRAY SLATE COLOR

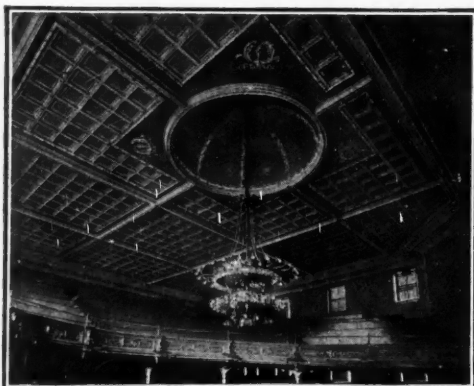
And have all the Durability of Asphalt—the Fine Appearance of Slate and the Light Weight and Low Cost of Wood Shingles. Laid with regular Shingle Nails, the same as Wood Shingles. **NEVER REQUIRE PAINTING.**

Write for Free Booklet and

**SPECIAL INDUCEMENTS TO THOSE WHO APPLY FIRST ROOF IN EACH TOWN**

Winthrop Asphalt Shingles are Fire-resisting, Water-proof, Wind and Sun-proof, and never Crack Break or Fall Off.

**WINTHROP ASPHALT SHINGLE CO.** 1101 1/2 The Temple CHICAGO, ILL.



## A Beautiful Ceiling

The illustration above conclusively proves that a modern fire-retarding and durable ceiling need not necessarily be ugly or unsightly merely because it is constructed of metal.



of which the above is a typical example, combine beauty, utility and durability in a manner found in no other form of ceiling.

**Berger** ceilings are manufactured from high-grade sheet steel, deeply embossed with classic designs.

They are arranged in interchangeable panels, so that many different patterns of ceiling may be built from the eleven basic designs.

A prominent feature is the Lap Joint which makes erection a matter of great ease, simplicity and speed.

Have you seen our large, handsome catalogue? If not send a card to the nearest branch.

### THE BERGER MFG. CO. Canton, Ohio

New York      Chicago      Philadelphia  
Boston          St. Louis      Minneapolis  
San Francisco      Atlanta

We also manufacture black, galvanized and painted roofing, eaves trough, hangers, conductor pipe, metal lath, metal lumber, sidewalk and vault lights, etc.

It consists of a base casting with column upon which is mounted the face plate and swinging tables supporting the sash bars.

The column and base are of the best possible design to secure rigidity and strength. The base casting rests on three points, giving it a solid bearing on the floor, however rough and uneven, and is made heavy enough to stand firm without being screwed down.

The face plate is of special design and carries swinging tables which can be clamped at any desired angle in relation to the cutters, by hand wheels at the back side of the plate. It is accurately machined, and contains grooves to receive a set of stops, engaging with the "spring pins" in the ends of the tables; which enables one to set to different angles and afterwards return to the same position without any delay in resetting.



The American Sash Trimmer

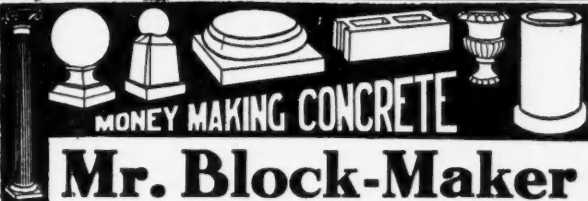
This plate is also graduated on each edge to locate the tables instantly at the angles of 30, 45, 60 and 90 degrees.

On the tables are wooden bed pieces made of selected, close-grained, hard wood, which are grooved out to fit the sash bar perfectly and prevent any splintering of the work when cutting at any angle.

The face plate also carries two special stops for use in fitting up curved work; and these can be set to support the curved pieces at exactly the right angles to make perfect joints. The table can be swung below the center, if necessary, to cut the right way of the grain, and pieces can be fitted in a moment that would otherwise require lots of time.

The cutter head is accurately machined, holds the cutters in correct position and is adjustable for wear.

It is operated by a foot treadle and is provided with a



**MONEY MAKING CONCRETE**

## Mr. Block-Maker

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

### The Mogul Invincible Block Machine

COMBINES ALL THESE

## IT IS RIGHT

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

PRICE—Machine and Outfit, \$75.00

WRITE FOR CATALOG

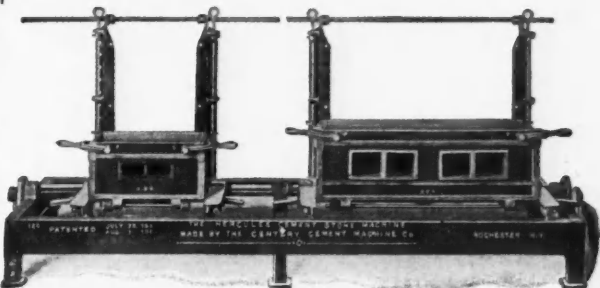
### THE PETTYJOHN COMPANY

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

## WHY THE Hercules Concrete Block Machine

is the **BEST** for **YOU** to buy

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



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

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

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

### CENTURY CEMENT MACHINE CO.

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


## A FREE BOOK

### On Concrete Machinery

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

It isn't exactly a catalogue because it gives you the cost of making concrete Blocks, Bricks, Porches, and Chimneys. It tells all about the profits in making Drain Tile for farmers. The advantage of drainage, etc.

You ought to have this book if you are interested in concrete. Sixty-four pages of illustrations and interesting reading. Send at once, today, a postal will do.



**W. E. DUNN MFG. CO., 4132 Fillmore St., Chicago**

## The Myers New-Way Adjustable Tandem Door Hanger

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

Write us for information and catalog.

### F. E. MYERS & BRO.

ASHLAND, OHIO



## TRUS-CON Joist Hangers

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



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

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

We also furnish Post Caps, Post Bases, Wall Plates and Base Plates made in rolled steel, malleable iron, or cast iron.

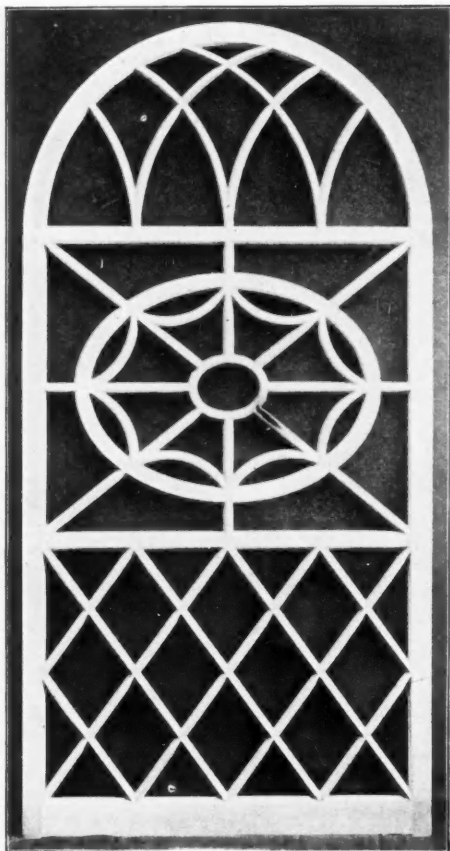
Write for catalog and prices

### TRUSSED CONCRETE STEEL CO., 344 Trussed Concrete Bldg., Detroit, Mich.

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



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



Work Done on the American Sash Trimmer

strong spring of proper length to insure uniform tension the entire length of the stroke.

This foot treadle is made amply strong for all work and has two holes at the rear end where it is pivoted, so that the pin can be changed to give double the leverage, if you desire it, when cutting hardwood bars with wide cutters.

We now come to the most vital part of the machine, the cutters, which as you will see from the cut, are mounted in the machine like the sides of the letter "A," and have the formed portion at the lower ends.

These cutters are made up especially to match each customer's shape of sash bar, and the recess which they make in the end of the sash bar makes a perfect fit with the sash bar of the same pattern; it makes no difference to what angle the piece may be cut. Plain cutters can also be furnished to use in mitering, in which case the tables of the machine are set at 45 degrees. Special cutters can also be furnished which will leave a short tenon on the end of the sash bar if desired, which is very convenient when fitting up mortised sash.

This machine enables the user to turn out as much work in one hour as in nearly half a day in the old way, which means to him all the difference between doing this work at a profit or a loss; and sending out a nicely finished job, in place of one that is unsatisfactory to his customer.

This machine is known as the American Sash Trimmer and is said to be the only machine of its kind being manufactured today; it is the result of over ten years' experience in building machines for this work, during which time thousands of them have been sold and are now giving unequalled satisfaction.

It is made by the Heald Machine Company, Worcester, Mass., who are the originators and sole manufacturers. They will send full information on request.

## Disston Saws, Files and Tools



For fifty-six years we have been making Disston Crucible Steel. It is made under the exclusive Disston process. The long life and cutting properties of Disston Saws are due to Disston Crucible Steel and the treatment it undergoes in our shops.

The Disston establishment is the *only one* making steel for its full line of saws and tools—

one reason why Disston Saws are uniformly durable and efficient.

Disston Saws are hardened and tempered by the exclusive Disston process.

It pays to buy Disston Saws and Tools. For any and every kind of work Disston Saws, Files and Tools are the most reliable.

We have been making saws for over 71 years.

**HENRY DISSTON & SONS**  
Incorporated

**Keystone Saw, Tool, Steel and File Works**  
PHILADELPHIA, PA.

BRANCHES: Chicago, Cincinnati, Boston, New Orleans, Memphis, San Francisco, Seattle, Portland, Spokane, Vancouver and Toronto

# The MAN Who Stood Still!



You can't afford to be **The Man Who Stood Still.** You don't want to stick to the plane, the saw and the hammer all **your** life. You don't want to continue to work for the next twenty or thirty years just as you do now. You must want to advance, and you can advance by studying

## Radford's Cyclopedia of Construction CARPENTRY, BUILDING AND ARCHITECTURE

**Twelve great, big, massive volumes.** More thorough, more complete, more exhaustive than anything before even attempted. Over four thousand pages, thousands of illustrations, diagrams, charts, plans and working drawings, made especially for this set of books, including three complete volumes on cement and concrete construction, the only thing of the kind in existence. Practical carpentry, steel square, framing, roof construction, and even manual training, painting, glazing and decorating are thoroughly treated in addition to the bigger work, such as masonry and steel construction, heating, ventilation and plumbing, reinforced concrete, contracts and specifications. And all this explained thoroughly without the use of a single square root sign or algebraic equation, or the use of anything but simple arithmetic. **Practical information from start to finish.**

**Free Set of Blue Prints and Book of Plans**

**ONE-QUARTER PRICE BARGAIN**  
Delivered to you at bare cost of manufacture merely to introduce the set. Privilege of examination free. We pay transportation both ways if you don't keep the books. One dollar with your order and two dollars a month pays for the books. Order on the coupon below and get all the benefits of the One-quarter Price Offer—\$23.80 instead of \$79.00.

**Free Five-Day Offer Sent For Only \$1.00**

Including year's subscription to the **American Carpenter and Builder** and one extra large Portfolio size volume of three hundred pages of all kinds of plans, perspective views and floor plans, selected for their excellence, economy of design and popularity among the building classes.

