

AMERICAN CARPENTER AND BUILDER



THE WORLD'S GREATEST BUILDING PAPER

LET US HELP YOU Make These Winter Months Pay

WE are making a special offer to readers of the American Carpenter and Builder—an offer never before equaled. You are our friends—You know us—We know you; we are willing to send you *Free* for examination the Best and Most Reliable set of home study reference cyclopedia for Builders.

We want every builder, young or old, to invest some of his spare time during the next three months in reading and studying "Radford's Cyclopedia."

We want you to fit yourselves this winter for bigger wages and better contracts next spring. We know that "Radford's Cyclopedia" will give you a clearer, broader grasp of your work. These wonderful—useful—interesting books will increase *your* earnings. *We know* this for we have seen it proved in the experience of thousands of builders during the past two years.

What these books have done for others they will do for you. Remember that now for a short time only they are yours for free examination in your home. Keep them five full days and look them over carefully from beginning to end. If

you are not more than satisfied return them at our expense. We pay all carrying charges.

Don't be without these helpful books any longer. See page 153 for full particulars of this special offer to members of the "Big Family" and write us today to send you your set.

Sincerely yours,

Editor-in-Chief, American Carpenter & Builder and "Radford's Cyclopedia of Construction."



Don't Deceive Yourself

Don't say "the old Saw is good enough for me." It really never was good enough. It did very well in the days when there was nothing better. It was "a good Saw" before the old ATKINS Company invented SILVER STEEL—before the days of the Perfection Handle, Taper Grinding and other exclusive ATKINS

improvements. But the really intelligent mechanic—who appreciates fine tools—can do better now.

ATKINS *Silver Steel* SAWS

They are in advance—just as the newest types of braces, planes, screw drivers and other tools are in advance of former patterns. The ATKINS Company has grown—has improved its methods of manufacture and processes of saw making, until to-day every mechanic can truthfully say to his brother workman—"Its the kind of Saw *you* ought to use."

How to Get Them

ATKINS SILVER STEEL SAWS are now for sale in nearly every hardware store throughout the country. Those dealers who do not happen to carry the particular Saw you wish will be very glad to order for you from their wholesale house. Pick out the Saw you wish and tell your dealer to get it for you. If he won't do this, then write to us and we will see that you are taken care of.

OUR FREE OFFER. We are compiling a list of high class mechanics. We want your name. If you will write us enclosing ten cents for postage, we will send you a fine carpenter's apron. Look in the pocket and you will find a little surprise with our compliments. Write to-day—now, while you think of it.

E. C. ATKINS & CO., Inc.

The Silver Steel Saw People

INDIANAPOLIS

::

::

::

INDIANA

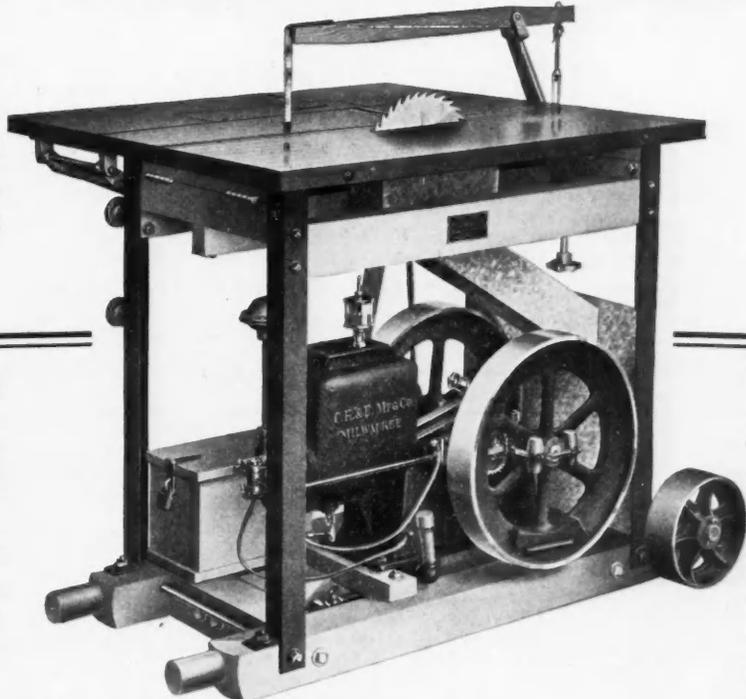
When Writing Advertisers Please Mention the American Carpenter and Builder.

BEATS A SEWING MACHINE

Marion, Ind., Sept. 9, 1912.

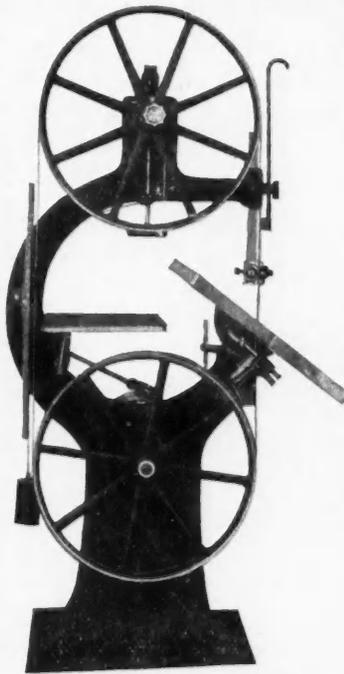
The portable saw rig is surely a wonder. I don't see how I got along without it. It takes the place of a carpenter, as a sewing machine does in a household.

M. G. Pepple & Co.



THE C. H. & E. No. 3 Portable Saw Rig can be wheeled to any part of your work in a minute. A turn of the Fly Wheel and the engine is started. Total weight of rig 697 lbs. Will **rip 2 inch and cross cut 3 inch lumber.** With the 12 different attachments you can do your own millwork.

C. H. & E. Manufacturing Co., Inc.
Manufacturers of
Contractors' Equipment
322 Mineral St., - MILWAUKEE, WIS.

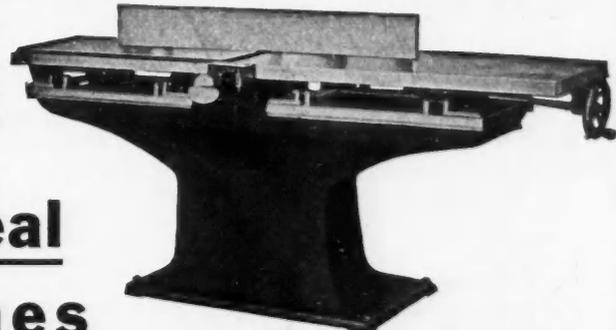


27-inch Chicago Band Saw

\$127.⁰⁰ for Both to Contractors and Builders

Ask for Price on One if You Can't Use Both

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



Chicago 8-inch Jointer and Planer

Use Real Machines

READ what this user writes:

Dear Sirs:

July 1, 1912.

I received my 27-inch Chicago band saw and 8-inch hand jointer together with belting and pulleys shipped by you some time ago, and have been using them ever since—almost night and day, and must say they are as good as money can buy.

Thanking you for your promptness in filling the order, I remain
Yours truly, F. W. HAWES, Knoxville, Ill.

Chicago Machinery Exchange

1215-1223 Washington Boulevard - - - CHICAGO, ILL.

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

When Writing Advertisers Please Mention the American Carpenter and Builder.

The American Floor Surfacing Machine

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

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

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

GET A MACHINE that does first class work and in paying quantities, that is fully guaranteed and sold on its merits. Don't be fooled with an imitation.

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

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



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

"It Works Like a Plane"

The Boss Floor Scraper

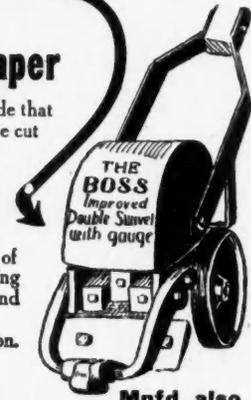
The "Boss" is the only Floor Scraper made that will plane a floor without leaving a square cut where knife first starts cutting. Why? Because the "Boss" is made with a gauge on front, to which is attached a pear-shaped wheel which raises when machine is pulled and lets the knife down gradually.

The "Boss" can be set for any thickness of shaving, it also can be set for any shearing cut right or left up or down to suit the kind of Lumber.

It is guaranteed to give absolute satisfaction.

G. J. KEPPLINGER

Main Office: - DWIGHT, ILL.



Mnfd. also
in Canada.

WHY THE ACME IS THE BEST FLOOR SCRAPING OUTFIT ON THE MARKET



BECAUSE—

- The floor scraper works automatically.
- The blade cannot butt into the flooring.
- The handle is adjustable.
- The blade can be set at various angles.
- There are removable and extra weight attachments.
- There is no stooping or lifting while operating.
- The blade sharpener puts a perfect edge on each blade.
- The sander puts on the finishing touches.
- The extra tools are the very best made and
- It enables one man to do the work of four men using hand scrapers.

If these reasons appeal to you and you have any flooring that requires scraping, then let me send you this outfit on **one week's free trial**. You can then give the machines a thorough tryout and if the same do not come up to your expectations and don't do your floor scraping better than it has ever been done before, you can pack up the outfit and send it back to me at my expense.

This is absolutely a **FREE TRIAL OFFER**. No strings to it, just a matter of letting you try before you buy.

I will gladly send you further particulars and catalog on request.

JOS. MIOTKE, 247 Lake Street, MILWAUKEE, WIS.

When Writing Advertisers Please Mention the American Carpenter and Builder.

\$25⁰⁰ \$15⁰⁰ and \$10⁰⁰

Cash in Prizes

We want certain kinds of Photos showing floor scrapers in actual use. Drop us a line now for particulars—especially if you use a Fox Scraper.

We will tell you how you have a good chance to earn \$25, \$15 or \$10 for a very slight effort on your part. This is not a scheme to sell you something and there are absolutely no charges to those who enter the contest. Any one can try for these prizes. Is'nt it worth a 2 cent stamp to find out what we have to offer?

Fox Supply Company
BROOKLYN, WIS.

Fill out this Coupon and send it in.
DON'T DELAY!

FOX SUPPLY CO.
Brooklyn, Wis.

Send me Particulars about the Photo Contest.

Name

Street

City

State

American Carpenter and Builder

TWO KNIVES
Scrapes Forward or Backward

Saves time and strength
—Scrapes every inch perfectly.



Pull a while, than drop rear knife and push a while—the change rests your back and increases your speed. Double knife feature also enables you to reach the center of the smallest room. Knives drop at either end and let you right into the angle of the baseboard.

The WEBER DOUBLE ACTING Floor Scraper

works perfectly at all angles on any flooring—maple, oak, yellow pine, fir — with or against grain. Accurately balanced; makes a smooth "shearing" cut without a particle of side draft. Absolutely the only scraper of its kind. Prove its worth for yourself.

Try It Five Days FREE

on your hardest job—then put it up against any make you know of. If its work isn't the best you ever saw, the trial won't cost one cent. Send for circular and full details NOW.

JOHN F. WEBER, Pres.
Weber Mfg. Co.
670 71st Avenue
Milwaukee, Wis.

No Chattering

No Waves

Get down on your knees to Pray but Stand up like a man to scrape any old floor In a jiffy with the Adjustable Floor Scraper



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.

Most perfect of such machines
Price 2250

Money back if you want it
H.P. Didriksen

115 W. 11th, St

Anderson, Ind.

DON'T BUY A FLOOR SCRAPER
of any kind until you have tested the
LITTLE GIANT
at our expense. Sold only on its merits. Shipped to you prepaid for a free trial. If not satisfactory in every particular, return it to us, at our expense.

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

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



The Thor Electric Home Laundry Machine
permanently solves the laundry problem in the home. More than 34,000 now in use. Sizes, designs and prices to meet every requirement. Free trial. Easy payments.
Write for full particulars.



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

THE RAPID FLOOR SCRAPER



Large Wheels—easy motion. Automatic brush, sweeps floor ahead of knife. Knives sharpened on machine. No bolts to loosen when knives are sharpened or changed. Scrapes hard or soft wood. Saves labor of 3 men. Does a finished job. With the **RAPID KNIFE SHARPENER (INCLUDED FREE) ANY MAN CAN SHARPEN KNIVES.**

SEND FOR CATALOG—AND—**FREE TRIAL OFFER**
Contractor Agents Wanted

MONARCH MFG. CO.
2611 Shepard Bldg. GRAND RAPIDS, Mich.

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

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

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

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

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.

SIDNEY ELEVATOR MFG. COMPANY, SIDNEY, OHIO

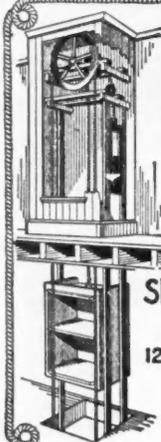


DUMB WAITERS AND HAND ELEVATORS
OF THE MOST IMPROVED AUTOMATIC CONSTRUCTION

INVALID LIFTS
TRUNK, CARRIAGE,
SIDEWALK AND
FREIGHT ELEVATORS
SEDGWICK MACHINE WORKS

128 LIBERTY ST. NEW YORK

CATALOGS AND ESTIMATES FURNISHED SEE SWEET'S INDEX



Excelsior Dumb Waiters

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

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

Send for Printed Matter

R. M. RODGERS & CO.
74 Emerson Place - - Brooklyn, N. Y.



When Writing Advertisers Please Mention the American Carpenter and Builder.

The
CRESCENT
Universal
WOOD WORKER



Here Is a Woodworking
Machine Every Contractor
--Builder--Carpenter Can
Put Profitably to Work--
and Keep It Working
Every Day, Too

You should thoroughly investigate the CRESCENT Universal wood worker.

Contractors—Builders—Carpenters—Supply and Lumber Yards—can make money using the CRESCENT Universal wood worker every day in the year. Installed in your shop, it will prove a money saver and a profit maker on all your work.

With it you and your men can do more and better work and in less time than you can without it. The CRESCENT Universal wood worker gives you all the facilities and advantages of a fully equipped planing mill. It is more than a mere combination wood worker. It is more than the incomplete equipment of machines the small shop is accustomed to have.

There are five separate units to the machine—a band saw, jointer, shaper, saw table and borer. Various attachments may be added, making it adapted for panel raising, tenoning, mortising, tool grinding, knife grinding, sanding, dadoing, resawing, making moulding, rounding poles so that in fact it is really fifteen machines combined in one.

Four men can work on it at one time, each independent of the other. Each can start and stop his machine at will, and it isn't necessary to run more than one machine at a time if you don't want to. The machine is compact, convenient and is particularly adapted for the kind of work you have to do. It is easily operated—you don't have to be a practical machine man to understand it. Any ordinary mechanic of average ability can handle the machine to good advantage.

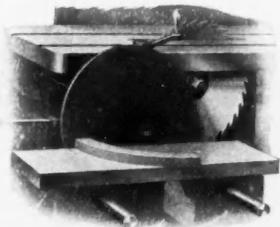
The machine is neatly designed, substantially constructed and is always ready for work. We can equip the machine with either a 26-in. or 32-in. band saw, 8-in., 12-in. or 16-in. jointer. Or if you already have a band saw we can furnish the machine without the band saw.

Get our new 128 page catalog. It illustrates and describes in detail the CRESCENT Universal wood worker. It will also tell you about our complete line of band saws, jointers, saw tables, planers, shapers, swing saws, disk grinder, planers and matchers and borers.

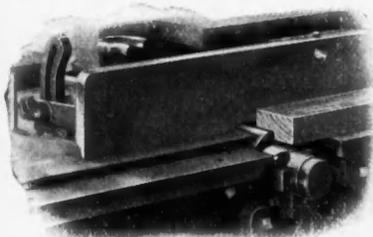
The catalog is free for the asking. Get it. Read it carefully and be sure that you thoroughly investigate the merits of the CRESCENT Universal wood worker. Drop us a line—TODAY—NOW for YOUR copy of this new catalog.

THE CRESCENT MACHINE CO.
224 Main Street LEETONIA, OHIO

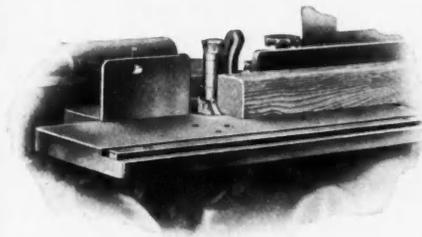
It is a very easy matter to work quarter round or moulding on the shaper spindle. The pressure spring holds the work securely up against the fence.



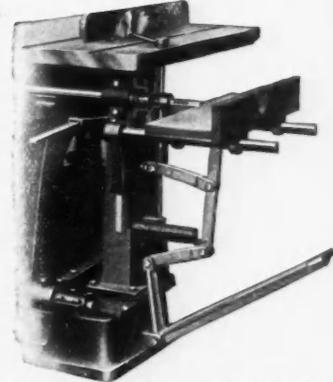
A good view of the disk grinder. The disk is 14 inches in diameter. Table can be raised and lowered to suit the work being done.



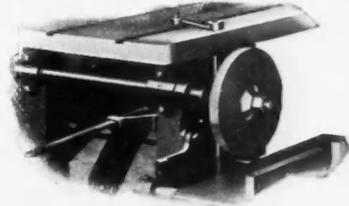
This shows how to do rabbeting on the jointer. You can't do this on every jointer. How it is done on a CRESCENT is fully explained in our latest catalog.



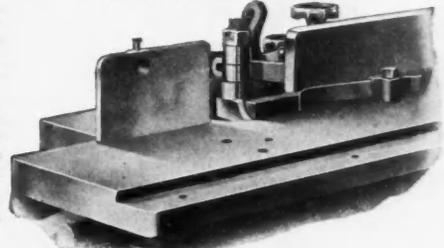
Poles and shafts can easily be rounded on the shaper spindle. This feature will appeal to the wagon and carriage builder. All you need to do this work are the special knives.



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



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



When Writing Advertisers Please Mention the American Carpenter and Builder.

"SAVED US \$22 IN ONE DAY"

says a prominent lumber firm of Kansas City, in writing us about the

TRADE MARK
OSHKOSH

**"Eveready"
Saw Rig**
"Guaranteed for Life"



Lots of others praise it just as strongly. So would you if you realized what it will do to facilitate your work, save time and cut your labor costs. It's strong and rigidly built from the ground up—"guaranteed for life." Portable—take it anywhere. Keep it for shop-work or have it "on the job" when you get a big contract. It's self-contained—always ready to run—no setting up or connections to make. Instant-starting gasoline engine furnishes abundance of power always. And the beauty of this machine is you can do almost anything with it, for it has every attachment the contractor and builder needs. It's a complete "mill" in itself.

All These Attachments Free

Jointer Head—This works on exactly the same principle as an up-to-date planer. Produces a smooth, even job, with no deep cut as the material leaves the jointer head; 2 1/2 inches in size.

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

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

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

Boring Attachment—A high class attachment. Guaranteed absolutely accurate. Extra long boxes insure easy, long

Here is the letter from The Deallbrage Lumber Co., of Kansas City.

"The saving in time and the utilization of what would, without the use of the machine, be waste or low grade material, has been a source of constant satisfaction and profit to us.

In One Day It Saved Us the Net Amount of \$22.00

"It has been operated throughout by the regular yard force, among whom there is not one making any pretension of mechanical knowledge."

running qualities on the guides. Bits, standard sizes.

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

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

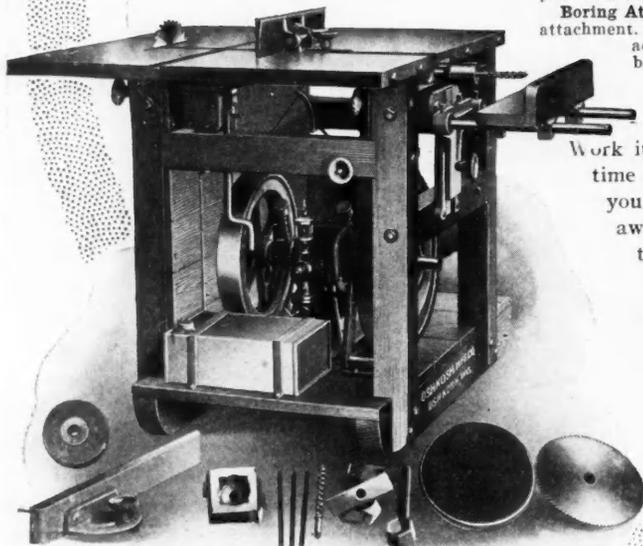
Try It A Week At Our Risk

Work it hard—use all the Attachments. Keep track of its time and fuel and compare with hand labor. Then if you think you can get along without it, we'll take it away, making no charge whatever. Write for details today—the risk is all ours.

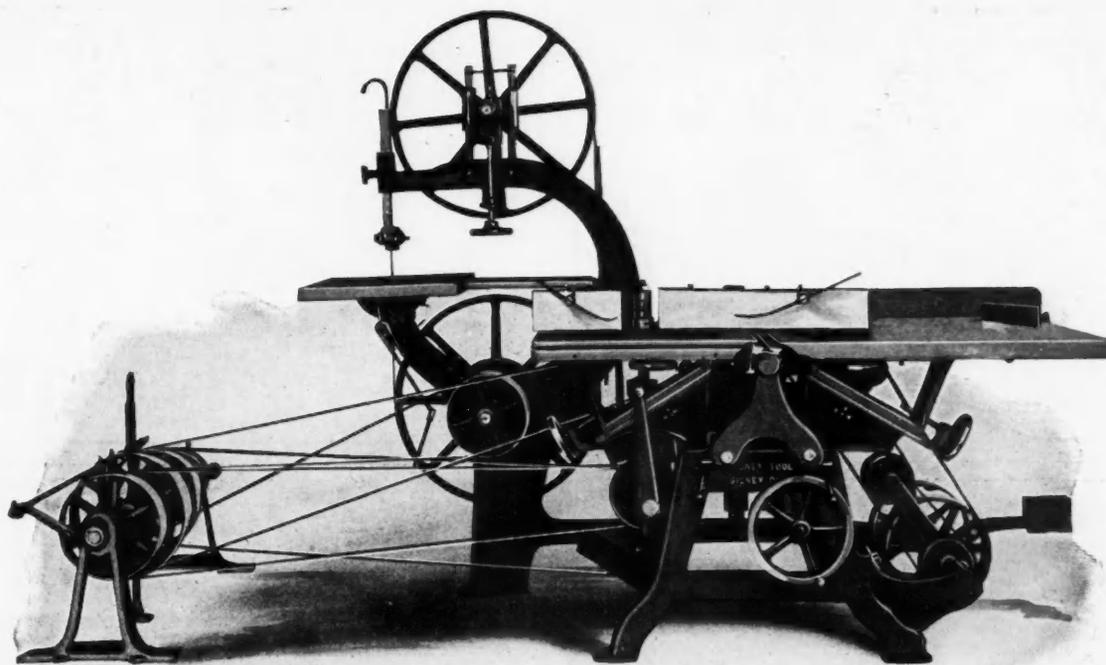
Oshkosh Mfg. Co.

316 South Main Street

OSHKOSH, WIS.



When Writing Advertisers Please Mention the American Carpenter and Builder.



Sixteen machines are embodied in the FAMOUS Universal Woodworker; here they are:

- | | | |
|--|---------------------------|---|
| 1 27" Band Saw, | 6 Pony Planer | 12 Knife Grinder |
| 2 12" Jointer | 7 Tongue and Pole Rounder | 13 Emery Grinder |
| 3 Saw Table, with raising and lowering arbor | 8 Hollow Chisel Mortiser | 14 Band Re-Saw |
| 4 Single Spindle Shaper | 9 Single End Tenoner | 15 Spoke Tenoner, Rim Borer and Wheel Equalizer |
| 5 Boring Attachment, arranged on special boring spindle. | 10 Drum Sander | 16 Adjustable Felloe Rounder |
| | 11 Disc Sander | |

PROBABLY YOU CANNOT afford sixteen woodworking machines, although you have sixteen different kinds of work to do! MAYBE YOU HAVEN'T THE floor space to spare for more than one machine—yet you would sooner do the work in your own shop than give it out to planing mills!

BIGGER PROFITS YOU want as a matter of course, and no doubt you realize that you can do your own millwork cheaper than a planing mill can!

THE ANSWER TO ALL THIS is the Famous Universal Woodworker, which does sixteen different kinds of millwork, but is only one machine, occupying very little floor space, and low enough in price to be within the reach of every carpenter, builder and contractor.

THE FAMOUS HAS REVOLUTIONIZED the woodworking machinery business during the past three years. Over 1,400 Carpenters and Builders have bought Famous Universal Woodworkers,

simply because the FAMOUS showed them the way to get out millwork **cheaper** and **quicker** than ever before—the way to bigger profits.

WHAT'S THE USE OF DELAYING the matter? Why don't you investigate it further? It costs you nothing to make us get down to brass tacks and show you thoroughly why a FAMOUS will make your business more profitable.

Drop us a line today. Ask for our catalog and terms.

THE SIDNEY TOOL CO.

::

::

Sidney, O.

When Writing Advertisers Please Mention the American Carpenter and Builder.



The PORTER
24x8, Single Surface

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

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



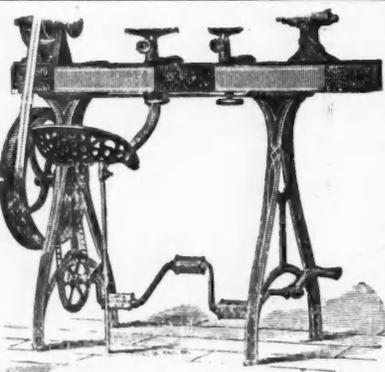
GRIMM WOODWORKER

9 Machines in 1
The Handiest, Most Practical Time Saving Machine Made

It will complete all the work you now have done at the planing mill, such as ripping, cross cutting, dadoing, jig sawing, jointing, boring, moulding, sanding and emery wheels. Get a Grimm and increase your profits.

Built with belt or electric motor drive, also gasoline engine for portable use. Thousands in use. Send for catalogue and prices.

GRIMM MANUFACTURING CO. 46 Erie St., Buffalo, N. Y.



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.

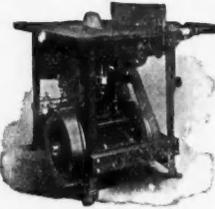
Write for Particulars

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

Before You Buy That

PORTABLE WOODWORKER

Consult Us!



UNITED MACHINERY CO.
86 Centre St., New York

Specialists in Woodworking Machinery for Contractors, Carpenters and Builders.

"Diamond" Mortiser
For Foot Power

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

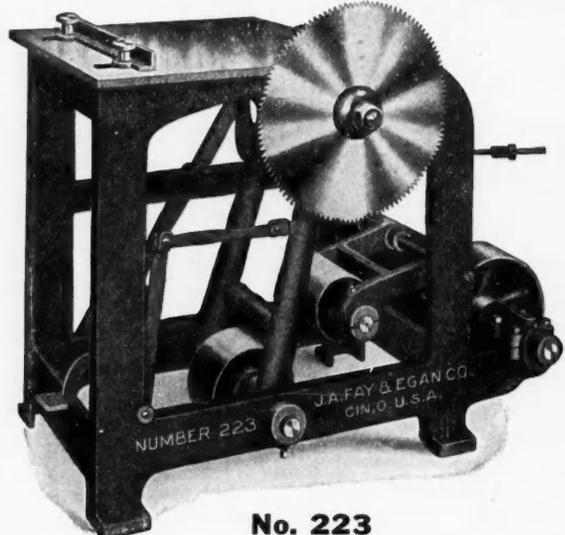
It takes up but little space, is light and can be easily moved about to accommodate your work.

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



Send for catalog "A."

The Seneca Falls Mfg. Co.
218 Water St., Seneca Falls, N. Y., U. S. A. (299)



No. 223

Inverted Swing Cut-Off Saw

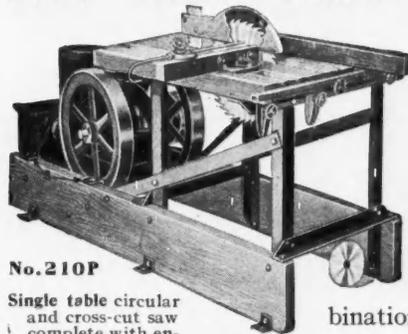
An invaluable tool in any woodworking shop, simple in construction—runs easily—uses little power—takes up small space, and cannot be equalled for rapid cut-off work.

Write for Description and Prices.

J. A. Fay & Egan Co.
Executive Offices and Works
545-565 W. Front St. Cincinnati, Ohio

When Writing Advertisers Please Mention the American Carpenter and Builder.

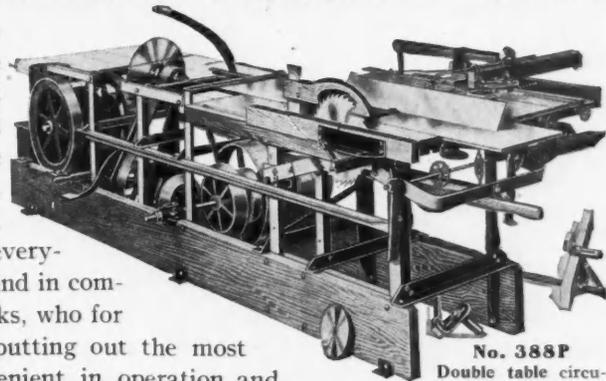
PARKS LATEST IMPROVED SINGLE AND COMBINATION WOODWORKING MACHINES



No. 210P
Single table circular and cross-cut saw complete, with engine and clutch to start and stop saw, belted up ready for use... **\$67.50**

Other attachments can be added later. Prices are in proportion to above. We furnish pulleys on engine shaft. Also clutches to drive either machine without the other when desired.

We furnish a plain circular saw, (angle steel frames, strongest structural material known,) either single table or double table, and add to it jig saw, sand disk, in fact everything that you will find in combination machines. It is Parks, who for twenty-five years has been putting out the most practical combinations, convenient in operation and most effective in use, and are made in large quantities, which enables us to sell at lowest prices and make immediate shipment.



No. 388P
Double table circular, rip and cross-cut saw, jointer, boring and tenoning machine, with swing cut-off saw, long table surface, saw pulls across timbers instead of two men pushing long timbers across saw.

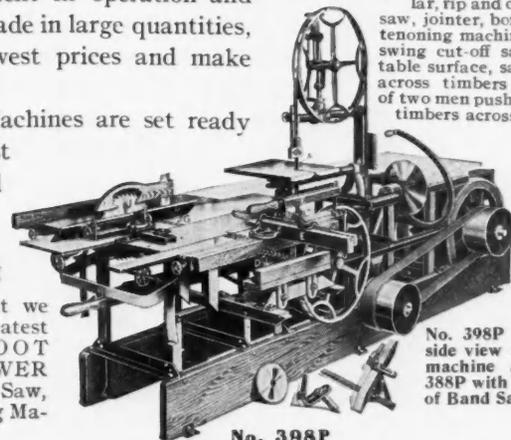


No. 320P
Same machine as No. 210P with addition of Jointer Band Saw and Boring attachments.

All our Combination Machines are set ready for instant use, no time lost bolting and unbolting.

Ask for Catalog

and you will find that we have also led in the greatest improvements in FOOT AND HAND POWER Circular Saw, Band Saw, Mortising and Tenoning Machines, etc., etc.



No. 398P
No. 398P is right side view of same machine as No. 388P with addition of Band Saw.

PARKS BALL BEARING MACHINE CO., Fergus St. and C.H. & D. RY., CINCINNATI, OHIO, U. S. A.

SMITH
OF SMITHVILLE
ESTABLISHED

Woodworking Machinery

Established 1847 Incorporated 1878

**IMPROVED
WOODWORKING MACHINES**

for many purposes

Send for Literature

H. B. SMITH MACHINE CO., SMITHVILLE, N. J., U. S. A.

New York Chicago Atlanta San Francisco

Automatic Tenoning Machine No. 200Be

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

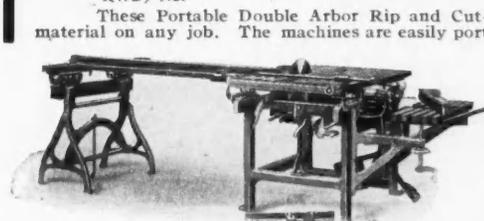
HEDDEN CONSTRUCTION COMPANY,
Builders
Metropolitan Tower, New York City.

Subject: Northwestern Mutual Life Building of Milwaukee, Wis., Milwaukee, Wis., June 12, 1912

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

RWB/NC.

Very truly yours,
HEDDEN CONSTRUCTION CO.
(SGD.) By R. W. Bertlner.



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

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

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

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

BEACH MANUFACTURING CO. - MONTROSE, PA.

When Writing Advertisers Please Mention the American Carpenter and Builder.

Our Expert Service Department

The American Carpenter and Builder receives many requests daily for information from its readers. Some of them want help on work that is new or unusual. Others want to buy machinery, tools, equipment, supplies, and materials and ask us to recommend what is best suited for the purpose and to give them advice where to buy it. In short, many thousands of our readers rely upon the Editorial and Business Departments of the American Carpenter and Builder in helping them to solve problems of various kinds and on all sorts of subjects.

Free Information for Our Readers

It is a pleasure for us to render this assistance to our readers. We welcome every opportunity to help them in any way. We have a splendidly organized Information Department which takes care of these matters. This department is called "Radford's Expert Service," and is composed of a staff of practical builders, engineers, architects, draftsmen, and writers, able to take care of all matters relating to construction.

Brings Buyers and Sellers Together

This "Expert Service" has a completely indexed reference department, consisting of the names and addresses of manufacturers and dealers in everything that is bought or used by contractors, builders, carpenters, architects, draftsmen, engineers, or any one engaged in any branch of the building industry.

Market Place of the Building Field

Immediately upon receipt of a communication asking where the writer can obtain a certain tool, machine, equipment, materials, supplies or any article, whether it is or is not advertised in our magazine, we write to manufacturers or sellers whom we know to be reliable and can furnish goods promptly. Letters are sent out the same day the request is received and in each case care is taken to write to firms nearest the location of the intending buyer, so as to make carrying charges as light as possible should a sale be made.

Our Complete Equipment

We want more of our readers to avail themselves of this "Expert Service." It is absolutely free to those who use it. Our facilities for gathering and furnishing information are unequalled by any other publication in the building field. The American Carpenter and Builder is affiliated with the Cement World and the Dealers Building Material Record, the three magazines comprising the Radford Publications. The Radford Publications have their own drafting rooms, architectural department, blue printing machinery, and a large staff of experienced, practical writers and artists. It has a reference library (second to none in the world) of books, pamphlets, periodicals and catalogues covering the entire construction field.

Prompt and Practical Help

Expense is not considered and the most painstaking care and attention is given to any request sent to our Expert Service Department. We most cordially invite our readers to make full use of it at any and all times.

If you want to get expert service on any problem of building, engineering, or paving, or if you want information about work that you do not understand, state such particulars as will help us to give you an intelligent answer to your questions.

If you want to buy anything, or if you want more information about something that is not advertised in the American Carpenter and Builder, or if you want to know more about something that is advertised, fill out the coupon below. We will place you in touch with manufacturers or dealers who will furnish you with just what you want and at the best prices.

Expert Service Department

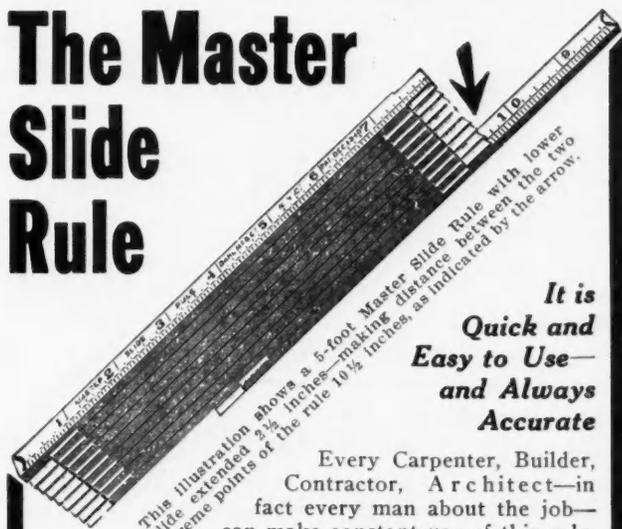
AMERICAN CARPENTER AND BUILDER
178 West Jackson Boul., Chicago, Ill

Gentlemen: We are in the market for the items specified below. Please put us in touch with manufacturers whom you know to be reliable and can furnish goods promptly. Yours very truly,

ITEMS: _____ Name _____
 _____ Street and No. _____
 _____ Post Office _____ State _____

When Writing Advertisers Please Mention the American Carpenter and Builder.

The Master Slide Rule



It is Quick and Easy to Use—and Always Accurate

This illustration shows a 5-foot Master Slide Rule with lower slide extended 2 1/2 inches—making distance between the two extreme points of the rule 10 1/2 inches, as indicated by the arrow.

Every Carpenter, Builder, Contractor, Architect—in fact every man about the job—can make constant use of this rule. This Master Slide Rule (shown here) is a new measuring rule particularly intended for taking inside door, window trim, etc., measurements.

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

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

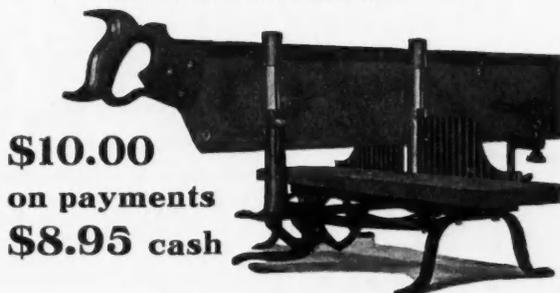
Write for our circulars, detailed particulars and agents proposition for you. Don't delay.

Dahl Manufacturing Co.

Childs Bldg.—1 East 42nd St. NEW YORK CITY

IT'S YOUR MITER BOX FOR \$2.00

DOWN AND \$2.00 PER MONTH. THIS IS OUR EASY PAYMENT PLAN.



\$10.00 on payments
\$8.95 cash

Formerly Sold for \$12.50

The only Miter Box on the market which is so constructed that the operator can with one hand raise saw and at the same time swing bar to any desired angle—this leaves the other hand free to hold stock you are cutting.

We sell direct to carpenters—giving you the benefit of the middle man's profit.

We have other bargains in tools. Send for catalogue.

CROWN TOOL MFG. CO. :: Ottumwa, Iowa

How to Make a Good Profit on Fancy Sash

Whittling the joints of fancy sash with a jack knife and chisel is slow and tedious work, and the profits from it are small.

The American Sash Trimmer

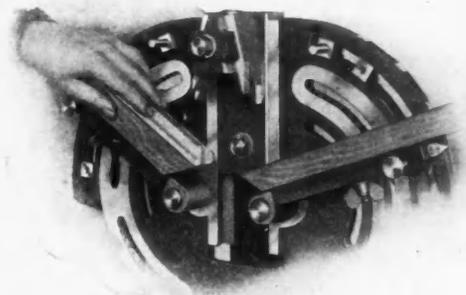
makes the work of fitting curved and straight sash bar equally easy, and with this machine a man can fit up more fancy sash in one hour than he can in from three to five hours by hand, also producing better work.

Here Is the Proof

The Heald Machine Co., Worcester, Mass.
Gentlemen:—We have been using one of your "American Sash Trimmers" constantly for the last two and a half years, and are perfectly satisfied with its work. It is a great labor saver, doing five times as much work as could be done in the old way, and doing it cheaper and better. Yours very truly,
Mohawk Valley Lbr. Co.,
Fultonville, N. Y.

Here's How We Do It

Two or three downward strokes of that cutter will cut a piece of bar to the exact length required and shape the end to a perfect fit in a very small part of the time required to do a poor job by hand.



Res { Better Work
Less Cost
More Profit

We guarantee the enormous saving of at least 75 per cent in cost over the old way of fitting up this work and the price of the machine being small, it soon pays for itself.

Can you not see how this machine would increase the profits from your sash department?

Machines sent on approval to responsible concerns.

The Heald Machine Company

2 New Bond Street, Worcester, Mass.

When Writing Advertisers Please Mention the American Carpenter and Builder.



The Carpenter says:

The Master Brace

is his idea of what a brace ought to be.

Its general appearance delights the lover of fine tools. The metal parts are handsomely nicked and the head and handle are of finely finished cocobola.

The chuck securely holds straight shanks from $\frac{1}{2}$ to $\frac{3}{8}$ inch, and all sizes and styles of bits, tapers and irregular shaped shanks. The milled jaws have eight sharp holding points of contact with the shank giving unusual tenacity of grip.

Jaws adjust themselves exactly to the shape to be held. Our patent cup washer prevents chuck from working loose.

A Distinct Masterpiece in its every Function

The effective and positive ratchet device is concealed, protecting the parts from dust. Has ball bearing head and center handle, the latter being adjustable. The sleeve is of a new pattern just fitting the hand, and is reinforced at the lip to meet the strain at that point. The tail socket is made from solid bar steel, unbreakable under the severest usage. The jaws are so hinged upon a spring as to transmit any strain to the stout sleeve. The Master Brace is made in 4 sizes—8, 10, 12 and 14 inch sweep.

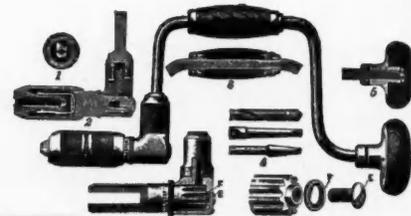
Send for our FREE book "Tool Practice"

Millers Falls Company

28 Warren Street

::

NEW YORK CITY

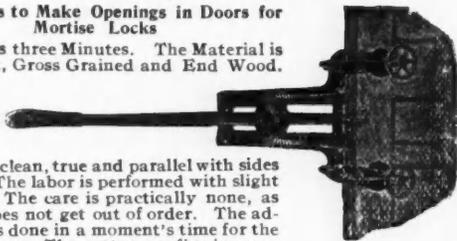


Miller's Hand Mortiser

WILL SEND ON APPROVAL

Its Work is to Make Openings in Doors for Mortise Locks

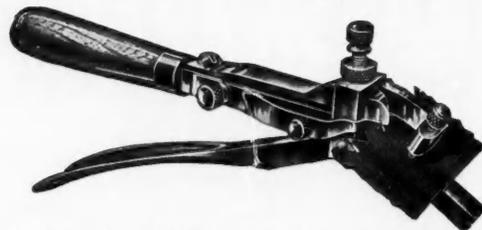
The time is three Minutes. The Material is Hard, Soft, Cross Grained and End Wood.