### SMALL LIST OF CONTENTS

#### To Realize their Tremendous Scope, You Must See the Books

- |  |  |   |  |  |
|--|--|---|--|--|
| <p>Carpentry<br/>Stair Building<br/>Steel Square<br/>Test Questions, Practical Problems, Reviews<br/>Framing<br/>Roof Construction<br/>Strength of materials<br/>Foundations, Retaining Walls, etc.<br/>Piles and Caissons<br/>Sewers and Drains<br/>House Drainage and Sanitation<br/>Estimating and Superintendence<br/>Laws of Building Contracts<br/>Painting and Glazing<br/>Blue Printing<br/>Specifications for Portland Cement</p> | <p>How to test Cement<br/>Standard Specifications for Concrete Blocks<br/>Establishing a Concrete Block Business<br/>Concrete Block Systems<br/>Proportions—Sand, Stone, Gravel and Water<br/>How to Overcome Concrete Troubles<br/>Curing Stone by Steam<br/>Color of Concrete Blocks<br/>Waterproofing<br/>Cement Plaster Work<br/>Cement Mortar<br/>Monolithic Concrete Construction<br/>Sidewalks, Pavements and Floors<br/>Expansion Joints<br/>Concrete Floors</p> | <p>Walls and Foundations<br/>Steps and Stairs<br/>Concrete on the Farm<br/>Roofings, Chimneys, etc.<br/>Reinforced Concrete Bridges<br/>Railroad Work, Concrete Ties, Abutments, Culverts<br/>Concrete Dams<br/>Retaining Walls<br/>Reinforced Concrete<br/>Various System, Tables<br/>Showing How to Reinforce<br/>Cement Ornamentation<br/><b>STEEL CONSTRUCTION</b><br/>This subject is handled thoroughly<br/>General Principles<br/>Practical applications<br/>Practical Problems in Construction<br/>Fireproofing</p> | <p>Use of Tiles<br/>Ventilation and Plumbing<br/>Heating—Steam, Hot Air, Hot Water, Furnace<br/>Steam Fitting, Gas Fitting, etc.<br/>Architecture, Mechanical, Free Hand and Perspective Drawing<br/>Rendering in Pen and Ink and Wash<br/>Lettering<br/>Practical Problems in Mensuration<br/>Water Color Effects<br/>The Five Orders</p> | <p>Invaluable to the house owner or prospective home builder<br/>Architecture, Mechanical, Free Hand and Perspective Drawing<br/>Rendering in Pen and Ink and Wash<br/>Lettering<br/>Practical Problems in Mensuration<br/>Water Color Effects<br/>The Five Orders</p> |
|--|--|---|--|--|

A.C.P. 12-11  
Radford Architectural Co. Medinah Bldg. Chicago

**ONE-QUARTER PRICE COUPON**

Please reserve your 13 volume Cyclopedia of Construction for me for five days' examination. I enclose \$1.00 deposit which you agree to return if I decide not to buy the books. If I keep the books I will pay \$2.00 a month until the special price, \$23.80, is paid, including year's subscription to Am. Carp. and Bldr.; otherwise I will notify you within five days after receipt of them. You also agree to furnish set of blue prints, if ordered within two months after acceptance of books.

**RADFORD ARCHITECTURAL CO.**  
Medinah Building, Chicago, Ill.

Name \_\_\_\_\_  
Address \_\_\_\_\_  
Employer \_\_\_\_\_



"Excelsior" Brad Set

### Magnetized Tool for Handling Small Nails

The accompanying cut illustrates a novel tool recently placed on the market by the Standard Tool Supply Co., No. 42 W. 15th St., New York City. The tool is designed for driving and setting small brads and nails that are too short to be conveniently grasped between the thumb and finger. It will also drive and set brads and nails in places inaccessible by ordinary methods. The tool consists of a plunger sliding in a tube provided with a spring for limiting the upward movement of the plunger and it also serves as a friction drag on the plunger. The driving end of the plunger is permanently magnetized and all parts that come to any wear are hardened and tempered in the most approved manner.

The tool is made in four sizes, full particulars of which will be found in our advertising columns.

### The "Lightning" Line

This is the name of a readable little publication which is to be issued monthly by the J. A. Fay & Egan Company, 545-565 W. Front Street, Cincinnati, Ohio. No. 1, Volume 1, has just come to hand, and we are informed by the J. A. Fay & Egan Company that they will be glad to mail a copy of it free each month to every reader of the AMERICAN CARPENTER AND BUILDER interested in it. The purpose of the periodical, as stated, is to give owners and operators of wood-working machinery in all its branches, quick advice as to what is new in this line, and to give it in an interesting manner."

### Key to the Steel Square

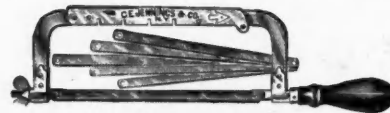
This is a handy little instrument suitable for carrying in the pocket and should be in the possession of all who have work to do in angles. It can be referred to in a moment's time to find what figures to use on the common steel square to obtain any angle desired. It gives roof pitches from one to twenty-four inch rise to the foot run, also any angle in degrees. It is based on the fundamental principle of steel square rafter framing. There can be nothing contained in so small a space that will give the genuine boiled down information as does this little instrument.

It is the work of Alfred W. Woods, who is a recognized authority on the use of the steel square.

It is for sale by the AMERICAN CARPENTER AND BUILDER. (See advertisement on another page).

### Special Hack Saw Outfit

C. E. Jennings' new special Hack Saw Outfit No. 177-6 is illustrated herewith. It gives you a saw suitable for every purpose for which a hack saw is needed. Frame is steel, full nickel plated, and is adjustable to hold from 10 to 14-inch blades. Faces blades to four different angles and is instantly adjustable to hold different length blades.



Blades are said to be of highest quality, and tempered very hard. Outfit consists of frame and 6 blades, assorted fine, medium and coarse teeth, and in length, assorted from 10 to 14 inches. Sold by C. E. Jennings & Co., 42 Murray St., New York, who will send complete information to all interested on request.

## READY-TO-LAY Burmite

Reg. U. S. Pat. Off.

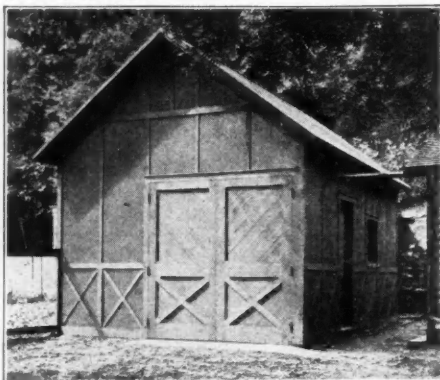
### The Material of Strength, Beauty and Service FOR ROOFING AND SIDING

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

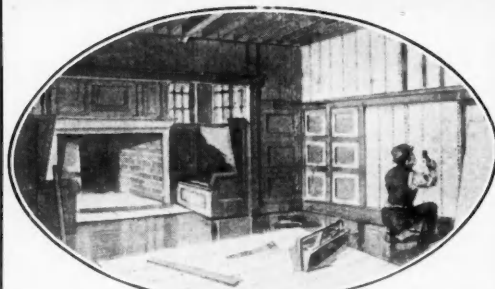
It has perfect water-proofing qualities, and great resistance to all destructive agencies, INCLUDING FIRE.

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



## You Can Safely Recommend Compo-Board

It makes the best walls and ceilings. Dry, warm, fire resisting and moisture proof.

Compo-Board walls will outlast lath and plaster. Will not crack, crumble or fall off. Can be easily put on without waste of time waiting for plaster to dry.

They always look well. No ugly blotches where moisture has gathered. No unsightly scars where the walls have been patched. Will take paint, paper or kaisomine perfectly.

In addition to being a perfect wall lining, Compo-Board can be used as a back plaster, for partitions, for lining summer cottages, barns and poultry houses. It has many uses around the house and in the office and factory.

Compo-Board is made of strips of thoroughly dried lumber matched together and well glued. These strips are then covered with a specially prepared moisture proof paper, which is cemented under intense heat and heavy pressure. This makes a wall lining that will last indefinitely.

Can be had in strips four feet wide and one to 18 feet long, any length you want in even feet.

### Send for Sample and Booklet

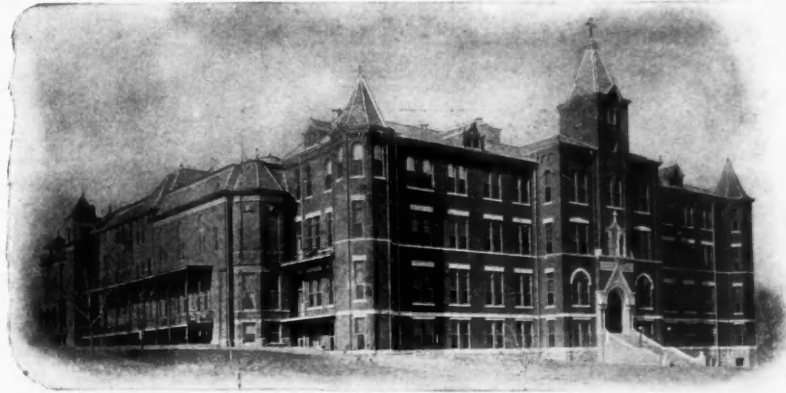
Fully describes Compo-Board and its many uses and advantages and the sample will show you what it is.

**NORTHWESTERN COMPO BOARD CO.**  
5777 Lyndale Ave. No. Minneapolis, Minn.  
The border of this advertisement is a cross section view of Compo-Board.



**S**T. FRANCIS HOSPITAL, Colorado Springs, Colorado, is a very fine building, as this photograph shows. No expense or care was spared to make it THE BEST AND MOST SANITARY hospital in the West. After exhaustive competitive tests, the authorities decided to roof it with THE BEST COVERING FOR ROOFS KNOWN—for

**Walter's Galvanized Metal Shingles Last!**



INVENTED AND PLACED ON SALE BY THIS COMPANY IN 1885

Here is a sample of the roofing accepted by this Hospital and by thousands of other public and private builders. IT WAS THE ORIGINAL DESIGN OF THE INVENTOR IN 1885 AND IS THE FIRST SHINGLE COATED WITH PURE ZINC EVER MADE. Hand dipped so that every crevice is FILLED. No chance for rust to creep in EVER. Send for free sample and confidential information. Might as well have THE BEST.

**NATIONAL SHEET METAL ROOFING COMPANY**

Inventors of the FIRST Metal Shingle  
JERSEY CITY, NEW JERSEY

**"We Wish to Say a Word in Praise of Our Coltrin Mixer"**



The Knickerbocker Co.,  
Jackson, Mich.

Middletown, Ind., Nov. 6, 1911.

Gentlemen:

We wish to say a word in praise of our Coltrin No. 7 Mixer. We have been doing an excellent business and feel that much of our success is due to the machine which is giving satisfaction in every respect. In our estimation and experience there is no mixer so well adapted to the mixing of concrete as the Coltrin.

Very truly yours,

MIDDLETOWN CONCRETE WORKS.  
E. W. Allen, Mgr.

Write for Catalog of

**THE COLTRIN CONCRETE MIXERS**

*Shipped Anywhere on Five Days' Trial.*

**THE KNICKERBOCKER CO.**

**Jackson, Michigan**

**FOOT, HAND AND LIGHT POWER WOOD-WORKING MACHINES**



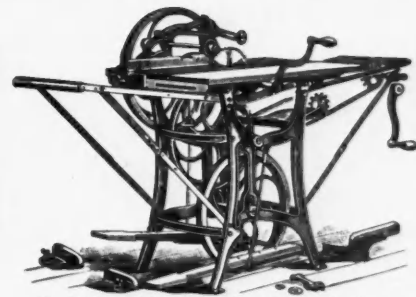
"Victor" Scroll Saw



"Diamond" Mortiser

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

Send for Catalog "A" describing our complete line



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

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

## The Milks Pocket Miter Box



THREE TOOLS IN ONE

**Handiest Tool a Carpenter Ever Added to His Kit  
Made of Aluminum—Weight 8 oz.**

**\$1.00 Delivered on Receipt of Price \$1.00**

**THE PARSONS TOOL MFG. CO.**

21st & Corning  
PARSONS, KAN., U. S. A.

## Ford's All-Wood Weather Strip

Special attention is called to the weather strip of the Ford Manufacturing Company, 120 Burns Block, Holyoke, Mass. The advantages of this weather strip will be quickly appreciated by all practical carpenters and builders. The point is made in regard to this weather strip that it contains no rubber, felt, or metal, and so will not corrode, rot or get moth-eaten. With its use windows are made practically air tight.

Ford's all-wood weather strips have been in use for years and have given full satisfaction. The manufacturers desire to arrange with a wide awake man in every locality to act as their agent for this weather strip. We understand they have a very attractive proposition to offer readers of the AMERICAN CARPENTER AND BUILDER.

## New Edition Henricks' Commercial Register

The 20th annual revised edition of Hendricks' Commercial Register of the United States for Buyers and Sellers has just been issued. Established in 1891, it has been published annually since that time and is the most complete work of its kind in existence. Its aim is to furnish complete classified lists of manufacturers for the benefit of those who want to buy as well as for those who have something to sell. It covers every branch of the architectural, engineering, electrical, mechanical, and kindred trades and professions. It establishes a direct link between the buyer and seller.

The present is by far the most complete edition of this work so far published. The 19th edition required ninety-nine pages to index its contents, while the 20th edition requires one hundred and eight pages, or nine additional pages. As there are upwards of four-hundred classifications on each page, the nine addition pages represent the manufacturers of over three



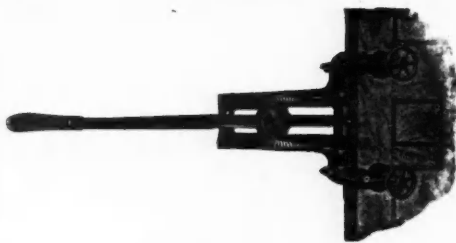
## This is the "Excelsior" Brad Set

A tool that will DRIVE and SET brads in places that would be inaccessible without it and indispensable to the Pattern Maker, Picture Framers, Cabinet Maker, Electrotyper or Automobile Body Trimmer who once uses it. The tool is made in four styles: No. 1 takes No. 20 and No. 18 brads up to 3/4 inch long. No. 2 is made special for mounting Electros. No. 3 takes No. 16 brads and lace tacks, and is popular with Automobile Body Trimmers. No. 4 takes No. 16 and No. 14 brads up to 1 3/8 inch long. Nos. 1, 2, 3 retail for 25c each, and No. 4 retails for 50c.

If your retail hardware dealer does not carry these tools in stock, they can be procured at the prices above given from

**The Standard Tool Supply Co., 42 W. 15th St., New York City**

**The Best That Is Offered**



**Two Minutes**

## TWO MINUTE LEVER LOCK MORTISER

**The Greatest Time and Labor Saver.**

Does the complete job the quickest. The easiest to operate. Cuts in any kind of wood. Any length or depth of mortise. No exaggeration in our statements. Send for descriptive circular.

Our Butt Mortiser and Rule Gauge are handy little devices. Sent for 75c.

**A. W. MILLER MFG. CO.**

Riverside, Calif.

Cincinnati, O.

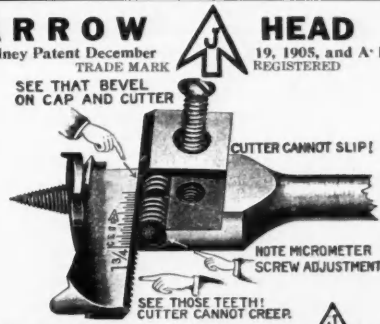
**C. E. JENNINGS ARROW HEAD EXPANSIVE BITS**  
 Steers' Patent April 1, 1884, Jennings-McElney Patent December 19, 1905, and A. B. Jennings' Patent March 1, 1910

After once setting the cutter for any given sized hole, the mechanic can bore Any Number of Holes and Every hole will be the Same Size.

By means means of the micrometer screw the cutter can be instantly adjusted to one thousandth of an inch.

Special Information regarding our C. E. Jennings' Arrow Head Expansive Bits. The cutters are graduated in 32nds of an inch. By moving the cutter 1-32 in. the diameter of the hole is increased 1-16 inch; or one-half turn of the micrometer adjusting screw will move the cutter 1-32 in., and increase the size of the hole 1-16 in. To bore a perfectly smooth hole, remove the bit as soon as the screw point pricks through; insert the screw point into this prick-mark from the opposite side from which the hole was started and bore until the hole is finished.

**C. E. JENNINGS & CO.,** : : **Sole Manufacturers** : : **42 MURRAY STREET, NEW YORK**



SEE THAT BEVEL ON CAP AND CUTTER  
 CUTTER CANNOT SLIP!  
 NOTE MICROMETER SCREW ADJUSTMENT.  
 SEE THOSE TEETH! CUTTER CANNOT CREEP.

TRADE MARK REGISTERED

**PRICE INCLUDING TWO CUTTERS AS FOLLOWS:**  
 No. 11 1/4 Bit (Large) with Nos. 3 and 4 Cutters, cutting from 3/8 to 1 1/4 and from 1 1/4 to 3 inches ..... \$2.00 each  
 No. 12 1/2 Bit (Small) with Nos. 1 and 2 Cutters, cutting from 5/8 to 1 1/4 and from 1 1/4 to 1 3/4 inches ..... 1.75 each  
 Our No. 1 Bit will take the place of 35 Auger Bits Costing \$35.00.  
 When you cannot procure from your local Hardware Dealer, we will mail, prepaid, on receipt of P. O. order, for above price.  
 These Bits are put up in a neat Leather Scabbard.

**1810 THE JAMES SWAN COMPANY 1911**  
 BEYMOUR, CONN.  
 Manufacturers of  
**Mechanics' Tools, Augers, Auger Bits, Draw Knives, Chisels, Hollow Augers, Gimlets, Boring Machines, Gouges, Screw Drivers, etc.**

Send for Catalogue



TRADE MARK



When looking for quality buy goods with the "Swan" trade mark.

**RUSSELL & ERWIN MFG. CO., Sale Agents,** NEW BRITAIN NEW YORK SAN FRANCISCO CHICAGO

**PERFECTION**  
**ELEVATORS**

The Best Value for the Money in the World  
 Mechanically Correct

Dumb Waiters, Carriage and Store Elevators, Sidewalk Hoists, Etc., Etc.

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


**The Low Cost Will Surprise You**

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

**SYDNEY ELEVATOR MFG. COMPANY, SYDNEY, OHIO**



**RUSSELL JENNINGS PRECISION BIT SHANK** is turned for accuracy and perfect alignment, is tapered to prevent pulling out of brace chuck or extension, has slotted end to prevent turning in chuck. It cannot wobble or work loose.



**RUSSELL JENNINGS MANUFACTURING CO., Chester, Conn., U.S.A.**

21-51

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

### 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.

### Van Guilder Houses Costs Less Than Wood and Sell Quick at a Wonderful Advance

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.



### 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.

Send for Booklet

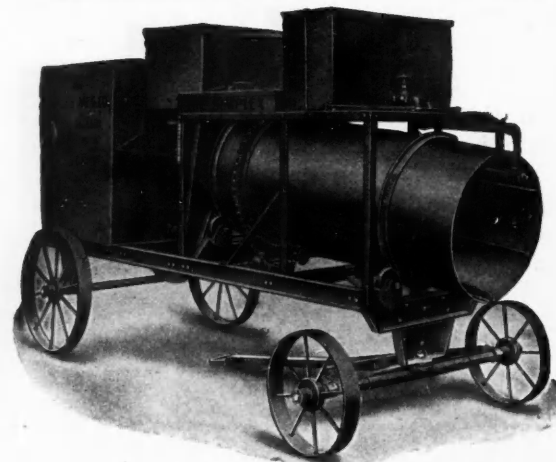
## VAN GUILDER HOLLOW WALL CO.

720 Chamber of Commerce Bldg.  
Rochester, N. Y.

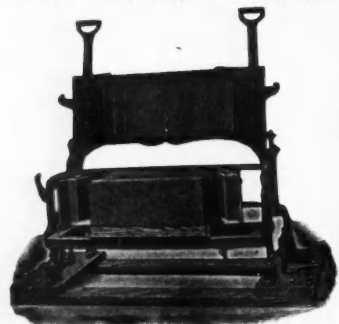
thousand articles, none of which have appeared in any previous edition. The total number of classifications in this book is over 45,000, each representing the manufacturers or dealers of some machine, tool, specialty or material required in the architectural, engineering, mechanical, electrical, railroad, mine and kindred industries. The 19th edition numbered 1,342 pages, while the 20th edition numbers 1,419 or 77 additional pages. They also omitted 47 pages of matter from the new edition that appeared in the 19th edition. This makes a total of 124 pages of new matter. The whole representing upwards of 350,000 names and addresses.

An important feature of Hendricks' Commercial Register is the simplicity of its classifications. They are so arranged that the book can be used for either purchasing or mailing purposes. As an illustration—all manufacturers of a particular trade first classified under a general heading for mailing purposes—then each firm or corporation is sub-divided under as many classifications as every variety of their products call for. By this system of compiling, the book is made of equal value for either the purchasing or sales departments. No other publication embodies these features.

Again, the value of the Commercial Register for purchasing purposes is not confined to its complete classifications alone, it also gives much information following the names of thousands of firms that is of great assistance to the buyer, and saves the expense of writing to a number of firms for the particular article required. This latter information is also not found in any other similar publication. The trade names of all articles classified in the book as far as they can be secured are also included. These trade names appear in parenthesis between the names and addresses under the classification where they appear. The book is revised, improved and issued annually by S. E. Hendricks Co., Publishers, 74 Lafayette Street, New York.



## 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, Simple, Strong and Rapid. Lowest in price.

WRITE FOR NEW 1911 CATALOGUE

THE MILES MFG. CO., Inc. 309 E. Franklin St. JACKSON, MICHIGAN

## OLDS HOISTS

OLDS GASOLINE CONTRACTORS' HOISTS are built in all sizes, 3 H. P. to 12 H. P and in several types to meet all requirements.



Do not buy without first getting our printed matter and prices.

Gasoline Engines 1 1/2 H. P. to 100 H. P.

## SEAGER ENGINE WORKS LANSING, MICHIGAN

Olds Gas Power  
2112 Central St.  
Kansas City

Olds Gas Power  
204 N. Los Angeles St.  
Los Angeles

Olds Gas Power  
1007 Farnum  
Omaha

Seager Engine Works  
65 Beverley St.  
Boston

# IMPERIAL "SPIRAL" "AMERICAN" INGOT IRON LATH

THE MOST SUPERIOR RUST-RESISTING

**Government Approves It---Architects Specify It, Contractors Demand It.**

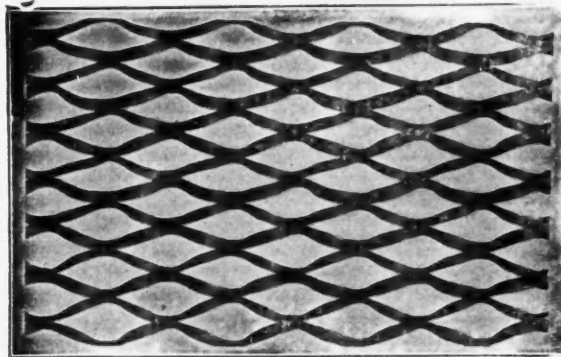
## RUSTPROOF

Made From

**"AMERICAN INGOT IRON"**

The Attainment of the Highest Purity in Iron

**99.94% PURE**



Imperial "Spiral"

## FIREPROOF

Equal Distribution of the Metal Giving Maximum Rigidity

Is unequalled by any expanded lath made, NOTE that "Spiral" Twist SAVING of THREE to FOUR cents Per Yard IN labor AND Plaster.

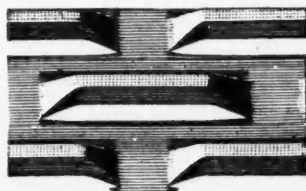
MADE IN ALL GAUGES, ONE STANDARD SIZE 16 1/2 INCHES x 96 INCHES

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

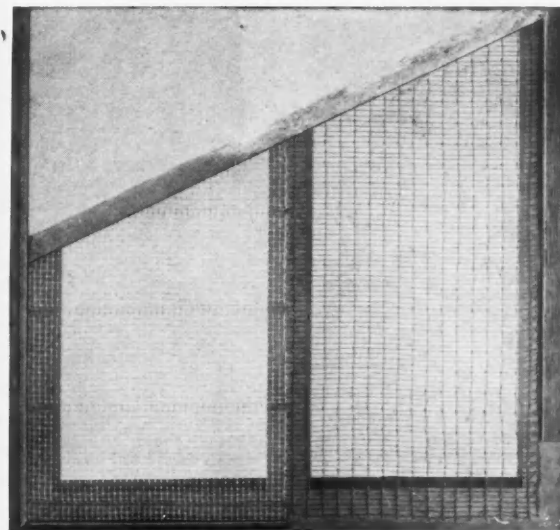


# WIRE LATHING

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.**



## Take a Course in Architectural Perspective

**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.

### SCHOOL OF APPLIED ART

**Battle Creek, Mich. U.S.A.**  
675 APPLIED ART BUILDING



## DECORATE Your Home and Church

With F. & B. Co.'s  
**ART WINDOWS**

Designs and Estimates on Application  
Without Charge.