The job is clean, true and parallel with sides of door. The labor is performed with slight exertion. The care is practically none, as the tool does not get out of order. The adjustment is done in a moment's time for the different sizes. The cutters are five in number and cover locks from $\frac{1}{2}$ inch to $1\frac{1}{4}$ inches thick. Thin doors are handled as easily as thick doors.

Riverside, Cal. A. W. MILLER MFG. CO. Cincinnati, O.

WE ARE SURE THAT ONE TRIAL OF OUR



NEW "COMPLETE" SAW SET

will convince you of its extreme merit. Order of your dealer or we will send sample by mail.
Black.....75c. Nickel.....\$1.00.

OTIS A. SMITH Box 95 Rockfall, Conn.

INTRODUCTORY TRIAL OFFER

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



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

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

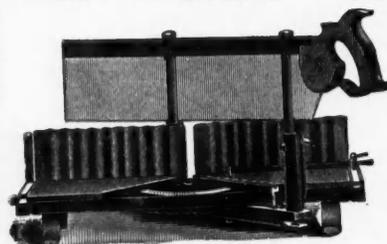
If you send us the addresses of ten carpenters, no matter where they live we will send you another hard, tough carpenter's pencil. Give the SELF-SETTING PLANE a chance to PROVE ITS WORTH, if it FAILS, return it and we will return your money.

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

GAGE TOOL CO., Vineland, N. J.

GOODELL MITRE BOX

Made of STEEL - Cannot Break



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

Send for Circular "C"

GOODELL MFG. CO., Greenfield Mass.

When Writing Advertisers Please Mention the American Carpenter and Builder.

Here's What the Russell Jennings Bits Will Do

They will bore the cleanest hole. They will bore faster than any other bit. They will clear the hole of chips.

Here's What They Won't Do

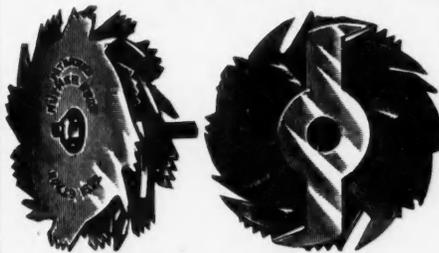
They won't choke with chips. They won't "run off" if they strike a knot. They won't cut over or under the size stamped on them. That is about all you need to know concerning these bits. You can get them at your hardware dealer's.

Russell Jennings Mfg. Co.
CHESTER, CONN. 21-99



Huther Bros. Patent Groover or Dado Head

Will save it's cost in three days' time



Showing Arrangement of Cutters

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

Try our Scraper Blades and you will use no others.

HUTHER BROS. SAW MFG. CO.
1000 University Ave. ROCHESTER, N. Y.

Can be used on any Circular Saw Mandrel

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

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



"YANKEE" DRILL No. 50

is the quickest Hand Drill made for small holes in wood or metal up to 3-16 inch.

The double (Backward and Forward) action of the Driving Handle is light and quick, and gives it a speed that cannot be matched by any geared drill.

A great convenience to any mechanic who has a large number of holes to drill in awkward places. The price, \$2.50 from the factory if you cannot get it from your dealer.

Send for "Yankee" Tool Book telling you about a number of "Yankee" Tools.

Your dealers sell the "Yankee"

North Bros. Mfg. Co.

Department A

PHILADELPHIA, PA.





**400% PROFIT ON
"THE HOUSE THAT JACK BUILT"**

\$200 PROFIT ON \$50-00 INVESTMENT

\$100 PROFIT ON \$25-00 INVESTMENT

**PAINÉ LUMBER COMPANY LTD.
OSHKOSH WISCONSIN**

MR. BUILDER YOU MUST C

- 1st: "Cut out" high
- 2nd: CUT OUT

Send it to us
"The House
for Paine
by spending

The book
and is attract
drawings and examples
You want this book.

More than two-thirds of the
PAINE factory shown below.

We Manufacture Everything

PAINE

KLIMAX "ORIGINATORS OF THE STANDARD"
OSHKOSH WIS



When Writing Advertisers Please Mention the American Carpenter and Builder.

R: To Make More Money UT OUT TWO THINGS:—

prices and low quality. They don't pay.

THIS COUPON and get the NEW PAINE BOOK—it DOES Pay

and you will receive promptly our *new* volume *that Jack Built*" It proves that by spending \$25 more doors and trim you increase your value \$100—how \$50 more for Paine doors and trim you add \$200 value.

relates the actual experience of a home-builder ively illustrated. It also contains *valuable detail* of the best selling styles in the best made doors. *Write for No. "X."* Get it at once. You need it.

world's standard veneered doors reach the user through the immense Correspondence invited from contractors and builders throughout the world.

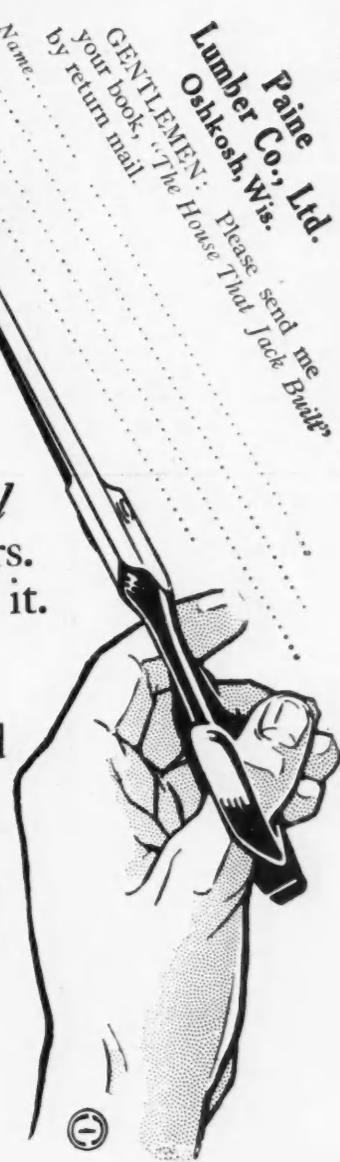
Known in Millwork—in Every Kind of Wood



HARDWOOD VENEERED DOOR"

CONSIN U. S. A. 

Clip this
Coupon
NOW



Name.....
Address.....
GENTLEMEN: Please send me your book, "The House That Jack Built" by return mail.

Paine Lumber Co., Ltd.
Oshkosh, Wis.





When Writing Advertisers Please Mention the American Carpenter and Builder.



INSIST ON HAVING

BUY THE **GENUINE**
C. Jennings **ARROW HEAD** *Trade Mark*

ACCEPT NO SUBSTITUTE



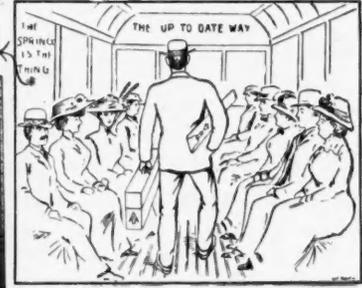
"POP" ALWAYS "GETS IN WRONG"
 C.E. JENNINGS & CO



TAKE-DOWN SQUARES

← POINTS →

1. CONVENIENT TO CARRY
 2. NO SCREWS TO MONKEY WITH;
NO WRENCH TO LOOSE
 3. SOLID SHOULDER INSURES ACCURACY.
 4. SPRING TAKES UP WEAR
 5. GUARANTEED ACCURATE, AND
WITH FAIR USE, TO STAY SO
- SEND FOR CIRCULAR



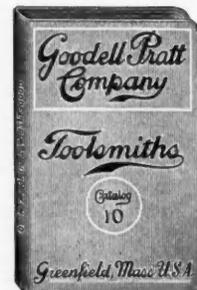
WHILE "SHORTY" GETS IN RIGHT.
 42 MURRAY ST. NEW YORK.

BENCH STOP No. 196



Bench Stop 196
 This little device should be in every carpenter's work bench.
 It is adjustable, has four faces, and is 2 1/4 inches high with a 2-inch top.

Goodell-Pratt's



In Our Catalog
 We show and describe this Bench Hook, as well as many other Carpenters' Tools.

It's FREE

**Goodell-Pratt
 Company**

Toolsmiths

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

THE FOLDING DRAW KNIFE

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



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

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

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



BUTT CHISEL

The celebrated Barton Planes and Edge Tools for carpenters and all other woodworkers are unequalled by any other made for keen, hard, smooth cutting edges. If your hardware dealer does not handle

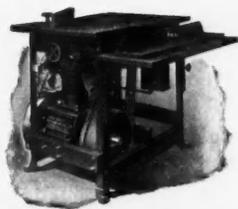


THE CELEBRATED BARTON TOOLS

Send direct for catalogue and our free story book, True Stories. Be sure to specify "CARPENTER'S CATALOGUE."

**MACK & COMPANY, 20 BROWN'S PLACE
 ROCHESTER, N. Y.**

When Writing Advertisers Please Mention the American Carpenter and Builder.

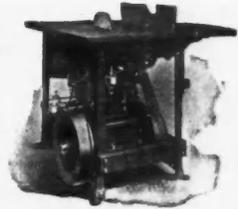


**Standard Portable
Combination
Woodworker**

**9 Machines in 1
6 H. P. ENGINE**

SEND FOR CATALOG

ATLANTIC ENGINE CO.
Meadville - Penna.



SAMSON SPOT SASH CORD



Reg. U. S. Pat. Off.

Made of extra quality stock, carefully inspected, and guaranteed free from the imperfections of braid and finish which destroy common cords so quickly. The spots on the Cord, in any color, are our trade mark. Don't be misled by imitations. Samples and full information gladly sent.

Reg. U. S. Pat. Off.

Samson Cordage Works

Boston, Mass.



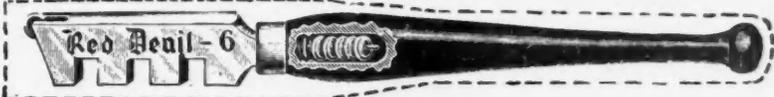
**GLASS CUTTERS for The Glazier---
The Carpenter---The Builder---**

**40
VARIETIES
OF**

"RED DEVIL" GLASS CUTTERS

**WITH
STEEL
WHEELS**

Any mechanic that has ever had a sheet of glass to cut knows that "RED DEVIL" GLASS CUTTERS CUT GLASS with the least pressure, with less breakage and with more satisfaction than any other glass cutter ever made. We are so confident that RED DEVIL GLASS CUTTERS will please YOU that we want you to try a sample. Send us 3-2c stamps and one sample of No. 024 the glaziers standard tool will be sent you postpaid.

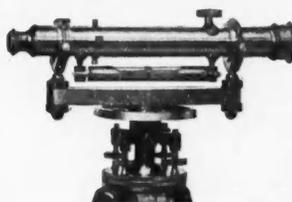


SMITH & HEMENWAY CO., 125 Chambers St., New York, U. S. A.

SMITH HARDWARE CO.
Montreal, Canada



We make the "Red Devil" Mitre Box and 3000 other "Red Devil" Tools



**Over 3000 in Use
There's a Reason**

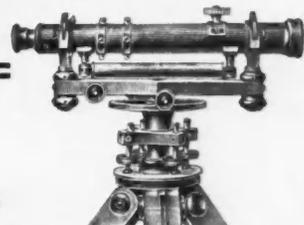
**WHITE'S
IMPROVED LEVEL**

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

DAVID WHITE CO.

419 E. Water St., Dept. C, Milwaukee, Wis.

LEVEL WORK



**Architects
Builders
Contractors**

insure against mistakes in leveling by using our Architects and Builders Level. We make a specialty of this instrument. It will give positive, accurate service. Saves its cost in a short time.

We manufacture a complete line of surveying instruments in various sizes and at a wide range of price. Our circular No. 27 will explain our instruments to you in detail. It will pay you to get it before deciding upon any surveying instruments.

KOLESCH & CO.

Surveying Instrument Makers. Established 1885.
138 Fulton St. NEW YORK

**The Yankee
Compound Level**



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

The Yankee is particularly adapted for Architects, Builders and Contractors use.

The Yankee is made of high grade materials throughout. All complicated and costly unnecessary features have been eliminated.

The Yankee is not an experiment. Yankees are in extensive use. They are giving thoroughly satisfactory service in every way.

The Yankee is the BEST moderate cost instrument made. It is light and simple. The vernier on a circular plate saves the circle from springing elliptical in case the instrument falls. It is the only instrument where the plate levels are saved by quickly employing the telescope level.

Before you buy any level write us for complete particulars concerning the Yankee Compound Level.

Let us send you this information right NOW.
FROST & ADAMS CO., - 31 Cornhill, - BOSTON, MASS.

Are You Satisfied With Your Work?



If not use a **Beckmann** Level and you will have **Satisfaction** as well as **Confidence** in your work.

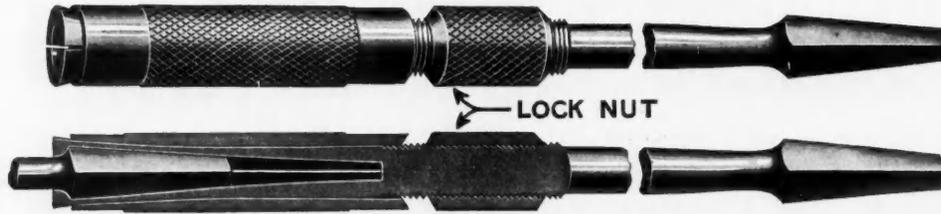
Send for Circular Y for full particulars

The L. Beckmann Co.

500 Adams Street
TOLEDO - - - OHIO
Established 1874

When Writing Advertisers Please Mention the American Carpenter and Builder.

Stanley Tools



Stanley Extension Bit Holder No. 1

The Stanley Extension Bit Holder will be found to be a very useful tool for Electricians and Plumbers as well as Carpenters.

Used in connection with a Bit Brace it will extend the Bit, enabling the user to bore through walls, floors, etc., where the ordinary Bit will not reach.

The Socket in which the Bit rests and the Shank for its entire length are of one piece of steel.

Note how the shape of the Socket conforms to the Shank of the Bit. This form of construction together with the improved Lock Nut makes it impossible for the Bit to work loose while boring.

Any length Holder will follow up a 5/8-inch Bit. Heavily nickel plated and highly polished. Made in six different lengths.

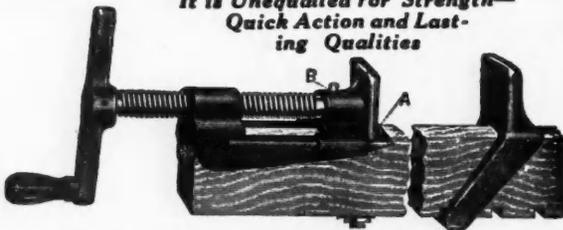


Stanley Rule & Level Co.
NEW BRITAIN, CONN. U.S.A.



50c FOR THIS Clamp Fixture

It is Unequalled for Strength—Quick Action and Lasting Qualities

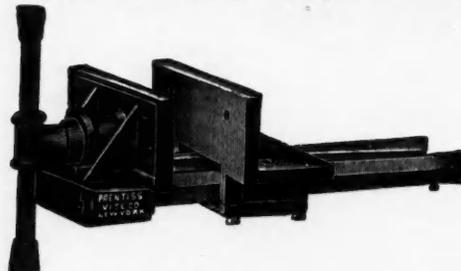


Write for Catalog of Sheldon's Clamps and Vises.

E. H. SHELDON & CO.

184 Nims Street :: :: MUSKEGON, MICH.

BLAKE QUICK ACTING VISE



For Cabinet Makers and Wood Workers. Simplest—Strongest—Cheapest—Best
Send for Catalogue of all kinds of Vises
PRENTISS VISE COMPANY, MAKERS
106-110 La Fayette St., New York, U. S. A.

1810 THE JAMES SWAN COMPANY 1912

SEYMOUR, CONN.

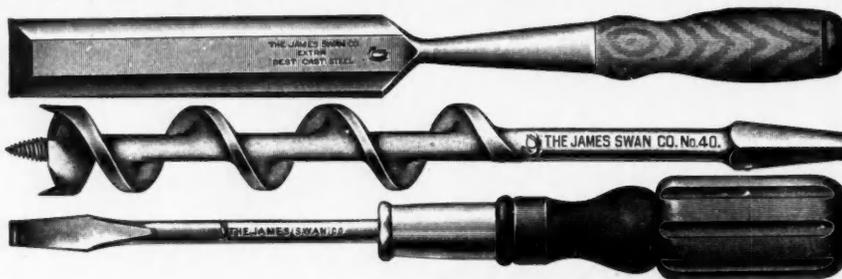
Manufacturers of

Mechanics' Tools, Augers, Auger Bits, Draw Knives, Chisels, Hollow Augers, Gimlets, Boring Machines, Gouges, Screw Drivers, etc.

Send for Catalogue



Inquiries Solicited



When looking for quality buy goods with the "Swan" trade mark.

When Writing Advertisers Please Mention the American Carpenter and Builder.

Galvanized Iron Cut Nails



For shingling, slating, boat and wharf building, fencing, sheathing and all exterior work use **Anchor Brand Iron Cut Galvanized Nails** as they will outlast the best of wood under all climatic and weather conditions.

Write for Prices.

E. & G. Brooke Iron Company
BIRDSBORO, PA.

PEARSON'S AUTOMATIC SHINGLE NAILER



Works well on any pitch roof. Gloves or mittens can be worn and nails driven faster than by the old way. Throw nails in by the handful—holds about 600 nails—start nailing. Nails can be driven through tin or quite heavy sheet iron.

PAYS ITS COST ON ONE JOB

Made in two sizes:
The **BLUE** Nailer for 3d' common No. 14 gauge wire nails.
The **RED** Nailer for 3d' galvanized No. 13 gauge 1 1/2 inch wire nails.

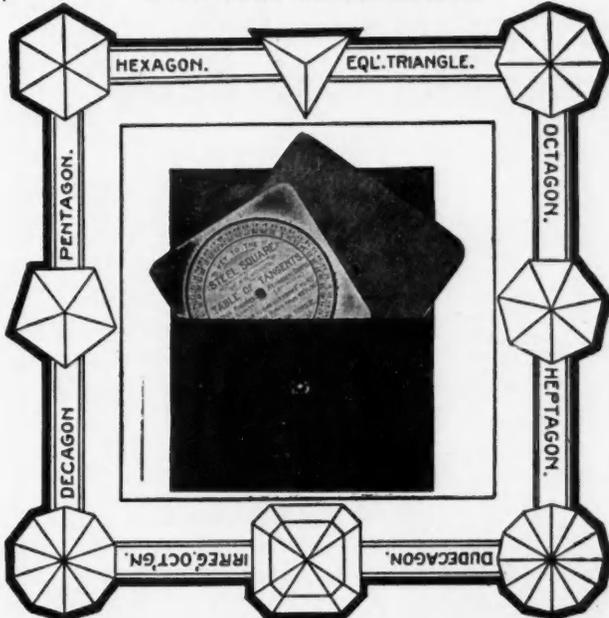
Order through your dealer or sent prepaid for \$5.00.

Money refunded if not as represented

PEARSON MFG. CO.
Robbinsdale, Minn.

ALFRED W. WOODS' KEY TO THE STEEL SQUARE

A WONDERFUL INSTRUCTOR



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

Price \$1.50. Postpaid

AMERICAN CARPENTER & BUILDER
178 W. Jackson Boulevard. CHICAGO



FOURTEEN MACHINES IN ONE. 1—Fine Dimo-Grit Wheel. 2—Coarse Dimo-Grit Wheel. 3—Universal tool rest. 4—Chisel and plane bit guide. 5—Dimo-Grit razor hone. 6—Dimo-Grit scythe stone. 7—Dimo-Grit saw gummer. 8—Felt polishing wheel. 9—Medium Dimo-Grit Wheel. 10—Cloth Buffing wheel. 11—Dimo-Grit oil stone. 12—Dimo-Grit pocket hone. 13M—Plane bit honing attachment. 14M—Twist drill sharpening attachment.

FREE TO YOU

Handy Tool Grinder—Makes Work Easy

I will send this shop tool grinding outfit to any reader of this magazine on 30 days' free trial. You can use it to your heart's content, put a sharp edge on all your tools, and then, if you do not wish to keep it, return it at the end of 30 days. No money required in advance.

LUTHER SHOP TOOL GRINDER

Dimo-Grit Wheels

The wheels on this grinder are made of DIMO-GRIT, the new artificial diamond sharpening substance that cuts steel as emery does copper—just a light touch needed—no water cooling—no danger of drawing temper—25 times faster than the grindstone—10 times more efficient than emery.

The Luther Grinder is equipped for engine and foot power—4,000 revolutions a minute by foot power—shaft drive like automobile—built all of steel—dust-proof bearings—runs easy as sewing machine. Tool rests and attachments enable anyone to do any hard grinding job as well as an expert.

30 DAYS FREE TRIAL

Write at once for 40-page free book which explains how to sharpen tools and tells all about the Luther Tool Grinder and the wonderful sharpening substance, DIMO-GRIT. Write now while you think of it.

Luther Grinder Mfg. Co., 1305 Michigan St. Milwaukee, Wis.

When Writing Advertisers Please Mention the American Carpenter and Builder.



HERE Is A Can't Slip Screw Driver

It Is The Mayhem "Peerless" No. 510

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

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

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

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

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

THE BUSINESS END OF
A Peerless Screw Driver

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

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

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



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

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

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

Per pair,	1 foot	.....	\$2 70
"	1½ feet	.....	2 85
"	2	.....	3 00
"	2½	.....	3 75
"	3	.....	4 00
"	4	.....	4 50
"	5	.....	5 00
"	5 " heavy	.....	7 50
"	6	.....	8 50
"	7	.....	9 50
"	8	.....	11 00
"	9	.....	12 50
"	10	.....	14 00

These clamps have steel bars and screws and malleable iron parts.
The New Adjustable and Perfection Clamps are made in the following lengths and sizes:
2½, 3, 4 and 5 foot have . . . 1½ x ½ inch bars.
5, 6, 7, 8, 9 and 10 foot have 1½ x ½ "
Joiners' Clamps—1, 1½, and 2 foot have hand-wheels for rapid work, 1½ x 3-16 inch bars.
In ordering parts always make sketch, to avoid delay.

Write for circular Dept. H.

Hargrave's New Adjustable SPECIAL Clamp.



Hargrave's Perfection SPECIAL Clamp.



Hargrave's Joiners' SPECIAL Clamp.



THE CINCINNATI TOOL CO., CINCINNATI, O., U. S. A.

1853



1912

Fine Beveled Edge Shank and Socket

Chisels



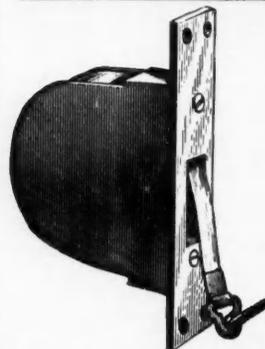
Butt Chisels

Plain and Beveled Edges

Send for illustrated Catalog

Buck Brothers, Millbury, Mass.

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.

When Writing Advertisers Please Mention the American Carpenter and Builder.

From Sills
To Saddleboards
you will need

Starrett Tools

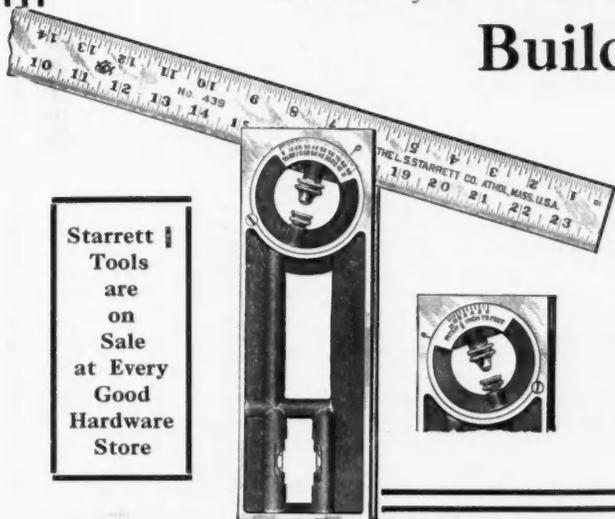
They are made for long hard service and are designed so that they serve a number of different purposes. This

Builders'

Combination Tool

is an example: it is useful for laying out hips and valleys and may be used as a level, a plumb, a depth gage, or a square. Send for Catalog No. 196 and learn about the full Starrett line. It's worth while.

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



Starrett Tools are on Sale at Every Good Hardware Store

42-94

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

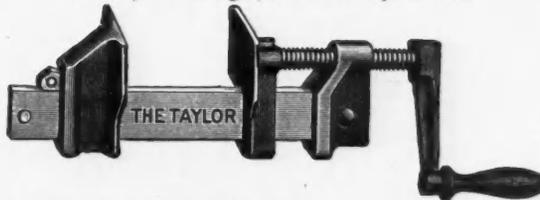
The Champion Safety Lock Co.
Geneva, Ohio

\$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.

When Writing Advertisers Please Mention the American Carpenter and Builder.

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

Makers of

Fine Hand Made Hand Saws

The Purest of Quality Our "GREYHOUND" Hand Saw



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



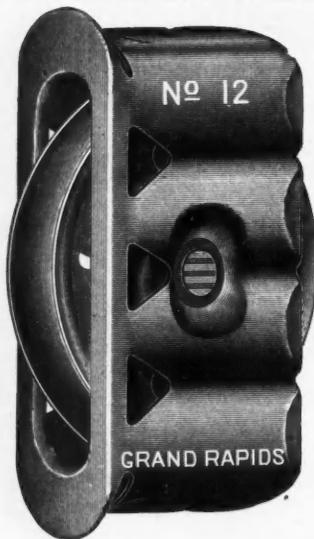
We have had a Chemist experimenting for years to originate a purity of steel with a fine grain and tough body that would stand up under such a fearless warranty as we place on our "GREYHOUND" brand of saws. We now have it. We know its worth as well as its value. As workers of steel we understand it.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

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

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

If this saw cannot be found in the Hardware Store and they will not order it for you, write to us. Price

Inches, Each,	18	20	22	24	26	28	30	Net,	Packed one in a Box
	\$2.35	\$2.50	\$2.65	\$2.80	\$3.00	\$3.30	\$3.65		



"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
C O S T M O N E Y

3 1/2 in. STAR Scribers

With exclusive adjustment slot, as plainly shown in cut. Allows use of 1/4 inch of pencil before readjustment. Made in two styles—sharp or broad point. Price 25c, polished steel; 30c, nickel plated.



ORDER TODAY and specify whether you want sharp or broad point. Postage stamps accepted. We can also furnish steel point, fitted for any Star Scriber, price 10c. Round pencils 5c. Liberal discounts on our Ten Specialties to the hardware trade. We manufacture the well-known Peerless line of scribers.

POTTER BROTHERS

612 W. 110th St., NEW YORK

The American Combined Level and Grade Finder

SIDE VIEW



TOP VIEW



WITH COMPASS

All progressive and up-to-date Carpenters, Contractors and Mechanics are getting one of our levels and grade finders.

An instrument with which at one glance you can get the true slant on any line or grade, either in degrees, inches or percentage, or all at one time, and will at once give the exact distance needed to plumb up to a true level.

The longitudinal recess shown in cut is well worth the low price of the instrument. Note the additional level glass, now placed in middle of instrument, giving with pointer or hand on dial three guides for leveling. The most practicable, durable and convenient instrument of the day.

Write at once for large list of testimonials and special introductory price given only to first applicants with privilege of taking agency.

American Level & Grade Finder Co., Box 255, RAILROAD, PA.

When Writing Advertisers Please Mention the American Carpenter and Builder.

THE FIRST AMERICAN SAW STEEL

THE great and powerful place which American steel has assumed in the world is all the more remarkable when it is considered how hard was the early struggle to give it standing. Yet in the face of every adverse condition the industry has developed and grown and today it cannot be successfully contradicted that America is not only the largest and most critical consumer of steel in the world, but also the greatest producer as well, and this, despite the fact that some years ago the entire country sent abroad for all its steel.

This is true, not only of rails, plates, structural steel, wire and the commoner grades of steel, but also of the higher grades of steel, such as Tool steel and Alloy steels.

At the present time Henry Disston & Sons use a greater quantity of tool steel annually, for saw-making purposes, than any other single American manufacturer, and all of it is produced in their own plant. The history of this plant is unique because it is the first successful crucible steel melting plant in America to make saw steel.

The fact that saw manufacturers were forced to secure all their steel plates from abroad, and these seldom free from flaws, led Henry Disston, 1855, to establish his plant for producing special saw steel. His extensive and careful study of the problem, together with much costly experimenting, resulted in the production, not only of the first saw steel made in America, but the first really perfect saw steel made anywhere.

So great was the prejudice, however, against American steel that Henry Disston was compelled to conceal for a time the fact that he made his own steel, but it was not long before its good quality became known.

Demand on the part of the lumber manufacturers for increased output caused untold difficulties for the saw manufacturer. Forcing results in the sawmill necessitated the making of a steel which would withstand the much greater strains and at the same time possess a longer life. Since its inception, Disston Saw Steel has kept pace with the increasing requirements of the lumber manufacturer so that it possesses, today, all the qualities necessary to make it the best steel for saws produced anywhere in the world.

Disston not only made the *first* American saw steel, but to Disston steel is due the present high standing of American Saws throughout the world.

Reprinted from
The Disston Crucible
of March, 1912

*Quality
Sells*

HENRY DISSTON & SONS

Incorporated

KEYSTONE SAW, TOOL, STEEL AND FILE WORKS

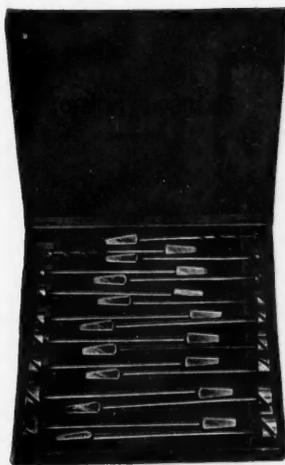
PHILADELPHIA, PA.



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

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

"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.

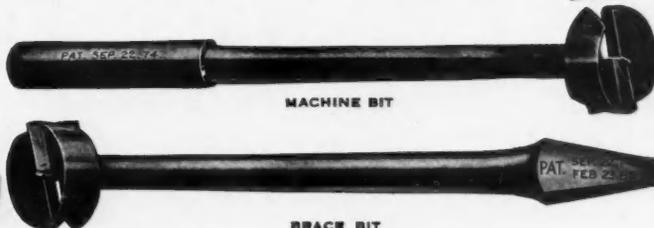
Doesn't matter how hard the wood is, no consequence whether it is full of knots, or the grain awkward to negotiate. The Forstner Bit works with equal smoothness under any condition and leaves a true polished surface on every job.

Unequaled for Delicate Work

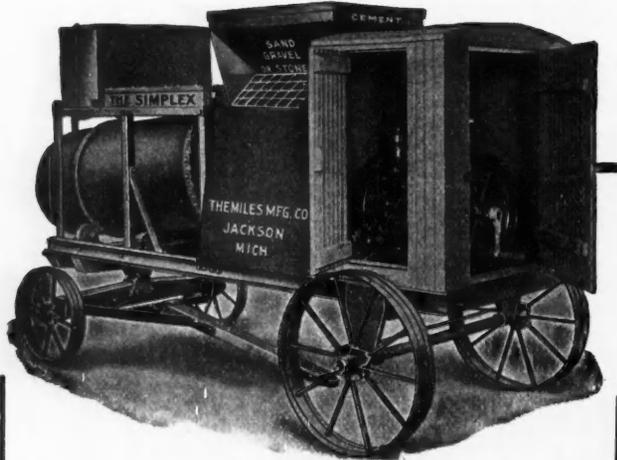
Supersedes chisels, gauges, scroll-saws, or lath tools combined, for all kinds of delicate work. Cabinet and pattern makers and carpenters are enthusiastic because they do more work than other bits and cost no more.

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.



When Writing Advertisers Please Mention the American Carpenter and Builder.



**THE SIMPLEX IMPROVED MIXER
1912 MODEL**



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

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

Makes Stone in Lengths, 4', 6', 8', 10', 12', 16', 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



**The Simple, Little, Light, Handy and Substantial
NORTHFIELD MIXER**

will save you big money on every job. Conservative Capacity: 90 Cu. Yds. per day. It can always be set to discharge direct into Forms, cutting out one-half the wheelers. It saves you three-fourths the Transportation charges and all repair bills, as compared with any other mixer.

No man's business is so big, nor no job so small but what it will pay to have this little Money, Time and Worry Saver on the Work.

New Principle: Plows, Hoes, Stirs, Mixes Mortar, Plaster, or Concrete. Insures a thorough mixture under all conditions. The only satisfactory color blending machine.

IS NOT A MAN-KILLER

Operates by either Engine, Motor or Hand Power. Most reasonable priced good mixer on the market.

Sold on trial. Satisfaction Guaranteed. Write at once for FREE Catalogue, Price and Terms.

Manufactured by

NORTHFIELD IRON COMPANY
402 Water Street : : Northfield, Minn.



Dog House of Blocks made with the \$3.00 Simpson Junior Outfit.

Get your boy one of these outfits. They only cost \$3.00 prepaid. The practical knowledge he will get from making blocks will be worth hundreds of times that amount. Besides he can make and sell cement articles and soon get the cost price back. Don't overlook your boy. Help him to help himself.

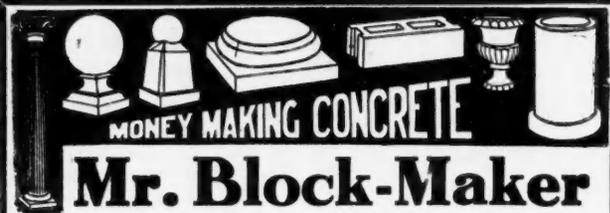
Let us send you our detailed descriptive folders explaining the SIMPSON Junior fully and just how much good your boy can get from it.
The Simpson Cement Mold Co., 121 Vine St., Columbus, Ohio

YOUR BOY

What does he do with his spare moments—his play time—his vacation time? Why not let him make practical, educational—as well as—playful use of this time?

Get him a SIMPSON Junior Cement Block Making Outfit and he will make his play time profitable, both to himself and to you. He will learn, in a practical first hand manner, of the wonderful modern building material—CEMENT. He will make—plan and build—many practically useful, though small, structures—such as models of buildings and houses; a miniature city; a real workshop for himself; a chicken coop; a dog kennel; a house for cats; rabbits, pigeons or other pets; walls to protect flower beds; boxes for garbage cans; mantel fronts; etc. etc.

A sack of Portland Cement costs very little—sand is cheap. And that is all that is needed to make blocks on our Junior Block machine. This Junior machine produces the small blocks perfectly. It is equipped to make blocks of different sizes and faces.



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

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

It is 46 inches long and will make three 16" or two 24" blocks at one operation. It makes sills, caps, copings, rails and steps, faster and better than a special sill 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

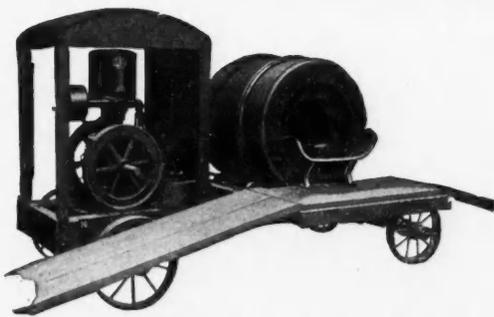
THE PETTYJOHN COMPANY
634 No. 6th St., TERRE HAUTE, IND.

**SASGEN REINFORCED
CIRCLE SWING DERRICK**
\$45.00 complete ready for use with geared winch, 150 ft. cable and block. 2500 lbs. Capacity.

LIGHT STRONG STIFF-LEG DERRICK

All crucible steel fittings with split mast and boom.

SASGEN BROS.
2053-57 Racine Ave. CHICAGO, ILL.
NEW YORK OFFICE, 103 Park Ave.
Write for Illustrated Catalog No. 2.



Don't Lose Money by Hand Mixing this Winter

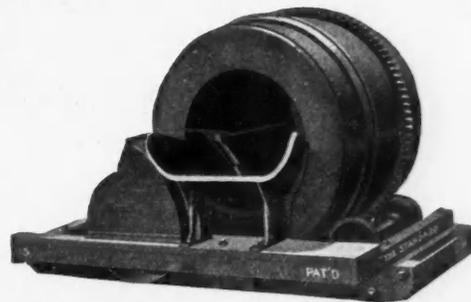
When the snow begins to fly, don't go back to the old method of hand mixing—But get "The Standard" mixer and turn out twice the work with less expense and in half the time.

"The Standard" mixers mounted on trucks are especially adapted for concrete floor construction as the simplicity of this mixer allows the outfit to be moved anywhere on the job.

The Low Charging platform only 2 feet high—The Semi-Automatic discharge simplest and quickest on the market—The Open Drum allowing the inspection of the entire batch while mixing—The low first cost and low operating cost, assures you of many advantages over hand mixing.

"The Standard" LOW CHARGING Mixer Mounted on Skids

is especially adapted for inside work and can be used to a great advantage in mixing concrete, cement mortar, plaster, etc. Can be moved by two men. Furnished with any kind of power or without power, as is desired. If you have any winter work, it is to your advantage to write for our catalog No. 144.



The Standard Scale & Supply Company

CHICAGO
1345-1347 Wabash Ave.

PITTSBURGH
243-245 Water St.

PHILADELPHIA
35 So. Fourth St.

NEW YORK
136 W. Broadway

Lay Your Own Concrete

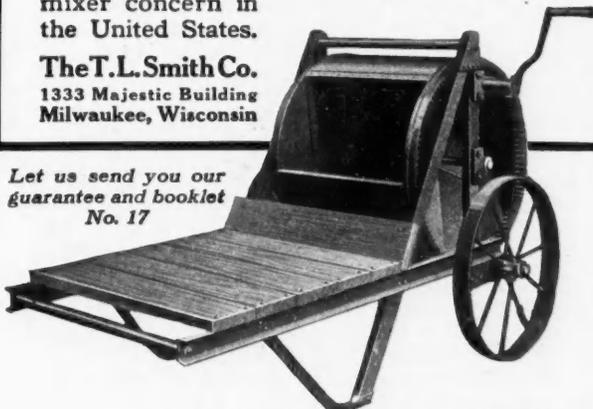
AS the forests are cut, builders turn to concrete. Concrete construction is not difficult. It pays liberal profits. Hundreds of contractors are going into concrete every year. You can start with a small investment—some wheelbarrows, shovels, small tools and a

Smith Hand Mixer

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

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

Let us send you our
guarantee and booklet
No. 17



Why Not The BLYSTONE BATCH MIXER?

This Blystone Batch Mixer can mix mortar and plaster just as well as it can mix concrete. It will give a perfect and thorough mix regardless of material used.

The Blystone Mixer operates very easily. It is filled while in motion and material is discharged while machine is in motion. The Blystone Mixer mixes material in full view—this insures an absolutely accurate mix.

The Blystone Mixer is durable—it is simple in construction and well built throughout. It can be easily cleaned.

The reverse spiral paddle system of the Blystone mixes rapidly, turning material over forty times in one minute.

Blystone Mixers are furnished with gasoline engine, power equipment or for belt driving. Mounted on skids or portable hand trucks.

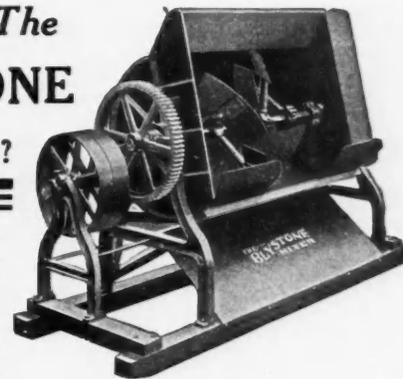
USE THE BLYSTONE MIXERS—BUILDERS

The Blystone is the practical mixer for your use. It is thoroughly adaptable to just the sort of work you want a mixer for.

Let us tell you fully about the Blystone. Get our catalogue and circular matter. Write today for full particulars.

THE BLYSTONE MACHINERY CO.

19 Carpenter St., CAMBRIDGE SPRINGS, PA.

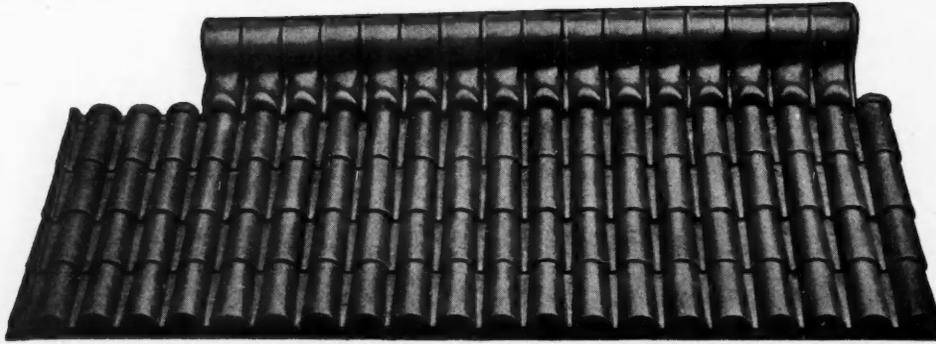


When Writing Advertisers Please Mention the American Carpenter and Builder.

Mullins Metal Tile Roofing

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

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



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

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

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

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

The W. H. Mullins Co.

214 Franklin St.

SALEM, O.



Making ready to insert the floor beams.

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

Steel Reinforced Throughout

DONT WASTE YOUR MONEY

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

Our Walls are Stronger

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

Our Buildings are Warmer in Winter, Cooler in Summer

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

Our Silo Machines

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

Cold Storage Machine

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

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

PEERLESS Cement Brick Machine

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

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

Large variety of face plates with machine.

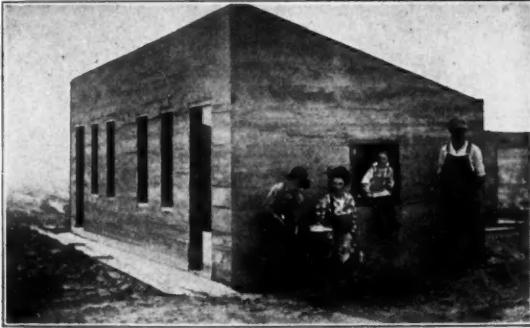
Learn all about the Cement Brick business. It pays others. It will pay you. One booklet will tell you more about it. Write for it NOW.



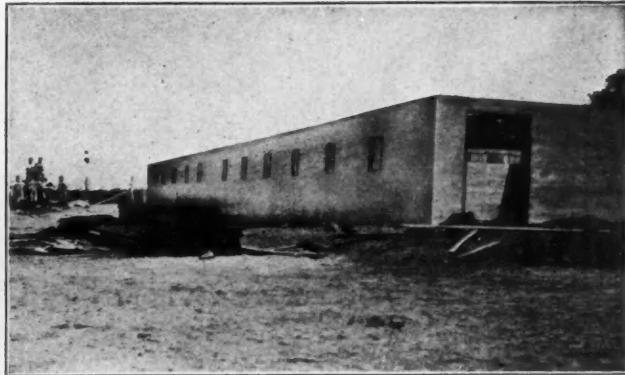
PEERLESS BRICK MACHINE CO.
19 North Sixth Street
MINNEAPOLIS, MINN.

When Writing Advertisers Please Mention the American Carpenter and Builder.

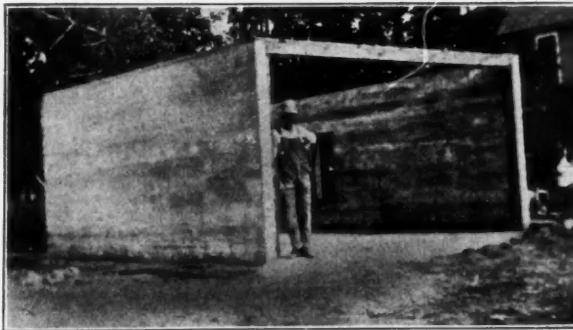
"Put Up All of Them in 15 Days—3 Men, Myself and Mixer"
ALL THE BUILDINGS HAVE CEMENT FLOORS



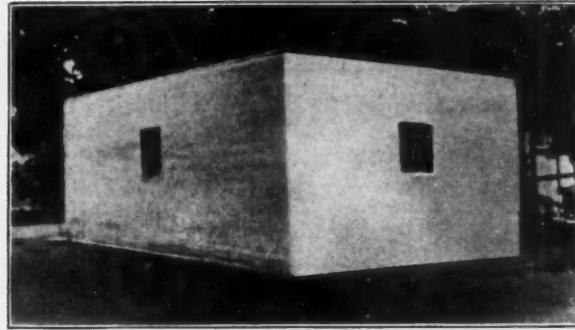
Chicken House, 18-inch Walls



Barn 40 ft. x 120 ft., 10-inch Reinforced Walls



Automobile Shed, 18-inch Walls



Milk House 18-inch Walls

**"Have Now Used My Coltrin Three Seasons and Have Not
 Yet Spent Anything for Repairs"**

Yuma, Colo., Sept. 14, 1912.

The Knickerbocker Co.,
 Jackson, Mich.

Gentlemen:—Here are pictures of reinforced concrete buildings I put up for Mr. Dodd on his ranch at Brush. The barn is 40x120 ft., 10-in. wall reinforced with $\frac{1}{4}$ -in. rods. The chicken house, auto shed and milk house have 18-in. walls and all the buildings cement floored. Put up all of them in 15 days, three men, myself and Mixer. Have now used my Coltrin for three seasons and have not yet spent anything for repairs. Without a Coltrin would not feel I could get along.

Yours truly,

EDWARD SELANDER.

The Coltrin Continuous Batch Mixers

Shipped Anywhere on Trial—Built in Ten Styles

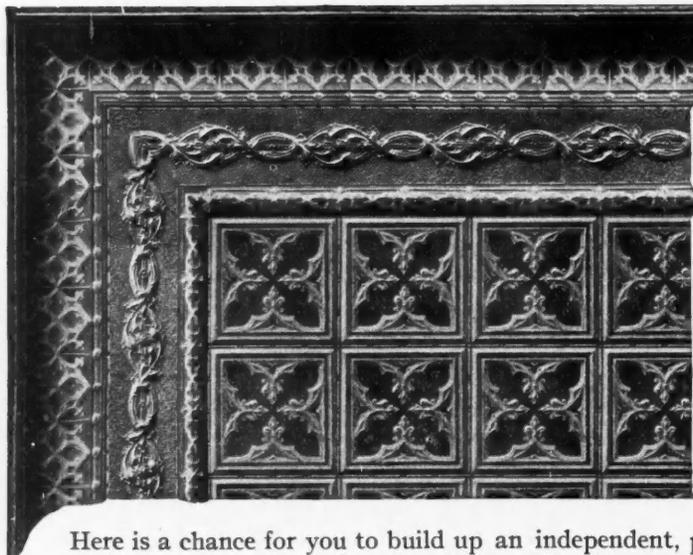
SEE THEM AT THE
PITTSBURGH CEMENT SHOW
 Dec. 12-18—Spaces 136,137

SEE THEM AT THE
CHICAGO CEMENT SHOW
 Jany. 16-23—Spaces 65-72

The Knickerbocker Company :: Jackson, Michigan

WRITE FOR CATALOG

When Writing Advertisers Please Mention the American Carpenter and Builder.



Edwards Metal Ceilings and Walls

Carpenters Contractors and Builders

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

The Edwards Manufacturing Company, "The Sheet Metal Folks"

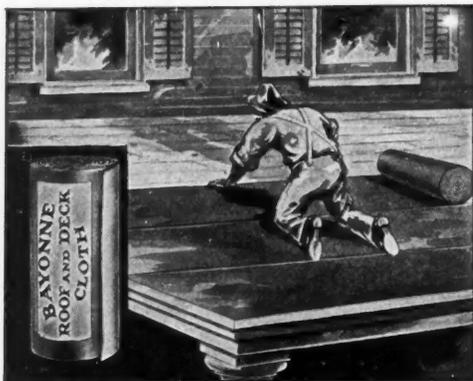
401-417 Eggleston Avenue, Cincinnati, Ohio

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

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

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

FOR CANVAS ROOFS



Order the Scientifically Prepared—

BAYONNE ROOF AND DECK CLOTH

Easiest to lay—
Lasts longest.
Requires but
ONE COAT OF
PAINT. The
treatment per-
meates the
fabric and pre-
serves the fibre.

BEST FOR PIAZZA ROOFS AND PORCH FLOORS

Ask for Sample Book A-6 and Prices

JOHN BOYLE & CO., 112-114 Duane Street New York
202 and 204 Market Street, ST. LOUIS

The Standard Brand of White Canvas
All Widths—All Weights—Any Quality

Our co-operative department gives complete
instruction for laying

BAYONNE or GULF STREAM

John Boyle & Co.'s Awning Stripes have
been the Standard for fifty years

GULF STREAM
ROOFING
CANVAS

Concrete Marble Decorative Concrete Composition Flooring Processes

FOR SALE, Shop, County or State Licenses.

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

Art Stone Co.
Waynesboro, Pa.

Box A

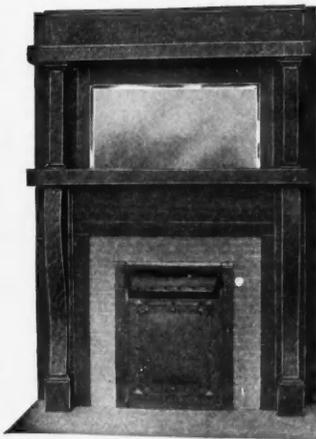
Genuine Peach Bottom Slate

THE BEST ROOFING MATERIAL IN THE WORLD

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

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

When Writing Advertisers Please Mention the American Carpenter and Builder.



\$28.60

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

"From Factory to You"

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

No. 875½.

"Reputation and Quality Count"

Central Mantels

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

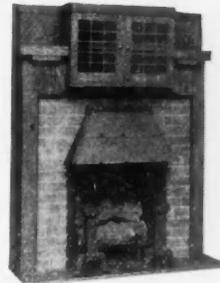
CATALOGUE FREE—Will send our 100 page catalogue, the finest ever issued, free, to carpenters, builders and those building a home.

CENTRAL MANTEL COMPANY

1247 Olive Street

St. Louis, Mo.

High Grade Mantels and Fireplaces

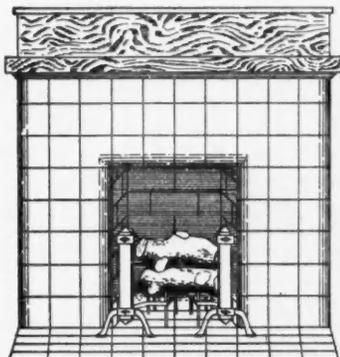


Our line of Colonial, Mission and Standard Mantels is the most complete in the country. All goods are guaranteed as to quality. Our large new catalogue, showing also brick mantels and a large selection of fireplace fixtures, consoles, colonnades, etc., sent free on request.

If building or remodeling be sure and write us.

CHAS. F. LORENZEN & CO.

701 N. Sangamon St. :: CHICAGO, ILL.



Do You Want Our Handsomely Illustrated MANTEL-CATALOG?

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

Catalog free upon application

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

HESS MEDICINE SANITARY LOCKER



The Recessed Steel Medicine Cabinet

The Only Modern, Sanitary STEEL Medicine Cabinet

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

Costs Less Than Wood

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

Should be in Every Bath Room

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



HESS, 920L Tacoma Bldg., CHICAGO

Makers of Steel Furnaces

Free Booklet

The Outside Street Cabinet

Contractors for Tile and Marble Work



For interior and exterior purposes in public and private buildings.

Send your plans and receive promptly our estimate and designs.

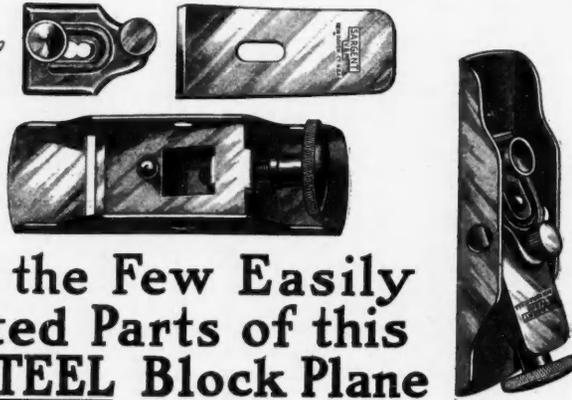
Write for free catalog of Hardwood, Brick and Tile Mantels, Fire-place Fixtures, etc.

Heitland Grate & Mantel Co. 121½ N. Fifth St. Quincy, Ill.

When Writing Advertisers Please Mention the American Carpenter and Builder.



"Fits the Pocket"



Notice the Few Easily Adjusted Parts of this **ALL STEEL** Block Plane

Then consider that it is light, unbreakable and indestructible—a handy tool that you, as a practical mechanic, need.

The size and shape will permit you to carry it in the pocket of your apron or overalls and you will find it particularly desirable for work on scaffolding, etc.

It is strong, substantial, serviceable and has a powerful clamp that holds the cutter in place. Fully warranted by the makers.

It bears the stamp



a guarantee of high grade and superiority quality.

Made in two finishes:

No. 4206, Highly Polished.

No. 5206, Nickel Plated.

Sold at hardware and tool stores.

The Sargent Tool Book, which fully describes all Sargent Planes and other tools, sent free on request.

SARGENT & CO., Tool Makers

No. 1149 Leonard Street, New York

SARGENT

Our new Rafter Square, No. 500R, is the most complete Square ever made for the carpenter.

It gives the length of common, hip, valley, jack and cripple rafters, also all top, bottom and side cuts.

It has brace measure giving the length of the common braces; also a table giving the cuts for common polygons having 5 to 12 sides.

Simple and easy to use. No figuring required. A great timesaver.

For full description and directions for using, send for the Sargent Square booklet, free on request.

Sargent & Company, 1149 Leonard St. NEW YORK

When Writing Advertisers Please Mention the American Carpenter and Builder.

SHORT TALKS WITH OUR SUBSCRIBERS



Bright Prospects Ahead

THERE never was a time when things looked any brighter than now for carpenters and builders. Big crops, good wages, general prosperity. Even the every-fourth-year political bugaboo has quieted down and doesn't scare folks the way it used to.

There will be considerable building work to attend to this winter, and the few days of enforced idleness will probably be all too short for the real needs of enterprising builders.

There is no time like the winter time to investigate new things, to get posted. New building materials are on the market. New methods of construction are being introduced. New tools, machinery and builders' equipment are offered, as being wonderfully superior to anything heretofore known.

And maybe some of them are, at that! The wise builder gives the man with the new thing the benefit of the doubt. He is willing to investigate and find out. What he doesn't have time to look into during the busy building season he studies into during these winter months. Not all builders realize it, but there is money in keeping posted. *The best work always goes to the man who knows.*

Winter "Wolf Chasers"

IN this issue of your magazine you will find an astonishing number of sensible ideas for winter work for builders. It is always interesting and valuable to know how "the other fellow" manages it. From making "antique" Grandfather clocks with wooden works, all along the line to making up door sash and window screens, the actual experiences of other carpenters and builders are offered. Take your pick.

Contents for November, 1912

Adventures in Rescuing Antique Furniture	40
Advertises for Jobbing Work	44
Better Building—Why and How	50
Both Inside and Outside Work for Winter	44
Brains with Silver Lining	44
Builders Hardware	64
Built-in Furniture—Some Interesting Designs	62
Built Like an Eagle's Claw	89
Colonnade Opening with Built-in Cases	48
Concrete Construction	61
Concrete Hot-Beds and Cold-Frames	61
Correspondence	90
Costly Government Buildings	74
Details You Can Use	48
Editor's Drawer	88
English Cottage Planning for the "First Garden City"	53
Evolution of Fashions in Hardware Trim	64
Fast Work with the Straight Edge	94
Fasten Sash Pulley with 20d. Nail	95
"Garden Cities" of England	52
Good Management of Winter Work	91
"Grandfathers' Clocks with Wooden Works at \$300.00 Each	43
Grant or Leaf	90
Handy Measuring Pole	94
Hardware for Accordion Doors	91
He Used Esperanto	89
Helped by Portable Woodworker and Gas Engine	45
Hood Rafter Framing	95
Home Study Winters; and What It Has Done for Me	41
Home Workshop	78
How I Turn My Spare Time to Profit	36
How to Build a Neat Form	91
How to Do Fast Work	58
How to Make Some Small Salable Pieces	78
Important Door Hardware—Butt Hinges	65
Investing the Winter Months	46
Jointer Accidents Reported and What They Teach	60
Keeping Busy in the Carpenter's Shop	45
Keeping Busy in the Power Woodworking Shop	39
Laying a Solid Concrete Roof	66
"Lays Away" Jobs for Winter	43
Makes and Sells Trim at Factory Prices	45
Makes Furniture and Cupboards	46
Makes Plain Furniture	44
Makes Small Furniture for Sale	46
Makes Wagon Boxes and Racks	44
Methods Used Successfully by Other Builders	43
Modest American Homes	75
Money in Screens and Screening	38
More Shop Kinks	70
Noon Hour Talks by the Boss Carpenter	72
Not Sure of His Answer	90
Official Statement	35
1001 Winter Income Helpers	43
Out Door Sleeping Berth	88
Overhauls Working Gear	46
Painting and Wood Finishing	80
Planning Mill Work	70
Planned for Future Growth	47
Planning a House	59
Plans for Attractive Five Room Bungalow	75
Possibilities of the Steel Square	68
Practical Carpentry	58
Practical House Painting—Inside Work	80
Public Buildings	47
Residences	82
Sawing Concrete	90
Sleeping Porch Building	67
Splinters	69
Suggestions for Winter Income	37
To Keep the Dollars Coming In	36
Trade Notes and Items of Interest	96
Warmer Walls—Or a Larger Heater and More Coal?	50
Yours for Safer Building	72

Will These Ideas Work?

A FAIR question which, like the motion to adjourn, is always in order is "Will it work?" In this case it seems certain that these ideas will work, at least they have worked for others. Why not for you just as well? Perhaps better?

We have seen suggestions made, based on theory—ideas some writer thought *ought* to work.

But these ideas are different. Nothing theoretical about them. They all bear the stamp of genuineness. They have been sawed out, and hammered out, and chiseled out by your brother builders. Pick out what is best for you and go to it.

What of Your Own Experiences?

THE subject of winter work is so interesting and so important that we will gladly give more space to it *next month*, also. You practical men who haven't written yet about this,—here is your chance to go these fellows one better.

Do any of you build boats in the winter time?

Do any of you make cedar chests?

Do any of you specialize in attic remodeling, using wall boards?

Do any of you draw plans and clean up the architectural end of your work during the winter?

The December AMERICAN CARPENTER AND BUILDER is yours to tell us about these and a dozen other things we ought to hear about. Some worth while prizes will be given, too.

Big Special Christmas Number

THE next will be our Christmas AMERICAN CARPENTER AND BUILDER. It doesn't seem possible that Christmas is almost here again; does it? We are going to celebrate properly this year. WE ARE GOING TO CELEBRATE WITH THE BIGGEST AND BEST NUMBER OF THIS BUILDING MAGAZINE YET ISSUED. It would take many pages to tell you all that is to be in it, and as you see we haven't much space left.

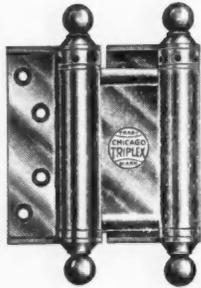
But you can take our word for it, that it is going to be a dandy. Don't miss this big special Christmas number. Fraternally Yours,
Editor, AMERICAN CARPENTER AND BUILDER.

CHICAGO

SPRING BUTTS

A SUGGESTION

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



Chicago "Triplex" Spring Butts

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

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

Chicago Spring Butt Company

CHICAGO



NEW YORK

BOMMER

SPRING HINGES

ARE

Quality Goods

BUT COST NO MORE THAN THE SUBSTITUTES

This trade mark



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.

Saw Points—

an interesting Book of information for Carpenters and Builders that tells all about "How to Set a Saw"; the information is invaluable to you the Book is FREE.

The Morrill

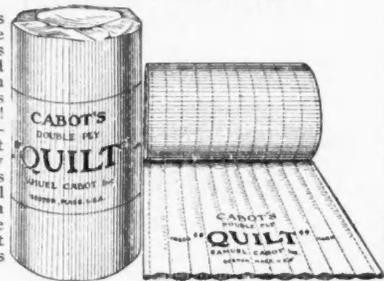
Saw Set for 30 years has had the reputation of being the best *saw set* made. You should use it.

Chas. Morrill, 275 Broadway
New York

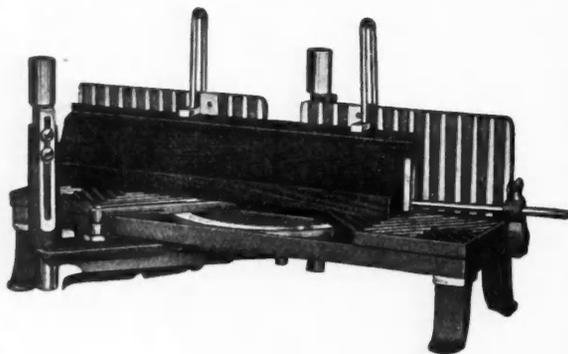
CABOT'S "QUILT"

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

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



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



Marsh Ayer Miter Box

Six Points of Superiority

1. **Ribs** for sawdust clearance under stock.
2. **Stock gauges** for crown moulding.
3. **Degree scale** for cutting odd angles.
4. **Special finger latch lock** for holding lever in position.
5. **Detent spring** for holding saw elevated.
6. **Convenient length gauges** for duplicate cuts.

Send for circulars and learn ALL about them.

H. C. MARSH CO.

606 RACE ST. - ROCKFORD, ILL.

When Writing Advertisers Please Mention the American Carpenter and Builder.

To keep the coming in during the winter months

If the Old Grey Wolf isn't kept away from the Door this winter it will not be the fault of the 100 subscribers (practical carpenters and builders) who have come forward with these frank, sensible, helpful letters. These schemes for winter work have been tested; they have proved successful for others—some of them may be just the thing for you.

We are grateful to these subscribers for their loyalty and brotherly spirit.

How goes the Winter Work Problem with YOU? What do you think of these solutions? and what have you to offer? Write to us now; the discussion in the December American Carpenter and Builder will be lively.—Editor.

First Prize—How I Turn My Spare Time to Profit

OPPORTUNITIES OFFERED IN MAKING KITCHEN CABINETS, MISSION FURNITURE, GRAIN SPROUTERS, HANDKERCHIEF AND NECKWEAR BOXES, AND PHONOGRAPH CASES

By J. C. Barnard

Carpenter and Builder, Oklahoma City, Okla.

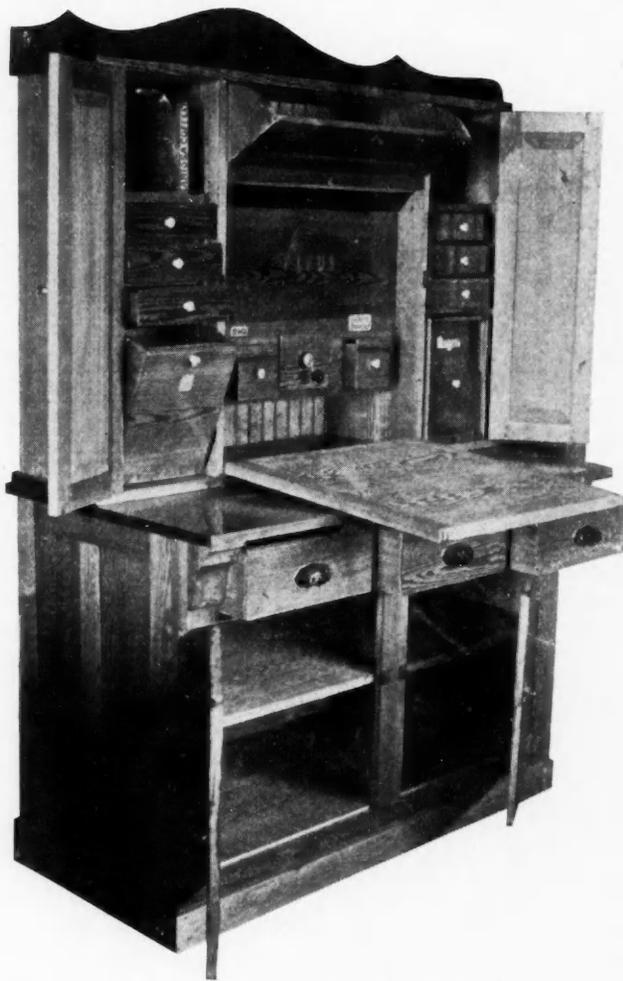
Editor AMERICAN CARPENTER AND BUILDER:

I WISH to help out the discussion of work for winter months. I think the first thing to do is to ascertain in each locality what the demand is for, whether for useful articles or articles that can only be bought by rich people, and may be considered luxuries. Under the head of useful articles I have made the following articles: Kitchen cabinets, grain sprouters, all kinds of mission furniture.

One winter I made by hand six kitchen cabinets out of yellow pine that I sold for \$25.00 apiece. I made good wages on these (photo enclosed). There is good money in different pieces of mission furniture. If the locality in which a person lives is a good one for chickens, good money can be made making grain sprouters; any chicken man will buy one when it is demonstrated to him.

Last winter I made a great number of ladies' handkerchief and neckwear boxes. These were about 12 inches long, 8 inches wide, 4½ inches deep, all veneered with curly walnut and piano finished, lined inside with satin, very tastefully, and small mirror in lid. I could place these faster than I could make them. They make a splendid present. Making them is like play. One can have half a dozen on the way at one time and it fills in so well while doing other work. The satin work can be done by a good fire on a cold winter's night and the good wife can help, too.

I have also been very successful making gramola tables, the same as the Columbia people put out. The difference is I can cut their price a hundred dollars and then make good money. I obtain the material



"One Winter I Made Six Kitchen Cabinets (like this) out of Pine—Sold Them for \$25.00 Apiece



View of Kitchen Cabinet When Closed

from the American Veneer Co. (advertised in your paper) and the graphophone I buy from the Columbia people. I can build one in two weeks, the finishing takes two weeks' time, but only about two days' actual labor. They are good sellers, if you are in a



Grafonola Table with Instrument (Sells Regularly for \$200.)
Can be Made and Sold at a Good Profit for \$100.

locality where people can afford a piece of furniture like this.

Now, I do not know what else to say, without it is that it depends a good deal on the man; if he will use his powers of observation and his brains he will soon find out what there is a demand for, and in many cases he can help to make a demand for his work.

J. C. BARNARD,
Oklahoma City, Okla.

Second Prize—Many Suggestions for Keeping the Money Coming In During the Winter

By John Freeman

Carpenter and Builder, Rock Island, Ill.

HOW to keep busy during the winter is no doubt the question with many carpenters, especially in small towns, where it is seldom that there is enough inside work to keep a force busy. However, the man who wants work will be agreeably surprised if he will look around, as there are many ways in which he can "keep the money coming" and at very agreeable work, too. Here are a few pointers:

(1) There is hardly a housekeeper but would like an attractive *plate rail* around the dining-room, and the carpenter can buy this cheap, and can make it still cheaper yet. The mission designs are easily executed and always attractive. Let the people know that you are in position to make designs to order, and that you will put same in place, and if handy with the brush, it can easily be stained and finished to match the rest of the finish.

(2) *Screens*. Take orders for screens during the winter. Buy screen wire by the roll (you can do this at a saving of about 50%), and let your trade know that they can save money in placing their screen or-

ders with you during the winter, and that you will fit and hang them.

(3) *Shirt-Waist Boxes, Flower Stands, Porch Seats, Swings, etc.*, are always in demand, and a call among your friends and neighbors suggesting that you are in position to make up anything in this line will undoubtedly result in many an odd job with a neat profit. Designs for many kinds of porch furniture have appeared in the AMERICAN CARPENTER AND BUILDER, and you might take a few designs of different articles along, and they are almost sure to take the eye of some one.

(4) *Cupboards and China Closets*. There is many a house that could use a cupboard to advantage that does not have one now or maybe the lady of the house wants another. It might be that the old one has panel doors and glass doors are preferred. You can easily cut out the panels and put in lights of glass. Maybe there is a nook in the dining room not the right size for a china closet one would buy from the dealer—if so, one could be made to order and finished

and more attractive perhaps than one taken from the store.

(5) *Attics.* Maybe the walls and floor have never been finished, and it is now desired to have same for store room or play room for the children. Cheap flooring and wall board will soon fix the room up, and attics are not half bad places to work in during the bad weather.

(6) *Mirror Doors.* Nearly every house, built at least five years ago, has a place for a long mirror door. Very well, you can purchase same any size, and a little work and moulding will fix up the old door.

(7) *Picture Moulding.* Maybe the house is to be repapered, and if so, new picture mould would add to

the attractiveness. You can supply this.

(8) *Beam Ceilings.* These are not so hard to put up and make a very attractive room, and are very much in style at the present time.

I have named over just a few of the many different ways to keep busy during the winter. It will be found worth while to have a telephone so people can call you up, and also in making calls to leave a business card with address and phone number.

I hope some of the suggestions offered will be of value and help "keep the money coming in during the winter," and I will read with interest the letters from others.

JOHN FREEMAN.
Rock Island, Ill.

Prize Letter—Money in Screens and Screening

HOW I HAVE WORKED UP A WINTER SPECIALTY THAT KEEPS MY WOODWORKING MACHINERY BUSY AND THE PROFITS COMING IN

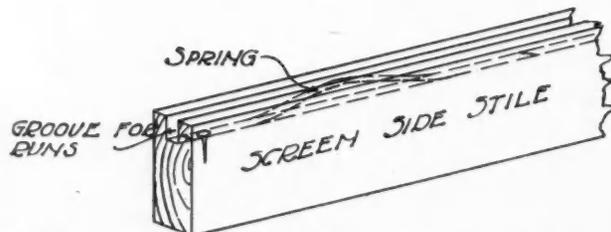
By **Floyd L. McCollom**

Carpenter and Builder, Pontiac, Mich.

EDITOR AMERICAN CARPENTER AND BUILDER:

WINDOW screens and screen doors will be found a money making business for winter months. I do not say this without knowing it, for I believe I am in a position to know, having been making this my winter work for a number of years. It is one of the easiest things in the world to get people interested in screening their own residences, and often you can secure the job of screening the tenant house. Just try the screening business, my brother, and you will surprise yourself to see how easy it is. There is no argument against good fly screens; the day has now come when everybody wants their houses screened.

There was a time back in the misty foggy days of our forefathers when people thought but little of picking flies out of the butter and milk and tea, etc., but that day is past and people are looking for more sanitary conditions, and surely a house filled with pure, well screened fresh air is to be much desired, and no one with an ounce of wisdom will argue against it.



Screenman McCollom Makes His Window Screens Thus With Spring Slides

Our leading doctors of today are crying in loud tones for screens, screens and more screens. Keep out the flies and you keep out four-fifths of all fevers.

Now, my brother, I will tell you how you can build a very nice line of screens, and if you have a power woodworker you have all you could ask for in the way of machinery. Your stock for window screens

should be $\frac{7}{8}$ by $1\frac{3}{4}$ inches for sides and top of frame and $\frac{7}{8}$ by $2\frac{3}{4}$ inches for the bottom rail; $1\frac{1}{8}$ inches is often used where a heavier frame is required. However, $\frac{7}{8}$ inch usually is used. Cut the sides in between the top and bottom, by so doing the top forms a water shed for the ends of the side stiles and the lower end of the side stiles being held up from the window sill by the bottom rail prevents the ends from taking up moisture as it otherwise would do.

After the frame has been bored for $\frac{3}{8}$ by 3-inch dowells and assembled put on your grooving saw 5-16 inch thick and groove one edge of the frame 9-16 inch deep and the other about 3-16 inch deep. Use a spring in the deep groove at top and bottom of the side stile. Get out hardwood slide strips $\frac{1}{4}$ by $\frac{1}{2}$ inch to nail on your blind stops for runs.

This will make you a sliding screen that will please. In making the slide screen, however, it should always be made $\frac{5}{8}$ inch narrower than the opening between blind stops. This allows for the slides and when sprung in place will work freely and yet firm. If a stationary or hinged screen is desired do not make the $\frac{5}{8}$ -inch allowance.

Doors. Stock used for doors is usually $3\frac{3}{4}$ by $\frac{7}{8}$ or $1\frac{1}{8}$ inches for side stiles and cross rails, with a $5\frac{3}{4}$ -inch bottom rail. For doors I use 7-16-inch dowells.

If you have a shaper in connection with your woodworker you can add beauty by shaping the inner edges of both doors and window screens.

You can make good money from this work at a charge of from 9 to 15 cents per square foot, according to wire work used and number of coats of paint applied.

Hoping I have inspired some brother to the screen business and wishing you all bigger and better business during the winter before us.

F. L. MCCOLLOM,
Pontiac, Mich.

Prize Letter—Keeping Busy in the Power Woodworking Shop

NECESSARY TO ENLARGE SHOP TWICE IN SIX YEARS—METHODS USED—MACHINERY EQUIPMENT—
OUTPUT THAT KEEPS THE MONEY COMING IN

By **W. C. Marsh**

Contractor and Builder, Fort Madison, Iowa

Editor AMERICAN CARPENTER AND BUILDER:

IN reply to your request, will herein give my experience.

Six years ago this Fall I took my first contract to build a five-room dwelling, and employed a young man who wanted to learn the trade.

My shop was 20 by 24 feet, with 14-foot studding. That winter I built a saw frame for hand use, but soon added shaft with pulley, and when I had much ripping, I used my small auto for power; in this way got out all my frames. Had several small saws for plowing, for parting stops and other work.

The second year I built my shop longer, to 50 feet; put in a 2 H. P. gasoline engine, 10-foot line shaft and several hand made machines and cutter heads. These helped very much and did good work; have run a week at a time, ripping out material for other parties; employed four men during the summer and two during the winter months.

Three years, and I saw that I was not in shape to handle the work to the best advantage, although what I had was a big help and saving. Late in the Fall I enlarged my shop to 35 by 50 feet, with cement floor. I purchased a combination wood worker, but had changes made for my wants; a double adjustable table jointer in the center, on left arbor for saws, and on right for all kinds of cutter head and moulding bits. I built an adjustable frame above table, so there were no obstructions on saw table. This frame fastened to the joist above, and by lowering same for guides and springs, holds the material on planer and



W. C. MARSH

other heads, and when not in use pushes up out of the way. Also put in a heavy mortiser and boring machine for all classes of mortising and boring. I use quadruple bit for sash pulleys, window frames, etc. Built a 4-foot sand drum, which is used mostly for smoothing up screens, windows, and doors after they are put together.

A reversible spindle for circle sash; also a 22-inch band saw, although small, does my work nicely. Also a wood lathe which has done lots of work; grind stones, emery wheels, 22 feet of line shaft and 6 H. P. gasoline engine.

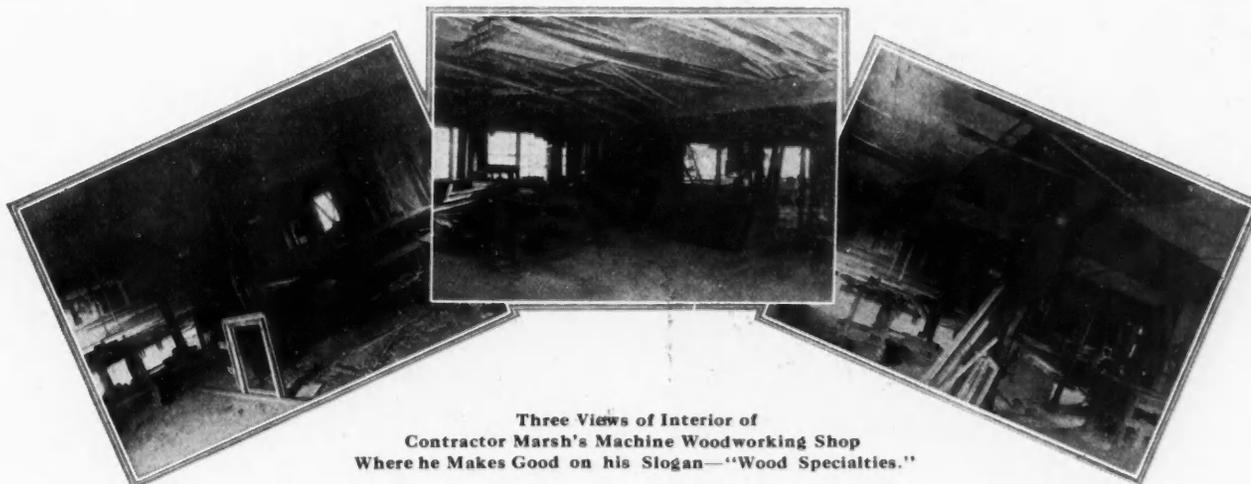
On the second floor I have a large screening table for stretching wire on frames. My first saw rig is also on jobs where there is much sawing and ripping.

The Question—To Keep the Dollars Coming in During the Winter

Necessity forced me to provide a place for winter work, and tools to work with, to compete with any factory. My winter work increased, my help had to increase; while providing a place for myself, it was for others, and last winter I had six men working nearly every day.

"What is the Line of Work?"

Any and everything in the wood line, all kinds of furniture (at odd times), broken sash to be replaced with new, kitchen cabinets, china closets, ironing boards, custom ripping, etc. I have run a week for one party, ripping. Make window and door frames for other parties which would have to go to a planing mill. I have taken many jobs of shop work away from the regular mills and made money. There is always



Three Views of Interior of Contractor Marsh's Machine Woodworking Shop Where he Makes Good on his Slogan—"Wood Specialties."

something in the shop waiting to be done.

My slogan, "Wood Specialties."

My winter work will be to the largest extent, window screens and screen doors and storm sash.

Orders are taken in the fall and winter for window screens, and make up standard sizes for stock if we have the time. We were making storm sash, off and on, all last winter, and at times could not get them out fast enough.

I save all my rippings, and when I get the time, run them into screen moulding, parting stops and lattice, 1 $\frac{1}{8}$ -inch blocks into rosettes.

Last Winter a railroad contractor wanted some turning done. The regular planing mill was not running and he came to me. "Can you turn some 4" Rollers?" "Yes," said I. He had a half car of poplar to cross

cut and turn.

Another party had a patent folding chicken crate, which consumed lots of time. I have 500 to 1000 to make this winter. I have orders for several kitchen cabinets to be made this winter.

Laying hardwood floors in the winter can be worked at to good advantage.

I have this to say, be able to do all classes of work that may be offered, and you will not have to solicit work. I have never asked for five cents (5¢) in work and have all I can attend too, and no contracts have been over seven thousand, five hundred dollars, (\$7500). I employ ten to fourteen carpenters.

W. C. Marsh.

Contractor and Builder and Manufacturer of Wood Specialties, Fort Madison, Iowa.

Prize Letter—Adventures in Rescuing Antique Furniture (and the Money that's in It)

WINTER WORK THAT IS THREE-FOURTHS PLAY

By Robert A. Heim

Carpenter and Builder, Lockport, N. Y.

Editor AMERICAN CARPENTER AND BUILDER:

THE Editor has asked a very simple question and a most difficult one to answer, and a very vital one withal.

To begin with, the answer depends on the man who has to work it out, and nearly every one has to do it along certain individual lines. The writer has

found that good profit can be made picking up odd pieces of used furniture and carefully restoring and refinishing them.

On one occasion a rosewood settee was found in the basement of a junk shop. About two days' work and the outlay of seven dollars for materials for finishing and upholstering netted a clear sum of twenty-five dollars, and secured an appreciative customer who gladly helps to place every piece that spare time is found to make or repair.

An old cherry bureau reposed for years in a lumber room in the attic in the house of an old family. Tradition gave it an age of 150 years and its construction shows a master's skill. It was given the writer, to make room for a more modern piece of furniture. It was dingy and scratched and had the remains of three coats of paint—*paint*, mind you, on as fine a piece of wood as ever grew. The front had an overhang of about 4 inches, which was supported by engaged Doric columns. Below the overhang are three full width drawers, above is one extra deep drawer and above it three narrow drawers, making in all a very pleasing as well as convenient elevation. Two columns gotten out to three-fourths scale of those on the front were set on top, flanking the frame of a bevel plate mirror, which is pivoted between the caps of these columns.

The old paint was cleaned off and the piece refinished with clear rubbing varnish, and from an outlay of less than ten dollars, beside the time, a standing offer of seventy-five is on the piece.

I know a carpenter who puts in every spare minute at furniture making. He built all the furniture for a prominent attorney's house in a neighboring city—and got his pay for it, too—but so many will say, I



"I Found a Rosewood Settee in the Basement of a Junk Shop"

don't know how to do finishing or staining; no more did I until after I was thirty-eight years old—nor very little of the carpenter trade either, having spent my working years in train service on railroads, so I know that any man who wills can do as well. Good, reliable information on any subject relating to the building trade can always be had, and very reasonable at that.

On pages 50 and 51 of the October issue Mr. Clausen presents a side of the problem, and I know that it sometimes does happen that contractors keep some men employed even when their work barely keeps their wages clear, simply because they cannot afford to lose the services of such men when they have a rush of work on. Moral: Be one of the men whose work makes him invaluable and you will be kept busy.

I think that which most carpenters and every other class of building mechanics needs is a good course of study; and the winter affords the best time for that. If the lessons are well learned and applied as they are



"An Antique Cherry Bureau, that had been Painted was Rescued, Repaired and Refinished and is now Worth \$75.00"

presented in this and kindred trade journals they will help at least the major portion of building mechanics to a better paid and therefore a more independent and happier footing.

ROBT. A. HEIM,
Lockport, N. Y.

Prize Letter—Home Study Winters; and What it has Done for Me

By J. R. Polk

Contractor and Builder, Greenville, Texas

Editor AMERICAN CARPENTER AND BUILDER:

I WILL try to give you one answer to your question, although I am sure you will get your thousand answers without my few lines.

As you give us plenty of timber to convert to shavings, I'll take my stick and try to hew out my thoughts on study and what to study when the cold winter days keep our tool chest closed for days at a time.



"Get out Your Paper, Pencil, and Square, and Your Old Building Journals"

are we to learn if we do not read?

I've not been at the trade very long and have found that by reading an hour I learn more than I can do in twice the same length of time—for instance, I take "our own" AMERICAN CARPENTER AND BUILDER; every issue is all new and will never get old and stale.

First we will take the house plans, they are good and very reliable, you can't question that, and in every plan you get a goodly bunch of ideas you can readily

Some may not think that, by reading magazines and books, there will be any good derived therefrom—every person knows some other man knows some things he does not; and how

give your customers, because they are correct, up to date, simple, neat and as substantial as are wanted by anyone, and a host of more things to learn from that one plan of a modern residence.