Beveled Plate, Metal Sash, Memorial  
Figure Windows and Residence  
Work Our Specialty

Grand Prize Awarded Louisiana Exposition.  
Established 1883.

### The Flanagan & Biedenweg Co.

Office, Studio and Salesroom,  
312 to 318 W. Illinois St., near Franklin  
CHICAGO, ILL. Tel. North 21 8



THE  
**Fox Floor Scraping Machine**  
**IT DOES THE WORK**

**The Fox Costs \$25.00**  
IT'S RELIABLE

Has no parts to break.  
Leaves an even finish.  
Scientifically made.

**FOX SUPPLY CO., Mfgs.**  
1 East Main Street  
Madison, Wisconsin

Weight 80 lbs.  
Price \$25.00

### The Boss Floor Scrapers

Mr. George J. Kepplinger, Dwight, Ill., has been working constantly for more than ten years manufacturing floor scraping machines. During that time he has constantly improved them, since his aim has been to produce a machine of greatest simplicity, adaptability and usefulness at the lowest possible price. He states that he has produced many machines of great mechanical ingenuity and worth, but never came up to his own ideal as to what a floor scraper should be until he perfected his latest models—the Boss Double Swivel and the Boss Junior floor scrapers.



One of the greatest improvements in Mr. Kepplinger's machines is the regulating gauge which he has devised. This does a very important work in adjusting and setting the floor scraper to take only so much and no more, when planing the floor. You can set the machine so that it will take just the thickness or thinness of shaving that you desire. Knots or no knots, against the grain or with the grain, on hard or soft wood, new or old flooring, the result is claimed to be always the same—an even floor.

The secret for this lies in the gauge. Other important features, such as sanding attachment, ball swivel joint, knife protector, etc., deserve special attention.

All those who are interested should write at once to Mr. Kepplinger, at Dwight, Ill., who will send full information concerning these floor scrapers.

**"It Works Like a Plane"**

## The Boss Floor Scraper

The "Boss" is the only Floor Scraper made that will plane a floor without leaving a square cut where knife first starts cutting. Why? Because the "Boss" is made with a gauge on front, to which is attached a pear-shaped wheel which raises when machine is pulled and lets the knife down gradually. The "Boss" can be set for any thickness of shaving. It is guaranteed to give absolute satisfaction. It is impossible to do poor work with the Boss.



**G. J. KEPPLINGER**  
Main Office: - DWIGHT, ILL.  
Mnfd. also in Canada.

## *Carey's Flexible Cement Roofing*


When Carey's Roofing is specified and used, roof quality, durability and satisfaction are assured. Its standardized construction is recognized everywhere—proved by twenty-five years' tests.

Furnished and applied—under our direct supervision and guarantee—to any class of buildings, flat or steep surface. Write for full particulars.

### THE PHILIP CAREY MFG. CO.

50 Branches    Established 1873

58 Wayne Avenue, Lockland, Cincinnati, Ohio



## HESS MEDICINE SANITARY LOCKER CABINET

### The Only Modern, Sanitary STEEL Medicine Cabinet



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

**Costs Less Than Wood**

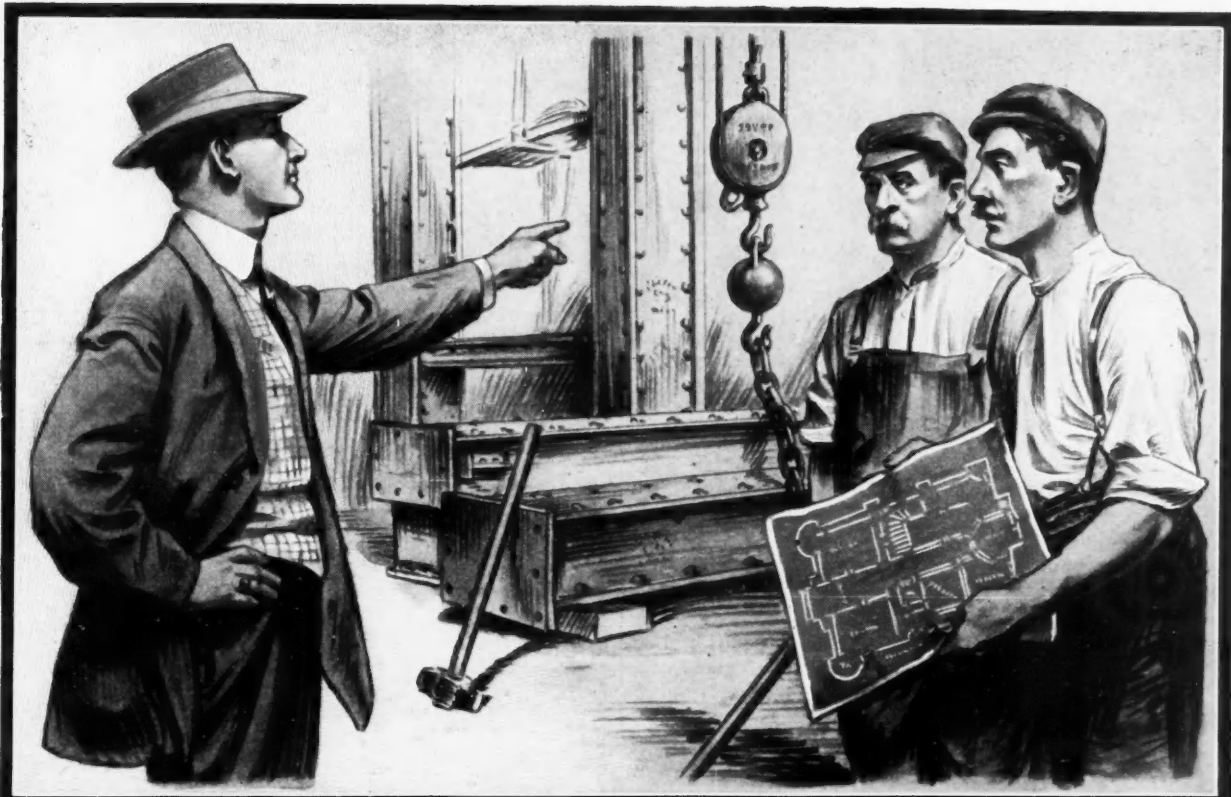
Never warps, shrinks nor swells. Dust and vermin proof, easily cleaned.

Should be in Every Bath Room

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



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



# Do You Want This Job?

**It Pays This Foreman \$250 a Month**

There are thousands of just such jobs awaiting the trained man. In every section, in every state, and in every city there are factories to be superintended; machinery to be repaired; railroads to be built and maintained; residences and business blocks to be erected; canals, cuts, and tunnels to be dug; or dams and power plants to be constructed.

Who should be in charge of this work? YOU.

Who should receive the high salaries paid for such work? YOU.

Who should qualify to successfully handle this work? YOU.

The progress of this age is not going to stop, and some one must do this work. Will it be you or the other fellow? One thing is certain: it will be the man best qualified for the job.

Thousands of I. C. S. students are today heads of the largest manufacturing, inventive, constructive, and business enterprises. And for 20 years it has been the business of the I. C. S. to prepare men for such positions. But today there are more businesses than ever, more opportunities than ever, and there must be more trained men than ever to fill the many positions.

Let us help you to qualify for a bigger job. What we have done for tens of thousands of others we can do for you.

You need only mark and mail the attached coupon and you will receive, without obligation or cost, full information about any position in which you may be interested.

**Mark and Mail the Coupon TODAY**

## International Correspondence Schools

Box 910, SCRANTON, PA.

Please explain, without further obligation on my part, how I can qualify for a larger salary and advancement to the position, trade, or profession before which I have marked X.

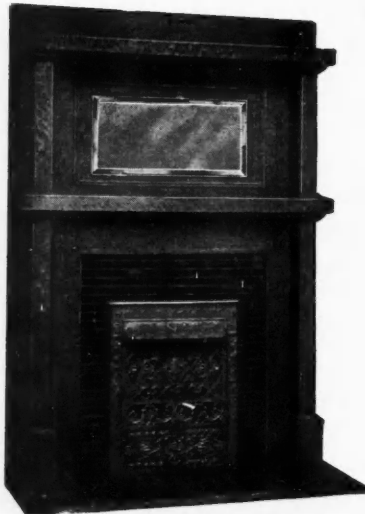
|                      |                      |                        |
|----------------------|----------------------|------------------------|
| Architect            | Estimating Clerk     | Automobile Running     |
| Arch't Draftsman     | Civil Engineer       | Foreman Machinist      |
| Contract'g & Build.  | Surveying            | Sh.-Met. Pat. Drafts.  |
| Building Inspector   | Mining Engineering   | Textile Manufact'g     |
| Structural Engineer  | Mechanical Engineer  | Bookkeeper             |
| Structural Draftsman | Mechanical Drafts.   | Stenographer           |
| Plum. & Heat. Con.   | Stationary Engineer  | Advertising Man        |
| Supt. of Plumbing    | Electrical Engineer  | Window Trimming        |
| Foreman Steam Fit.   | Electric Lighting    | Commerci'l Illustrat'g |
| Plumbing Inspector   | Electric Railways    | Civil Service Exams.   |
| Heat. & Vent. Eng.   | Concrete Construct'n | Chemist                |

Name \_\_\_\_\_

Street and No. \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

Present Occupation \_\_\_\_\_



**\$25.85**

For this elegant massive, selected oak or birch, mahogany finished mantel.

**"From Factory to You"**

Price includes our "Queen" Coal Grate with best quality enameled tile for facing and hearth. Gas Grate \$2.50 extra. Mantel is 82 inches high, 5 feet wide. Furnished with round or square

**'Reputation and Quality Count'**  
columns, full length or double as shown in cut. Dealer's price not less than \$40.

**CENTRAL MANTELS**

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

**CATALOGUE FREE**—Will send our 112 page catalogue, the finest ever issued, free, to carpenters builders, and those building a home.

**CENTRAL MANTEL COMPANY**  
1247 Olive Street, St. Louis, Mo.

**H. W. Johns-Manville Co. Change Location of Birmingham Office**

Due to the fast increasing business in Birmingham, Ala., the H. W. Johns-Manville Co., have found it necessary to change the location of their office from 1220 Empire Building to 606 Chamber of Commerce Building, this address being better adapted for their requirements.

This office will continue under the management of Mr. W. H. Fleming, who is well and favorably known throughout this section of the country, having been connected with the New Orleans branch of this company for a considerable time.

A complete line of well-known J-M Asbestos and Magnesia Products, Electrical Supplies, Packings, etc., will be handled from this office.



**Phenix Hangers and Fasteners**

Provide the easiest, surest and best manner of hanging storm sash. Its as simple as picture hanging. For ventilation or clean windows swing them out.

You can profit in small amounts many times multiplied—constantly multiplied by stocking Phenix Hangers and Fasteners and pushing them. Hangers retail at 10c, Hangers and Fasteners at 15c and 25c. A request for our catalog, prices and discounts is the first step. Write for them today.

**PHENIX MANUFACTURING CO.**  
044 Center Street, Milwaukee, Wis.

**Metal Tile Roofing**

Of Mullins' make is the kind that endures. It is simple in construction—positively storm and water-tight.

Guaranteed to remain in perfect condition for years, when put on according to directions. Expansion and contraction thoroughly provided for.