There is a school, over further in the book, a plain, modest, roomy structure. There you get the best ideas on ventilation, light and sanitary equipment that an expert can give—that will be several dollars to you after a while.

Then we read of a church; you see the floor plan; you study it; you learn from another expert how to build from his plan or make one of your own for your customers and will not be afraid of the job because you learned from men who know; maybe a pocketful of dollars here.

Now we find a garage. Have you ever erected one? If not, how are you going about it? Why you have several plans in the building journal that just tickle your customer and he wants the one like that in the AMERICAN CARPENTER AND BUILDER; you



"You Build a Novel Feature for One Customer and at once Others Want it too"

build; he tells his friends and you build theirs. Is that worth money, or do you do it for fun?

Some of your lady friends want a built-in kitchen cabinet or china closet. You run to your AMERICAN CARPENTER AND BUILDER, find details of construction and find the very one she wants. You did not know just how to build it; but you knew the magazine would tell you so plain that you had no fears. Of course, when one lady has such a beautiful, useful, ornamental and practical installment others will follow, and that means more dollars to follow. "Oh! those lovely and novel partitions for living and dining rooms! Mr. So and So has one and I'm going to have one, too! I'll call up Mr. A. C. and B. right now, because he is the only first-class carpenter in town." He studies all the spare winter hours and don't get many dollars during cold weather, but he *knows how* to get it later on, and gets it, too.

When you finish up a nice piece of interior work you know how to have stained and varnished, because you read it in your journal last winter; and it read so plain it was just like watching a man put it on.

Where the real profit starts is right on the heels of hard study.

Get you a supply of paper, a pencil, a good framing square, pull the table out in the middle of the room; then get your oldest copy of AMERICAN CARPENTER AND BUILDER, then look for Mr. Wm. C. Jasbury's little bunch of "Shop Kinks," then lay out every thing just like he says to, and see if he knows all he says he does. Work him good; he may fly out of gear, but he needs working out.

J. Crow Taylor gives good advice; he know more,

so make him tell it. He wants someone to listen to his little spiel and it's worth hearing, too.

Well, everybody knows that man A. W. Woods and his little steel square. I'll not say anything about him because he would take his square and prove that I told lies in a circle.

I know how to lay off a foundation of any kind of a house or residence, how to frame it with any kind of roof of any pitch.

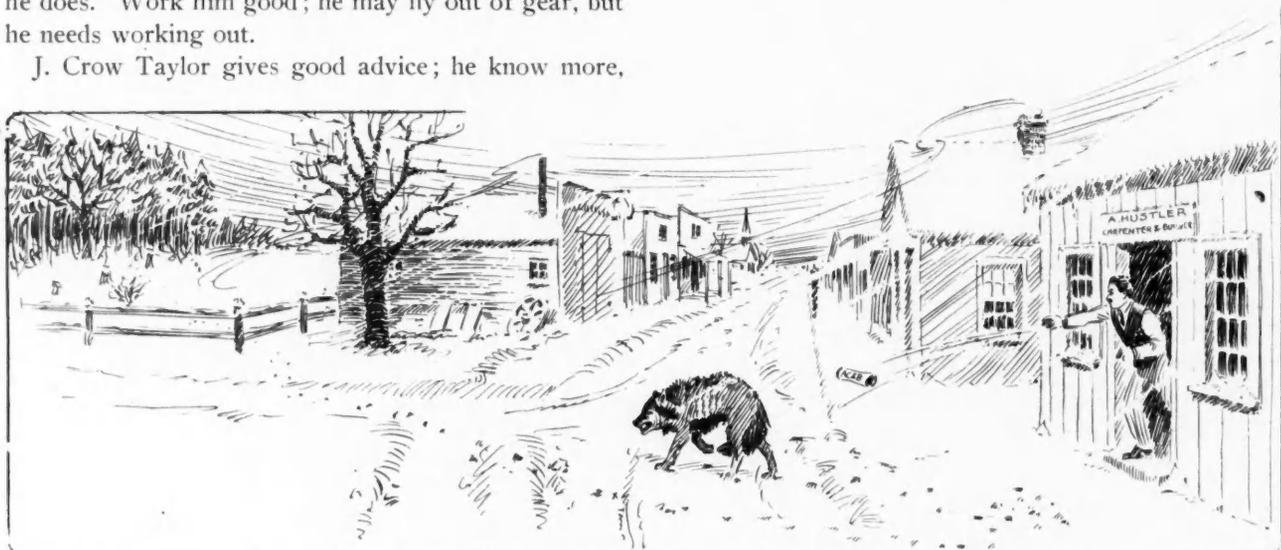
I know how to use the square for more than a dozen things, besides making straight lines, in framing the roof of a common residence. I know the square is one of the most innocent looking things made and can get you into more trouble, then out of the same trouble, than anything made.

I can make any interior trim that is commonly used.

I know how to lay out any cut in most any kind of a residence with the steel square, where the proper place is for lighting for convenience to the house owner as well as heating and ventilation—know how a building should be painted and finished, exterior and interior, and know a good job when I see it. As I have not been at the trade very long, you all know I learned it by studying as well as working, and I think any person following the trade should study half as many hours as he works.

It does not cost very much to keep busy three or four hours per day studying after some writer that knows what he is talking about.

Any person who subscribes for a good building jour-



Away From My Door, Mr. Wolf!—Back to the Tall Timber With You!

nal and will devote a few hours each day to study will, in a short time, be a man worth while.

I do not want anything but the AMERICAN CARPENTER AND BUILDER and I try to stay right with our Mr. Woods and the Boss Carpenter in his noon-hour talks.

The Correspondence Columns are worth the price of the paper every month.

I've read several different magazines, but when I found this AMERICAN CARPENTER AND BUILDER I just dropped them all and put this one under my arm and there it stays, for it has brought the dollars to me and it has got to roll some more my way, and any time a few of them roll my way it shows how to take 'em in,

even if I had not thought they were for me.

It's worth while and worth the price; it's easy if you listen to the horde of advices the AMERICAN CARPENTER AND BUILDER places before you each issue. Greatest contractors and builders everywhere continue to study; they cannot afford to quit unless they wish to quit the business or become "has beens."

You get advice from architects, builders, contractors, painters, and even the working man. Every one can tell someone else something new; so lets study and learn all they will tell us while it is so cheap.

J. R. POLK,
Contractor and Builder.

A Thousand and One Winter Income Helpers

Methods Used Successfully by Other Builders

"Lays Away" Jobs For Winter

Colon, Mich.

Editor AMERICAN CARPENTER AND BUILDER:

I keep an eye out *constantly* for a winter job, and when I land one I make a note of it, for whom and what the job is, so I am next all of the time in that respect.

So in the winter I dig up these jobs and *always* see how well I can do them; and quite frequently I bump up against something I don't quite understand. Then I get busy and try to find out the cause, and in this way I educate myself considerably, and I figure that *this* is time well spent.

Then, there is the reading and studying of the AMERICAN CARPENTER AND BUILDER, the best trade magazine. Get out your drafting board, give that a twist, and before you hardly know it, the good old spring time will be here.

WM. E. WARE.

"Grandfathers" Clocks with Wooden Works —at \$300.00 Each

Saranac Lake, N. Y.

Editor AMERICAN CARPENTER AND BUILDER:

Here is how one can turn his spare time in winter or summer to profit, if he has a little shop where he can do cabinet-work. I have made six "Grandfather" clocks, the old hall clocks you read about that stand 7 feet in height—have wooden works—no metal about them only the weights and hands.

If the reader can get hold of an old clock somewhere to copy from, and make himself a little foot lathe and jig saw, and make his knives for cutting out the cog wheels. These knives will have to be made true, as this is one of the fine points to get the wheels true so the clock will keep good time.

Beech is the wood used for the works. Make plaster of Paris forms for casting weights and hands—hands bronze, weights lead. The frame is made of oak; and finish in antique old oak. These clocks, if well made, will keep good time and sell for \$150.00 to \$300.00. A good mechanic can make one in three weeks; and they readily sell to people looking for old relics.

I guarantee the ones I have made to keep as good time as any clock.

In this way the carpenter that is idle in winter can work up a good business for himself; and for a side line to go with it there is always a good demand for repairing furniture.

JAMES A. WASHER.

Wood Mantels Offer Good Field

Seattle, Wash.

Editor AMERICAN CARPENTER AND BUILDER:

Replying to your request for hints as to how a carpenter and builder can keep busy during the winter months, I think a few of them could help to keep busy by designing and making over-mantels, either plain, carved or fretwork, as the demand may call for. Nearly all bungalows are now being equipped with fireplaces, and there is consequently a demand for attractive mantels. The market is amongst the owners of the houses being erected, and a line on the same can be had from the permits issued, or any of the local building records.

JNO. J. MATTHEWS.

Winter Jobs and Winter Overhauling

Ithaca, N. Y.

Editor AMERICAN CARPENTER AND BUILDER:

Answering your question "How to keep the dollars coming during the winter months," I will give you my plan, but will say at beginning that location has much to do to keep them coming. Not every carpenter or builder is fortunate enough to live in a live, hustling city or university town, but I have found out by experience that the man who hustles can get business enough and in such shape that he can keep his best men busy through the winter at a profit.

I always tried to load up with work about September and get on my roof by December, and then with getting ready for and plastering, and then the finishing, we would lose but little time, and I never had to take any work so low that I did not make a profit.

For our shops we would run the trim and flooring for our winter work, build special furniture and equipment for the university, and with storm sash in early winter, skees and toboggans for the snow season, odd sash and doors for the builders' hardware dealers, we were busy nearly all winter. Latter February and early March were our dull times, and during these periods we would run our stock mouldings, flooring, ceiling, siding, etc.; make our shop alterations and repairs and repair machines, etc., and while but few dollars came in during these few weeks, we were getting ready to take in more of them when they did begin to come.

We could always buy to better advantage in February and March, and so we used our slack season for sorting up and rearranging stock, and filling our sheds with salable material for spring trade. I have never felt that the dull month used in this way was lost time, and while we would usually run

Winter Work Methods Used Successfully by Other Builders

behind financially from \$100 to \$200 during the dull period, we were always in enough better condition for the rush when it came with the warm spring weather.

Not all builders are fortunate enough to have mill and shops, and before I had these I used to figure for one or two 8-room houses for winter, beginning them about October 1st, and with a helper or two, according to the amount of work on hand, I would build these houses, do my small repair jobs and so keep going until spring.

In my 20 years as a builder I have always had enough work for myself and one or more men for the winter season.

I learned early in business that the manager of the business must be alive and watching out all the time for future business. He must know just when he can commence and finish each job. He must try to do exactly as he agrees, and when once his customers find that he does this he will always have business; and satisfied customers are his best advertisement.

EDWARD SPRIGG,

Wholesale Lumber.

Brains with Silver Lining

McCook, Neb.

Editor AMERICAN CARPENTER AND BUILDER:

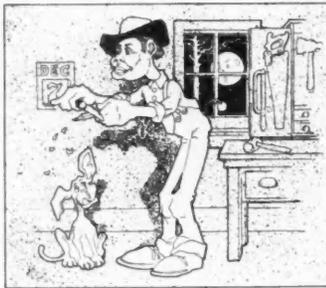
Never a great deed was done but some knocked.

Never a great word spoken but some mocked.

The knockers are ever with us, eternal as the ocean which flows on forever.

When you plant potatoes, no matter if there has never been a potato plant within

5,000 miles, the potato bug will appear; even so, whenever the brain of the under man begins to expand; the knocker, like satan, comes along. But the old, old saying, "Our worst enemy is the best friend we have," is true to the last letter and the man who devotes thirty minutes' time to good solid study each day is the man that will stand on a pedestal so solid and high that the knocker's



"Hitch up that Loose Suspender—
Sharpen up Your 2H"

knock will be only a groan of envy to his ears.

So my brother builders, the only way to keep the money coming in all the months of the year is to turn your spare minutes into profit by study. Be a master, it's as easy to answer questions as it is to ask them, so why be only a spoke when you can be the whole wheel? The path to the ladder of practical men is wide and the grass untrampled in many lines, so why hesitate. Now is the time; not *tomorrow*. Man is never too old to learn. Hitch up that loose suspender, sharpen up your 2H, then figure up how much valuable time you have thrown away during the past year. Then multiply that by dreams of the past. Surprised? Sure you are; we all are when it comes to facts.

The scoring of success is merely a matter of having an ambition, planning intelligently, and sticking. When a man makes up his mind to what he wants, maps out the way to get it, and sticks, the end is never in doubt. That man will win.

P. M. BELL,

Architect and Engineer (Civil).

Makes Wagon Boxes and Racks

Stacy, Minn.

Editor AMERICAN CARPENTER AND BUILDER:

For keeping busy in the winter I find that building hay racks and wagon boxes, and making screens for porches—that is, taking the measurements and making the screens in my shop—keep me just about going.

JOHN MALONEY.

Both Inside and Outside Work for Winter— Inside for Worst Days

Osage City, Kans.

Editor AMERICAN CARPENTER AND BUILDER:

During late summer we always have tried to get as much work enclosed as possible, so as to have much inside work for cold and bad weather. Last winter we had several good contracts—buildings enclosed—and did our interior work during cold and wet weather; at the same time working out doors at every opportunity when weather would permit.

After completing all finish work, except shop work, I started a 6-room house for myself, working outside every day that was favorable. When too severe, we would do shop work, such as frames, ripping, casing, etc.

Early in spring we had a demand for making window screens and screen doors. This took our time in the rainy and bad weather that spring always gives us. So we did not lose one minute of our time more than necessary.

I am intending to do the same this winter—if the weather is too severe to do shop work. I can devote my time to studying the Radford Cyclopaedia and our valuable AMERICAN CARPENTER AND BUILDER. I don't believe that any carpenter or contractor really can say that he has nothing to do. At least I have always been busy.

Nowadays if a young man wants to become a mechanic—or anything else—he cannot afford to be idle. He must take interest in what he intends to do. The new methods and theories, especially in the building line, make a man get to looking up; he must dive into it if he intends to stay with it. Your time is limited then, for you have no time to lose.

D. LARSON.

Advertis for Jobbing Work

Elwood, Ind.

Editor AMERICAN CARPENTER AND BUILDER:

Sirs: In answer to your question: How can I turn my spare time to profit, several years ago that question came to me and I set myself to thinking and I soon found out that there were several things could be made with a very small cost that would have ready sale with large profit. When the winter days come and I have nothing to do at carpentering, at a cost of 25 cents, I put an ad. in the local paper for one week, for furniture to repair; and have lots of this kind of work. I frame pictures; make ironing boards, plate racks and plate rails.

So you see with all of the different things to make and do, I come out in the spring quite a bit ahead. I suppose that such work could be had in almost any city or town.

JOHN KURTZ.

Makes Plain Furniture

New York, N. Y.

Editor AMERICAN CARPENTER AND BUILDER:

I am a practical carpenter, but can't get work in the winter at my trade; so, I tell you how I manage to make ends meet. I noticed the men that put up the room mouldings have a lot of buildings to finish in the winter, so I applied to them for work and I got some work at \$2.75 per day.

Then I started in making plain furniture at home (not mission furniture), regular kitchen and bedroom furniture. I made it out of white pine and when I worked 44 hours per week, I could clear \$5 per week; but when I did not mind the hours I could make \$7.50. Of course it was not much, but it kept me busy and my mind occupied; and it was better than slopping around in the snow, looking for work.

Hoping some of my fellow workmen will profit by my experience.

GEORGE SPENCE.

To Keep the Dollars Coming in During the Next Few Months

Makes and Sells Trim at Factory Prices

Wilburton, Okla.

Editor AMERICAN CARPENTER AND BUILDER:

As to how I utilize the winter months, will say that I have a comfortable shop and am usually kept pretty busy with job work. When not employed in that way, I get out window and door frames; that is, I do the jointing, planing and dado the top end; get out the inside trim, clamp it, and tack strips across the edges and form in bundles. If it is sand papered stuff I wrap with paper. I find by having this stock in this condition I sell a lot to out-of-town customers.

It gives me customers I wouldn't have otherwise.

I have power equipment, and I sell at factory prices. It takes some capital to handle it in this way; but often a deal can be made with the lumber yard to furnish the lumber and they will take frames in payment for same.

Expect to make a few dozen porch swings this winter.

First equip yourself to compete with the factory, if possible. Study your locality and see what is in demand or what you can create a demand for. But go slow on patent rights. And if you don't succeed, try again. Be cheerful; be optimistic. Don't get involved in controversies nor too enthusiastic in politics. Make all the friends you can. Keep in close touch with the business element.

Take care of your health and your money and my experience is, you will have fairly smooth sailing.

J. P. McLARTY,

Contractor and Builder.

Keeping Busy in the Carpenter's Shop

Silver Creek, Nebr.

Editor AMERICAN CARPENTER AND BUILDER:

I have been taking AMERICAN CARPENTER AND BUILDER for almost a year now and always glad to get it. I read it from the front pages of advertising to the back; and then study all the most useful subjects.

I work with my father. We have a small shop, handy to the lumber yard. As the fall months grow close we look ahead for any buildings that are liable to be built. We get all of them that we can and get them enclosed as fast as possible and then do the inside work. After we get what buildings we have started, all completed, we then get all the orders for window and door screens that we can. We make most of our moulding out of strips that have been ripped off.

We make library tables, jardiner stands, plate racks, book racks, and other little articles that can be sold at a little profit.

As it gets near spring we get what building jobs we can and get the frames all out for them. Last spring, when work opened up we had window and door frames made for four houses. These we commenced as soon as it was warm enough. We burn the saw dust, shavings and blocks in the stove at the shop as it doesn't take much fire after a person gets to work.

We have a small circular cutoff and rip saw run by hand, which is a little hard, but are going to get a power saw as soon as we can.

F. L. SANDERS.

Upholstering and Furniture Repairing

McMinnville, Ore.

Editor AMERICAN CARPENTER AND BUILDER:

"Now you have completed all your contracts, with winter coming on, what are you going to do?" "Oh, I am going into a shop again; you know I always run a shop through the winter months. It pays better than holding down store boxes. Besides, it keeps me out of mischief."

And thus it goes; my slate is quite full ahead waiting for the shop to open for the winter work; for I have run a shop

the past three years, doing upholstering and general furniture repairing. I also mix in new mission and odd pieces, on special orders—both in upholstered and general furniture.

Furniture repairing pays well, and specially built pieces always bring good prices, while nearly every household has some old keepsakes which they prize highly and most of these need repairing, and pay well.

You see there are very few repair men in this line. But you say, you don't know how to do the work. Neither did I when I commenced. Did you know how to build a house when you commenced work? I had watched an upholsterer at work, and studied his methods and then moved to a western city where the field was practically free from competition; and, looking around for winter employment, concluded to thoroughly master the trade, and fill in the long and otherwise idle months. Am now able to repair any and all pieces brought to my shop, both in leather and cloth goods; and I wish to say right here that 95 per cent of my upholstering work is either leather or imitation of leather, but under no circumstances do I allow poor material to go on my work, for it would soon ruin my business.

I live in a small western city of 3,000 population, surrounded by a wealthy farming community, and here we have five large furniture stores with which I keep in touch, getting most of their repair work; for they know if it comes to my shop it will be repaired in the neatest manner possible. They also send me the customers for special or freak pieces which they cannot furnish.

But under no conditions will I accept orders for shoddy made goods, as some of my customers make the request that I "just put it up in any old way," but I kindly inform such a one he has made a mistake in the shop and the man, it is the other fellow he should see, for my time is too valuable for poor work; for shoddy work is poor advertising. Therefore, I would rather lose the work than to get the name of a poor workman. Years ago my father taught me that work that was worth doing at all was worth doing well. This maxim I am trying to teach my sons; and whether on a building contract or in the shop, it is quite out of the question for poor work to pass my inspection.

Now, if these few lines may be of any benefit to any brother builders that are up against the same problem that I was stuck on, I shall feel well repaid for this effort; for I certainly appreciate the way the AMERICAN CARPENTER AND BUILDER is getting under the loads of the craftsman.

May success crown your efforts is the wish of

F. D. CULVER.

Helped by Portable Woodworker and Gas Engine

Westboro, Mo.

Editor AMERICAN CARPENTER AND BUILDER:

In regard to the problem of spare time during the winter months, I have a portable woodworker for use with a four-horsepower gasoline engine, which is detachable. During the pleasant days of the winter months I use this engine to saw wood and poles. When the weather is bad the engine runs the machinery in the shop and I find plenty of shop work, such as cabinet making and repairing, either furniture or farm implements, to keep the men and myself busy.

I find it pays to keep a good man and this can not be done unless work can be guaranteed. Also a boss is a poor stick who cannot or does not find work for a good man.

On the other hand these two methods furnish advertisement and a good chance to talk better building both in construction and material to be used.

WM. M. JOHNSON,
Carpenter and Builder.

How Other Builders "Keep The Wolf Away" in the Winter

Makes Small Furniture for Sale

Hudson, Mass.

Editor AMERICAN CARPENTER AND BUILDER:

I have a few ideas for making spare time pay. I made library tables, about the same as in your March issue, and found a good sale for them.

I also made music stands, 41 inches high, 18 inches wide, and 9 inches deep, with four shelves, and four posts, $1\frac{1}{2}$ by $\frac{7}{8}$ inches, screwed to the ends of shelves. Keep shelves 3 inches down from top of posts, and up same from bottom; also put slats $1\frac{1}{2}$ by $\frac{1}{2}$ inch between posts. These are very simple to make, and I found that I could sell them as fast as I could make them.

I also had a lot of maple flooring that I made use of in making bread boards. I made them 12 inches square, glued them together and then screwed $\frac{1}{2}$ -inch battens on the bottom, and rounded the edge. These are handy in any pantry to cut bread, cake or meat on. They also find a ready sale.

I also made a desk the same as in your June issue; but I find that the small things are what sell the best.

O. S. BOWLBY.

Overhauls Working Gear

Blackfoot, Idaho.

Editor AMERICAN CARPENTER AND BUILDER:

By your request, I send in my experience in keeping busy during the winter months at a profitable margin. When I have finished up all the contracts on hand, I return to the shop, look up in the AMERICAN CARPENTER AND BUILDER plans and details of furniture, and get busy making them. I find them a ready sale and at a good price.

I also find that each year I need some new tools to work with, such as a new bench, tressels, ladders and boxes, so to be equipped upon the opening of the next season. The balance of my time is devoted to my drawing and reading, which I find very beneficial; making plans for the coming season.

HENRY SPANI,

Contractor and Builder.

Three Rules for Success in Winter Work

Lyman, Wash.

Editor AMERICAN CARPENTER AND BUILDER:

As I have just come from the city some few months ago and have had quite a lot of experience in rustling work during the winter months and been successful in keeping busy, I will give my idea of how to keep the dollars coming in during the winter months.

I succeeded, I think, because I adopted the following mottoes and rules:

Motto No. 1. "Never sit around and wait for something to turn up, but go to work and turn up something."

Some people (Bro. carpenters) seem to sit down and fold their arms and say "there's no use."

Just as soon as the busy season is over, they seem to wait the time when someone will call them to some job. This I never did, but no sooner than I found myself running out of work I would commence to work up something for the future, and the promise of one job did not suffice; I kept right on until enough promises had been obtained to keep me busy for several months.

Motto No. 2. (The Golden Rule). There are always, even during the busiest season, those who are out of work, and you can find a place for them easy enough, for which kindness they are looking to your interest and may call you to some unexpected job when work is not so plentiful.

Drawing elevations of prospective buildings and additions to buildings and submitting plans of same is an excellent way to work up something during the dull season; and if

they become interested, which they almost invariably do, and should not be able to build, you can assist them by helping them to borrow the money from some party who is anxious to make the loan.

I remember one very hard winter, to get employment, a fellow worker and myself had all we could possibly do by this method alone and everybody was well pleased and benefitted.

Motto No. 3. Keep well posted on the latest fads in bungalows and built-in work and make your knowledge known; and you will then welcome every moment you get off during the dull season, for reading and study.

Yours for steady employment,

W. M. SPURLING,

Contractor and Builder.

Investing the Winter Months

Donnellson, Iowa.

Editor AMERICAN CARPENTER AND BUILDER:

As a young member of our "Big" family I feel more the need of advice and help, than the confidence of giving any suggestions.

I have, from time to time, picked up an interest for drawing and planing, which increased as I studied it and obtained better instruments, and more knowledge.

I began to study plans, which were seldom used here until recently. I remember sending for information to the corresponding schools simply to get hold of blue prints and plans, which I would study and copy, thus gaining (though very little) yet some knowledge of plans and drafting.

I finally decided to take a course in estimating, contracting and drawing with a Chicago school, which has been an invaluable recourse to me.

I always have the AMERICAN CARPENTER AND BUILDER on the job, and I never skip a page, not even the advertisements, but in winter time when one is not so tired, I go through each number, study each article thoroughly, and work out each problem, also get acquainted with some of the firms advertised.

I have books on framing, details, stair building, and others, which are most valuable to make one forget the bad weather. Several winters ago I started a note book system, putting down such things as I thought I could make use of the coming season. This book I revise every winter, taking away and adding to suit my needs. I would miss this book, as a carpenter would miss his saw.

If I have ahead any work for the following summer which is not quite clear to me, I dig into the problem, and draw sketches and plans of it until I know what I am about; then, when I get on the job, there won't be so many "wonder-how-to-do-its." I can show the foreman, or show the contractor, or more correctly show the owner, as I started contracting on "my own hook" last spring; thus, feeling well satisfied that the dollars are coming in during those studious winter months. A brother workman,

P. G. HIRSCHLER.

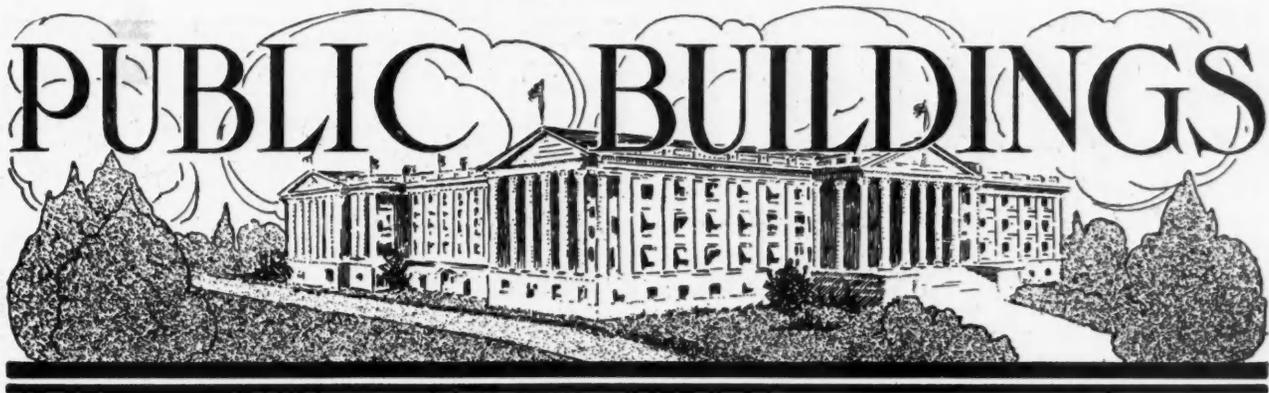
Makes Furniture and Cupboards

Berlin, Ohio.

Editor AMERICAN CARPENTER AND BUILDER:

I made a start at building furniture; my first undertaking was to build plant stands of all sorts, which I sold just as fast as I could turn them out. This gave me a start and also advertised my business. Then I began with larger pieces, such as sinks, cupboards and cabinets. I have all I can do for this coming winter, which will make me a nice little bunch of money, and not only that—it will keep me in practice and teach me a few things.

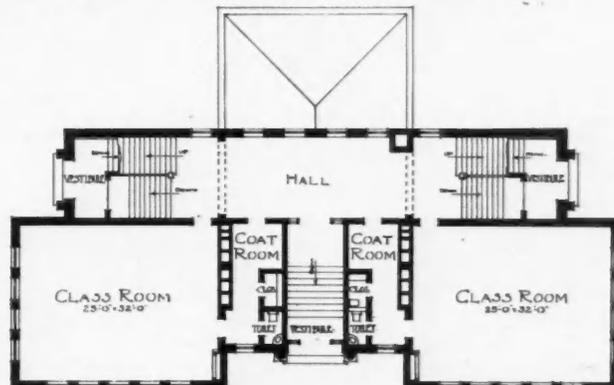
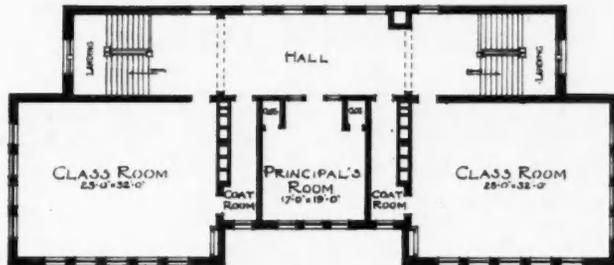
W. F. PENROD.



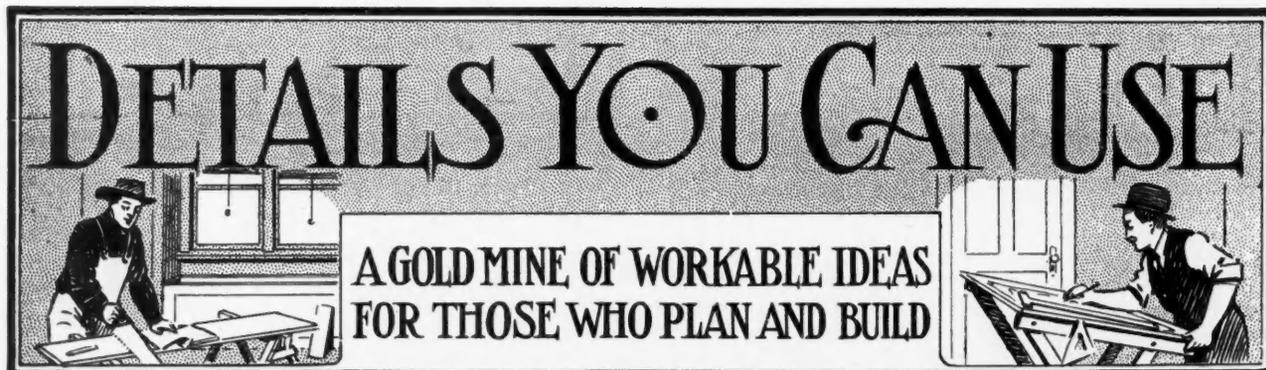
Planned for Future Growth

Note that this school building—it is the Hiawatha school of Berwyn, Ill., and was designed by the well known Chicago architect, G. W. Ashby—has been planned and constructed so as to permit of the addition upon the rear of present structure of four rooms.

A particular feature of this one-half of the future eight-room grade school building is its simplicity.



Hiawatha School, Berwyn, Ill., Noted for its Simplicity and Strength—Nothing to Become Dilapidated



Colonnade Opening with Built-in Cases

COMPLETE WORKING DETAILS OF NOVEL INTERIOR TRIM FEATURES ILLUSTRATED IN PHOTO—
CUSTOMERS PLEASSED

HOW many times has a Mrs. About-to-build said to you, "Now, I want something stylish, —and different from the ordinary house. Can't you put in something *uneek*?"

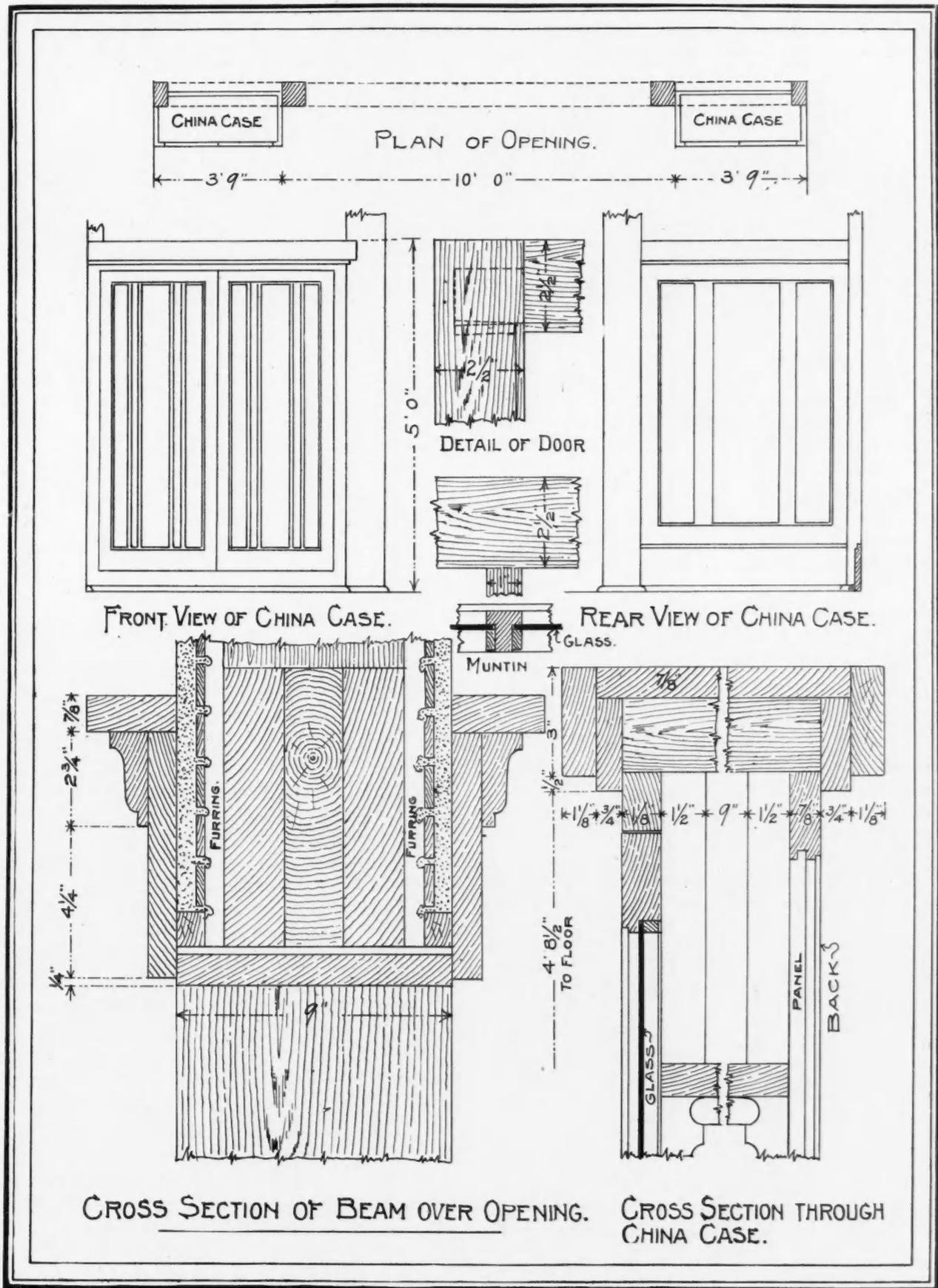
You just bet your T square you can! And it will be in good taste, too. Here it is, all fully detailed for you; and the photo shows just how *individual* and attractive it is when all complete and the new house furnished. It is a broad opening between dining and

living rooms; designed in the straight line "modern" style by one of the foremost architects of the Chicago School.

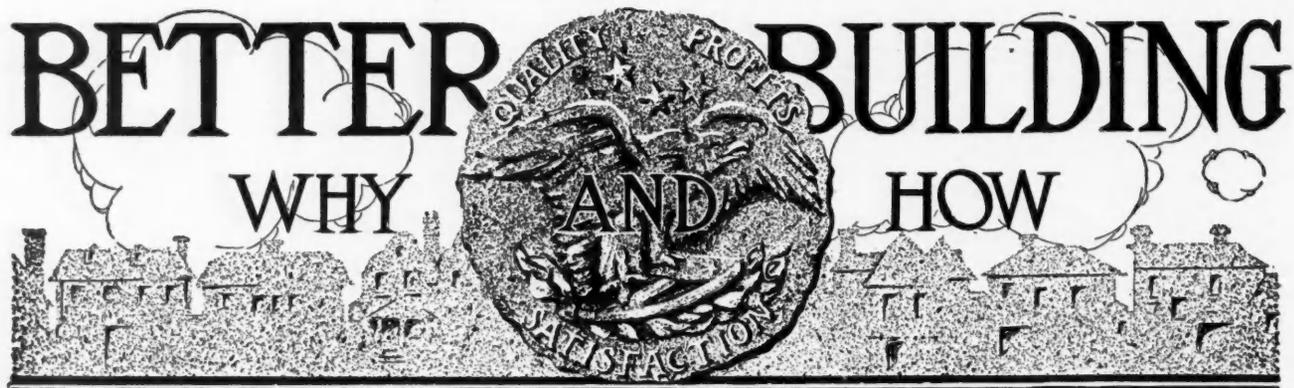
The cases at each side of the broad opening are shoulder height; open above. Living room side of cases is paneled. Suitable woods for standing trim in house with this feature are oak, birch, cypress or yellow pine. The 10-foot span is supported by three 2 by 8's spiked together.



A Special Feature of Interior Trim Designed by a Prominent Architect in the Most Extreme "Modern" Styles—Working Details on Opposite Page



DIMENSIONED DRAWINGS OF UNIQUE "MODERN" STYLE COLONNADE AND CASES [SHOWN IN PHOTO OPPOSITE]



Warmer Walls—or a Larger Heater and More Coal?

ONE of the foremost questions confronting the owner and builder of dwellings, whether they intend to live therein themselves or rent them, is that of heating. This is especially the case in northern climates.

It is not the purpose of this article to deal with the comparative efficiency of various makes of boilers and radiators, nor with the relative value of the several systems of heating under the differing conditions of residence construction; but we intend to confine ourselves to the effect of wall construction on the heating problem.

In a climate like this our dwellings must be built in such a way that sudden changes of temperature outside will affect the inside with sufficient slowness that the walls of the heating plant may properly take care of the change without too much of a shock to the inhabitants. This is not so much a question of the make of the boiler or the system of the heating as it is of the construction of the outside walls. No matter how efficient the heating plant may be, if the walls are not constructed in the most approved manner that plant cannot satisfactorily do the work that is put upon it.

Save Half the Fuel Bill

There is only one way to overcome once and for all the many heating difficulties. That is to erect what are known as "insulated" or "heat-proof" walls. Many architects appreciate this fact and specify some efficient insulation to be used in the construction. The chief trouble seems to be that the owners and builders do not feel the importance of this feature of the building, regarding it as a frill of unnecessary expense. Yet the house that is properly insulated in its outside wall construction will require the consumption of little more than half the fuel to keep it at the same temperature constantly as the house built and furnished in exactly the same manner, except for the insulation. Naturally the better advised owners are endeavoring to build "heat-proof" walls. Let us see how this is accomplished.

For years no building paper was ever used, but as the science of building advanced red rosins and tarred felts came into more or less general use. Their object is to keep the house warmer by covering cracks, thus protecting against cold winds. Evidently they will accomplish such object if they remain intact and completely cover the walls.

It is only natural that the more advanced architects, engineers, contractors and owners, are turning their attention to thorough insulation as a solution of the problem of maintaining an even temperature on the inside of the dwellings with a minimum consumption of fuel. They appreciate the worth of building papers and back-plaster, especially for preventing cold winds blowing into the house; and, taking their lesson from the stability of temperature of refrigerator railway cars, they argue that the walls and floors of residences should be *insulated* with special care.

Such insulation pays.

An interesting test was recently made in Minneapolis to determine the saving in fuel of heating insulated dwellings. Several houses were built under as nearly the same conditions as possible except that in their wall construction some had the same insulating quilts that are used in the cold-storage trade, and the others the usual tarred felts. Careful records were kept of the fuel consumption. The difference between the insulated houses and the uninsulated ran all the way from 25 per cent to 40 per cent in fuel consumption, maintaining the same temperature on the inside of each.

Insulation Cost Insignificant

The next question was that of expense. To the great surprise of the investigators, it was found that the additional cost of insulating quilt over red rosin or tarred felts was less than \$50 on the ordinary house, and rarely over \$100 in the largest residences. The saving in the fuel was, however, so great that this additional expense was recovered in two ways; first, the heating plant could be materially reduced in size and cost without in any way jeopardizing its ability

to properly warm the house; secondly, the saving in fuel, even if the plant were not reduced in size, would cover this additional cost of insulation in from two to four years, depending upon material used and the climate in which the house stood.

In climates where we have rather long winters and comparatively low temperatures, it is safe to say that cost of insulation is recovered in from two or three years, if the size of the heating plant is not reduced. Yet the heating plant can be reduced safely 15 per cent to 20 per cent, thus at the outset saving almost the entire cost of the extra insulation. Indeed, the smaller plant in the insulated house will furnish the heat necessary with a good deal greater facility than the larger plant in the uninsulated house, for the sudden changes in temperature will leak through to the inside so very slowly that the plant is taxed not at all to counteract the scarcely perceptible, slowly leaking-in cold.

No mention is made above of the cold that comes through the windows. At first this was thought to be the greater part of the total cold coming through the walls. But careful tests made by the American Society of Heating and Ventilating Engineers, and since substantiated by the American Society of Refrigerating Engineers, shows that in the ordinary residence constructed without insulating quilt, but with a wind-tight wall, only about 40 per cent of the heat is lost through the windows if single windows are used, the balance, or 60 per cent being lost through the rest of the walls, although wind-tight. As this 60 per cent is the portion that is reduced by the use of insulating quilt, the majority of the heat lost through the walls of the insulated house is lost through the windows. In fact, if a quarter-inch insulating quilt of the most efficient character is used in the ordinary frame or plaster-veneer residence, so very little heat will be lost through the rest of the walls that the total is reduced from 100 units to, probably, 50 units; or 50 per cent saving.

Houses Sell or Rent Better

It will pay every carpenter and builder, whether he builds for his own use or for others, to insist on some form of insulation in his wall construction. Such a house is naturally a more desirable renting property or selling proposition than the residence unprotected against summer heat or winter cold and requiring a much larger consumption of fuel to keep it warm in winter. As it costs so little to employ the insulated construction, there seems no excuse for any owner failing to do so. In fact, as far as cost is concerned, the price of the material can be safely saved in the smaller heating plant required, or in the less fuel consumed. And after the first year or two the fuel saving is clear profit. Indeed, the largest speculative builder in the country, John Corbin, of Brooklyn, insulates every house he erects. The total cost of the completed house is no more, and the buyer is

better satisfied. To the owner or the occupant this matter of insulation really means another reduction in the cost of living—and, with coal prices higher each year, a very welcome, a very substantial reduction.

We know of no better method of making a house "heat-proof" than by the use of the quilts, felts, or boards that are used in the cold storage and refrigerator trade. Back-plaster is better than nothing, but is not permanent, nor at any time as efficient. A number of contractors have told us that it costs no more to quilt a house than to back-plaster it, and it certainly is a good many times warmer. It is, of course, evident that the insulating quilt, made as it is with two sheets of red rosin, or waterproof paper, with the material that is used sewed between these sheets, is as efficient a wind break as is the tarred felt or red rosin generally used, and has the additional value of real heat insulation.

With every effort being made by the building trades to make our dwellings more comfortable, more economical of operation, more attractive from every standpoint, this really very important feature of construction should not be overlooked. And we venture to say that in the course of a very few years the building which is not heat-proofed or insulated will be regarded as second class; that it will be as undesirable as is the house to-day without a bathroom, or electric light fixtures, or heating plant.



Concrete Garden Shelter

With the return of the Colonial style residences, gardens more or less formal are increasing in number. A simple little shelter canopy, like this shown, will add much to the beauty and utility of any garden.

This is built entirely of concrete. Its back is a



Concrete Canopy Against Concrete Garden Wall

concrete garden wall and the seat is poured concrete. This shelter will not soon tumble down nor get that dilapidated look. It will invite to the garden and give protection from sun and rain for generations.

The "Garden Cities" of England

A FIRST HAND VIEW OF THIS REVOLUTIONARY IDEA IN TOWN PLANNING—WHEN THE LANDSCAPE ARCHITECT COLLABORATES IN A PRACTICAL WAY WITH THE BUILDERS OF HOMES

By C. R. W. Edgcombe

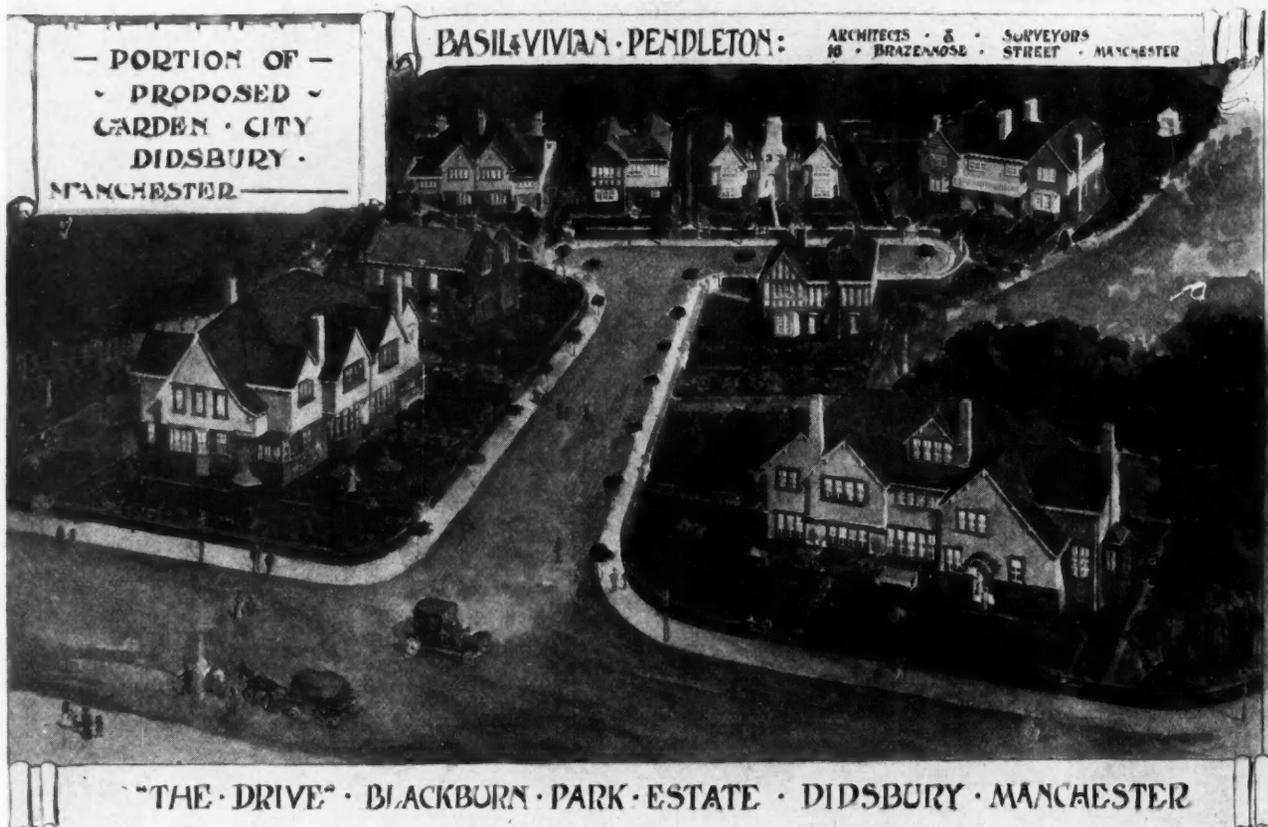
WHILE the "Garden City" idea is in England practically a new one, so much interest, however, has been created in the principles upon which it was founded and the ideals which it attempts to put into practice that there is today a very wide application of these principles in almost all the larger cities of England. This "Garden City" idea has also been put into use right here at home in the United States, but it has not been my pleasure to look into it here.

The "First Garden City" was constructed at Letchworth, England, by a company known as the First Garden City, Ltd. The object of this company was to build a new industrial, residential and agricultural town in which some of the more glaring evils of city life (and of rural life) might be avoided, a city in which the public well-being could be more effectively secured.

Overcrowding is the most terrible evil of city life.

more complete than others that have been brought into being at other points throughout England. In this case the company has gone very deeply into the industrial end of it, and have secured factories for the employment of their tenants; which is very desirable for the workmen as they can reach their work in a few minutes' walk.

I was particularly interested in one of Manchester's Garden City schemes. I had the pleasure of looking into this and also of examining the houses. These I found to be very desirable. Most of them consist of five and six rooms, are very substantially built and are rented at a very reasonable amount. You would be surprised at the low rental. I went into one particularly desirable little home in this Garden City. It had five rooms and bath, and with the exception of a heating plant was absolutely modern. It had a beautiful yard in front and a larger one in the rear. This



Architect's Perspective of a Typical Portion of an English "Garden City" Planned Residence Section

This evil is entirely overcome by the Garden City Idea. Each tenant, who is also a stockholder in the company, has a house of his own, with his own garden in the back and lawn in the front, and consequently can obtain practically all the economic advantages which would arise from the ownership of his own house.

The Garden City at Letchworth is possibly much

rented for \$2.25 per week (\$9.75 per month). A corresponding house in America, in a city of the same size, would easily have brought a rental of \$30.00 per month and possibly more. Of course you have to take into consideration that the tenant does not work for nearly as high a wage as does his American cousin.

Manchester has several of these Garden Cities. It

seems that wherever there is an extensive urban area lying near a large city this has been bought up and the Garden City Idea instituted. England is rather a small country; I think that it could be entirely hidden could it be dropped into Lake Superior, the greatest of our Great Lakes. Consider, if you will, that on this island there are at least 30,000,000 (thirty millions) of population. Think further of the congestion that must arise, especially in the crowded cities. It is this congestion that has demanded these Garden Cities.

England has long felt the need for housing reform and at last the solution is before them. It is going to take years before the real merit of these Garden Cities will be felt by the masses, but each one that is built will help materially.

The English government has lent itself and its tremendous power to this movement. It has framed bills that are solely for the benefit of the tenant. It has, in other words, given the masses an absolutely "square deal," and the masses seem to like it. They take to these Garden Cities like a duck takes to water. It is what they have been looking for for many generations. I think that I am safe in saying that were you to go through any one of them—either finished or in process of construction—you would be totally unable to rent a place. They are deservedly popular.

Some of these "Garden Cities" are *garden cities* in name only, however. For an instance, several men who have plenty of the "filthy lucre" will form a company and buy up a tract of land that lies within a reasonable distance of a certain city. These men will construct houses along the lines of "Garden City"

houses, but will make them more elaborate, so that they will bring in a much higher rental, and those who can afford to pay more rent will grab them so quickly that it almost makes one dizzy.

Of course this is a mere money-making proposition; and while it, in a manner, lends to better housing reform it does not embody the true Garden City Idea, which is good houses, well planned, with plenty of light and fresh air, at a reasonable price that the masses can afford to pay.

In a recent article Henry R. Albridge, Esq., secretary of the National Reform Housing Council, of England, says: "In practically all of our great cities there are to be found insanitary or overcrowded houses, in which the death rate is year by year more than 20 per thousand, and the infant mortality rarely falls below 200 per 1,000 born. Each year the lives of 40,000 infant children are wasted as a result of the bad conditions under which they are born and live. Amongst the adverse conditions responsible for this terrible waste of infant life, bad housing takes a prominent part.

"The average workman's house is badly designed and poorly built. The skill of the architect has been devoted to the designing of great public buildings and better class houses. The designing of better homes for the people has been neglected, and, as a result, monotony reigns supreme in working class conditions."

This is an English expert's statement. This man knows of what he is talking. It is such things as this that have created the demand for housing reform—in other words, Garden Cities.

English Cottage Planning for the "First Garden City" (Letchworth, Eng.)

SMALL HOME PLANNING "ACROSS THE WATER," BRINGING OUT SOME ADVANCED IDEAS IN HOUSE DESIGN AND ARRANGEMENT THAT CAN BE USED BY AMERICAN BUILDERS—INTIMATE GLIMPSSES OF ENGLISH HOME LIFE

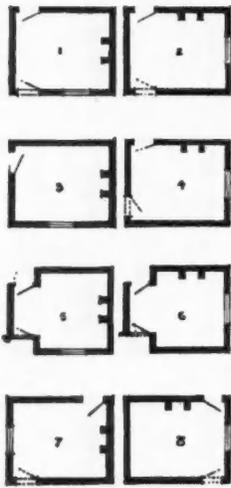
By Raymond Unwin

Consulting Architect to First Garden City Ltd., England

AT the opening of a second Cottage Exhibition at Letchworth, we may well try to estimate the spoils of victories already gained, and survey the territory still to be conquered. During recent years the united efforts of some enthusiastic home-builders have produced such marked effect that we may already regard as doomed the typical nineteenth century type of cottage home, with its living-room window looking out on a tiny back-yard, and the view from it bounded by its ashpit and privy. It is only necessary to compare Bournville, Port Sunlight, Earswick, Letchworth, and many other less well-known places now springing into being up and down the country, with the artisan districts of our great towns built during the last century, to realize what a stride has already been taken.

What, then, may we count as already gained? First a general acceptance of the necessity for the

proper planning of new building areas. Already a bill giving powers to local authorities to control such planning is promised by the Government. Then, a greater land space—a less number of houses built on each acre of ground. We may look forward at no very distant date to seeing a limit prescribed by law of something like twenty houses to the acre, and in the more advanced schemes there is a general tendency to regard twelve houses to the acre as a sufficient number for suburban areas. Following on this again, it is now recognized that a sufficient frontage should be given to each cottage to secure ample light, air, and outlook to all the rooms. And so the long straggling projections, with narrow alleys in between, which are such an objectionable and unhealthy feature in the old type of house, are disappearing, and with them are disappearing the ugly and dreary back yards. Other ways are being found of meeting the requirements of



Sketches 1 to 8 Showing Good and Bad Placing of Room Doors

privacy without sacrificing more important matters. Some space in the rear of cottage can be paved and enclosed with hedge, or screened with trellis covered with creepers, sufficient to secure essential privacy, while not obstructing the outlook from the windows; better still, some roofed but open yard space may be provided as part of the house itself. (See Sketches 11, 12, 14, 15, and 16.)

The importance of sunlight is also established; and here, again, ways are being found of meeting the difficulties which necessarily arise when cottages have to be designed with the front to the north, and yet planned to give sunny aspects to the living-rooms. (See Sketch 11.) These are, indeed gains, but there is still much room for improvement, particularly in the planning of cottages, so that the rooms themselves shall be suitable in size and comfortable in shape and arrangement. A few years ago such matters appear to have received little thought in cottage planning, and there can be no doubt that the Letchworth Cottage Exhibition, and the other exhibitions which are following it, have done much good in turning attention to the planning of small cottages. But, even in

ing doors on each side of the fireplace, doors opening directly across the fire, or across the window, or rooms having the lines of main traffic from door to door across the fire side or across the window, two parts of a room in which people should be able to sit undisturbed, must be considered as lacking the essentials of comfort.

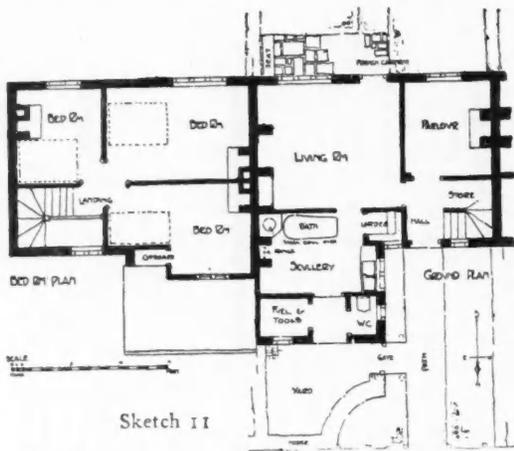
Of the sketches given, Nos. 1 and 2 show the most comfortable arrangements for simple shaped rooms, and show also by dotted lines the positions where second doors may best be placed; Nos. 3 and 4, are also sufficiently good; and where rooms are not square,



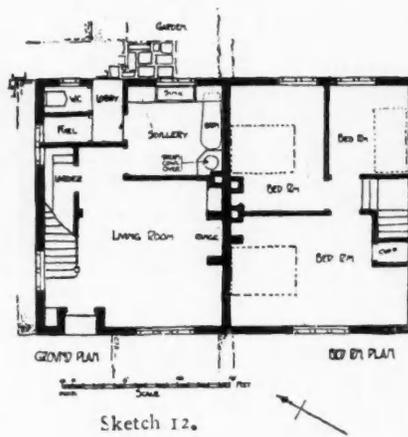
Sketches 9 and 10 Showing Square Bedrooms less Economical than Oblong

Nos. 5 and 6 show comfortable arrangements; but Nos. 7 and 8 show thoroughly uncomfortable plans, both the window side and the fire side being spoiled. In a small room a square shape is by no means always the best; it looks smaller, gives less wall space, and is sooner all filled than a room oblong in shape. In the sketches, which show rooms of equal area, notice how, in the square room (No. 9), the bed seems to fill it, while in the oblong one (No. 10), there is a good square space at the end free for dressing or sitting in.

There is still much too great a tendency to cut up all cottages into a greater number of rooms than the size of the cottage will adequately allow. Extremely small rooms are unwholesome, difficult to ventilate, and inconvenient in every way. The minimum size required at Letchworth for the largest living-room in any house is 144 square feet, or about 12 ft. 6 in. by 12 ft., allowing for necessary deductions for chimney breast; if 8 ft. high, this gives only 1,152 cubic feet. Assuming only four people to occupy this living-room, there would be only 288 cubic feet per person.



Sketch 11
6-Room English Houses in a Row Fronting North but with Sunny Living Rooms

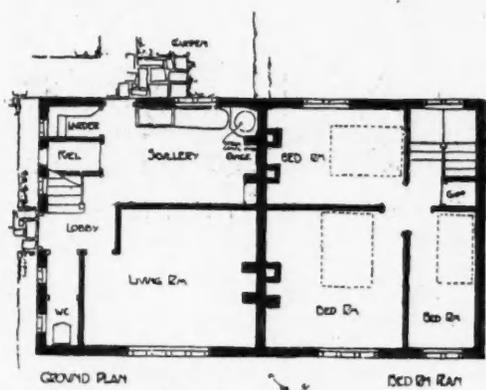


Sketch 12.
Pair of 5-Room English Houses—Note Large Living Room

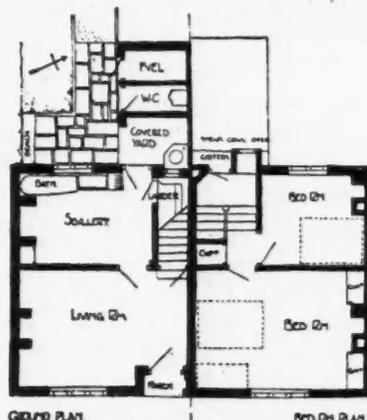
the last Letchworth Cottage Exhibition, among those to which prizes were awarded, was one having five doors in the living-room fairly well distributed round it! Evidently the element of comfort did not count for much in this case.

There will always be special cases of difficult sites, cramped frontage, inadequate funds, etc., which will lead to special sacrifices; but, speaking generally, we ought to attain to such improvement in the planning of cottages, that certain elementary demands of health and comfort shall be generally secured. Rooms hav-

The minimum space allowed for living-rooms in common lodging-houses in the province is 350 cubic feet per person. The New York Sanitary Board requires 600 cubic feet per person, and this is, I believe, the amount required in prisons and barracks. Surely what is deemed essential for the inhabitants of prisons and common lodging-houses is not too generous a provision for the inhabitants of Garden City, which seeks to set an example to the country of what the home of the people should be like. I believe myself that for those people—and they are the vast majority—who live



Sketch 13.



Sketch 14.

Pair of 5-Room and 4-Room English Houses of the "Living Room" Type

mainly in one room, a living-room of about 220 square feet is needed if their family life is to be carried on with decent comfort and convenience; many people, I am aware, think this too large, but there can be no doubt that a room 12 ft. by 12 ft. is not large enough to be a healthy or decently comfortable living-room for a family. This is becoming increasingly realized, and in a short time, as compared with the life of a well built cottage, I am convinced that houses which have not one living-room at least equal to 15 ft. by 12 ft. will depreciate rapidly in value. Those who have to build cottages may be driven by the prejudice of the tenants to cut up into rooms a house so small that it is impossible to have even the largest of the rooms more than 144 sq. ft. area. If so, it is clear that to escape present difficulty, they are but running the risk of more serious future depreciation. I am sure that all cottage builders would be wise to set their faces against building houses without one living-room about 15 ft. by 12 ft. at least, and when another room is added, let it be in addition to this, not partly at the expense of it. The second room may be small, better very small indeed, rather than sacrifice the living-room.

There may, of course, be many types of cottages to suit different habits of life. The living-room need not necessarily be the kitchen. The scullery may easily be enlarged enough to provide for the cooking, and become the room for all dirty work. In these days of gas stoves, and sitting-room fires combined with ovens, there are many ways of making the one living-room type of house suitable for people who do not want to live in their working kitchen. (See Sketches 13 and 14.) The danger of this plan of house is that if it falls into the hands of those

who do want to live in their working kitchen, they will infallibly crowd into the small scullery with the range, and leave the large living-room to be exclusively enjoyed by the plush suite and the chimney ornaments! Hence, it is only wise to build this type of house when the class of tenants for whose habits of life it is adapted can be relied upon to occupy it.

There is still another type of house which may be built for those who live in the working kitchen, and must have a parlour as well, for some special purpose, such as a daughter's dressmaking or a son's studies. In this case the scullery is expanded until it becomes the living room, and in place of a scullery a little parlour is added. (See Sketch 15.) These two types may help to bridge the gulf between the Living-room house and the Parlour house proper. The first is exactly suited to certain classes of tenants, and the only serious objection to the second type can at least be rectified at any future time by providing a wash-house. Some day one may hope that the spirit of co-operation among the cottage dwellers may allow the washing to be done in one small, well-appointed laundry, to be shared by a group of cottages, the only way at once practicable and rational of arranging this piece of domestic work.

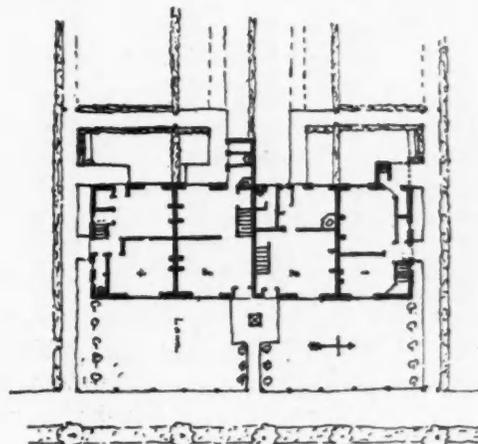
Though there are a considerable number of families for whom two bedrooms suffice, it is probably unwise to build a large number of cottages having less than three. The difficulty of sorting the tenants and removing them when their families increase, and the growing desires to be able to provide for a visitor, will probably lead to a depreciation in the value of such cottages if more than a small number are built.

It is probably true that the ideal cottage should in-



Sketch 15.

4-Room English House of the "Parlour" Type



Sketch 16.

Group of Four English Houses

clude besides a scullery for dirty work and living-room for the family life, some third room for the purpose of study, or to entertain occasional visitors whom it is not desired to bring into the family life—and, one may add, for indoor courting. All I urge is that this third room must not be given until a sufficiently large house can be afforded, so that it may be provided without sacrificing the living-room, which is in reality—and always has been for the vast majority of all classes of society—far and away the most essential and important room in any house. For the sake of not obstructing light and air, it is generally desirable—and when the same space can effectively be used on both floors it is also economical—to keep the whole of a cottage building within the main walls and under the main roof, as in Sketches 12 and 13; but, under certain circumstances, undoubtedly, projections of a limited extent may not only be justifiable, but may be actually advantageous. In some cases, as in Sketch 11, the screening of a small amount of sunlight from the main building, would be a matter of no importance, and generally, if the projection is kept on the north side of the adjacent window, no sunlight can be screened from it; but on the south, the south-east, or south-west of a window, it is quite possible for a comparatively small projection to screen most of the sunlight that would otherwise reach it. In the group of cottages shown in Sketch 16, for example, two of them are shown having projections on the north side of their scullery windows. Were these projections repeated in the other two cottages, they would be distinctly detrimental. They may at times be useful in forming sheltered corners for seats overlooking the garden, and may, as in Sketch 11, make it possible to give a more sunny aspect to the scullery, or some other room than could otherwise be obtained; so that while, as a general rule, it is wise to discourage projections, like other general rules, it must be subject to considerable exceptions.

There are a few smaller matters which should be regarded as essential in any good cottage. A larder having direct light and ventilation, and large enough to hold all food stuffs, is essential, and no dark cupboard or inside place ventilated by long, dusty shafts can be considered an allowable substitute.

In cottage building, as, indeed, in all else, we need to provide first for essential needs for the everyday life of the family, apportioning every foot of space where it will most avail, and avail most often; only after this has been well done should the demands of luxury or the aspirations of prejudice be considered. Now and then, no doubt, prejudice will be so strong that it must first be met; but let cottage builders at least realize that in so far as they sacrifice real needs to fashion or prejudice, they are sacrificing the permanent to the merely temporary and are building on an unstable foundation, risking the future value of their property.



EXTRACT from a pessimist's ten hints to beginners—
"Don't Begin."

Slicing It

Potash—"Cohen can nefer make a goot goluf blayer."
Perlmutter—"For vy not?"
Potash—"He nefer hollers fore—always he yell dree ninedy-eight.—*Wisconsin Sphinx.*

Life Eternal

"The elm lives for 200 years, the linden for 300, the oak lives for 500 years—"
"And the chestnut," interrupted the other half of the sketch, "lives forever."—*Kansas City Journal.*

Going One Better

"Bang!" went the rifles at the maneuvers. "Oo-oo," screamed the pretty girl—a nice, decorous, surprized little scream. She stepped backward into the surprized arms of a young man.
"Oh," said she blushing. "I was frightened by the rifles. I beg your pardon."
"Not at all," said the young man. "Let's go over and watch the artillery."—*Cincinnati Times-Star.*

Muckrake Cabinet

"There is some talk of abolishing the cabinet."
"What would take its place?"
"They might let each department be conducted by some magazine."—*Kansas City Journal.*

Real "Fan"

Edith—"That Mr. Phan is conversationally impossible."
Ethel—"Why so?"
Edith—"We were talking about the theater, and when I inquired what was his favorite play he said if he had any favorite it was seeing a man steal second."—*Boston Transcript.*

Following Edison

Gabbleton—"Edison declares that four hours' sleep per night is enough for any man."
Kidder—"By Jove! That is exactly what my baby thinks!"
—*Judge.*

The Wiser Way

"No use locking the stable door after the horse is stolen."
"I should say that was the very time to lock it. They might come back after the automobile."—*Washington Herald.*

Saw Him Too

"Is Miss Browne in?"
Maid—"No, Professor."
"But I just saw her at the window."
"Yes, and she saw you."—*Fliegende Blaetter.*

Fond Wish

"There's one thing I want to see while I am in Europe."
"And that is?"
"The Hungarian goulash in session."—*Washington Herald.*

A Tested and Proved Poultry House

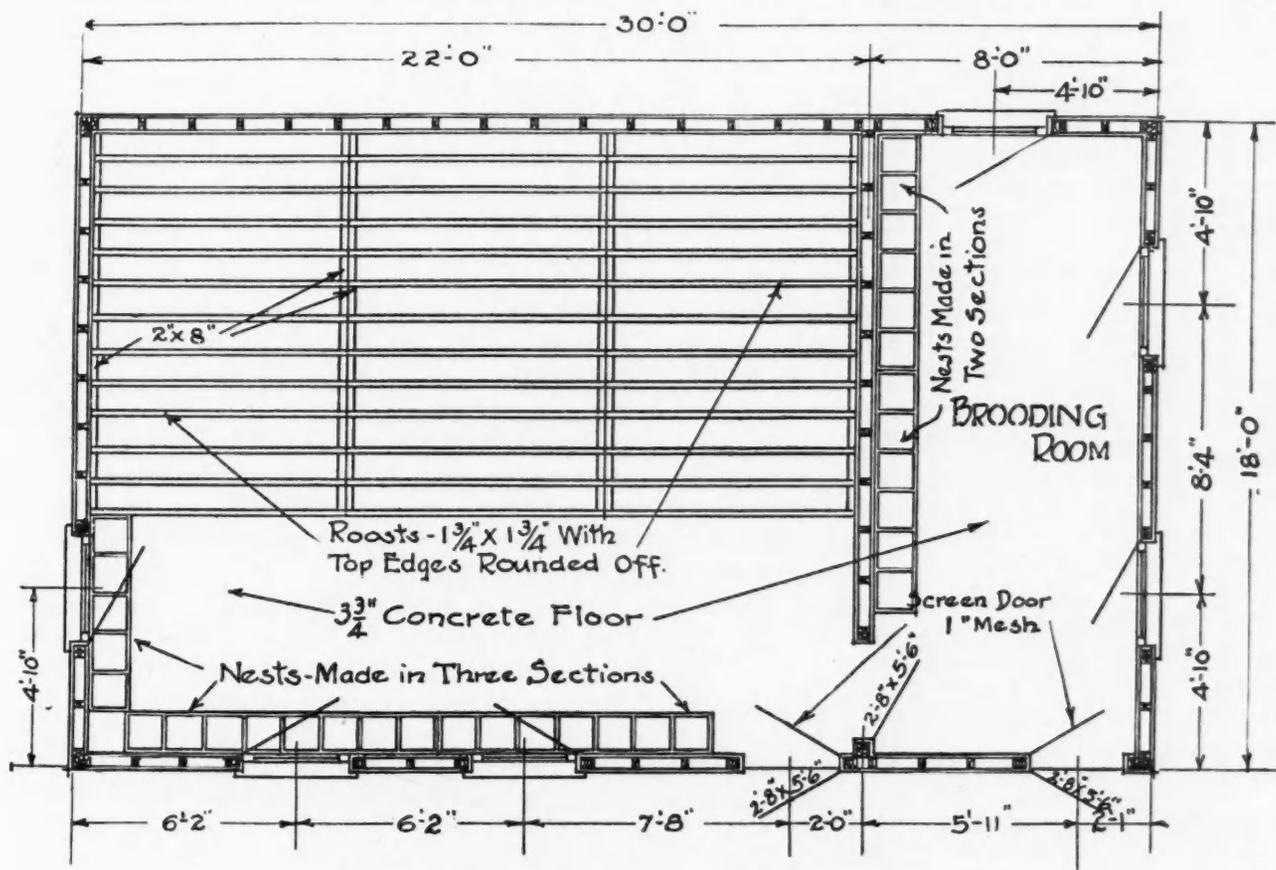
By G. J. Haney,
Of I H C Service Bureau

IT is not necessary to have expensive hen houses and give poultry one's entire attention, but there are certain things in the way of buildings and attention which are essential to successful poultry business. The modern poultry house should be a compromise between two extremes in poultry house construction, between the open shed shelter on one hand, which is too open, and the large, double-boarded, tight house, which is too close.

In the former the fowls suffer from cold, in the latter they suffer from the lack of fresh air. The modern house is the composite of the successes of centuries and the result of the elimination of many mistakes. The house must be first of all,

the larger house is proportionally cheaper to construct. The amount of space required per hen is a disputed question, and depends upon a number of things; such as the location; as to whether it is protected or exposed to strong winds; as to whether the fowls are allowed to run out on range a large part of the time, and also as to the size of the breed. It is, however, now generally considered that each fowl should have four to five feet of floor space.

The location of the poultry house is very important and the following factors must be considered. It should face the south if possible to get the largest benefit from the sun; be protected from prevailing winds by hills, trees, or other buildings; should be



Floor Plan for a Convenient Poultry House

cheerful, healthful, comfortable, convenient, inexpensive and durable. In order to meet these requirements it must be built to meet the conditions of climate. That is, it would not do to build the same in the southern states as in the northern, for the reason of the difference in climate.

The size of the flock would determine the size of the poultry house. The modern tendency seems toward larger flocks, and therefore larger houses. This is because the labor required to attend to large flocks is relatively less than with a small flock, and also

located on well-drained soil so as to insure dryness; should be so placed as would be possible to have trees for shade and good pasturage during the summer months.

It should not be placed in a low place where the cold air settles. Such locations are often colder than high and more exposed places. As to the shape and construction of the house, there is almost an endless variety to select from. This is only important in so far as it enables the including of the essential principles of construction.



How to Do Work Fast

FOURTH PAPER—THE SECRET OF RAPID CARPENTRY CONSTRUCTION—PREVIOUS ARTICLES ON THIS SUBJECT APPEARED IN THE APRIL, MAY AND OCTOBER ISSUES.

By I. P. Hicks

AT this time we want to say a few words about sheathing and shingling roofs. The roof sheathing is generally left to the mechanics on the job who are more or less lacking in their mechanical abilities. It may be true that almost anybody can nail sheathing on a roof, but not everybody can put it on fast. There is a know-how if you want to push the work; and unless you know how the work does not get pushed along very much.

Roof Sheathing in Quick Time

It requires at least two men to make any headway at roof sheathing, and many times three men can work to good advantage. First from the scaffold nail on a few boards, as high up as you can reach handily. Then put some short pieces in the cracks and lay up 8 to 12 boards so you can reach them handily from the roof. Both men should now mount the roof, each with hammer and saw and commence laying up the boards, one man at each end, and whichever one is in the handiest position to use the saw, let that one do most of the cutting. Usually the right hand end of the board is the handiest to cut, but the men must learn to cut at either end when it becomes necessary. Break joints back and forth, but if it is necessary to piece out somewhere, let the piecing go till toward the last; you will probably have some pieces then and you can both work at the filling in without one having to wait on the other. At first just put in enough nails to make it safe to walk around over and then afterwards do the nailing. If you have a third man let this man follow up with the nailing and also hand boards up to the other two, when the boards get out of their reach. As soon as one pile of boards is used up, get up another batch of 8 to 12; don't stop at one board at a time. To hand them up, cut and nail one board at a time is a losing game, and the one who sheaths a roof that way will be nearly twice as long doing it. The men should train themselves to work together so that each man is "Johnny on the spot" when one needs the assistance of the other.

Speed on Hip Roofs

In sheathing hip roofs, many can't make the cut unless they have something to mark the boards by. Some mark boards by laying the back of their saw across the board to mark by, then if they happen to have a swayback saw they are up against it for you can't mark anything by the back of a swayback saw. In this case most men will look for a piece of a board to mark by. All this takes time and the handy man with a mechanical eye would have the board cut off while the other fellow would perhaps only have it marked. The *quickest* way is to put a mark at the center of the hip at the top and bottom edge of the board, then saw right through from one mark to the other. A good man with the saw can do this just as well as if the board was marked all the way across. This is one point in favor of the swayback saw, it teaches amateurs to be mechanical because they can't use their saw to mark by and they have to learn to saw straight without a mark. They have to learn to saw straight by their optics and it is surely fine business, and it makes the swayback saw a real time saver. Few people have ever looked at it in this light, but it is the most valuable feature of the swayback brand of saws. I never take a square on the roof to mark sheathing by, all I use is my saw and a pencil to mark with. I carry the pencil in my mouth, not in an apron pocket where you have to look for it every time you use it, thus losing time, and as likely as not keeping the man at the other end waiting too.

Use Heavy Hammer for Rough Framing

Now I want to say a few words in regard to hammers. Nine out of ten of all the carpenters make the fatal mistake of using too light a hammer on framing and all rough work. The heaviest carpenter's hammer that the manufacturers make is the hammer for all framing and rough sheathing work. Get used to the heavy hammer on rough work and you won't want to use any other. The heavy hammer will save from two to three blows on almost every nail and on spikes it will often save as many as five blows. Why

use a hammer that will hardly have any effect toward driving a nail? You are very careful to select a saw that is suitable to your work. A heavy hammer is just as essential for heavy work as a big saw is for big timber. Try the big hammer on your next job of rough work and you will have a pleasant surprise. You will find that you can drive three nails to the other fellows two right along and it will be the other fellow that will do all the worrying. You may notice the weight a little at first, but this won't tire you as much as it will the fellow who tries to keep up with a light weight hammer.

Let Whole Gang Shingle

When it comes to shingling I think it pays for every man in the gang to get on the roof and either lay or nail. My experience has shown that this is best. I use the straight edge and let the men work in pairs, one to lay and one to nail. Men seem to get more enthusiastic about the work when all hands are at it. No one likes to see his side of the roof lag or run behind and the consequence is that every man voluntarily speeds up a little. If there were but two on the

roof they would almost without knowing it voluntarily fall into a happy go easy gait and the cost of shingling that roof would be at least one-third more in dollars and cents than when there are four or six on the roof. If it is a hip roof saw all the hip shingles before you start, so that you can finish as you go for it will take twice as long to fill them in afterwards. Do not let any one make you believe that they can shingle a hip and pare them down with a sharp chisel one at a time and make any speed for they can't do it. They may cut one shingle that way quicker than you can saw it, but they can't cut five or seven singly as quick as you can saw five or seven in a bunch. Put the hip shingles together and saw five to seven at a time. That is the way to do it for speed. Have your saw in good order, and a fairly heavy, coarse saw is best for this work, say a 24 or 26 inch saw, 8 teeth to the inch, set and filed to cut. Nothing like having a tool adapted to just the work you have to do and the man behind it who knows just how to use it. These are the essentials for speedy work, and they can be acquired by all mechanics who have a desire to be progressive in their work.

The Planning of a House

FIRST PAPER—HELPS AND HINTS TO THE BUILDER—SOME ADVICES BASED ON RESULTS AND OBSERVATIONS OF LONG EXPERIENCE

By Harold L. Alt

With Alton Construction Co., Brooklyn, N. Y.

IT is hoped in these articles to help the carpenter and builder look ahead and see in imagination his finished work as it will appear, and to aid him in avoiding many pitfalls by pointing out the mistakes and errors often made by other construction men even of long experience. If, after the suggestions and criticisms here offered have been carefully considered, the reader finds that he has been aided in solving any one of the multitude of detail problems which constitute a large part of the contractor's and builder's daily life, the purpose of the writer will have been achieved.

It is assumed in the first place that the carpenter or builder—be he building to sell or under an architect's specifications and plans—wants to produce a piece of work that he may be proud of and one that he may use as a permanent recommendation for himself in the future, at the same time keeping the cost down to the lowest possible point. Therefore, it will be endeavored to confine the suggestions in the following within the limits of improvements that the writer considers well worth the cost of making and to mistakes that it would have been just as cheap to avoid. Likewise, theoretical and visionary ideas which would prove impractical and which would result in a freak structure will not be considered.

The builder working under an architect with his plans all laid out may not have so much to work out as he goes along, as does the man who builds to sell,

and likewise he has not the interest in the general arrangement that the man has who is forced to put his house on the "For Sale" market in competition with others. Still we all may do a little development work sometime and naturally the thing of prime importance and first to be considered is the layout or arrangement of the house.

At about this point many builders will say "Oh, yes, that is easy; why I can build a house without any plans and with my eyes shut!" Quite likely they can, but it is ventured to state here that such a house will have many faults for, if not, why is it that there are so few perfect structures today when the builders are supposed to have their eyes open?

Suppose you take the arrangement of the ordinary house and look at it more from the purchaser's point of view. The purchaser wants the house for convenience, use, and appearances (some purchasers even put appear-

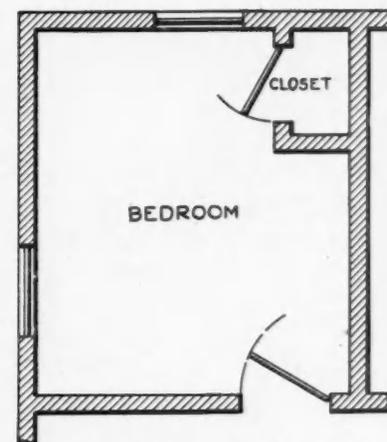


Fig. 1. Projecting Closet Spoils Otherwise Good Room

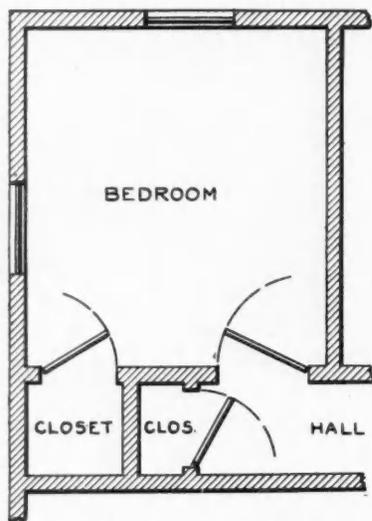


Fig. 2. Good Arrangement for Closets

ance first!) Let us take some bad points to be avoided and some good points to be worked in, if possible. One of the most important things in a house is the closet room—ask any woman—and a reasonable amount should always be provided; don't provide closets, however, where they spoil the appearance of an otherwise nicely laid out bed room. This error is illustrated in Fig. 1 and is a very, very common mistake that a little thought will generally suggest a way out of. Figs. 2 and 3 show how a closet should always be set back flush with the room wall; and speaking of bed rooms reminds the writer of a house which he was in where the bed rooms had absolutely no wall space anywhere around the room where a bed could be set without interfering with a doorway, window, or register outlet.

It is a very nice thing to get an arrangement so that a bed can be placed in at least two positions in a room without obstructing anything else. This sounds simple (and is simple) and Fig. 3 shows a bedroom with 6 different locations for a bed; nevertheless this is a small point that is often overlooked.

Another little point in room arrangement is to keep the bath room and sleeping rooms as widely separated from the living and cooking rooms as possible. This applies especially to bungalow and two-family or apartment construction and has been well taken care of in some cases by arranging the sleeping rooms and bath

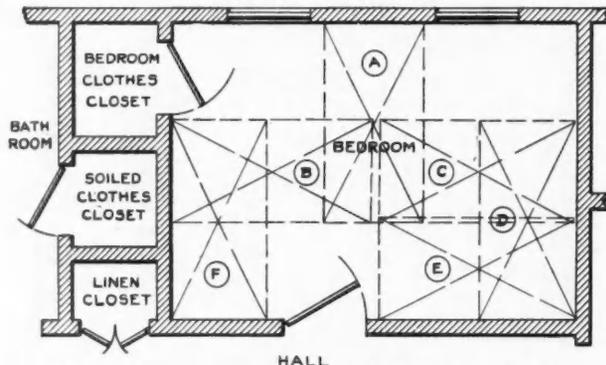


Fig. 3. Bed Room With Six Possible Locations for Bed

on one side of a structure and the other rooms on the opposite side with a connecting hall between. This avoids the bathroom or bed rooms opening direct from any of the living rooms, and places the bed rooms in a much quieter location than otherwise.

ance first!) Let us take some bad points to be avoided and some good points to be worked in, if possible.

One of the most important things in a house is the closet room—ask any woman—and a reasonable amount should always be provided; don't provide closets, however, where they spoil the appearance of an otherwise nicely

I DON'T think much of a man who is not wiser today than he was yesterday.—Abraham Lincoln.

✦

Jointer Accidents Reported and What They Teach

DURING the year ending September 1, 1912, sixty jointer accidents were reported to the Industrial Commission of Wisconsin. No single machine on which any number of accidents occurred, caused such a great amount of permanent disability. Of the sixty accidents reported, thirty-six, or 60 per cent, caused permanent disability, either by the loss of one or of several fingers. In all a total of sixty-three fingers or parts of fingers were cut off by these machines. In four cases, four fingers were cut off; in two cases, three fingers; in eleven cases, two fingers, and in nineteen cases, one finger.