Widely conceded to be the most attractive and satisfactory roofing made.



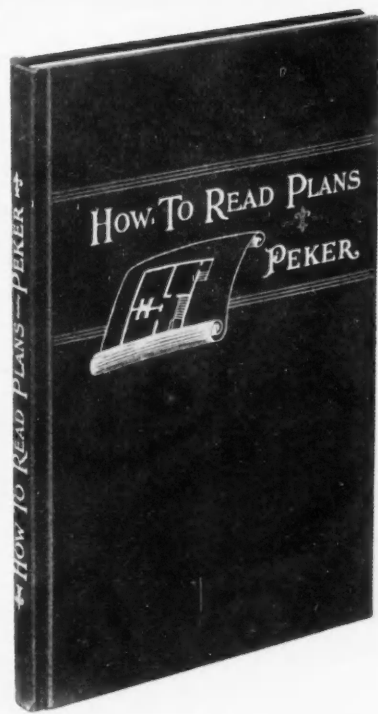
Also manufacturers of Cornices, Building Fronts, Garlands, Modillions, Enriched Mouldings, Capitals, Finials, Tympanum Panels, Rosettes, Faces and other architectural ornaments. Thousands of designs to choose from.

Cornice makers and building trades will find our prices attractive and shipments prompt.

Tell us your wants and the particular kind of Sheet Metal Work you are interested in. Catalogues will be mailed you at once. Discounts to the trade on application.

**The W. H. Mullins Co.,**  
214 Franklin St., Salem, Ohio.





**JUST PUBLISHED**  
**SECOND, ENLARGED EDITION**  
 ENTIRELY RE-WRITTEN  
 NEW ILLUSTRATIONS

# The Man Who Knows

How to Read Plans is always the one who is consulted and relied upon—and he always gets the best pay. If you are not that man you can be by studying the new book,

# HOW TO READ PLANS

By **CHARLES G. PEKER**

104 PAGES—81 ILLUSTRATIONS—HANDSOMELY BOUND IN CLOTH  
 SENT POST-PAID ON RECEIPT OF **PRICE ONLY 50 CENTS** YOUR MONEY BACK IF YOU ARE NOT PLEASED

Many building mechanics are handicapped from getting more pay because they are unable to read plans and work from a drawing.

Of course the best way is to learn how to draw; but many mechanics cannot afford the time for the necessary practice. It is for these men that this book was prepared, as the author simply explains the meaning of the various lines, plans, views, elevations, sections, scales, blue prints, devices, symbols, etc., to be found on a set of plans.

Each subject is taken up and explained and illustrated separately, and then a full complete set of architect's plans for a frame house is taken up and explained so that the reader will be sure to understand How To Read Plans.

The book is finely illustrated by 81 illustrations in the text, including a complete set of plans drawn to 1/4 inch scale for a 6-room frame house. This set of plans alone is worth many times the cost of the book; an architect would charge at least \$25 for their equal.

The useful suggestions, hints, etc., in this book will make it of value to even those who know how to draw, as well as those who do not.

It is one of the most valuable books ever got out for building mechanics, as its information means increasing a man's salary. It is pretty safe to say that to the man who cannot read a drawing now this book will mean at least \$50 more pay during the first year he has it.

**INDUSTRIAL BOOK COMPANY**  
 178 FULTON TREET, NEW YORK



## The DOME DAMPER

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.**

## Montross Metal Shingles are the Most Economical Made

More than that, they are the cheapest that can be bought. Builders and contractors add to their business and increase their profits by using them. Will last as long as the building. Easily laid, no soldering. Made of good tin plates, embossed, then galvanized or painted. Can't leak, crack, rattle or blow off. Won't bulge by expansion or contraction—patent side lock allows for that.

Send for catalogue, illustrated, with testimonials, prices, etc. Local agents wanted. Good proposition offered to live men.

**MONTROSS METAL SHINGLE CO. : 102 Erie St., CAMDEN, N. J.**



## ANTIFRICTION BALL TIP BUTTS

(Patent Pending)

**Strongest, Best and Cheapest Antifricion Butts Made**

**GUARANTEE OF QUALITY**  
**STAMPED ON EVERY BUTT**



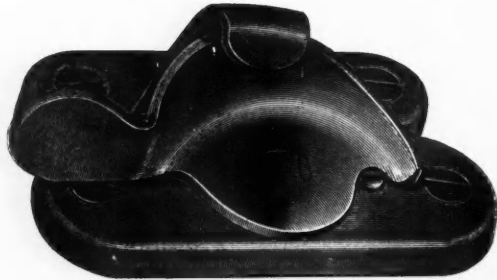
**FURNISHED IN ALL**  
**STANDARD FINISHES**

Makers of Strap and T Hinges, Barn Door Hangers and Track

**McKINNEY MFG. COMPANY**  
 WRITE FOR NEW 1911 CATALOGUE **DEPT 4** **Pittsburgh, Pa.**



# MONITOR SASH LOCKS



(PATENTED)

## NEVER BREAK

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

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

MADE IN TWO SIZES AND ALL FURNISHED BY

**The Champion Safety Lock Co.**  
Geneva, Ohio

### Luther's "Hummer" Tool Grinder

One of the handiest machines we have seen in a long time is a new grinder of the Luther Grinder Mfg. Co. As a grinder itself it represents advanced development, being built along the latest mechanical lines. Its unique construction enables it to be used with attachments in over 30 different ways.

Mechanically the grinder consists of an all-steel frame with an enclosed shaft drive run by bicycle pedals and beveled gears. Through this the power is transmitted to the head on which four shafts can be run, three in a horizontal plane and one in a vertical. The head can be swiveled to any angle so that the work can always be done to the best advantage.

Originally designed as a tool grinder it is equipped with two grinding wheels of their new sharpening substance "Dimo-Grit." This has been under development for a



### Economy Double Headed Nail

(PATENTED DEC. 20th, 1910)  
(PATENTED MAY 31st, 1910)

### A Labor and Lumber Saver

For concrete forms, staging and other temporary lumber construction these nails are invaluable.

Because: The second head has an area of four or five times as great as the ordinary nail.

This means that these nails can be driven home four or five times as hard as the ordinary nail.

Ask for sample. Orders shipped promptly.

**The F. A. NEIDER CO., Inc.**  
AUGUSTA, - - KENTUCKY



The Marvel locks shut automatically, is burglar proof, and ornamental. Is made of heavy wrought steel plates.

*Circular for the asking.*

**INTERSTATE MFG. CO.**  
OSKALOOSA - - - IOWA



# ROOF SLATES BLACKBOARDS

**E. J. JOHNSON**

38 Park Row, New York

**Quarry Operators**

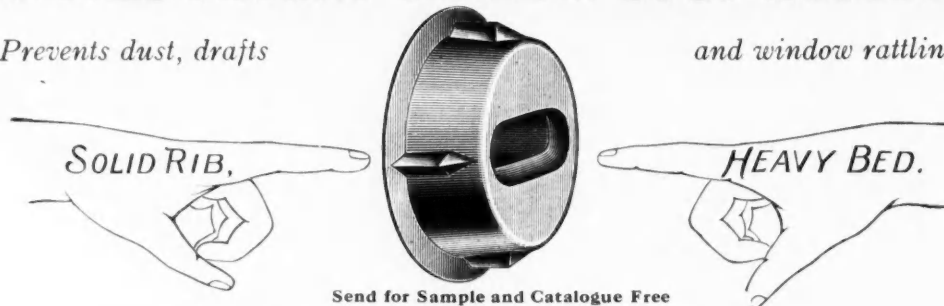
BLACK, GREEN, PURPLE, RED

Booklet, Samples and Prices on Application

## THE IVES PATENT WINDOW STOP ADJUSTER

*Prevents dust, drafts*

*and window rattling*

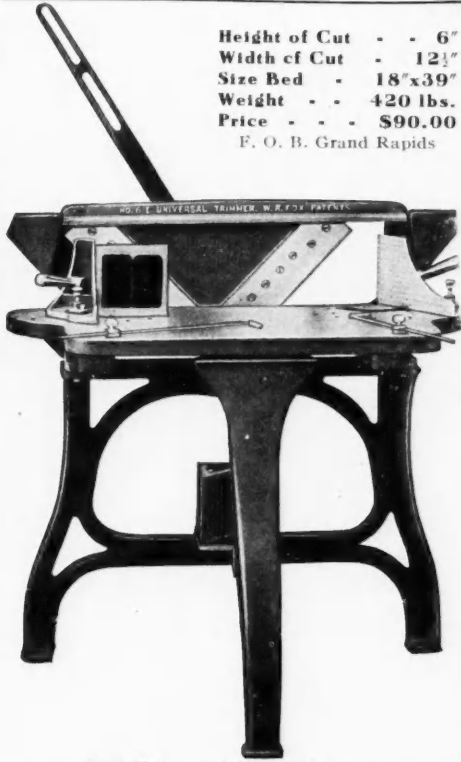


Send for Sample and Catalogue Free

1 piece of metal, will not cup, bend or turn in tightening screw.

**THE H. B. IVES CO., Sole Mfrs. New Haven, Conn. U. S. A.**

TRADE **FOX** MARK




**6-E Universal Wood Trimmer**

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

**Bench and Floor Type**

**"Universal" Wood Trimmers**

**To Meet Every Demand**



**4-A Universal Wood Trimmer**

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

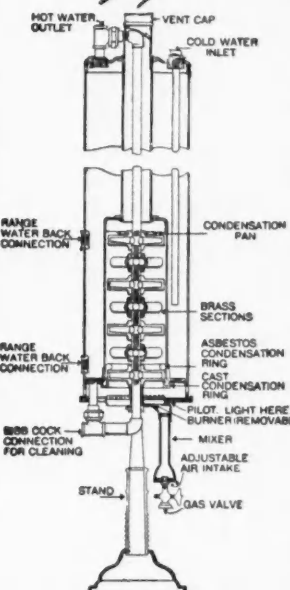
EVERY PATTERN SHOP, INTERIOR FINISH MILL, FURNITURE FACTORY, and others doing work requiring **perfect glue joints and angles** should have our Trimmers or Miter Machines to produce the best results

WRITE TODAY FOR COMPLETE CATALOG OF OUR TOOLS

**FOX**  
MACHINE CO.

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

*Electric Weld*



**Combination Boiler and Gas Water Heater**

The self-contained storage system. Illustration shows arrangement of enclosed Heating Chamber, Vent, and parts.

The advantages of this Type are many, in addition to the maximum efficiency thus obtained. Adapted to Large or Small requirements, without change in design of fixture or method of installing.

Widest choice as to location of fixture.

Economy of space.

Absence of delicate or intricate parts.

No special Meters or Service pipes required.

Lowest possible maintenance cost.

Moderate initial cost.

Minimum cost of operation (service considered.)

Double Circulation.

Primary Circulation equal to other types.

Secondary Circulation equal to thirty-five per cent. of total efficiency—altogether absent in other types.

Automatic or Intermittent Service optional, without adjustment of parts or breaking connections.

Range or Furnace Connections provided for.

Auxiliary Steam Coil, for High or Low Steam Pressure, if desired.

This type represents one-twentieth of total number of Gas Water Heaters in service, and is essential if water heaters are to be popularized.

**JOHN WOOD MFG. CO.**  
 CONSHOHOCHEN, PA.  
 Branches Throughout United States

This is the inner radiator of the **HESS STEEL FURNACE**

It's all steel and contains the fire, with its gas, smoke and dust. Radiator leakage in other furnaces sends gas and dust to the rooms, but never in the **HESS**. For every joint and seam in a **HESS** radiator is sealed tight WITH MELTED STEEL.

**EVERY JOINT IS WELDED AND STAYS TIGHT FOREVER**

Inferior furnaces are not built that way. Cemented radiators always open after a while and give trouble. It's impossible with the **HESS**

**HESS** Sent on Approval **FURNACE**

You can buy our furnace direct from our factory, at the factory price, and test it 60 days in winter weather. If not pleased, return it at our expense for freight both ways and pay us nothing. This offer and lots of good furnace information will be found in our free 48-page furnace booklet. Ask us for one. A postal card will do.