These facts clearly show the great danger to which the operators of these machines are constantly subjected. It is evident that rigid inspections should be made of all jointers, to see that the safety orders requiring safety cylinder heads and guards over the knives, are complied with. That there is a real need of special inspections on this class of machine, is further evident from the accident reports themselves. In thirty-six of the sixty cases reported, it was stated by the employer that the machine was not guarded in any way at the time of the accident. In twelve of these thirty-six cases the machine was equipped with a guard, but it had been removed for some reason or other at the time of the accident.

It is further evident from the reports, that not all employers are familiar with the safety orders on jointers. In two cases, the reports stated that it was impossible to provide a suitable guard.

No further comments are necessary on the unguarded jointer accidents. The facts stated above show the great need of effective guards on these machines. Accidents on this class of machine, when equipped with guards, in compliance with the safety orders, ought to be eliminated, almost entirely. The safety cylinder head makes it impossible for an operator to have his fingers cut off.

The facts in the table seem to show that guards when provided and used, do not prevent accidents entirely. In fact, in ten cases, fingers were cut off on supposedly guarded machines. A closer study, however, reveals the following facts. In only one case was the machine equipped with a safety cylinder head. This case resulted in a slight cut at the tips of the fingers. In eleven cases, the reports merely stated that the machine was guarded, giving no description whatever of the guard. In the remaining twelve cases, the guard was described as a movable slide covering the exposed knives.

In only one case, therefore, out of the sixty reported, was the machine equipped as provided by the orders.



Concrete Hot-Beds and Cold-Frames

MEANS FOR GROWING WINTER VEGETABLES AND EARLY SPRING PLANTS

THERE is nothing which pleases the appetite so much as delicacies out of season. As for vegetables, such delicacies are not costly luxuries and are within the means of anyone who will take the time to build and run a hot-bed or a cold-frame. Such a bed will make possible home-grown lettuce and radishes (and even violets) for the Thanksgiving and Christmas dinners. Moreover, by this means, one can depend on having good hardy plants for spring planting in the garden.

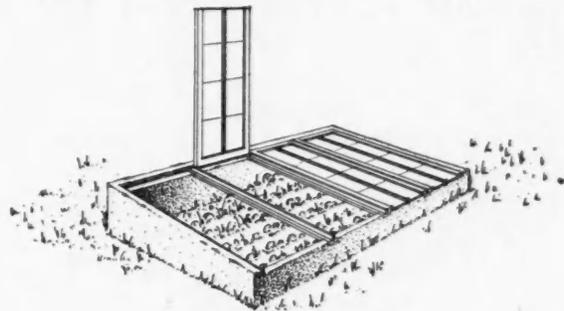
Proper Time to Build Hot-Bed

The fall is the time to prepare the hot-bed. To avoid annual repairs, and to secure the best results build it of concrete. Locate the bed on the sunny, wind-protected side of a building. A four-sash bed is usually large enough except for commercial purposes. A standard hot-bed sash is 3 feet by 6 feet. Lay out the bed 6 feet 8 inches wide by 12 feet 10 inches long. The concrete walls are 6 inches thick. Dig the foundation trenches 2 feet 6 inches deep within the lines given above. Make forms of 1-inch lumber to carry the south (front) wall 6 inches and the north (back) wall 14 inches above ground. Forms are not required below ground level. The tops of the end walls slope to the others. Before filling the forms with concrete, test the dimensions of the bed by means of the sash. See that the sash lap the forms 2 inches on all sides.

Mixing and Placing the Concrete

Mix the concrete mushy wet in the proportion of 1 bag of Portland cement to 2½ cubic feet of sand to 5 cubic feet of crushed rock, or 1 bag of cement to 5

cubic feet of bank-run gravel. Fill the forms without stopping for anything. Tie the walls together at the corners by laying in them old iron rods bent to right angles. While placing the concrete set ½-inch bolts about 2 feet apart to hold the wooden top-framing of the bed to the concrete; or make grooves in the top of the concrete for counter-sinking the sash to the level of the walls with an allowance of one-quarter inch for clearance. This can be done by temporarily imbedding in the concrete wooden strips of the necessary dimensions. During this operation, by means of blocks nailed to the strips, make provision for the center-bars described below. Remove the strips as soon as the concrete stiffens. Take down the forms after five

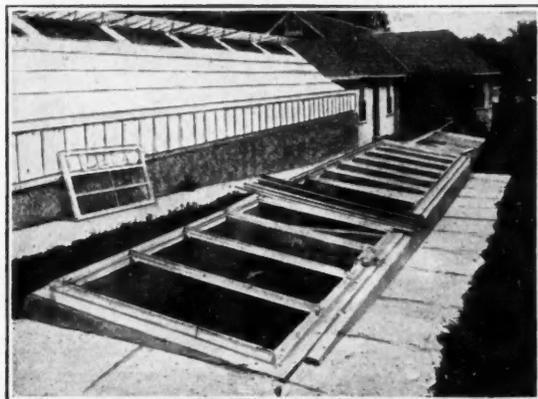


Hot-Bed or Cold-Frame Easily Made of Concrete

days. The extra 2⅝ inches in length of the bed is allowance for the three center-bars between the sash. These sash-supports are of dressed 1-inch stuff, shaped like a capital "T" turned upside down. The length of the stem of the "T" is equal to the thickness of the sash and the top is 3 inches wide. Sufficient materials for the concrete will be supplied by 14 bags of Portland cement, 1¼ cubic yards of sand and 2½ cubic yards of crushed rock; or 14 bags of cement and 2½ yards of pit gravel at a cost of \$10.00.

Preparation and Care of Hot-Bed

If the bed is to be used as a cold-frame, it is finished when covered with glass. For a hot-bed, dig out the dirt to the depth of 2 feet, tramp in 18 inches of fresh horse manure well mixed with leaves or bedding and cover it with 4 to 8 inches of rich soil. Bank the excavated earth around the outside of the bed. Put the sash in place, hang a thermometer on the inside and allow the bed to heat up. After a couple of days, when the temperature has dropped to 85 or 90 degrees,



Neat, Clean, Durable Hot-Beds

planting may be safely done. Seed catalogues contain valuable information as to the length of time necessary to produce the different kinds of plants.

During the midday, in bright weather, the bed will become too hot and must be ventilated for a short period by raising the sash on the side away from the wind. Water the plants in the morning only and ven-

tilate later to remove the moisture from the foliage. On winter nights it will often be necessary to cover the bed with old carpets and boards.

It is a genuine pleasure to grow winter vegetables and flowers for home use. If the supply exceeds the needs, there is always a profitable market for such products.

Built-in Furniture—Some Interesting Designs

By John S. Edmund

ONE of the charms of the interior of any home is the furniture which is built into it. The dressers, seats, bookcases more than half solve the problem of furnishing it. Furniture that is built to fit the place it is in, is far more decorative and more comfortable than detached pieces could be in the

appear between the two high cabinets. With an abundance of drawers which fill an everlasting want for being able to keep the kitchen table utensils separated, this cupboard is a favorite in any home. The cabinet in Fig. 3 is much more simple in construction. It is an easy matter, however, to modify or change the construction to suit. In Fig. 2 the window might be left out and two or three shelves substituted which would be curtained off and a panel placed underneath, or a third closet might be placed in this space recessed

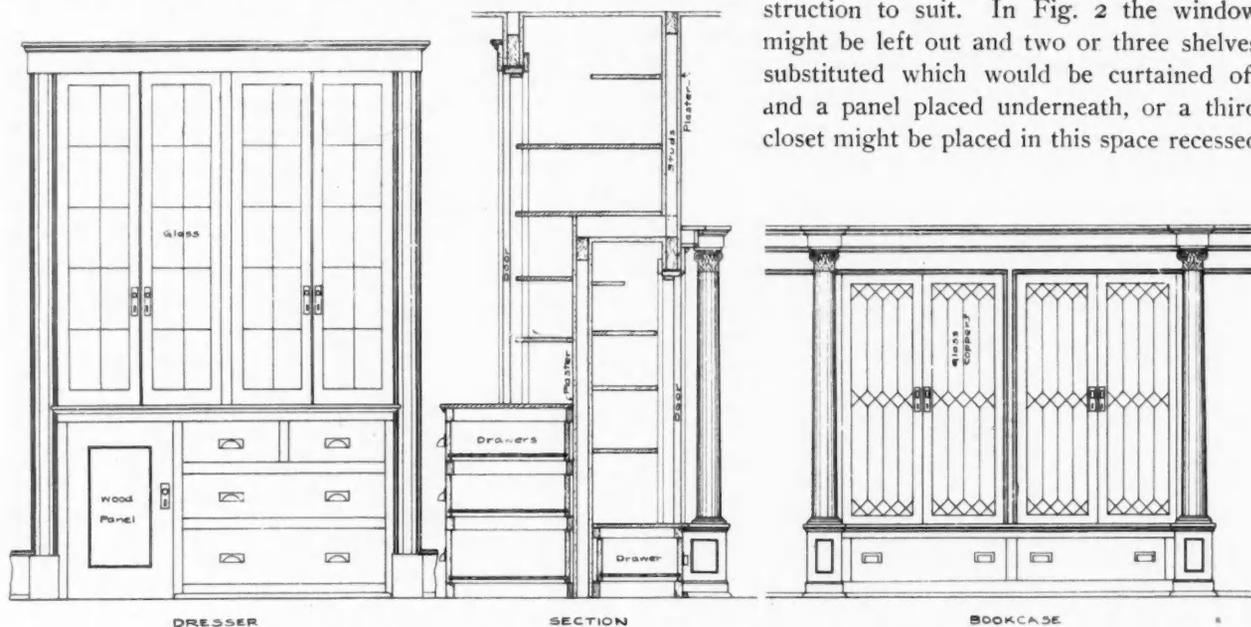


Fig. 1. Kitchen Dresser on One Side of Partition, Library Book Case on Other

same place. Not only is space saved by this means, but a keynote is given for the rest of the fittings in the home, which, unless it is utterly disregarded, will tend to keep the furnishings of the room in harmony.

The scale illustrations, Fig. 1, show a design for a combination kitchen dresser and library book case. This design is to be built in a residence at Paterson, N. J. The dresser contains a china closet in the upper part, and four drawers, and a closet for pans, etc., in the lower part. The upper doors are to have wood muntins. This is to be finished in cypress to correspond with the kitchen trim. The bookcase contains shelves in the upper part and two drawers in the lower part. The doors are to have clear glass with copper muntins. This is to be finished off in oak to match the rest of the library trim.

A large kitchen cupboard which is part of the construction of the house is shown in Fig. 2, as is evidenced by the casement window and wall section that

about eight inches. In Fig. 3 the lower side-closets might be left off and drawers arranged to fill this space. The upper doors could be made sliding and a shelf put underneath recessed. These are only sug-



Fig. 2. Large Kitchen Cupboard, Lighted at Center by Casement Window

gestions however, and the cupboards would be built to fit the space they have to occupy, which if large or small would change them considerably.

Figs. 4 and 5 are designs for dressers for the dining or living rooms. Fig. 4 is quite distinctive in character, there being two large china closets in the center and a small one at each side, with a recess which extends the whole length. In the lower part are arranged four drawers and two cupboards. The lower part of this dresser projects beyond the wall about twelve



Fig. 3. Kitchen Cupboard of Generous Dimensions

inches while the top part is flush with the wall.

Fig. 5 is a dresser flush with the wall. This has two high china closets and one or two shelves could be arranged in the recess if desired. There are three drawers beneath to hold the silver and table linen, below are four cupboards. The lavish use of panels form a chief decorative feature and helps to set the



Fig. 4. Dining Room Buffet

furniture off. The glass in the doors might be made as shown to help carry out the idea of the windows or may be left plain as shown in Fig. 4. These can also be changed to suit the taste, and many suggestions can be derived from them.

The book case shown in Fig. 6 is a feature by itself. With its leaded glass doors both swinging and sliding

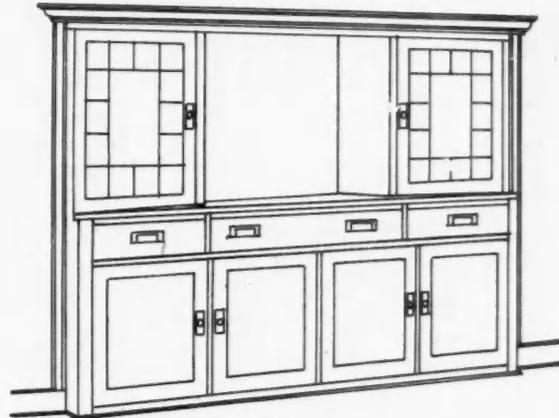


Fig. 5. Dining Room Side Board

and exposed shelves, it is very desirable for many things, other than books. It is a very neat design, helps to express home life, and would harmonize with the most carefully planned surroundings.



Tiger-proof House

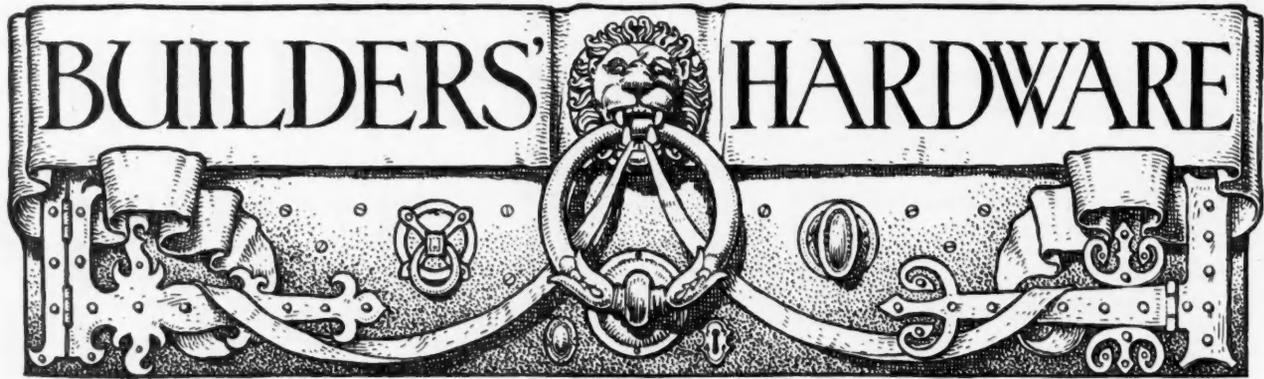
The ordinary Malay house is built on posts from 5 to 7 feet high; but one which I came across, writes a traveler to the *Strand*, was perched high up in a



Fig. 6. Book Cases and Book Shelves

tree. It was the home of a man, his wife and family, and they informed me that it was placed in this unusual situation so as to be out of the way of the numerous tigers which then infested the neighborhood. As tigers have been known to jump 18 feet in vertical height, somewhere about 20 feet is considered to be the limit of safety.

The Malayan house is a frail and flimsy structure of sticks tied together with rattan, thatched with palm leaves, and walled with plaited bamboo, or, as in this case, with the bark of trees. It is, therefore, an easy matter for a tiger, with its great strength, to break into a house and attack the inhabitants. Many instances of this have been recorded in Malaya. In one well-known case a whole family were killed except one man, who, climbing up into the roof and thus escaping the notice of the tiger, was a horrified observer of the cruel mauling and ultimate slaughter and devouring of his relatives.



Evolution of Fashions in Hardware Trim

INTERESTING BUILDERS' HARDWARE HISTORY—THE VARIOUS STYLES OF FINISH AND HOW THEY ARE USED

By Our Hardware Expert

DURING the past twenty-five years, the manufacture of builders hardware in the United States has made greater strides than in the centuries before. Credit for this advance must be given to the inventive genius of the Connecticut Yankees. One of its greatest sons produced the pin tumbler cylinder lock, having the Yale type of key. The use of this key, has been the great influence in the manufacture of builders hardware in this country, and is the cause of its popularity and demand throughout the world.

Connecticut is pre-eminent in the manufacture of hardware.

Thirty years ago "Schools of Design" were unknown; to-day every school of design may be had.

The first ornamental hardware produced in quantity was the Oriental. The reason for its popularity has never been satisfactorily explained. Why our hardware forefathers favored China and adopted the fan as the most beautiful for that era, can only be guessed at. Some good guessers say that Connecticut had a few artistic carpenters, who were handy with the hatchet and the chisel. This seems to be reasonable when you make a close examination of it.

This design was popular in all places except Boston and vicinity. Boston would not stand for it. Boston was the home of the glass knob industry. The glass knob in the old days represented culture and refinement.

The glass knob and the simple trimmings used with it have won the fight with Oriental and other schools of art; and is to-day much in vogue.

Hats off to Boston and The Glass Knob! Both have had a great refining influence on American home life.

The so-called art finishes on hardware trimmings, are to-day of interest to the architect, the owner and the decorator. Prior to the adoption of dark colored stains on the wood work, polished bronze, polished brass and Oriental design bronze goods were in great demand.

The wood knob and wood rose and wood key plate

to match the wood work, were also in demand. The mineral, the porcelain, and the jet knob were used on the lower grades of work.

The antique copper finish was the forerunner of the art finishes. It became popular when schools of design of European influence were first adopted about twenty years ago.

Antique copper finish is still popular, because it is in demand on woods which are not stained.

Antique brass then entered the field. It is used on stained and unstained wood work.

Dull brass or so called lemon brass followed soon after. It will always be popular because it is a trimming which is a handsome and quiet contrast to the rich colored stains which are almost universally used.

Dull brass is extensively used on enameled or light colored painted wood work. When the owner's pocket book will stand the strain, use gold plated hardware.

Some architects and decorators are partial to chocolate finish hardware where a brown stain is used. They do not want the hardware to be a contrast to the wood work, but believe in a harmony of colors.

Nifty hardware trimmers sometimes use a light dull silver on ebonized wood work. This is a glaring but pleasing contrast, quite Japanese in fact.

The complex and great variety of articles of the builders hardware trade has shown the necessity of specializing in this line. Chicago the birthplace of the skyscraper, was the first to use the cylinder locks in quantity. The old First National Bank Building, which was replaced by the present structure, was said to be the first building having this lock. The knob trimmings were polished bronze.

The Royal Insurance Building was trimmed with this lock; but knob trimmings had the hammered surface.

The Western Union Building was also equipped with cylinder locks, but the knob trimmings were the first trimmings showing a distinct school of design. This design is known as the Romanesque.

The Rookery Building also in Chicago, considered

by everyone who sees it to be a gem in architecture, is the first building in the country in which black iron Bower Barff trimmings were used.

Bower Barff is a finish on steel or cast iron. When made with care it is rustless and is much favored in office building work, because it is about the only finish which does not show wear.

The design used in this building is in keeping with the finish. It is made in cast iron but has the effect of being forged wrought iron.

Chicago is also the home of the pioneer hardware trimmer; he enjoys telling of his efforts in inducing the owners to adopt the lock having the Yale type of key. Mr. Oswald Lockett is his name. May he live long in good health and happiness.

This gentleman is known from coast to coast as having had the greatest influence on the manufacturers in the past, and to-day exercises great influence on the producers and users of high grade builders hardware.

The specialists who devote their time and efforts to builders hardware trimmings, should honor this pioneer who has done so much to introduce and to uphold goods of highest grade and quality.

Many of the builders hardware specialists jealously guard their hard won knowledge which is gained by the hard knocks of experience.

This pioneer in the art has been the teacher of scores of experts who now ply their vocation in all parts of the central, the middle west and the far west of this country.

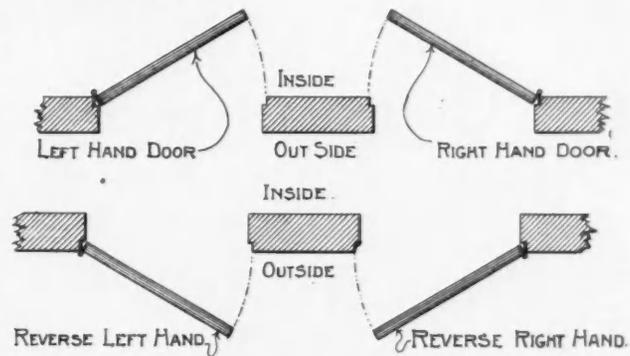
The writer in the succeeding numbers of this publication will endeavor to emulate this pioneer and advise his readers what articles of hardware are best adapted to do the work designed for them.

The first building to be treated will be a typical residence. Scale details of doors and windows can be found in the *AMERICAN CARPENTER AND BUILDER* from February to October inclusive.

These details are standard, they are in use by almost all of the millmen throughout the country.

Many of the architects have been criticised because they do not furnish the millmen and the hardware

DETAIL NO. 25.



Detail No. 25. Diagram Explaining Rules for Naming Doors

trimmer with these details. They should be shown in the original plans.

Usually the hardware is purchased before the full size details are drawn and the hardware man is forced to guess at what is wanted. This is the one great trouble of the hardware trimmer and is the cause of extras and returned goods.

On page 40 of the February number of the *AMERICAN CARPENTER AND BUILDER* are found half size details of front or outside doors for a residence building.

The hardware trimmer in making up his schedule of items, begins with the front door. We illustrate in the present issue a floor plan of these doors, designed to show the hand of the lock required on them.

This floor plan shows the single door. If the doors be double, the lock is invariably applied to the right hand leaf. Mr. Left-Handed man, this is done for your benefit, we right-handed men are not contrary, we want you to do as we do.

In the December issue will be found a complete schedule of items for a typical residence.

Many of these schedules of items are made out by the architect and the carpenter, and the hardware man is asked to make a price on them.

The hardware men cannot make a correct price unless he is given the proper information. By following this form, many errors can be avoided.

Important Door Hardware—Butt Hinges

A POORLY hung door, no matter how handsomely finished, which creaks and binds on its hinges, will always be a source of annoyance and dissatisfaction to the owner of the building. The cause is usually to be found in the butts, which either are not of the proper size, or are of inferior quality, poorly manufactured of cheap materials.

A careful, conscientious contractor uses as much care in selecting the butts of a new building as in choosing the locks and knobs or the doors themselves.

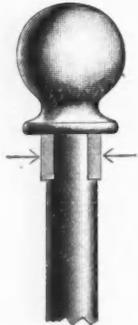
Given butts of good quality and handsome finish, with screws of the proper size, the average carpenter can hang a well constructed door so that it will swing

easily without friction or noise, and give permanent satisfaction.

The butts now in general use for ordinary doors of houses and other buildings, are known as "loose pin butts." This type of butts possesses two distinct advantages over the "loose joint butts" which were formerly in general use; first that of increased strength, owing to the larger number of bearing surfaces; and second that the butts can be used on either right or left hand doors as either leaf can be fastened to the door or jamb.

As the name implies, the pin of a loose pin butt can be removed, making it a simple matter to take down

a door. One objection to loose pin butts has been that the pin has a tendency to work out of the joint, giving not only an ugly appearance, but also throwing the butt off center, so that the weight is unevenly distributed on the bearings. This objection has been overcome for one way by Stanley's new patented non-rising pin. This pin has two little wings which fit into corresponding slots in the joint, effectually preventing any upward action of the pin. This pin can however, be as easily taken out as an ordinary loose pin. The best grade of Stanley's loose pin butts are now equipped with these non-rising pins. They also have beveled joints to give a more closely fitting, neater looking joint.



Non-Rising Pin

Loose pin butts are made in sizes from 2x2 to 8x10 inches. The sizes from 3x3 to 6x6 are most frequently used. Sizes $3\frac{1}{2} \times 3\frac{1}{2}$ and larger, have five knuckles in the joints, giving four bearing surfaces.

The sizes generally specified, as given in Kidders "Building Construction," are $3\frac{1}{2} \times 3\frac{1}{2}$ butts for $1\frac{3}{8}$ inch doors, not over 2 feet 8 inches wide; 4x4 butts for $1\frac{3}{4}$ inch doors 7 feet high; and $4\frac{1}{2}$ to 6 inch butts for heavier doors. The best practice is to use three butts rather than two, to prevent the door from warping in the middle.

Formerly door butts were commonly made of cast iron, but this metal has been almost entirely replaced by wrought steel and bronze. Cast iron butts are

liable to crack and cannot be given the handsome finishes of wrought hardware.

Wrought bronze butts will not rust and are particularly suitable for exterior doors. For general purposes, however, cold rolled wrought steel is the ideal metal for butts and hinges. The process of cold rolling increases the strength of the steel and gives it a clean, bright surface, which adds to the beauty of the plated finishes.

The finest grade of wrought steel butts are highly polished and heavily plated in dull brass, bronze, antique copper, nickel, and many other finishes. The finish of the knobs, locks and other hardware can be accurately matched. There are several new finishes recently placed on the market, among which may be mentioned the sand finishes, in which the metal is treated by sand blast before plating, and the Sherardized finish, a new process which prevents rust effectively. Butts can be Sherardized and then plated, giving not only a handsome finish, but one which is very nearly as rust proof as solid bronze.

Butts for use in less expensive buildings are not polished before plating, but the surface of the cold rolled steel, known in the trade as "planished," readily permits plating in the various finishes, although the finished appearance is not quite equal to the "polished" butts.

There are a number of modifications of design of the loose pin butts designed to meet special conditions such as ball bearing butts, template butts, etc. These will be described in a succeeding article.

Laying a Solid Concrete Roof

A WATER-TIGHT CAP OVER EXPANSION JOINT ELIMINATES ALL IMPERFECTIONS

By C. W. Older

A ROOF of cement mortar must be made from a very good grade of material to give satisfaction; but if care is taken it can be the most satisfactory roof made.

The ideal proportions are one part cement to three parts sand. This makes a very rich mixture, but if made weaker than this it will be more difficult to make water-tight. For a roof of from 1 to 2 inches in thickness, these proportions must be used, but for a thicker roof, concrete mixed 1:2:4 is found to be satisfactory. In this the stone should be no bigger than $\frac{1}{2}$ inch, but smaller is preferred.

It is impractical to install machinery for mixing as small an amount as would be required for any reasonably sized roof, so the labor is usually all done by hand, the raw material being hoisted to the roof and the operations performed up there.

The foundation for the roof must be of plank strong enough to sustain the dead weight, allowing a factor of safety of about four. The cracks between the boards should be as tight as for any other form work, to keep the wet mortar from running hollow on the under side.

Care must be taken not to put the mortar in too dry or too wet. It should be as moist as it can hold

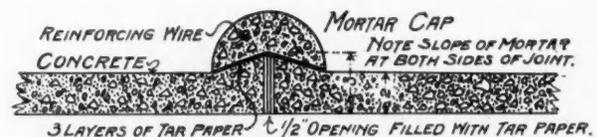


FIG. 1.

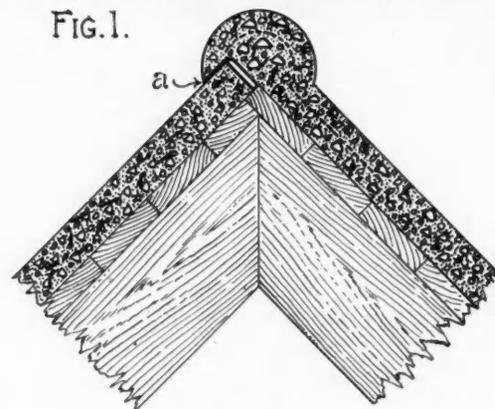


FIG. 2.

Joints for Solid Concrete Roofs

without running. This precaution is conducive of the desired results, as a too dry mixture would not be absolutely water tight. A great deal depends also upon the surface finish, which can be best performed on the damp mixture.

Very little reinforcement is required. The only place where it is necessary is on one side of the expansion joint to connect into the water cap.

The roof, when finished, will be in huge slabs. To lay out the work, run a line through the middle of the roof lengthwise for an expansion joint. Then, along the side every 25 feet run a transverse line to cut clear across from gutter to gutter. Over these will be put the water caps.

One slab should be worked at a time, beginning at the middle and working toward the side. A strip of heavy wire netting must be laid all around within 2 inches of the edge of the slab, and bent up to be exposed above the concrete no less than 6 inches. At the edge the mortar should slope up about an inch. The rest finished smooth and the gutter shaped out. When the adjoining slab is to be placed, cut fine strips of tar paper and set along the edge. This will be the minimum tightness of the joint. When slabs are finished, cut three 6-inch strips of tar paper to lay lengthwise on the expansion joint. Then form a mortar ridge lengthwise on this paper and bend into it the reinforcing wire. Bear in mind this reinforcing wire is to be on only one side of the joint.

By having a joint every 25 feet, it will vary about $\frac{1}{4}$ inch in a season. This opening and closing takes place entirely under this ridge, and because of the slope, water cannot back up under it. By reference to the drawing, Fig. 1, this theory can be easily understood.

This roof can reach the acme of perfection if there is a slight inclination toward the gutters. When all requirements are complied with, it will seldom, if ever, need repairing, and will not leak, besides being a great improvement in the overhead appearance of the building.

In applying this principle to a sloping roof, as on a house, the expansion joint must be located at the top, and if there are gables on the roof, a water cap must run from the ridge of the roof to the top of the gable, then follow down the gutter to the eaves. In this case the concrete roof must be secured strong enough at the eaves that the slab will not have an inclination to slide down the slope of the roof, or it will fracture the concrete water cap.

In making the concrete, use a good waterproofing compound. Then the mixture in this case must be applied quite dry and given a first class surface finish.

The water cap can be installed on a roof of this kind easier than on a flat roof as a plain slab can be put on one slope with a pad of tarred felt applied at the upper edge. The water cap will be formed in the slab that is on the opposite side of the same roof, as shown in sketch No. 2. Precaution must be taken

to leave a loose joint at (a). In the expansion and contraction of the concrete by changes in temperature the variation will be entirely up and down the slope of the roof, and it is no disadvantage to have a quarter or a half inch clear opening at (a), as the water cannot back up into this joint. The greater the clearance the less likelihood there is of breaking the cap.

The three main things to watch in this type of concrete roof construction are the anchorage at the eaves, the surface finish and the expansion joint at the top. With proper attention paid to these features there is no reason for the roof not being perfectly satisfactory. —Chicago, Ill.



Of Course, Have a Sleeping Porch

HEALTHFUL AND PLEASANT PORCHES CAN BE BUILT INTO DORMER WINDOWS

"Of course you will have a sleeping porch."

That is a remark which one sometimes hears when mention of a new house is made.

And in many cases the builder is interested in this new idea.

The sleeping porch may be a fad, but it looks very much like a fixture. In some of the suburban communities there are houses specially designed to accommodate sleeping porches and those who live within are not by any means tubercular.

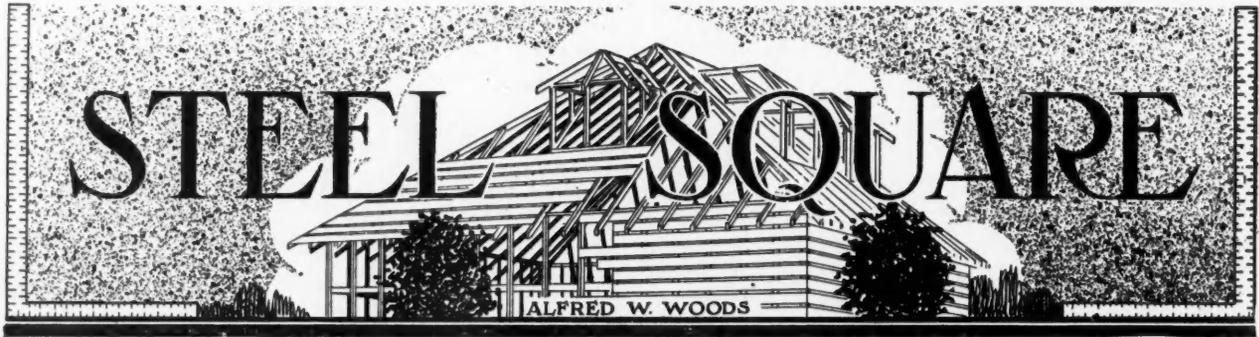
A sleeping porch is a provision for sleeping outdoors in summer at least, and not a few open-air devotees cling to their outdoor sleeping quarters throughout the twelve months; from January to December.

Use a Dormer

The simplest method of constructing a real sleeping porch in a new house of modest proportions is to construct a generous dormer in the roof on the sheltered side, leaving it entirely open at the front except to a point about 2 feet above the floor, to which height it should be boarded up. In this way a room of adequate size is formed, without drafts, and requiring only a curtain in front to secure privacy.

A good plan is to shingle the roof and sides and to lay a heavy grade of prepared canvas on the floor. This roofing and deck canvas is waterproof, so strong that it may be walked on freely, comes in width of 30 and 36 inches, is lapped an inch and a half when it is put down, and it is fastened with tacks not more than an inch apart. It is best to give it a coat of paint at once and to keep it painted at intervals throughout the year. Make provision for draining off water which will surely be driven in when hard storms come.

Couch hammocks seem to belong naturally to sleeping porches and are as convenient and comfortable for an after dinner siesta as for the nightly repose. It is important to have a thick and well made mattress, both for comfort and to keep the cold from penetrating. Little else in the way of furnishings is needed except perhaps a rug on the floor.



Possibilities of the Steel Square

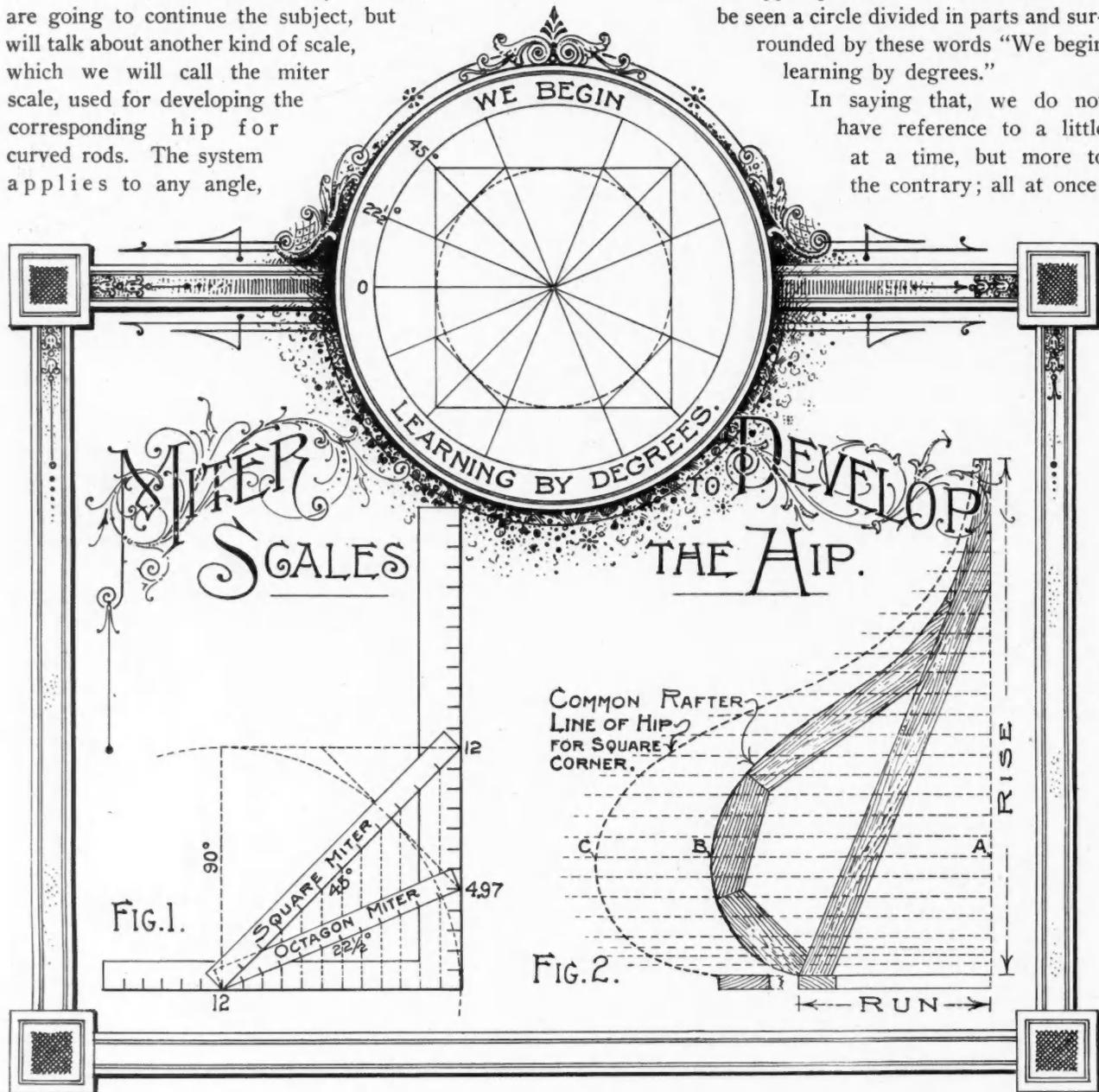
MITER SCALES AND THEIR USE IN DEVELOPING THE CORRESPONDING HIP FOR CURVED ROOFS, ANGLE BRACKETS, ETC.

LAST month we talked about proportional scales, such as used by architectural draftsmen in laying out work for others to read and work out to the full size in the actual construction in wood or other material, as the case may be. We are going to continue the subject, but will talk about another kind of scale, which we will call the miter scale, used for developing the corresponding hip for curved rods. The system applies to any angle,

whether it be a regular polygon or not, but in this we will illustrate for the regular polygonal corner. For this we have chosen for illustration purposes, the two most common corners i. e. the square and the octagon.

In the upper part of the illustration is to be seen a circle divided in parts and surrounded by these words "We begin learning by degrees."

In saying that, we do not have reference to a little at a time, but more to the contrary; all at once;



for when the principle is once understood, applying to one polygonal angle it applies equally as well to any of the others; and the manipulator of the steel square can proceed knowing that his work will fit to its place when it is ready to be set up.

In the circle are shown the two angles in question and these, applied to the steel square, form the basis for the whole framework in and about the roof. It is here, too, that we get the angle for our subject,—Miter Scales, and in Fig. 1 are shown the proportional length of these scales in connection with the steel square as per the angles referred to.

In Fig. 2 is shown how to use these scales. First lay off the desired curve for the full size common rafter, then lay off a number of lines parallel to the run, as shown, letting them extend beyond the curve an indefinite length. Now measure these lines from the rise to the curve of the common rafter, as from A to B with the steel square, and then go over the same line again measuring the same amount but this time with the miter rule; and the length found will be as from A to C.

Go over all the lines in this way and then run an offhand curve through the measurement checks, and the proper curve will be established, from which the pattern in wood can be made. The illustration is shown for the square corner. If the octagon hip is wanted, proceed the same, but using the octagon scale.

Remember the figures that are shown on the steel square in Fig. 1 are to the same proportions that give the miter for a frame as per number of sides indicated by the scale.

Another point we wish to bring out is the backing of the hip. In a curved roof, the pitch is constantly changing and consequently the backing must vary from shallow where it is low pitch to sharp where it is more perpendicular.

Now notice in Fig. 1, 12 and 12 give the miter for the square corner; in other words, it is twelve-twelfths of the whole thing; and since the division line of the hip is at the center of its back, we set off twelve-twelfths of half its thickness (which in this case is all) back from the curve previously found for the hip's shape and by running another curve through these points, often the proper gauge line on the side of the hip from which to remove the wood to the center line of the back; and the backing will be true at all points.

In the case of the octagon, it is practically five-twelfths; then set off that amount of half the hip's thickness. If it were a hexagon hip, the amount to set off would be seven-twelfths of half its thickness. The length of these scales here shown, are 17 and 13 inches for the square and octagon respectively and are divided in twelve equal parts. One of the end divisions should be divided into twelfths or sixteenths, as desired, for handling the fractional measurements.



Notes from World of Science

Grease stains can be taken out of carpets with fresh ox gall and warm water.

As a humane way of slaughtering cattle electrocution is being tried in France.

Some of Poland's salt mines have been worked uninterruptedly for more than 600 years.

Australia soon will have its first transcontinental railroad, a line about 3,000 miles long.

Zinc will be given a fine lustre if polished with one part sulphuric acid and twelve of water.

At the usual price of electricity a motor on a sewing machine will take 30,000 stitches for a cent.

Notwithstanding its many high mountain ranges, Asia has fewer large waterfalls than any other continent.

A teaspoonful of salt to a gill of milk makes a mixture which will remove most ink stains from clothing.

Because it is too light and slips through the fingers too easily the French government has decided against its proposed aluminum coinage.

In Frankfort, Germany, household waste is collected and burned in a plant that provides steam to dynamos that produce about 1,000 horse power.

To deceive the unauthorized, safes are built to resemble sideboards, tabourets, and other articles of furniture.

A Swiss street railway company is building its cars of aluminum because of its lightness and rust defying properties.

A capstan is built with a new block and tackle with which one man can handle loads of 1,000 pounds and two men, loads of 4,000 pounds.

The practically barren Hawaiian island of Lanai will be reclaimed by a water conservation scheme and devoted to sugar beet culture.

More than 410,000 passengers were carried on the electric railroad through the Simplon tunnel between Switzerland and Italy last year.

Practically 96 per cent of the coal output of West Virginia last year was mined by hand or with machines, without the use of explosives.

Experts have estimated the water power available in the streams of the United States all the way from 31,040,000 to 56,146,000 horse power.

Modern Construction in Old Building

The razing of an old four-story bank building in Providence, R. I., erected in 1823, shows that the skeleton frame principle, as employed in our steel skyscrapers, is not such a new thing as we have thought.

Steel construction was unknown in 1823, but John Holden Green, who erected this building, used wooden timbers instead of steel, in exactly the way steel is now used. He erected the building's skeleton of great logs of spruce, adding the brick front with its granite facing, and tying the latter to the frame with great bolts at each floor.

PLANING MILL WORK

More Shop Kinks

THE OLD EXPERIENCED WOODWORKING SHOP FOREMAN RELATES SOME PERSONAL ANECDOTES AND TELLS HOW SOME KINKISH THINGS ARE DONE

By Wm. C. Jasbury

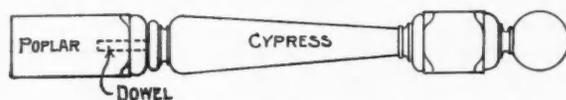
JUDGING THE KIND OF WOOD. I once knew a couple of wood turners working in a shop where repair and replace work made up the bulk of the work. One day the driver brought in a porch newel that was more or less decayed. A new one was wanted. One of the turners took a chisel and chipped off a piece of the bottom end and said:

"Poplar, Eh! Well poplar is not a lasting wood for exterior work."

The other turner chipped off a piece from the other end and remarked:

"Poplar nothing; that is cypress."

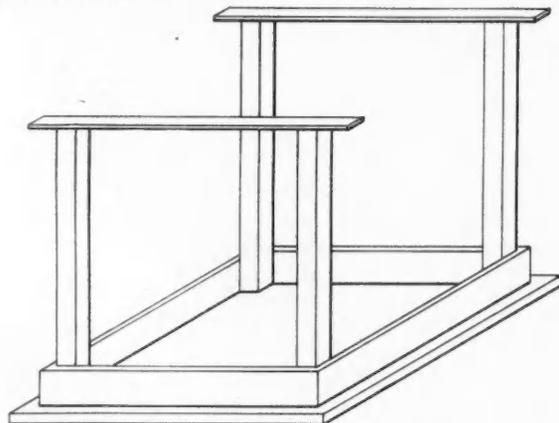
Enough said, a box of cigars was the bet. Here is



Both Were Right

the proof. Evidently the original turner was shy on material, so he doweled it together between two beads, as shown.

WHAT DO YOU THINK ABOUT THIS? Here is a trick I saw done recently by a Hungarian cabinet maker; and to prove that no matter how much of a sap head a man may be, if you get the proper focus on him he will do "something" that is a new one. This fellow had a table with four legs, one or two of which were too long, causing the table to wobble like a sailor

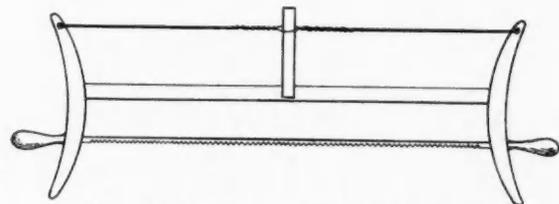


Scheme for Squaring Table Legs

on The Bowery. This man turned the table up-side down on the floor and put a stick from one leg to the opposite one and another stick on the other two legs, then sighted across the two sticks; this will give a good line on the long and short legs. This method, or scheme works well on a post such as a newel or column that is in wind. So much for Mr. Goulash (the Hungarian).

HEAT MAKES IT STRONGER. A steam boiler is stronger under heat pressure than under cold water pressure, because metal toughens up to 500 degrees Fahr.

A HANDY HOME MADE SAW. I have to shape the ends of many long rafters and pergola beams. Some of them so long I cannot swing them in the shop without butting a post, and some of them so heavy that they cannot be sawed very well on an ordinary band saw. For this, I have a couple of square head



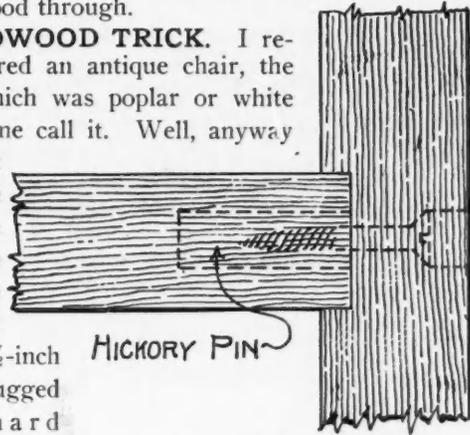
Home Made Saw and the Work it Can Do

bench hands from which I have made a sort of elongated buck saw out of a piece of $\frac{3}{8}$ -inch band saw; the blade is 3 feet long. One man gets on each side of the proposed pergola beam, which is marked on both sides the shape of the cut and by following the lines, a smooth cut will be the result.

A QUICK WAY TO MAKE DOWELS. In a small mill or carpenter shop where the regular 3 feet o inch dowel stock is not bought a very good way to make them is to take a piece of metal, iron or steel

in which various size holes, say 1/4 inch, 3/8 inch, 1/2 inch, etc., have been drilled, then rip the waste pieces up and cut in 6 or 8 inch lengths; and drive them through the hole of desired size in the metal plate, which shapes them round and all to a uniform size. I have seen an ordinary bolt nut in a vise and used to drive the wood through.

A HARDWOOD TRICK. I recently repaired an antique chair, the wood of which was poplar or white wood as some call it. Well, anyway I noticed at every place where screws were used, the maker had bored a 1/2-inch hole and plugged it with a hard wood hickory pin



HICKORY PIN

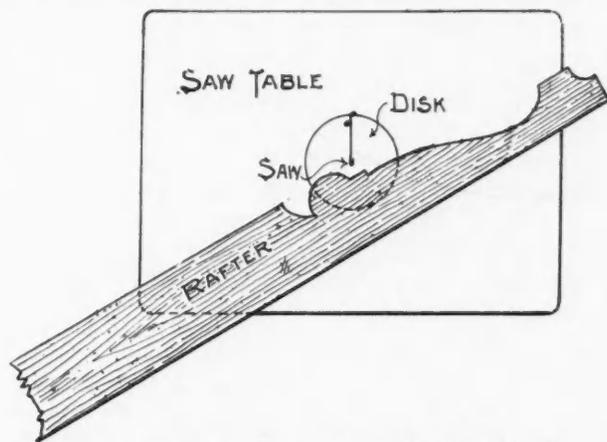
Solid Screw-Hold for Soft Wood

for the screws to enter, as shown in illustration.

BAND SAW A USEFUL ADJUNCT. The band saw for scroll sawing is a useful machine and I will treat on it at length.

How much time could be saved in the direction of large contracts if the contractor had a band saw set up on the premises run by electric or gasoline power. He could make all rafter cuts, stair horses, bridging, diagonal sheathing, porch rail, coping and numerous other work that is usually done by hand. This machine could be taken to the shop or to another job when the above mentioned work is completed. I know of two buildings now under construction, whose owners I could save many dollars by having a band saw on the job.

Now, as for a band saw in the mill, I mean the 36 inch regular 18 foot saw with which we cut heavy



Hardwood Disk Makes Slippery Bearing for Saw Table Top

pergola beams, rafters, etc.; then we put on a 1/4-inch scroll saw and cut scrolls.

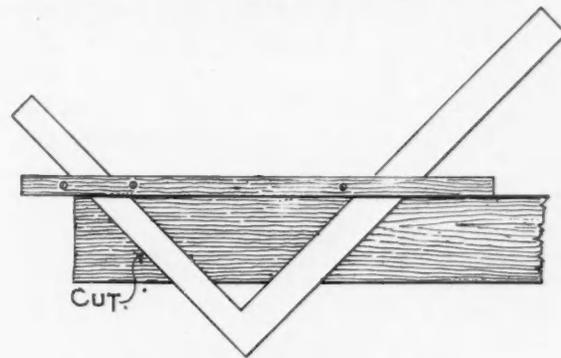
In cutting heavy work, such as 8 by 10 inch yellow pine, or such, we put temporary uprights under the table top, because the top is cast iron and gets its support wholly from the center. We also oil the top in

order that the timber will not adhere to the metal top by suction; and if the piece has any great length to it, we have more than one hold-up man (not of the "Dead-wood" type), on the end. The hold-up man or men hold the timber so that it barely touches the top so that the sawyer can guide it at will. Then again yellow pine will gum up the saw; we keep a can of kerosene at hand, and now and then touch the saw blade with this, also squirt some machine oil on the saw where it goes down through the friction glides, this may not sound good to some on account of the rubber bands on the wheels, but that makes no difference.

Then again, on heavy timbers that have band saw cuts on the end, we build up a sort of a temporary fence to the same height as the table top, oil the top edge of board that carries the weight and the hold-up men only have to do the shoving.

I have seen band sawers cut out a disk about 6 inches in diameter and 3/8 or 1/4 inch thick, of some slippery hard wood, such as N. C. pine or birch, run the disk half way into the saw and fasten to the table top, as indicated.

A SQUARE TRICK. I saw a new one last week —A cabinet maker using a steel square for a miter

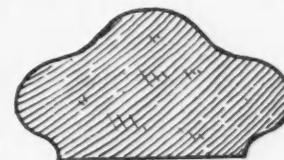


Steel Square Used as Miter Bevel

bevel, while putting together cabinet door trim. He had a fence piece clamped on at the 12 inch mark and on each arm. This is not new in a way, but I had never seen it applied in that way before.

A PECULIAR FIND. Sometime ago I had occasion to take down an old fashioned stair rail of the toad back pattern, at the starting newel. I could not get the rail bolt loose, so I took a hand saw and cut off the rail so that I could take it to the shop where it could be worked at much easier.

Well when one of the boys succeeded in getting the easement off, he found a note in the nut hole under the wood plug, neatly folded, which evidently had been there a long time, for it read:



Toad Back Rail

"After to-day I am not supposed to be alive, for tomorrow is my wedding day.

Yours truly,

"Oct. 15th, 1873.

Andrew C. Melville."

Say, I wonder what Andy thinks about it by this time?



Noon Hour Talks by the Boss Carpenter

Talk No. 4

THE BOSS TALKS ABOUT HORIZONTAL SHEAR IN BEAMS, WEIGHTS OF TIMBER, AND FLOOR LOADS

“NOW that the evenings are getting longer and as it is too cold to sit outdoors after supper, it seems to me that you fellows ought to liven up a bit in this work and get busy,” said the Boss to the Calculating Squad. “Get out your back numbers of the AMERICAN CARPENTER AND BUILDER and read over again the points that we have considered so far. Possibly some of the other men might like to come in with us now that they have the time to study a little. Here is a chance for you to learn something at home and not have to go out and leave the wife and youngsters in order to do it.

“Let’s see, we quit yesterday just as we were be-

the case of the pile of boards there was nothing except the friction between the individual boards which would tend to hold them together. As we said yesterday, this action whereby one fiber or part of a beam tries to slide along another fiber or part in a direction parallel to the length of the beam is called *horizontal shear*. We refer to the resistance to sliding which is set up among the fibers as the strength of the material against failure by horizontal shear. You can readily see that some materials of a fibrous nature, such as timber and wrought iron, will be weaker in this respect than would a material which had no natural internal cleavage surfaces.

“Books on mechanics prove to us by a mathematical demonstration that the value of the unit horizontal shearing stress, or tendency to slide, is greatest at the center of gravity of the cross-section of the beam, and is zero at the top and bottom surfaces. We will see by our discussion that in a simple beam the greatest unit horizontal shear for the whole beam will occur where the total shear, J , is the greatest. You remember that we found this value at one of the supports.

“If we have a rule, we want one which is good for all kinds of cross-sections so that we can apply it to a built-up beam as well as to an ordinary rectangular beam. Our other discussions have led to perfectly

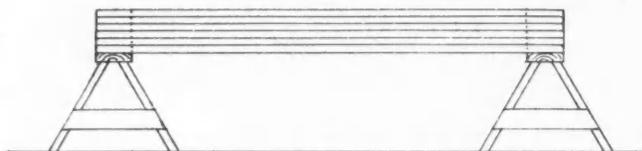


Fig. 6. Diagram Showing Location of Section Where Greatest Vertical Shear Occurs
Dotted Lines Mark Surfaces of Maximum Shear

ginning to talk about a second kind of shearing action in a beam. We had already referred to this quantity as *horizontal shear*.”

The Boss then walked over to a pile of 1-inch boards and began to pile one on top of another with the ends resting on two horses as shown in Fig. 6. As the boards were all of the same length, the ends of the pile were fairly straight and even as shown in the figure. By pushing downwards in the center of the pile, an effect similar to that shown in Fig. 6A was produced.

“You will notice,” said the Boss, “that each board tends to slide on the one above or below it when the pile is bent. Now suppose that we have a single timber of the same size as the entire pile of boards. If we placed the single stick on the horses and loaded it, the stick would bend downward in the middle, but the ends would remain square just as they were before bending. This is due to the fact that the fibers of the single stick hold together as the stick bends, while in

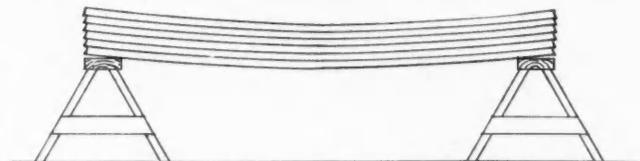


Fig. 6A. Illustration of Result Produced by Horizontal Shear
Note Saw-Tooth Effect at Ends of Boards

general formulas. The only thing that we need to be careful about is to use correct quantities in our general formulas.

“The rule for finding the greatest value of the unit horizontal shear in a beam of any shape of cross-section is as follows—(Formula No. 4) multiply the total shear at the support (J) by the area of that part

of the cross-section of the beam which lies either above or below a horizontal line drawn through the center of gravity of the whole cross-section, and then multiply this answer by the distance of the center of gravity of this upper or lower area which you have used, from the line through the center of gravity of the whole cross-section. Fig. 7 shows the location of these quantities for an ordinary beam for rectangular cross-section. Then divide this answer by the value of the moment of inertia (I) for the whole beam cross-section, and divide this answer again by the breadth or thickness of the beam material at the center of gravity of the whole cross-section.

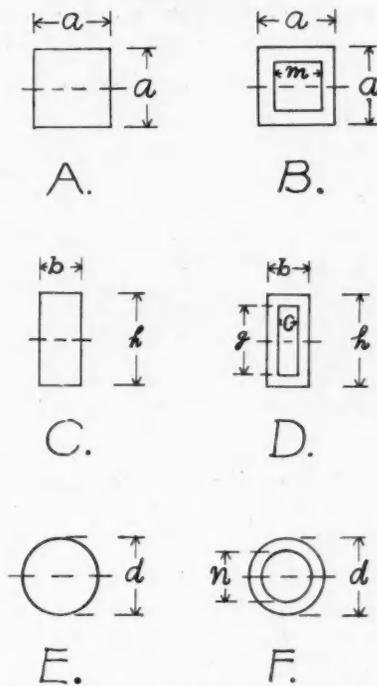


Fig. 8. Some of the Common Shapes of Cross Section Used in Construction

formulas are given. One of these sets of formulas will be for a line through the center of gravity of the whole section as shown in Fig. 7, and the other set may be given with reference to a line extending up and down through the middle of the section, and perpendicular to the one we have used.

"For instance," said the Boss, "these figures and formulas will be similar to those found in your hand book."

The Boss then constructed figures like those shown in Fig. 8, and wrote out the following table:

Values of I and e for Use with Common Structural Shapes Shown in Fig. 8

	A	B	C	D	E	F
I	$\frac{a^4}{12}$	$\frac{a^4 - m^4}{12}$	$\frac{bh^3}{12}$	$\frac{bh^3 - cg^3}{12}$	$\frac{d^4}{20}$	$\frac{d^4 - n^4}{20}$
e	$\frac{a}{2}$	$\frac{a}{2}$	$\frac{h}{2}$	$\frac{h}{2}$	$\frac{d}{2}$	$\frac{d}{2}$

He explained that these values of moment of inertia could be used in Formulas (1) and (2) as well as in the rule given above.

"As to the position of the center of gravity of each of these cross-sections," said the Boss, "you can see by inspection that it is in the middle of the section."

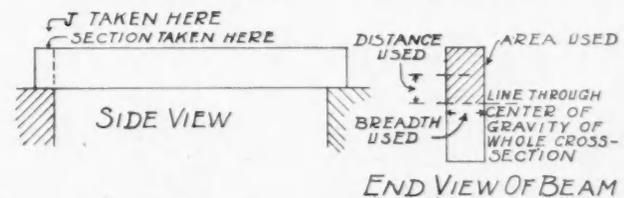


Fig. 7. Location of Quantities Used in Formula 4 for Rectangular Cross Section

The following table will give you values for the distance to the center of gravity of the part above the horizontal line shown in Fig. 7:"

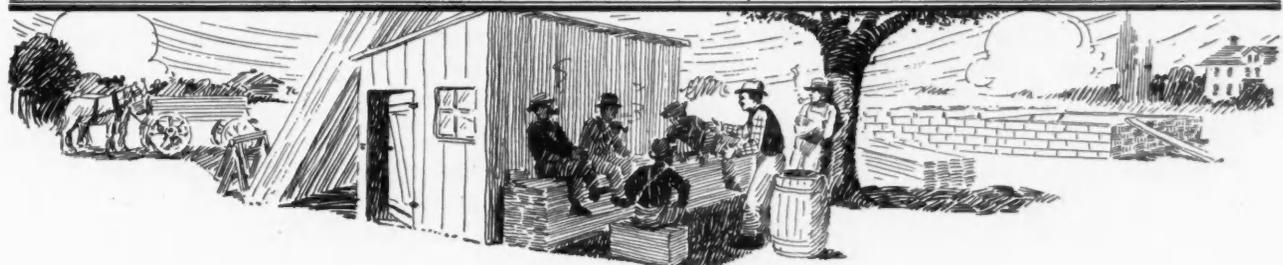
Distance of Center of Gravity of Part Above Horizontal Line from Center of Gravity of Whole Section

A	B	C	D	E	F
$\frac{a}{4}$	$\frac{a^2 + am + m^2}{4(a+m)}$	$\frac{h}{4}$	$\frac{bh^2 - cg^2}{4(bh - cg)}$	$\frac{1}{5}d$	$\frac{d^2 + dn + n^2}{5(d+n)}$

The Boss then made another table showing the values of area above the center of gravity of the whole cross-section and the breadth to use in each case.

Half Areas and Breadths for Use in Formula 4 for Determining Maximum Horizontal Shear

	A	B	C	D	E	F
Area above horizontal line	$\frac{a^2}{2}$	$\frac{a^2 - m^2}{2}$	$\frac{bh}{2}$	$\frac{bh - cg}{2}$	$\frac{11d^2}{28}$	$\frac{11(d^2 - n^2)}{28}$
Breadth of beam to use	a	(a-m)	b	(b-c)	d	(d-n)



After writing down these tables and seeing that the men understood how to insert the proper values in the general rule for unit horizontal shear which he had just given them, the Boss called attention to the weakening effects of season cracks which extend along the length of a beam. He showed them that cracks which run along the center of heavily loaded short, deep beams, especially when near ends of beam, may be the result of a shear failure rather than seasoning. At this point one of the men asked what the rule was which might aid in determining whether a beam was likely to fail by shear or by bending.

"Well," said the Boss, "it is commonly considered that, where 1000 pounds per square inch is used as the working bending strength of the timber, and 100 pounds per square inch as the working shearing strength, the rectangular beam will fail by horizontal shear if the depth required to hold the load is equal to 1/10 of the length of the beam. Where the length of the beam is greater than 10 times the depth, with good material, a bending failure or too great a deflection should be looked after. This is for a *uniformly loaded beam only*. Formulas (1) and (2) which we used on previous days would then govern the design of the beam."

"How are we going to judge as to what load a certain floor should stand in order that we may know how to find out what load to figure for our beam in any problem?" asked one of the men.

The Boss then wrote down a list of ordinary buildings and gave an average floor load which might be used in each kind.

Average Floor Loads to be Used in Calculations

Residences	40 pounds per sq. ft.
School rooms	50 pounds per sq. ft.
Offices (upper stories)	60 pounds per sq. ft.
Offices (first story)	80 pounds per sq. ft.
Stables and carriage houses.....	65 pounds per sq. ft.
Banks, churches, and theatres.....	80 pounds per sq. ft.
Assembly halls and corridors of public buildings	120 pounds per sq. ft.
Drill halls	150 pounds per sq. ft.
Stores and light storage.....	120 pounds per sq. ft.

"If you want to know how much of this load will be made up of the weight of the material in the floor itself, figure up the weight of the timber and flooring in a given section of floor and divide this weight by the area of the section. For instance, take the area of floor supported by *one* joist. Find the number of board feet of lumber in the section of floor and joist, and multiply this answer by the weight of 1 board foot of the material. Divide this result by the floor area supported by 1 joist. By subtracting your result from the uniformly distributed load which you used, you will have the load which may be figured to come upon the floor. I will tell you next time about dead, live, and suddenly applied loads and their effects.

"It may be well for you to know the weights of various kinds of timber for use in the future:

Average Weights of Timber

Chestnut	41 lbs. per cu. ft.
Hemlock	25 lbs. per cu. ft.
Hickory	53 lbs. per cu. ft.
Maple	49 lbs. per cu. ft.
Oak	32 to 45 lbs. per cu. ft.
Pine, white	25 lbs. per cu. ft.
Pine, yellow, Northern	34 lbs. per cu. ft.
Pine, yellow, Southern	45 lbs. per cu. ft.
Spruce	25 lbs. per cu. ft.

"To find the weight of a board foot of these materials, divide the weight given by 12."



Oscar Wenderoth Successor to James Knox Taylor

The appointment of Oscar Wenderoth, of New York, as supervising architect, Treasury Department, to succeed James Knox Taylor, who recently resigned, was, it is stated, purely non-political.

Mr. Wenderoth was educated in the public schools of Philadelphia. In 1897 he received an appointment as a junior draughtsman in the office of the supervising architect, Treasury Department. In 1899 he was designated as superintendent of construction on the new Philadelphia mint.

In 1909 he became connected with the office of Carrere & Hastings, of New York, where he was still engaged at the time of his appointment.



Costly Government Buildings

It has long been asserted by those familiar with the subject that government methods of designing and constructing public buildings are unbusinesslike and extravagant. The charge is renewed with details in the report recently made by the House committee on expenditures in public buildings.

In the last ten years 721 buildings have been erected by the federal government and there are now pending bills for 750 more to cost some \$70,000,000. As the committee says, members of Congress should be less zealous to get buildings in small towns, where rented quarters would serve every need at less expense. Since separate plans for each building are costly the committee recommends standardization of plans. Within certain limits this ought to be possible and economical.

Though the committee condemns the practice of employing outside architects, this should have little bearing on real economy. If such architects are employed they should be selected by competition and their employment should cut down the cost of the permanently employed force. The outside architects have improved government architecture. That the office of the supervising architect of the treasury costs \$3,000,000 a year and has no definite policy is, as the committee says, a condition calling for reform.

MODEST AMERICAN HOMES



An Attractive Five Room Bungalow

THE ARCHITECT'S PERSPECTIVE, FLOOR PLAN AND ELEVATIONS OF A THOROUGHLY PRACTICAL LITTLE HOME

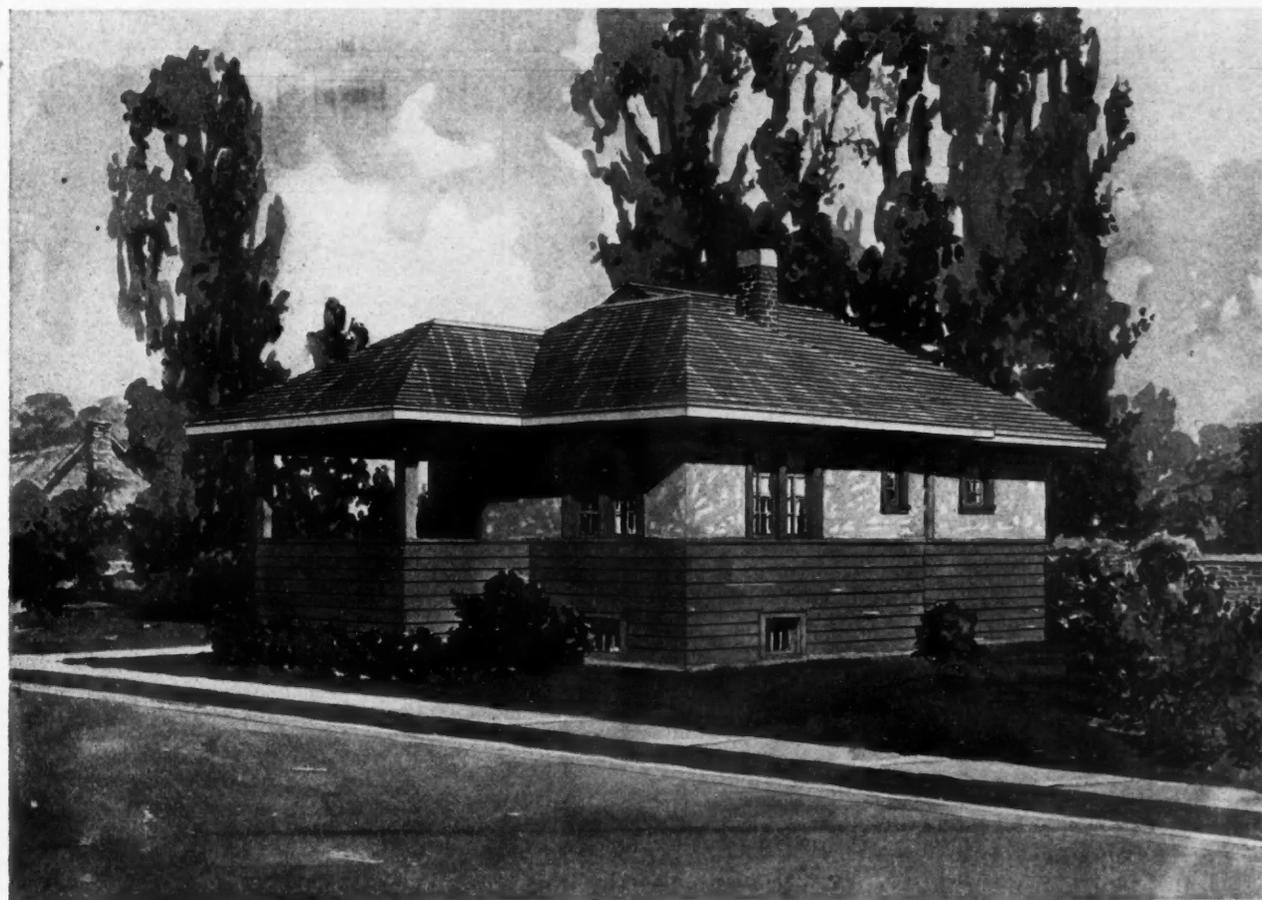
PARTICULARLY attractive to the prospective small bungalow or cottage owner, should be this homey bungalow illustrated here. It represents in every particular the practical, convenient, comfortable arrangement so much desired in every home, whether large or small.

This bungalow was constructed for Mr. E. R. Puffer at Riverside, Ill. As reference to the floor plan will show, it is a five room affair.

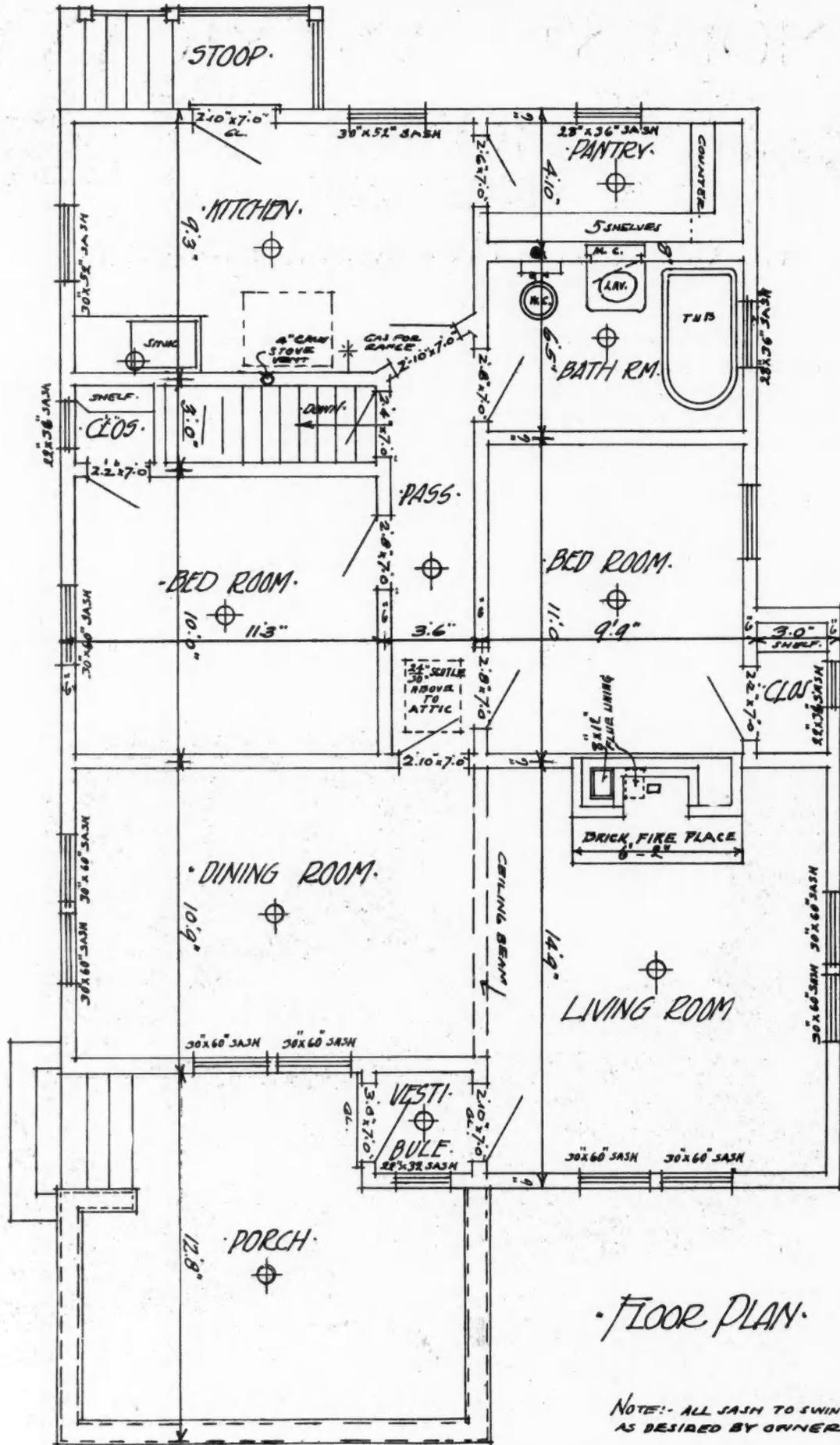
Entrance is had from a comfortable size porch to vestibule. This latter is off a good size living room having brick fire place at further end. This room has ample window provisions. To the left of the

living room is a fairly large dining room. Leading from the dining room to kitchen is a rear hall, off of which the two bedrooms and bathroom open, also stairs to basement. Both bedrooms have good closet space and light, and the kitchen is provided with every convenience and ample pantry and shelving room.

On the outside this bungalow is finished in rough board siding and stucco, with a shingle roof. The rough board siding is 10 inches in width, $\frac{7}{8}$ of an inch thick, is not beveled and is laid 8 inches to weather. The stucco finish could be coated with a cream colored waterproofing paint. With the rough siding stained dark brown, and the shingles stained, either a dark green or brown, a most pleasing effect can be gained.



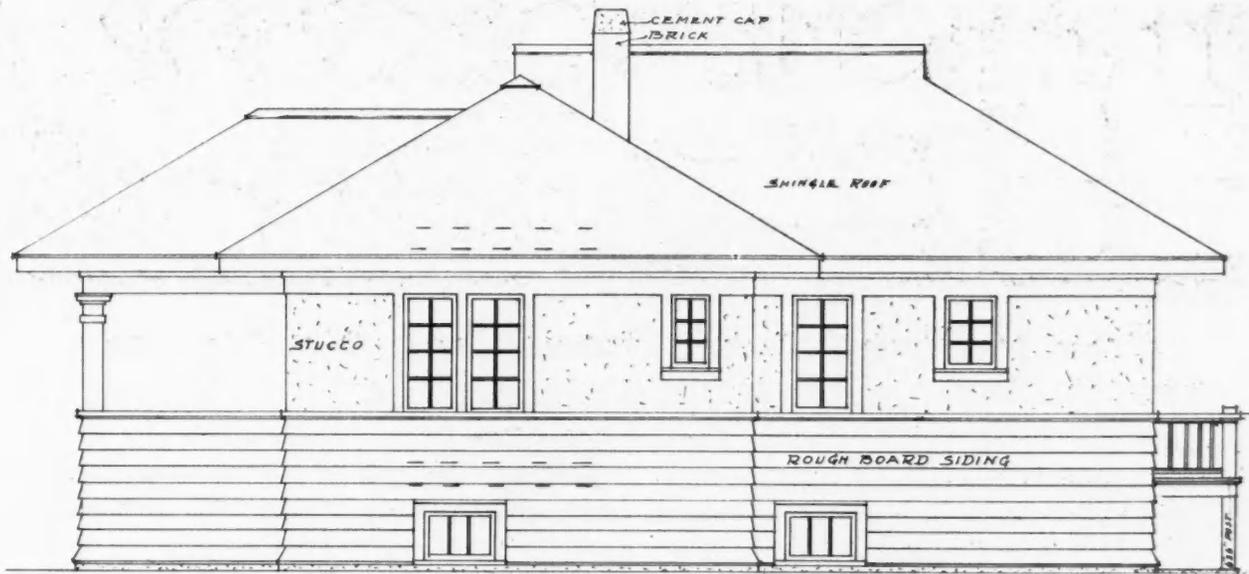
5-Room Bungalow of Pleasing Appearance—Designed for Mr. E. R. Puffer, Riverside, Ill.
WORKING DRAWINGS FOR THIS HOUSE ARE PRESENTED ON THE 2 PAGES FOLLOWING



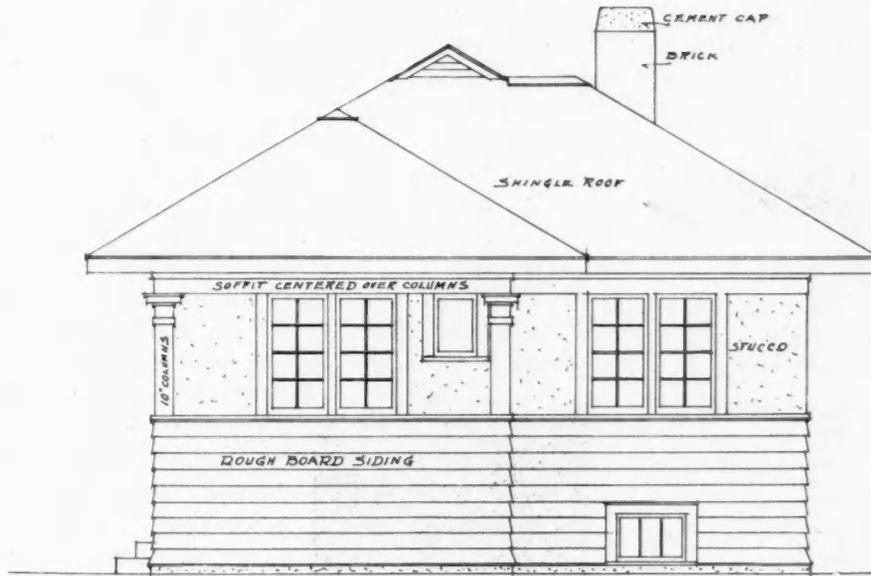
FLOOR PLAN.

NOTE: - ALL SASH TO SWING AS DESIRED BY OWNER.

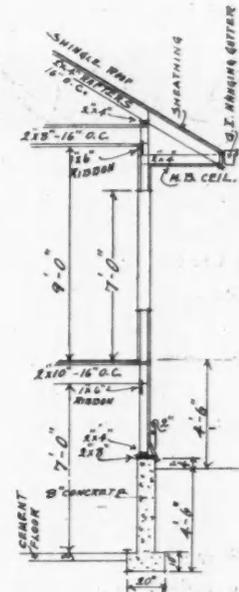
MAIN FLOOR PLAN OF BUNGALOW ON PAGE 75



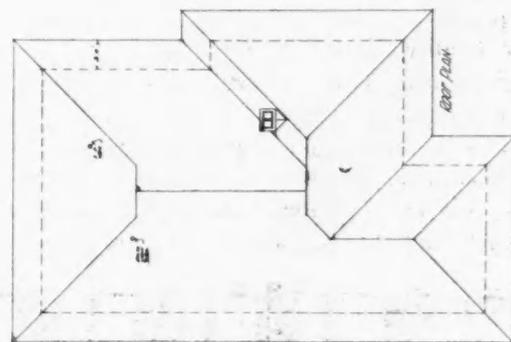
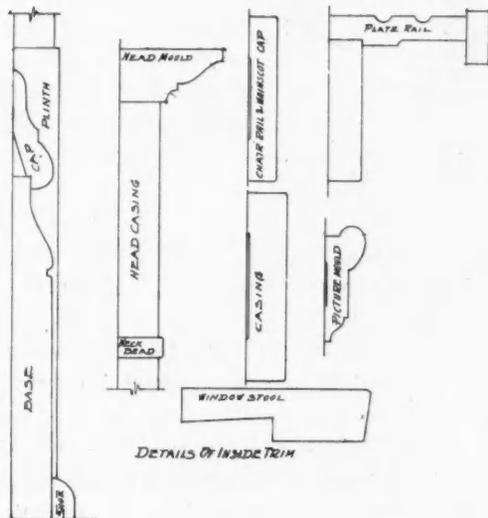
SIDE ELEVATION



FRONT ELEVATION



SECTION



ROOF PLAN

WORKING DRAWINGS OF BUNGALOW ON PAGE 75



How to Make Some Small Salable Pieces

DIRECTIONS FOR MAKING SEVERAL STYLES OF TABLE BOOK RACKS, ALSO JARDINIER OR PLANT STANDS—IDEAL HAND MADE CHRISTMAS GIFTS

By Ira S. Griffith

THIS month are shown pictures of manual training projects which have proven satisfactory.

The book racks and the three legged taborets were designed and constructed by boys of the Cleveland Industrial School. The square taboret was designed and constructed by J. R. Freeman, Tracey, Minnesota.

In manual training schools where large numbers of boys must be instructed it is not found possible to give individual instruction. Class instruction is the method



Four Table Book Racks Easily Made

used in presenting new principles. There are two ways of giving this instruction—one, to have every boy make exactly the same model in exactly the same way. The pupil has nothing to do with the designing of the problem, the instructor does that, or has it done. A second method is to give the class a project which will involve certain tool processes and joints, thus permitting the instructor to give class instruction in these as before, but allowing the boys to modify the forms of the parts. The three legged taborets and the book racks show what happens when this method of teaching is well done. Each taboret has in it the thought of its builder as evidenced by the variations in the structural and decorative design.

This second method requires more teaching and better teaching but the added interest which the boys take in their work and the reactions resulting from their giving some thought to the design of their problem amply repay the added effort on the teacher's part.

No working drawings are given for the book racks. Their construction is so simple that anyone can readily make up his own. The pictures suggest various ways of working out this problem. The ends of the base



Five Ornated 3-Leg Taborets

should be housed into the verticals so as to make a neat and strong piece of work. Glue and flat head screws are used as fastenings, except in the one with the wooden keys or wedges. These screw heads are to be let in below the surface and covered with wood buttons with projecting ends rounded.

An examination of the picture of the three legged taborets will show several variations in tops and shelves as well as in the shape of the legs, and in the pierced ornamentation. The working drawing is for a blank form which is to be modified according to one's own notions. The following stock will be sufficient for any of the shapes shown in the picture:

STOCK BILL FOR THREE LEGGED TABORET

Top, 1 piece, $\frac{3}{4}$ by $13\frac{1}{2}$ by $13\frac{1}{2}$ inches, S-2-S.

Shelf, 1 piece, $\frac{3}{4}$ by $13\frac{1}{2}$ by $13\frac{1}{2}$ inches, S-2-S.

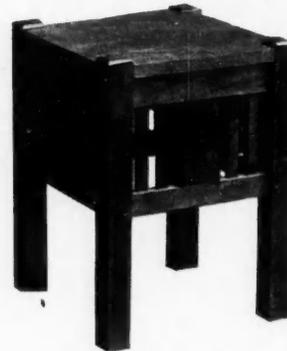
Legs, 3 pieces, $\frac{3}{4}$ by $4\frac{1}{4}$ by $19\frac{1}{2}$ inches, S-2-S.

Since the stock is specified surfaced on two sides, only well seasoned stock should be used otherwise the warpage might cause trouble. Any furniture wood will be suitable, such as quartered oak, walnut, etc.

There is nothing unusual in the construction—any manual training boy will understand it. The shelf and top are both let into the legs to a depth of one-quarter inch each. The legs are shaped and the ornamentation laid out and cut after which they are fastened to the top and shelf by means of flat head screws whose tops are placed below the surface enough to permit their being covered with wooden plugs as in the book racks just described.

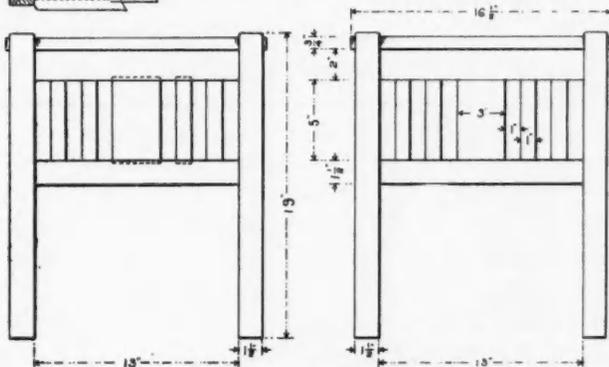
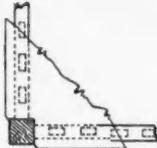
A suitable finish for this taboret and the book rack, if made of oak or other coarse grained wood, is obtained as follows:

Thoroughly sandpaper all the parts. This can best be done before the parts are fastened together. Apply a stain of a color somewhat lighter than is wanted for the final effect. Allow this to stand until dry then



Square Taboret

smooth with number 00 paper. Upon this apply another coat of the same stain diluted this time by the addition of an equal volume of solvent. Sand lightly when dry and apply a very thin coat of shellac. This shellac is to keep the stain of the filler which follows from discoloring the highlights. Sandpaper the shellac lightly then apply a coat of paste filler colored darker than the stain just applied. Work it into the pores with a stiff bristled brush and, when it has flattened—that is, when the gloss has disappeared, clean off the surplus with excelsior then polish with old cloths. The time required for filler to flat varies according to the relative proportions of the constituent elements—five to ten minutes is not unusual.