**HESS, 916 Tacoma Bldg. - CHICAGO**

**SHULTZ MODERN Store Fronts**  
 of Steel and Brass  
 CORK BEDDED  
 CORNER POSTS, MULLIONS AND TRANSOM BARS

**Handsome, Strongest and Most Practical Bar on the Market. Long Life—Nothing to rot out. Glass bedded on Spanish Cork preventing cracking or crushing of glass. No putty, yet Absolutely Water and Dustproof.**

Simply incomparable with old fashioned styles. They add immensely to the Beauty, Utility and Rental Value of Buildings.

**ARE LOW IN COST**  
 Architects, Contractors and Owners are invited to write me for descriptive literature, prices or estimates.

All Steel Cork Bedded and Ventilated Bottom Bar.

Also Shultz Patent Burglar Proof Coal Chute.

**C. H. SHULTZ, MANUFACTURER, ST. JOSEPH, MO.**

**ALL-STEEL BURGLAR-PROOF COAL CHUTE**

The Neatest, Strongest and Most Convenient Coal Chute Made. Prices also Lowest. No modern residence complete without it. Locks itself when closed up. Can only be opened from inside. Architects, Contractors and Owners are invited to write for descriptive circular.

**C. H. SHULTZ, Manufacturer, St. Joseph, Mo., U. S. A.**

number of years and extensive tests have demonstrated that it is the ideal "wheel for steel." A universal tool rest and an automatic chisel guide give the desired bevel to any tool. Special supports make it easy to grind mower sickles and discs, two of the most awkward things to sharpen that are in common use on farms. The sickle can be given any desired bevel. There is also a special device for holding twist drills so that they can be ground true.

The machine is really a foot-power engine by means of which many things now done by hand can be done more easily by foot power. However, any sort of power may be applied either at the base of the machine in place of one of the pedals, or at the top. Taking all in all it is a most complete grinder; and with its various attachments it can take the place of a number of expensive machines for different purposes.

**Ford's All Wood Weather Strip**

**YOU** can see at a glance the advantages of using a weather strip with no rubber, felt or metal. It will not corrode, rot or get moth eaten. It is practically air tight, and has been used for years. Send for samples.

*Agents Wanted. Good Territory and Good Commissions*

**FORD MANUFACTURING CO.**  
 120 Burns Block :: :: HOLYOKE, MASS.

**DOW IRON LINTELS**  
 Wire & Iron Works  
 (Incorporated)  
 LOUISVILLE, KY.

**Beams, Angles, Anchors, Hangers.**  
 Ornamental Cast Iron Fronts and Stairways.

**GENUINE BANGOR** Roofing Slate  
 Structural Slate  
 Blackboards

Large Facilities, Prompt Deliveries

**EAST BANGOR CONSOLIDATED SLATE CO.** - - - **East Bangor, Pa.**



**TYPEWRITER FREE FOR JUST A LITTLE OF YOUR SPARE TIME**

Hundreds Write as Follows

Tulsa, Okla., June 17, 1911.—"I earned a \$100 machine for about thirty minutes talk."  
 Frank E. Harper.

Dayton, Ohio, May 23, 1911.—"I earned my typewriter in just a few hours."  
 A. Highlen.

Ashley, N. Dak., June 8, 1911.—"Earned my Emerson in not to exceed an hour, and consider it better than much advertised hundred dollar typewriters."  
 A. E. Snowden.

Lassater, Tex., Apr. 6, 1911.—"I earned my Emerson Typewriter free in six hours."  
 O. S. Jones.

Elizabethville, Conn., June 21, 1911.—"I earned my Emerson" free in not over two hours."  
 F. J. Barrett.

Biddeford, Me., May 26, 1911.—"I received the Emerson Typewriter you sent me free for less than a day's work."  
 C. M. Reny.

**HUNDREDS WRITE THE SAME WAY**, and our customers generally pronounce the Emerson at least the equal, if not superior, to any \$100 typewriter on the market.

**ONE DOLLAR** down, then **Ten Cents** a day, are our regular terms and our present price, is but a fraction of what others ask for typewriters of like high-grade. **DON'T PAY EVEN \$20 FOR ANY TYPEWRITER, UNTIL YOU SEE OUR OFFER.**

**BUT YOU CAN GET THIS TYPEWRITER FREE OF ANY COST** for just a little of your spare time.

The Emerson is a high-grade, wholly visible typewriter, combining the high-grade, up-to-date features of all hundred dollar typewriters: rapid, accurate, light touch, easy action, wholly visible, two-color ribbon, universal keyboard, back spacer, tabular, every improvement, the ideal machine for experts and beginners alike. With our instruction book you can write in an hour.

**Our Free Offer** On a postal card or in a letter to us, simply say "Mail me your Free Offer," and by return mail, you will receive our latest Catalog, illustrations, descriptions, endorsements, testimonials, certificates and our **FREE OFFER** by which **YOU CAN EARN AN EMERSON TYPEWRITER FREE FOR JUST A LITTLE OF YOUR SPARE TIME.**

Address,  
**THE EMERSON TYPEWRITER COMPANY, Box 207, WOODSTOCK, ILLINOIS**

**Just Off the Press**

# ASHBY'S

**Designs of Schools and Libraries**

display a composition of utility, durability and good, pure architecture without any "gingerbread."

No buildings are too large or too small for our personal and prompt attention.

We develop your own ideas into a practical set of plans and specifications which can be executed to the smallest details into a building that can be built within your means and to your entire satisfaction.

Ashby's "Designs of Schools and Libraries" will be sent to parties interested in the erection of a school building or library for which plans have not yet been procured.

**G. W. ASHBY—ARCHITECT**  
 11th Floor, Medinah Bldg.  
 CHICAGO, ILL.



WHITE PINE  
or YELLOW PINE  
VEST POCKET BOOKS  
  
CLOTH COVERS

PARKER'S  
MOULDING  
CALCULATOR

NEW UNIVERSAL  
PRICE LIST  
  
96 PAGES  
PAPER COVERS

Universal Price List  
and Handbook  
of Millwork  
  
SEE 54 & 74-80 PAGES

UNIVERSAL  
DESIGN BOOK  
1911-12

OFFICIAL  
MOULDING BOOK  
  
Shattock & McKay Co.  
PRINTERS and PUBLISHERS  
167-169 W. MONROE ST.  
CHICAGO  
  
1911

UNIVERSAL  
ART  
GLASS  
CATALOGUE  
No. 310

CUSTOMERS'  
ORDER BOOK

AMERICAN WINDOW  
AND  
POLISHED PLATE  
GLASS LISTS

**\$1.25 POSTPAID**

Customers' or Your Name on  
Cover :: Special Price  
on 12 or More

Our New Design Book  
for 1911 and 1912 has  
been carefully revised and all lists corrected to  
date. New cuts illustrating the latest ideas in  
Millwork of all the leading manufacturers. 32  
pages of Art Glass in colors, practical and popu-  
lar designs. Indispensable to the Manufacturer,  
Jobber, Dealer, Contractor and Architect.

# SHATTOCK & MCKAY CO., Printers and Publishers

167-169 W. Monroe St., CHICAGO

Official Sash and Door Lists of Every Description. Art Glass Catalogs, Moulding Books, Order Books, Window and Plate Glass Lists. Engraving and Photography in all its Branches. Write for Samples and Prices.

# CLASSIFIED DEPARTMENT

Rates 5 cents a word each insertion.  
CASH MUST ALWAYS ACCOMPANY ORDERS

C. L. PARKER, Patent Attorney, Ex-Examiner Patent Office, 920 G St., Washington, D. C. Write for inventor's handbook.

## Are You Going to Build?

Don't forget to remind your architect to specify the Zimmerman Iron Base, the only one with a center bearing.

It ventilates the column thereby preventing checking or opening and does not allow water to stand at the base to cause rot.

Write for Circular E.

Syracuse Corner Block Factory, Syracuse, N. Y.

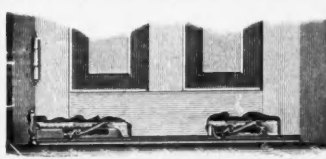


Bottom View of Patent Iron Base Showing Center Bearing

## THE NEW PARKHILL PITCH GAUGE

on a square gives the easiest method ever devised to mark roof-framing—and by far the quickest. It is universal and marks any pitch roof—of hundreds—inside of 5 minutes. And in 17 seconds all these: irregular hip; jack side bevel; mitre bevels on sheathing, fascia, plancher, purline and a hopper. The work of this Gauge cannot be duplicated with any other tool or rule—in the same time. It has no equal as a Stair and brace Gauge. Sent prepaid for \$1.50, with directions, and money returned if Gauge is, inside 30 days.

JOHN PARKHILL, : : : ROCHESTER, MINNESOTA



## INTROSTILE

Tightly seals the crack under door and hinged window bottoms. Automatic, noiseless, invisible, and absolute in operation. Ten years of general and successful use. The best door bottom device ever constructed. If you do not already know its merits it is time that you should. Will gladly furnish further information. Write us at once. We make the O-K Door. Bottom strip also. It's splendid. Look us up in "Sweets," pages 868-69.

THE INTROSTILE & NOVELTY CO., Marietta, Ohio

## CARPENTERS' TOOL SATCHEL



Carpenters' Tool Satchel.

Especially adapted for jobbing trips. Made of heavy canvas with steel frame for lock and key, leather handles and strap. Contains 5 saw pockets, bit and chisel rolls. Can't rip. Durable and convenient.

Send for Catalog showing our line of Mechanics Tool Bags

EXCELSIOR BAG & MFG. CO., Inc. TROY, N. Y.

## SLATE WE HAVE WHAT YOU WANT

In Roofing Slate, Slate Blackboards  
Structural and Plumbers' Slate

SATISFACTION GUARANTEED IN QUALITY AND PRICE

ASK FOR DELIVERED PRICES

J. K. HOWER, Station, C., Slatington, Pa.

R. J. KICHLINE, Sales Agent



## SHINGLING HATCHETS

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

L. A. SAYRE & SON

8 Oliver St., Newark, N. J.

## 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.



Hartman-Sanders Company

Sole Manufacturers of

KOLL'S PATENT LOCK JOINT COLUMNS

2155-2187 ELSTON AVENUE, CHICAGO

Eastern Office: 1123 Broadway, New York City

The best columns for porches, pergolas or interior use.

## PARKS' No. 620 and 622

Combination Circular Saw, 6-inch Joiner, Band Saw, Reversible Spindle Shaper with Boring or Mortising and Rabbeting attachments. : : : : :

Six Machines in One and all in Plain Sight  
No unbolting or bolting is necessary before you can see, or use all the attachments. Economical, cheap, and a constant money maker for Carpenters and Contractors.

Write for Circular and Prices. Parks' Ball Bearing Machine Co. Fergus & C. H. & D. Ry. Cincinnati, Ohio

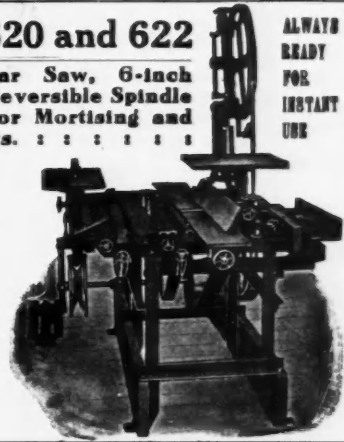
Originators of the Circular Saw, Band Saw, and Joiner Combination, also Foot and Hand Power Machine.

Canadian Agent,

BOURNIVAL & CO.,

333 Notre Dame East

Montreal, Que.



ALWAYS READY FOR INSTANT USE

## DRYING STOVES

(SALAMANDERS)

BUILT TO STAND WEAR AND TEAR

15" and 20" diameters, with or without Tops. Dumping and Shaking Grates. Circulars and prices on request. We ship any quantity anywhere, promptly.



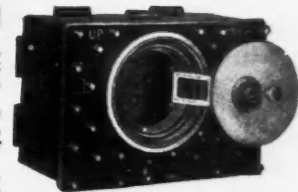
PLASTERER'S DRYING STOVE.

The G. Drouve Co., V Bridgeport, Conn. Agents Wanted 23 Sulip St.

## The Gale Wall Safe

It makes your Valuable papers, Jewelry and Silver secure against Porch Climbers, Petty Thieves, Fire, etc.

No Home or Apartment house complete without one. It has a combination lock. Write for descriptive matter today. FRED LIEBRICH, Agt. for Cook Co., 1102 Monadnock Bldg., Chicago, Ill.



WILLIS MFG. CO.

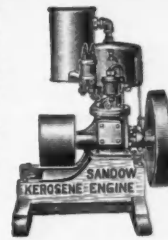
Galesburg, Ill.

## SANDOW \$37<sup>50</sup> 2 1/2 H. P. Stationary Engine—Complete

Gives ample power for all farm uses. Only three moving parts—no cams, no gears, no valves—can't get out of order. Perfect governor—ideal cooling system. Uses kerosene (coal oil), gasoline, alcohol, distillate or gas. Sold on 15 days' trial. YOUR MONEY BACK IF YOU ARE NOT SATISFIED.

Five-year ironclad guarantee. Sizes 2 1/2 to 20 H. P., at proportionate prices, in stock, ready to ship. Postal brings full particulars free. Write for proposition on first engine in your locality. (116)

Detroit Motor Car Supply Co. 196 Canton Ave., Detroit, Mich.



# SARGENT

## Hardware

Beauty of design and finish without;  
honest metal and solid quality within.

The fine workmanship that distinguishes all Sargent Hardware is peculiarly valuable in Sargent Locks. Every part is accurately fitted to work easily and quietly. They are the finest development of correct lock principles and afford maximum security.

The new Congressional Office Building at Washington, containing valuable records, is fitted throughout with Sargent Hardware and Sargent Locks.

There are Sargent Door Locks suitable for all purposes. Any hardware dealer can furnish them.

### *Sargent Book of Designs*

—mailed free

shows hardware patterns to harmonize with every style of architecture. If you are interested in building, write for it. Colonial Book also sent on request.

**SARGENT & COMPANY**

1159 Leonard St., New York



## CONTENTS FOR DECEMBER, 1911

|   | Page |   | Page |                                      | Page |
|---|------|---|------|--------------------------------------|------|
| Appropriate Gift                        | 31   | Final Solution of the Water Supply Sys- | 64   | More Shop Kinks                      | 43   |
| "Better Building" and Our Readers       | 36   | tem                                     | 64   | Offer Acoustical Help                | 61   |
| Better Building—Why and How             | 34   | Friendly Feeling Which We Reciprocate   | 61   | Official Grades of Doors and Sash    | 45   |
| Book Reviews                            | 53   | General Specifications and Instructions | 48   | Planing Mill Work                    | 43   |
| Boy and the Hammer                      | 32   | for Setting Tiles on Floors and Walls   | 48   | Practical Uses of the Steel Square   | 38   |
| Brick and Tile Work                     | 48   | Glad to Help Where We Can               | 60   | Public Buildings                     | 59   |
| Builders' Hardware—The Gauge of         | 34   | He Sends in Two                         | 61   | Residences                           | 54   |
| Quality                                 | 34   | Home Workshop                           | 52   | Says Contractors and Builders Can be | 36   |
| Change of Names for Oak Flooring Grades | 37   | How Long to Cut the Ridge Piece         | 60   | Trusted                              | 36   |
| Concrete Cold-Weather Advice            | 45   | How to Make a Foot Stool                | 52   | Single-Color and Compound Stenciling | 40   |
| Correspondence                          | 60   | How to Remove Old Putty                 | 43   | Some Good Questions                  | 60   |
| Decorative Possibilities of Wall-Board  | 42   | Improving a Bad Stair                   | 60   | Steel Square                         | 38   |
| Details of Construction and Finish      | 45   | Interior Decorations                    | 40   | To Educate People in Architecture    | 37   |
| Economical Proportioning of Concrete    | 39   | Knows a Good Thing                      | 36   | Trade Notes and Items of Interest    | 64   |
| Editorial                               | 31   | Large Round Dairy Barn                  | 62   | Way to Save Five Per Cent            | 31   |
| Favored Bungalow                        | 54   | Lights in the Batten Door               | 44   | Working Conditions in Florida        | 60   |
|   |      | Modern Country Schoolhouse              | 59   | Your Wish Will be Realized           | 61   |

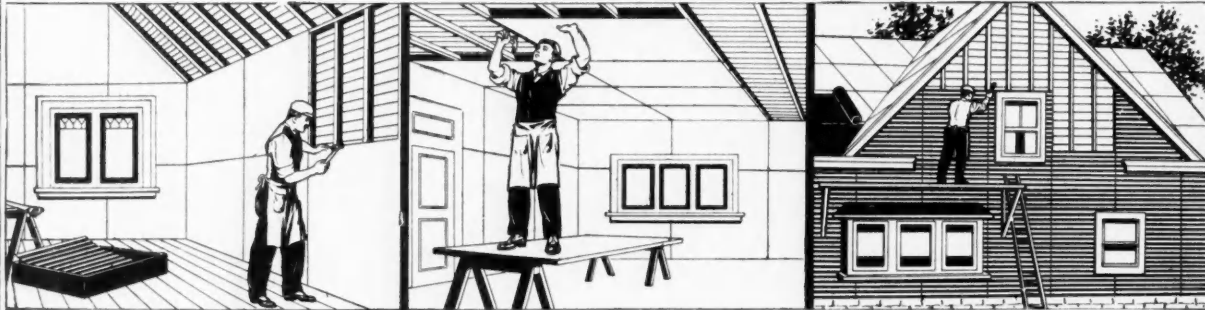
## INDEX TO ADVERTISEMENTS, DECEMBER, 1911

|                                      | Page  |                                      | Page    |                                | Page   |
|--------------------------------------|-------|--------------------------------------|---------|--------------------------------|--------|
| Allen Mfg. Co.                       | 84    | Fox Machine Co.                      | 115     | Northwestern Compo-Board Co.   | 104    |
| American Bell & Foundry Co.          | 18    | Fox Supply Co.                       | 110     | Northwestern Grille Works      | 17     |
| American Box Ball Co.                | 89    | Fuller & Johnson Mfg. Co.            | 67      | Oak Flooring Bureau            | 98     |
| American Floor Surfacing Machine Co. | 4     | Gage Tool Co.                        | 11      | Orr & Lockett Co.              | 29     |
| American Rolling Mill Co.            | 109   | Gem Mfg. Co.                         | 29      | Oshkosh Mfg. Co.               | 15     |
| American School of Correspondence    | 97    | Gibbons, M. J.                       | 94      | Paine Lumber Co.               | 6-7    |
| American Sheet & Tin Plate Co.       | 90    | Glidden Varnish Co., The             | 73      | Parker, C. L.                  | 119    |
| American Steel Scaffold Co.          | 18    | Goodell Mfg. Co.                     | 12      | Parkhill, John                 | 119    |
| American Veneer Co.                  | 4     | Goodell Pratt Co.                    | 23      | Parks Ball Bearing Machine Co. | 119    |
| Andrews Heating Co.                  | 88-99 | Gordon Van Tine Co.                  | 65      | Parsons Tool Mfg. Co.          | 106    |
| Ashby, Geo. W.                       | 117   | Grand Rapids Hardware Co.            | 16      | Peck Stow & Wilcox Co.         | 66     |
| Associated Tile Mfrs.                | 91    | Grimm Mfg. Co.                       | 13      | Peck Williamson Co.            | 69     |
| Atkins & Co., E. C.                  | 2     | Hartman Sanders Co.                  | 119     | Pettyjohn Co., The             | 101    |
| Atlantic Engine Co.                  | 99    | Heald Machine Co., The               | 11      | Phillips Co., A. J.            | 25     |
| Austin & Eddy                        | 28    | Helm Brick Machine Co.               | 80      | Phenix Mfg. Co.                | 112    |
| Barnes Co., W. F. & Jno.             | 4     | Heppes Co.                           | 95      | Phoenix Sliding Blind Co.      | 18     |
| Bawden & Co., J. H.                  | 113   | Hess Warming & Ventilating Co.       | 110-115 | Potter Bros.                   | 98     |
| Berger Mfg. Co.                      | 100   | Holland Furnace Co.                  | 71      | Prentiss Vise Co.              | 23     |
| Birmingham & Seaman Co.              | 104   | Hower, J. K.                         | 119     | Progressive Mfg. Co.           | 14     |
| Bishop & Co., Geo. H.                | 26    | Howes Co., S. M.                     | 17      | Prybibil, P.                   | 13     |
| Bommer Bros.                         | 30    | Hupp Motor Car Co.                   | 93      | Radford Architectural Co.      | 103    |
| Bovee Grinder & Furnace Works        | 28    | Hurly Machine Co.                    | 4       | Rehm Hardware Co.              | 99     |
| Bradt Publishing Co.                 | 70    | Huther Bros. Saw Mfg. Co.            | 28      | Roberts Mfg. Co.               | 76     |
| Braunsdorf-Mueller Co.               | 87    | Illinois Traction System             | 25      | Roth Bros.                     | 18     |
| Bremer Co., Wm.                      | 87    | Industrial Book Co.                  | 113     | Russell Jennings Mfg. Co.      | 107    |
| Buffalo Wire Works Co.               | 109   | International Correspondence Schools | 111     | Samson Cordage Works           | 9      |
| Builders Auxiliary Co.               | 24    | International Harvester Co.          | 89      | Sargent & Co.                  | 120    |
| Caille Perfection Motor Co.          | 91    | Interstate Mfg. Co.                  | 114     | Sasgen Bros.                   | 97     |
| Caldwell Mfg. Co.                    | 25    | Introstile & Novelty Co., The        | 119     | Sayre & Sons, L. A.            | 119    |
| Canton Art Metal Co.                 | 29    | Izard Warren Co., The                | 25      | Schacht Motor Car Co., The     | 86     |
| Canton Foundry & Machine Co.         | 24    | Ives Co., The H. B.                  | 114     | School of Applied Art          | 110    |
| C. H. & E. Mfg. Co.                  | 3     | Jennings & Co., C. E.                | 107     | Seager Engine Works            | 108    |
| Carborundum Co.                      | 92    | Johns Manville Co., H. W.            | 17      | Sedgwick Machine Works         | 24     |
| Carey Mfg. Co., The Philip           | 110   | Johnson, E. J.                       | 114     | Seneca Falls Mfg. Co.          | 105    |
| Cement World                         | 8     | Johnson & Sons, S. C.                | 74-75   | Sharp Co., The W. M.           | 87     |
| Central Mantel Co.                   | 112   | Kanneberg Roofing & Ceiling Co.      | 28      | Shattock & McKay Co.           | 118    |
| Century Cement Machine Co.           | 101   | Karol, B. B.                         | 27      | Shelby Spring Hinge Co.        | 14     |
| Champion Safety Lock Co.             | 114   | Keasbey & Mattison Co.               | 91      | Sheldon, E. H.                 | 29     |
| Chicago Grille Works                 | 89    | Keplinger, G. J.                     | 110     | Sherman Mfg. Co., H. B.        | 68     |
| Chicago Machinery Exchange           | 3     | Knickerbocker Co., The               | 105     | Shultz, C. H.                  | 116    |
| Chicago Spring Butt Co.              | 30    | Lorenzen & Co., Chas. F.             | 27      | Sidney Elevator Mfg. Co.       | 107    |
| Chicago Technical College            | 91    | Lowie Bros. Co., The                 | 96      | Sidney Tool Co.                | 15     |
| Cincinnati Tool Co.                  | 10    | Lufkin Rule Co.                      | 12      | Silver Lake Co.                | 17     |
| Compound Door Co.                    | 28    | Luther Grinder Mfg. Co.              | 83      | Simmons Hardware Co.           | 123    |
| Cordesman Meyer & Co.                | 95    | McKim Co., R. B.                     | 23      | Simonds Mfg. Co.               | 96     |
| Cortright Metal Roofing Co.          | 82    | McKinney Mfg. Co.                    | 113     | Slatington Slate Co.           | 18     |
| Coulson & Co., J. W.                 | 26    | McLaren Bros.                        | 95      | Smith, Otis A.                 | 30     |
| Crescent Machine Co.                 | 13    | Mack & Co.                           | 27      | Smith Machine Co., H. B.       | 23     |
| Dahl Mfg. Co.                        | 72    | Marsh, H. C.                         | 30      | Smith & Heminway Co.           | 12     |
| Davis Acetylene Co.                  | 89    | Mastic Wall Board Rfg. Mfg. Co.      | 122     | Southern Cypress Mfrs. Asso.   | 81     |
| Deco-Veneer Co.                      | 97    | Mayhew, H. H.                        | 12      | Speedwell Motor Car Co.        | 77     |
| Dennis & Co., W. J.                  | 96    | Metal Shelter Co., The               | 9       | Standard Screen Co.            | 26     |
| Detroit Engine Co.                   | 18    | Miles Mfg. Co., P. B.                | 108     | Standard Tool & Supply Co.     | 106    |
| Detroit Motor Car Supply Co.         | 119   | Millers Falls Co.                    | 14      | Stanley Rule & Level Co.       | 10     |
| Detroit Decorative Supply Co.        | 9     | Miller Mfg. Co., A. W.               | 106     | Stanley Works, The             | 94     |
| Didrickson, H. P.                    | 4     | Miotke, Jos.                         | 5       | Starrett & Co., L. S.          | 10     |
| Disston & Sons Co., Henry            | 102   | Montross Metal Shingle Co.           | 113     | Swan Co., Jas.                 | 107    |
| Dixon Crucible Co., Jos.             | 10    | Moorman & Otten Co.                  | 18      | Svkes Metal Lath & Rfg. Co.    | 109    |
| Dosch Mfg. Co.                       | 93    | Moore & Galloway Lumber Co.          | 79      | Syracuse Corner Block Factory  | 119    |
| Dow Wire & Iron Works                | 116   | Morrill, Chas.                       | 30      | Taylor, John L.                | 9      |
| Drouve Co., The G.                   | 119   | Mullins Co., The W. H.               | 112     | Taylor Mfg. Co., James L.      | 24     |
| Dunn & Co., W. E.                    | 101   | Myers & Bros., F. E.                 | 101     | Trussed Concrete Steel Co.     | 101    |
| East Bangor Consolidated Slate Co.   | 116   | National Mfg. Co.                    | 124     | United Pump & Power Co.        | 78     |
| Eastern Granite Roofing Co.          | 93    | National Sheet Metal Roofing Co.     | 105     | Van Guilder Hollow Wall Co.    | 108    |
| Edwards Mfg. Co.                     | 25    | Neider Co., The F. A.                | 114     | Waddell Mfg. Co.               | 99     |
| Emerson Typewriter Co.               | 116   | Niagara Falls Metal Stamping Wks.    | 98      | Weber Mfg. Co.                 | 5      |
| Engineers Equipment Co.              | 85    | Nicholls Mfg. Co.                    | 99      | Wilkinson & Co., A. J.         | 11     |
| Excelsior Bag & Mfg. Co.             | 119   | North Bros. Mfg. Co.                 | 16      | Willis Mfg. Co.                | 16-119 |
| Fav & Egan Co., J. A.                | 24    |                                      |         | Winthrop Asphalt Shingle Co.   | 99     |
| Flanagan & Biedenweg Co.             | 110   |                                      |         | Wolgamood Sinclair Co., The    | 5      |
| Ford Mfg. Co.                        | 116   |                                      |         | Wood Mfg. Co., John            | 115    |
|                                      |       |                                      |         | Wright Co., Chas. E.           | 11     |

## NOTICE TO ADVERTISERS

Forms for the January number of the American Carpenter and Builder will close promptly on December 20. New Copy, changes and orders for omissions of advertisements must reach our business office, 178 West Jackson Boulevard, Chicago, not later than the above date. If new copy is not received by the 20th of the month preceding date of publication the publishers reserve the right to repeat last advertisement on all unexpired contracts. AMERICAN CARPENTER & BUILDER CO.

# Save a Month's Time in Building



Applying Wall Board to Studding

Applying Wall Board to Ceiling

Applying Bishopric Sheathing

Send for Free Illustrated Book and Big Free Sample of Bishopric Wall Board

**W**ITH BISHOPRIC WALL BOARD IN PLACE OF PLASTER you can make the finest kind of walls in your house in the coldest weather. Save a month's time! Bishopric Wall Board comes in sheets 4 x 4 feet, ready to go on. It goes on *dry*. You don't have to wait for setting or drying as you do with plaster. Bishopric Wall Board does not freeze—has none of plaster's troubles—costs far less to put on. You don't have to wait for a skilled workman. Any man who can drive nails can put on Bishopric Wall Board and have a wall all ready for paint, paper, burlap—any decoration. Or with panels it makes a handsome wall just as it is.

## Fire-Resisting---Air-Tight---Moisture-Proof---Rat, Mouse and Cockroach Proof!

Here is the reason: Bishopric Wall Board is made with Asphalt-Mastic. This is asphalt toughened by a patented process and it **won't burn**. In hot Asphalt-Mastic kiln-dried dressed laths are imbedded at a pressure of 500 pounds to the square inch. The other side of the Asphalt-Mastic is surfaced with heavy sized carboard.

The non-burning Asphalt-Mastic protects the lath. Buildings have been saved because of Bishopric Wall Board. Imagine a rat trying to gnaw through that asphalt. He can't do it. It gums up his teeth. He just has to give it up and go where they use crumbling plaster.

### Bishopric Sheathing

Bishopric Sheathing is made of precisely the same materials as Bishopric Wall Board, but finished surface is not so smooth. It saves 75 per cent of the cost of lumber sheathing and building paper; is applied in less time; does away with building paper and makes a more solid and wind-proof job.

It is nailed to outside of studs with lath side of sheathing exposed. Over the sheathing weather-boards are nailed or cement or stucco applied. When weather boards are applied, dead air space is left between the laths, furnishing excellent insulation. The same spaces between the paralleled laths form an excellent key where a cement or stucco exterior is desired.

Sheathing may be used in place of Wall Board where a fine finish is not necessary.

### Use Wall Board or Sheathing in All Your Buildings

The finest homes as well as cottages are finished with Bishopric Wall Board. Use

it in your new house and get it ready to occupy right away, no matter how cold the weather gets. Use it in your present home. Close up your attic and make a comfortable room with it. Make new partitions with Bishopric Wall Board. Finish the porch—cell and wall the cellar with it.

### Make Rat-Proof Bins, Cribs and Poultry Houses

Use the Bishopric Sheathing in your barn. Make your bins, your poultry house, your milk house rat-proof, rain-proof, frost proof. It takes only a few minutes. It makes the neatest as well as the strongest walls of all materials invented—and remember, they are **fire-resisting!**

### Be Sure You Have the Wall Board Made With Laths

Bishopric Wall Board is the only wall board made with laths. Laths are positively necessary to back up a wall board—to make it rigid and substantial—and to keep a perfectly flat surface. Without lath, wall board swells, warps, cracks, and pulls away from the joints.

Bishopric Wall Board never warps, never cracks, never pulls away from the joints. It keeps its flatness as long as your building lasts. It is sold to you on one binding, money-back guaranty that it will make good on every claim.

### Dealers! Write for Our Liberal Proposition

There is big business and generous profit for you in Bishopric Wall Board and Bishopric Sheathing.

We have a new proposition for the live dealer in every town.

Write for it at once. You put yourself under no obligation.

Our advertising is bringing inquiries from people all around you. We prefer to fill orders through you.

Let us hear from you. Fill out the coupon, or write us a letter before you lay your American Carpenter and Builder down.

### DEALER'S COUPON

The Mastic Wall Board and Roofing Mfg. Co.  
20 Este Avenue, Cincinnati, Ohio

Please send me your Wall Board and Sheathing Proposition and Sample of Bishopric Wall Board. This is not an order for goods.

Name .....

Address .....

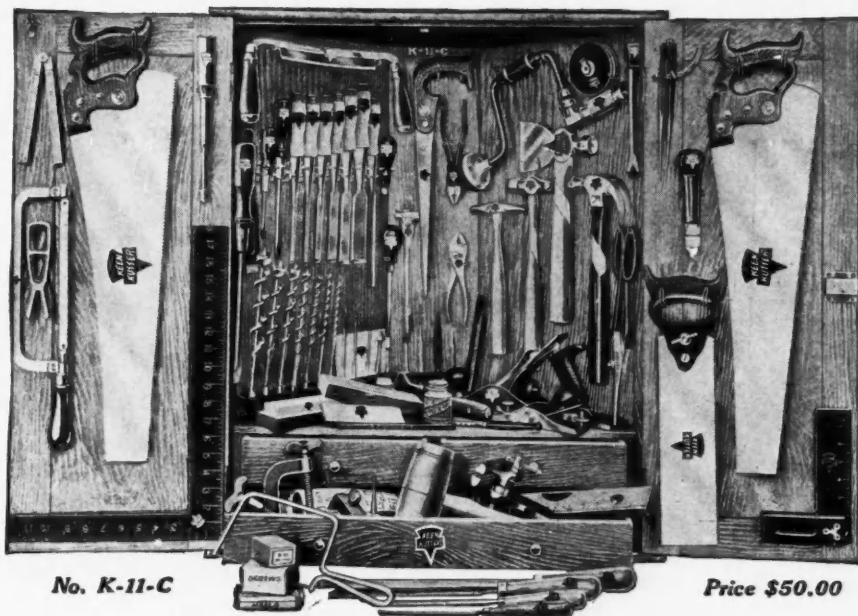
City ..... State .....

Mail It Today!

20 Este Avenue  
CINCINNATI, O.

The Mastic Wall Board and Roofing Mfg. Co. ::

# BISHOPRIC WALL BOARD AND SHEATHING



No. K-11-C

Price \$50.00

**Your Dealer  
Has These  
Cabinets**

| No.                                | Price    |
|------------------------------------|----------|
| K-1 containing 17 Tools,           | \$8.50   |
| K-3 containing 21 Tools,           | \$15.00  |
| K-5 containing 30 Tools,           | \$20.00  |
| K-7 containing 44 Tools,           | \$25.00  |
| K-9 containing 50 Tools,           | \$35.00  |
| K-11-C<br>Corner Cabinet, 85 Tools | \$50.00  |
| K-11-W<br>Wall Cabinet, 85 Tools   | \$50.00  |
| K-15 with<br>Work Bench, 115 Tools | \$125.00 |

# KEEN KUTTER Tool Cabinets

*The Only Complete Set of Tools Under  
One Name, Trademark and Guarantee*

**T**O get just the tools you will need, go to your dealer to-day and select a Keen Kutter Tool Cabinet. Each tool has a place of its own, so there is no chance of its becoming dull through contact with the others. The cabinet illustrated contains a set of tools adequate for almost any carpenter or cabinet work. All bear the Keen Kutter trade mark—the mark of highest tool quality for over forty years. It stands for highest quality material,

temper unparalleled, and finish that lasts. Keen Kutter Tool Cabinets vary in price according to the number and kinds of tools they contain. The \$8.50 size contains enough tools for any ordinary work about the house.

The \$125.00 cabinet is complete with tools, workbench, vises, etc., for the highest class cabinet or carpenter work. Between these two there is a wide range of choice. Take a look at your size to-day.



Send for Tool Cabinet Book No. 986

**"The Recollection of Quality Remains Long After the Price is Forgotten"**  
Trademark Registered

—E. C. SIMMONS

*If not at your dealer's, write us*

**SIMMONS HARDWARE CO. (Inc.), St. Louis and New York, U. S. A.**