SQUARE TABORET.

Allow the filler to stand over night then apply a coat of shellac. Successively apply two coats of some good rubbing varnish. Rub the first coats with curled hair and the last with powdered pumice stone and crude or raw linseed oil.

The resulting finish is one which will wear well and will maintain a good body appearance not found in the simpler finishes so common in manual training work.

The square taboret was designed for a low window. Every piece of furniture designed ought to take into account the place in the house it is to occupy. If the height given does not meet the situation in which the proposed taboret is to be placed, it should be changed of course.

The taboret shown was made of black walnut. The following stock is needed:

STOCK BILL FOR SQUARE TABORET

- Top, 1 piece, $\frac{3}{4}$ by 17 by 17 inches, S-2-S.
- Posts, 4 pieces, $1\frac{1}{2}$ by $1\frac{1}{2}$ by $19\frac{1}{2}$ inches, S-4-S.
- Rails, 4 pieces, $\frac{3}{4}$ by $2\frac{1}{4}$ by 16 inches, S-2-S.
- Rails, 4 pieces, $\frac{3}{4}$ by $1\frac{3}{4}$ by 16 inches, S-2-S.
- Slats, 4 pieces, $\frac{3}{8}$ by $3\frac{3}{4}$ by 6 inches, S-2-S.
- Slats, 16 pieces, $\frac{3}{8}$ by $1\frac{1}{4}$ by 6 inches, S-2-S.

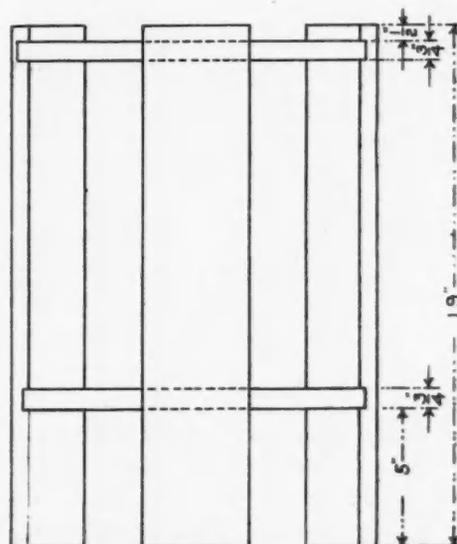
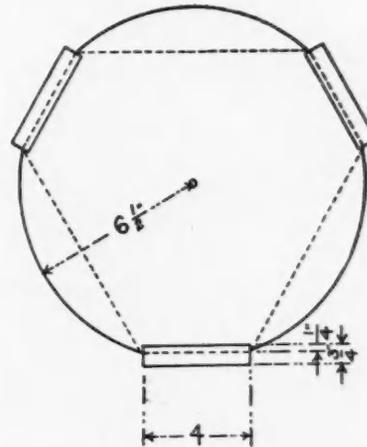
If the posts are got surfaced on four sides as specified, all that it is necessary to do with them is to cut them to correct length, chamfer the ends slightly, both top and bottom, and lay out and cut the mortises. The millmarks must, of course, be removed before the finish is applied. Some workmen prefer to scrape these off before assembling the parts; others prefer to allow

them to remain until all the woodwork has been assembled. Undoubtedly considerable time may often be saved by doing certain parts of the scraping before the parts are assembled.

In placing the slats, do not shoulder the ends but plan to house them. A quarter of an inch will be deep enough. Glue up to opposite sides of the taboret taking pains to see that the rails make right angles with the surfaces of the posts and that the frame is out of wind.

When the glue on these parts has hardened the clamps may be removed and the other rails and slats inserted and clamped.

For a finish, apply a coat of boiled linseed oil—this to bring out the color. After this has dried, sand lightly and apply a coat of thin shellac. Sand this lightly then apply successively several coats of black polishing wax. A wax finish is easily spoiled by water. It might be better to follow the shellac by several coats of varnish as was described by the finish of the pieces just preceding.



BLANK MODEL FOR TABORET WITH THREE LEGS.



Practical House Painting—Inside Work

Third Paper

INSIDE PAINTING—METHODS OF MIXING AND APPLICATION—GLOSS AND FLAT COATS—COLD WATER PAINTS

By R. H. Forgrave

IN commencing this article, I want to bring to the attention of the reader an important feature of all kinds of painting and varnishing, gloss and flat coats should always alternate. That is, when one coat is flat, or without gloss, the next coat should be a gloss coat, and vice versa. This is particularly true of enamels, varnishes and all paints that have a high gloss. A gloss coat always gives the best result when applied over a flat surface. This is the reason why carriage painters and wood finishers always rub the gloss out of a coat of varnish before applying another. An experienced carriage painter would be discharged if he put on two coats of varnish without first rubbing the gloss out of the first coat. He would not do it, that's all; yet it is often done by house painters. It may be argued that the house painter cannot do this on account of having so much surface to contend with. Instead of rubbing out the gloss, he can mix the paint so the coats will alternate gloss and flat; and if he is finishing with varnish he must rub out the gloss or finish with one coat, if he wants the best work.

There is some difference between exterior and interior painting, in so much as the former should always be left in the gloss, while the latter may be either gloss or flat. I will distinguish between oil and enamel paints by including enamels under the head of varnish finishes.

Inside finishing may be done with two coats of oil paint if fixed right, however I would advise using three coats. The job will be better in every way.

Mixing Paints for Inside Work

Oil paint for inside painting is mixed in the same proportion for priming as outside, except that turpentine instead of oil should be used for thinner. Never use more than a pint of turpentine to a gallon of oil paint under any conditions. Less is preferable. Mix the priming coat of such consistency as to cover the small grain of the wood so it cannot be seen. The larger grain should be slightly visible when well brushed out. The second coat should be mixed of about the same consistency as the priming. If the last coat is to be gloss, the second coat should be flat or rather what is known as an egg shell gloss,

which is as near as can be gotten with oil without using an excess of turpentine. On the other hand, when the last coat is to be flat, without the least gloss, it will be necessary to mix bees-wax in it. The wax is melted, and stirred up rather thin in turpentine, about $\frac{1}{4}$ of a pound of wax to a pint of turpentine. Then to get it to mix well with the oil, a little oil must be added gradually as it is stirred until a sufficiency. Add this in the proportion of about a pint to a gallon of paint. Because there are so many good flat paints on the market, I would advise the prepared article. The painter will find them better than he can mix.

Signs of Skill

As to the method of application, all I can do is to advise the reader to brush it out well. Leave no fat edges, avoid brush marks and thick places; leave no holidays, not one as large as a pin-head, thinking that the next coat will catch them. It is important that enough paint is mixed to do a coat of the same consistency, so as to get every part of the coat of the same thickness.

Dexterity in handling the brush can be acquired only by practice. The excess paint on the brush, after dipping, should never be wiped off by drawing the brush over the edge of the bucket; instead, take all the paint the brush will carry, so as not to run off after it is tapped against the inside of the bucket to remove the excess paint. Do not acquire the habit of excessive dipping. Begin the lap by dabbing it along the board. Then draw backwards and forward through the paint, and, as the brush becomes dry, the paint will work out level and of the same thickness. Avoid leaving any more laps than possible. A few, however, are unavoidable. They should be worked out so as to show the least. To do this, brush out the paint where you leave off as thin as possible, so when you begin the next lap the paint at that point will not be any thicker than the balance. Where the paint overlaps will show but little if you are careful in brushing. A coat of paint, vividly showing a large number of laps is always an indication of a coat of paint of uneven thickness.

To Paint Windows and Doors

In painting a window, the upper sash should be painted first. Be sure to paint the inside of the bottom part of the upper sash by drawing it down below the lower so you can do so. Then paint the upper part of the casing as far down as the upper sash reaches. Put the upper sash in its proper place, and paint the lower sash. Run it up out of the way and paint the remainder of the casing. Use what is known as a sash tool for painting the sash. This, of course, is when the sash is not removed. In new work, if the weather will admit, it is advisable to remove the sash to paint them. At least, they should be removed to prime them.

In painting a door the edges should be painted the same color as the outside casing. If the door is in two colors, do the panels first, then the stiles. Do not allow an excess of paint to remain in the hollow of the moulding at the bottom of the panels.

I have touched very little on the mixing of the paint and the arrangement of the colors. In view of prevailing conditions, this seems unnecessary. I could go on interminably, describing the different mixtures and innumerable schemes. Enough is to say that white lead, with about 15 per cent of zinc white with linseed oil and turpentine and Japan drier, is the basis of all good oil paint. Some of the mixed paint people are said to add extenders in order to cheapen them, such as barytes, whiting, etc., and to use an emulsion instead of pure oil, which is made by mixing strong alkali water with linseed oil. Sal-soda is the alkali generally used for this purpose. Benzine is the thinner generally used in mixing paint. There are very few mixed paints that do not smell of benzine. If the reader desires to mix his own tints he may get a card showing the different proportions in which to mix the primary colors, which are only three in number: yellow, red and blue. All the tints are made with these colors. They are darkened or lightened with black and white. A card comprising forty or fifty different tints will be sufficient for all ordinary needs.

Water Paints

The so-called washable water paints are an improvement on the old fashioned calcimine or distemper colors. They are all made under the same patent, but sail under different names, such as, calcimo, duresco, muresco, onresco, alabastine, etc. They are all nearly alike. The old style kalsomine required lots of trouble to get it ready, and they were not noted for their durability. The patent article is an improvement over the old style, in as much as it may be mixed with cold water, and is washable to a certain extent. They will not stand washing with soap and water like oil paint, but may be cleaned with a damp rag or sponge. They are superior to oil paint for plastered walls, but are unfit to paint wood. In the hands of competent men some handsome work is possible of being done with them.

The most artistic decorative effects may be gotten with these prepared water paints. We shall allude only to the practical part of the work, as the makers furnish a variety of color schemes, arranged in sets to suit the tastes of the user.

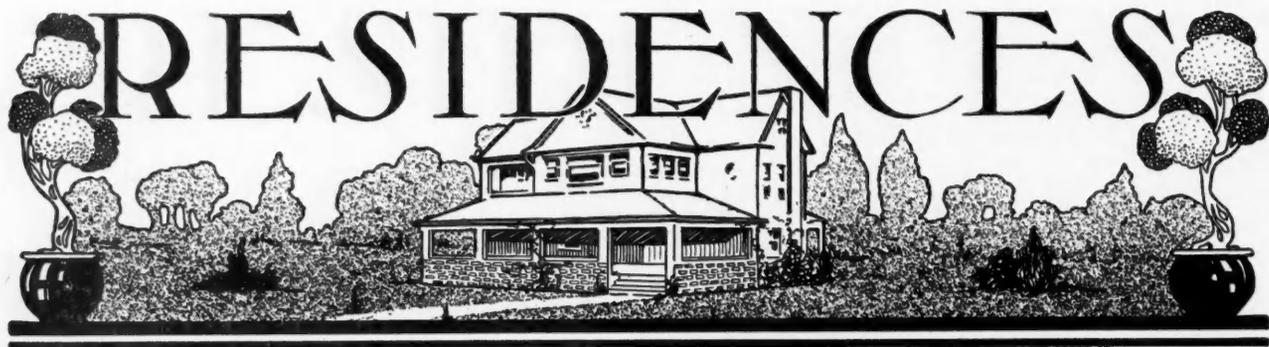
Preparing the Walls for Tinting

To prepare the walls to be finished with water colors; knock off all loose plaster, and patch the large places with mortar. The smaller places may be filled with plaster of Paris. It is better than plaster for small holes and cracks. Be sure to stop every little hole and crack. Cracks are liable to show through the finish if not well filled. The smallest cracks may be filled with the water color which should be mixed to the consistency of putty. If the stuff does not go into the cracks properly, take a heavy knife and cut them out in V shape, when they may be easily and securely filled. Really this is the proper way to fix cracks. Trim off, and sandpaper all rough places. Very coarse sandpaper is the best. In fixing a very rough wall, a piece of sand stone may be profitably used. A rasp set in a block of wood for a handhold is good, and a piece of tin punched full of holes close together, so as to give the roughest surface, and backed to a board is the best for large and very rough places as it cuts very rapidly. Some people object to using plaster of Paris because it sets so quickly as not to give time to do the work properly. To prevent it doing so add a little vinegar to the water with which you mix it. The greater the quantity of vinegar the slower the plaster will set. The quantity of vinegar may be gauged to suit the convenience. The plaster will eventually dry as when water alone is used.

Importance of Sizing

Never attempt to finish a wall with water paint, without it is well sized. This is of the utmost importance. There are several different sizes recommended. Each painter has his particular favorite among which the best are, linseed oil, linseed oil paint, varnish, shellac, wood filler, glue size and gloss oil. Of course there is nothing better than varnish or oil paint, for all purposes. Considering its cheapness, durability, and ease of application, there is nothing to compare with gloss oil. Use one coat, or more, but be sure that all liability of suction is removed before the water color is applied, which may be done in one coat if the sizing is properly done, which it should always be.

After selecting the tints—they always come in selected tints—mix them according to the direction on the package to about the consistency of oil paint, and allow them to stand over night, at least for several hours before using. Many makers value the fact of the claim that they may be mixed with cold water, when they are ready for immediate use. However, they work better, are less likely to be lumpy when mixed with warm (not hot) water.



Plans for Up-to-Date Stucco House

ARCHITECT'S PERSPECTIVE AND COMPLETE WORKING DRAWINGS OF A PLEASING AND ECONOMICALLY CONSTRUCTED HOUSE

WHILE the high cost of living, and of everything else for that matter, is being so very generally acclaimed, it seems rather inconsistent to the times to learn that this most attractive and goodly sized home was built at Western Springs, Ill., for Mr. E. C. Patterson, vice-president and general manager of Collier's Weekly, at a cost of but \$3,500. This included also the hot water heating plant.

This square type residence represents the use of every inch of space, in a practical, pleasing manner.

It is a dwelling which will undoubtedly appeal to the family desiring a thoroughly modern, comfortable and at the same time moderate cost place.

Upon each side of the front entrance porch have been placed convenient built-in seats. Entrance is direct into living room, which is quite large and has front bay window. Stairs leading to second floor rise from the right front corner of this room. Dining room opens to rear and from side of living room fireplace. A living porch is directly accessible from



7-Room Stucco House Designed for Mr. E. C. Patterson and Built at Western Springs, Ill., for Only \$3,500
COMPLETE WORKING DRAWINGS FOR THIS HOUSE ARE PRESENTED ON THE 5 PAGES FOLLOWING

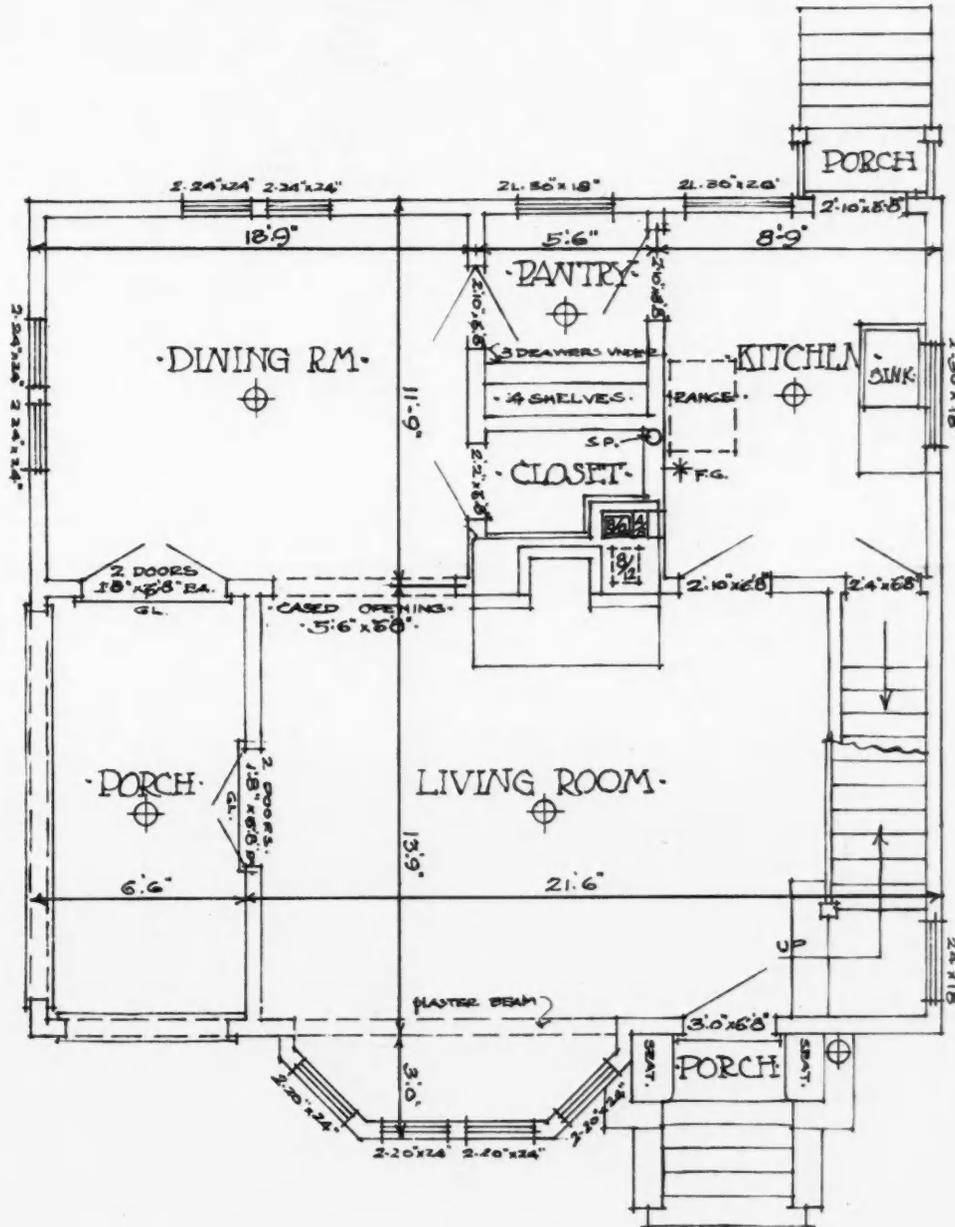
both living and dining rooms. This arrangement serves a double purpose in that the porch can be used as an outside dining room when desired, as well as affording general living porch comfort.

To rear of living room, and connected with dining room through pantry, is the kitchen. The pantry has both drawer and shelving space; and a large closet

of interior trim used. The outside finish adopted is stucco for first story, while siding is used above; and the roof is shingle.

The stucco is of course waterproofed, and coated a color to harmoniously blend with the staining and painting of both siding and shingles.

The house is wired throughout and each room has



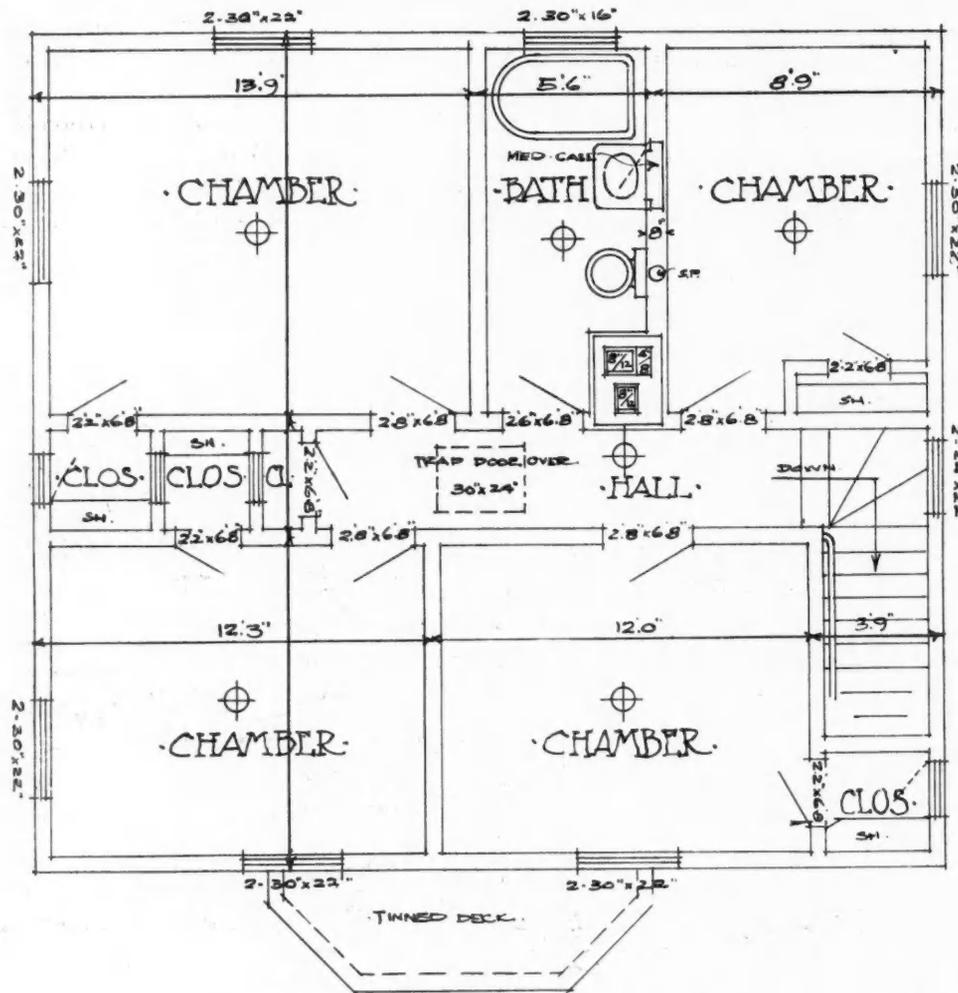
FIRST FLOOR PLAN, HOUSE SHOWN ON PAGE 82

off of dining room further provides the so necessary and convenient ample closet room.

Upstairs are three bedrooms, a bathroom and connecting hall. Each bedroom has closet space.

Reference to the sheet of details will show the style

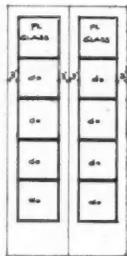
one or more electric light fixtures, those of the living and dining rooms being controlled from sidewall switches. The basement, besides including both heating and laundry equipment, has space which can be devoted to storage purposes.



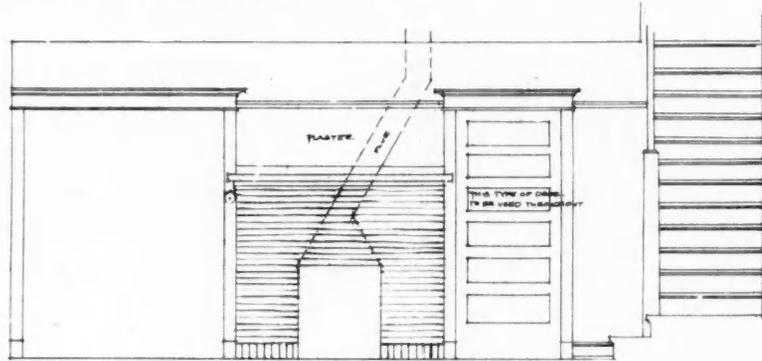
SECOND FLOOR PLAN



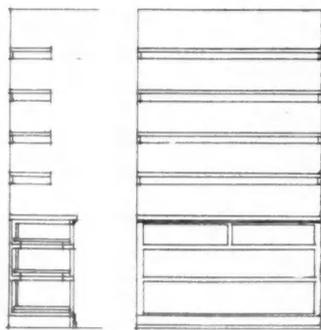
MED. CASE



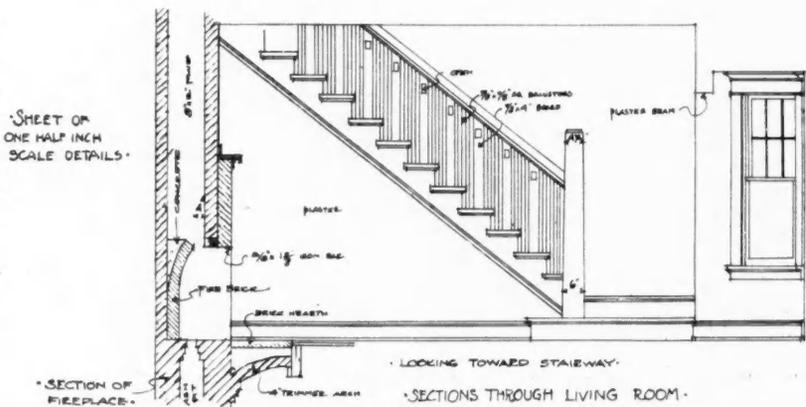
FRENCH DOORS



LOOKING TOWARD FIREPLACE



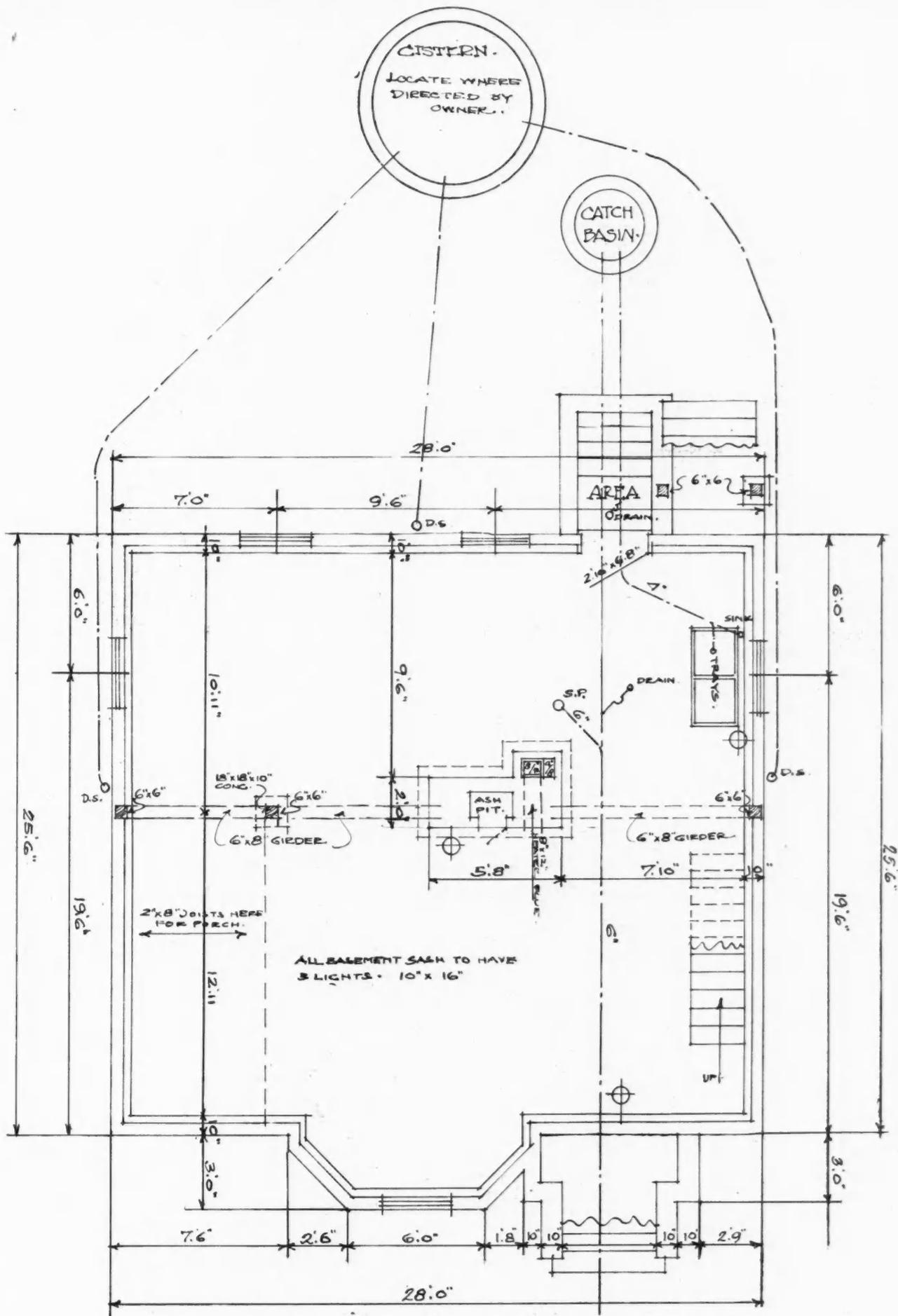
PANTRY SHELVES AND DRAWERS



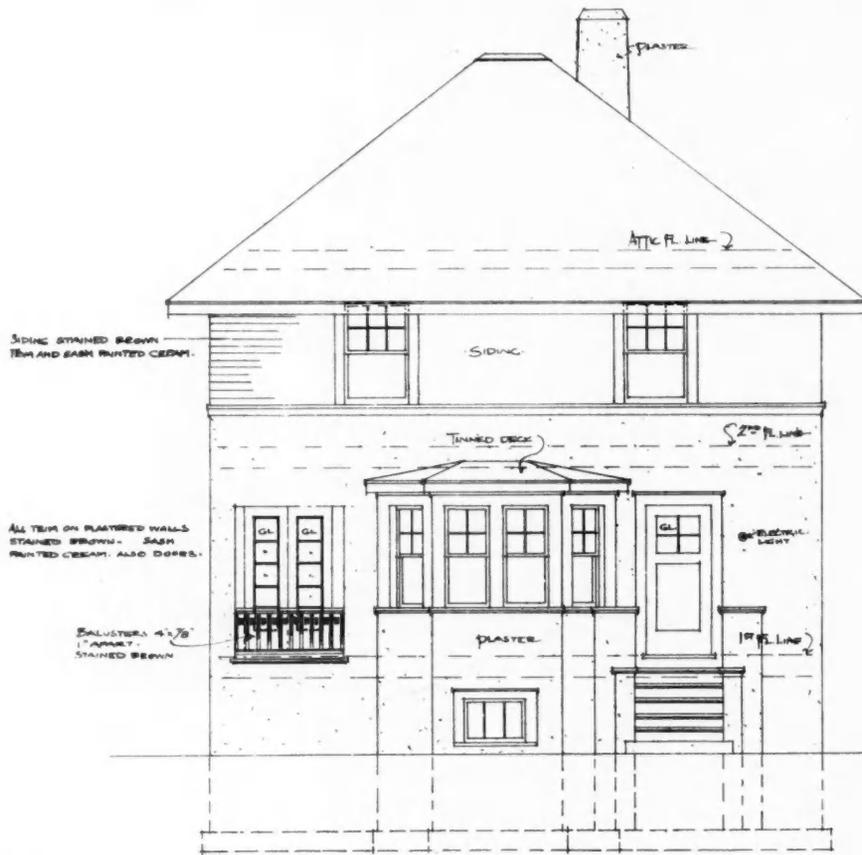
SECTION OF FIREPLACE

LOOKING TOWARD STAIRWAY

SECTIONS THROUGH LIVING ROOM

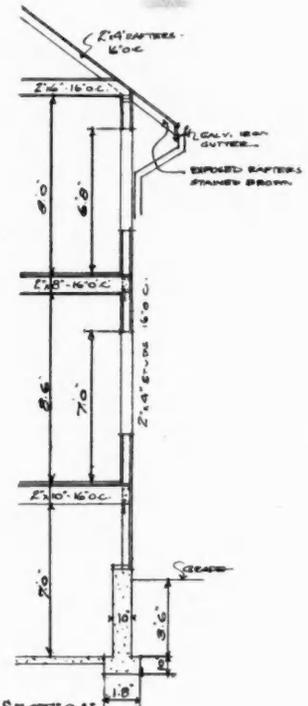


BASEMENT PLAN OF HOUSE ON PAGE 82



• DWELLING TO BE ERECTED AT •
• WESTERN SPRINGS • ILL •

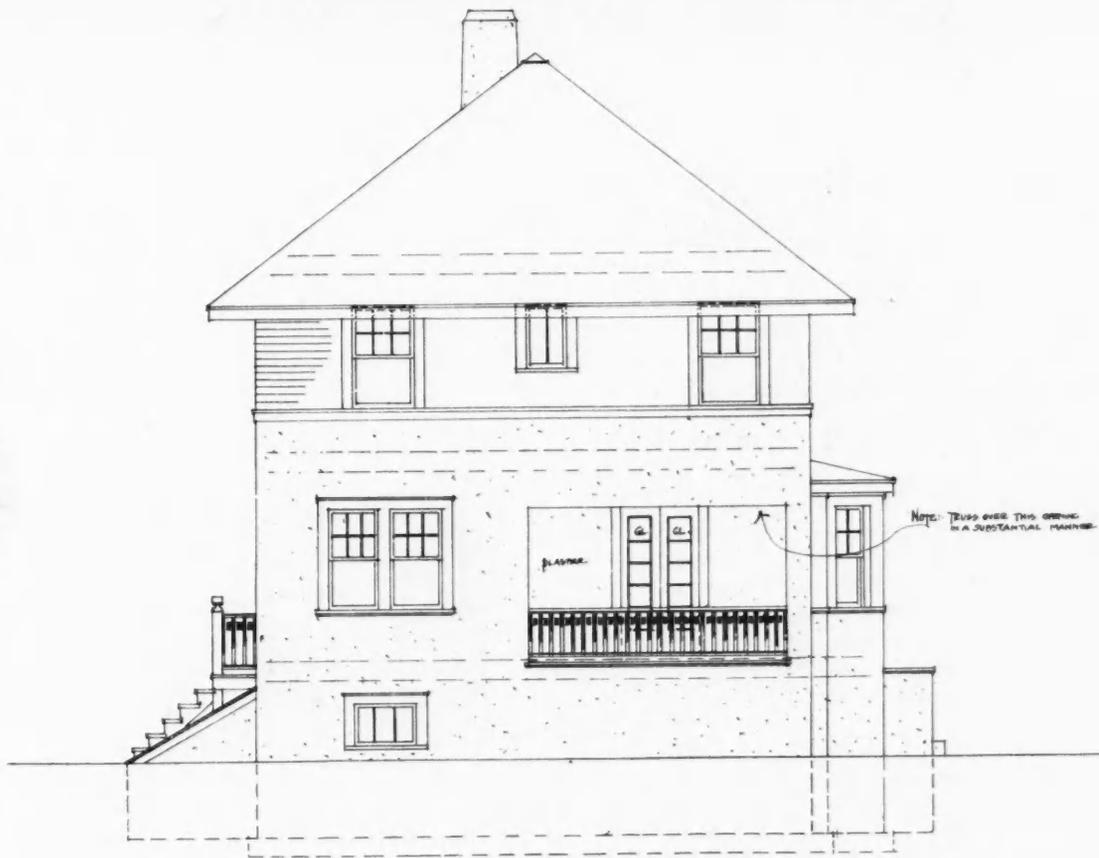
• FRONT ELEVATION •



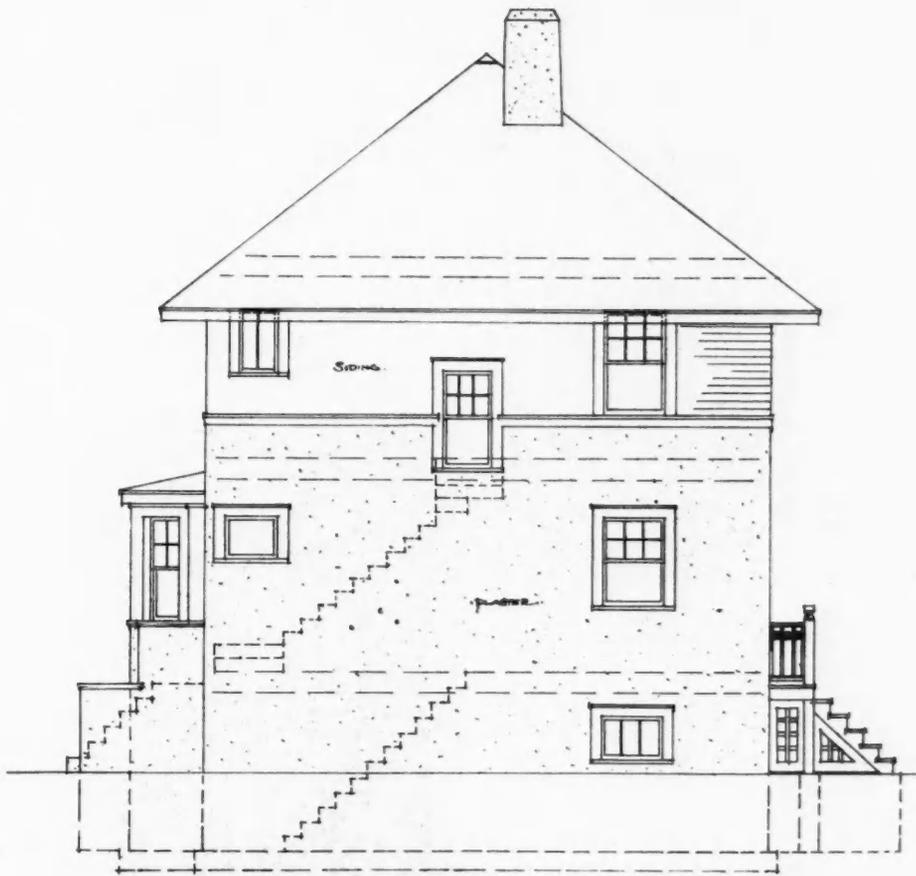
• SECTION •



REAR ELEVATION OF HOUSE ON PAGE 82



LEFT SIDE ELEVATION



RIGHT SIDE ELEVATION OF HOUSE ON PAGE 82

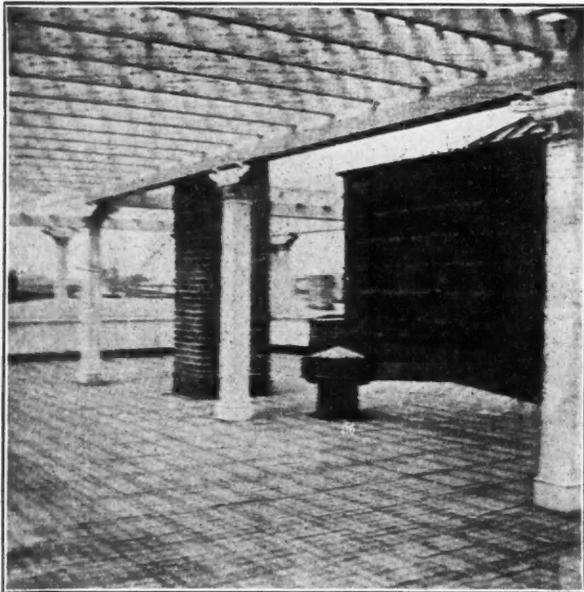


Inlaid Slate for Flat Roofs

The whole idea now is to live outdoors as much as possible. We have living porches and sleeping porches and balconies where the fresh air and sunshine can be enjoyed; and now roof gardens are the thing. The school authorities in the cities have lately discovered that their buildings have roofs—flat roofs too, ideally suited for fixing up and using. The classes of children, having a tendency to consumption, assemble on the school house roof for study and play. In Chicago, at least, that is the program, and it holds good the year around.

Many apartment building owners are also discovering their roofs. They find that with very little outlay they can make them into attractive roof gardens—and so dare again to boost the rent.

To meet the demand for a roof material suitable for this new use, there has been developed what is known as inlaid



A Pergola on an Inlaid Slate Roof
This cut shows an Inlaid Slate Roof Being Used for a Roof Garden on an Apartment House in Wilkes-Barre, Pa.

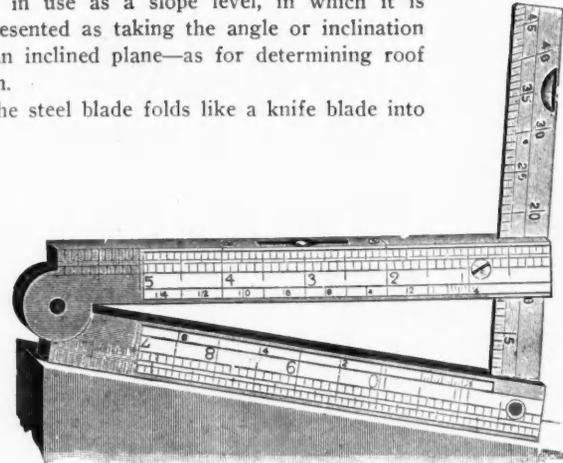
slate, genuine roofing slate sawed into small 3 by 6 inch tiles and mounted on a backing of roofing felt covered with a layer of high melting asphalt. Five of the small slate tiles are mounted together, making the unit 6 by 15 inches.

Builders will easily see that a roof of this kind offers many advantages in the way of cleanliness and durability. The cost is said to be very reasonable. For flat or semi-flat roofs (up to 4½-inch pitch) and for balcony and porch flooring, this material is certain to grow in popularity and use.

A Tool of Many Uses

The inventive genius of American rule manufacturers is well illustrated in this combination rule. When folded it is 6 inches long, 1¾ inches wide and ⅜ of an inch thick, and weighs the same as an ordinary broad-bound rule; yet it combines within itself a carpenter's rule, spirit level, square, plumb, bevel, inclinometer or slope level, brace scale, drafting scale, T-square, protractor, right-angled triangle, and numerous other important implements. The illustration shows the rule in use as a slope level, in which it is represented as taking the angle or inclination of an inclined plane—as for determining roof pitch.

The steel blade folds like a knife blade into



Ingenious Rule Being Used as a Slope Level

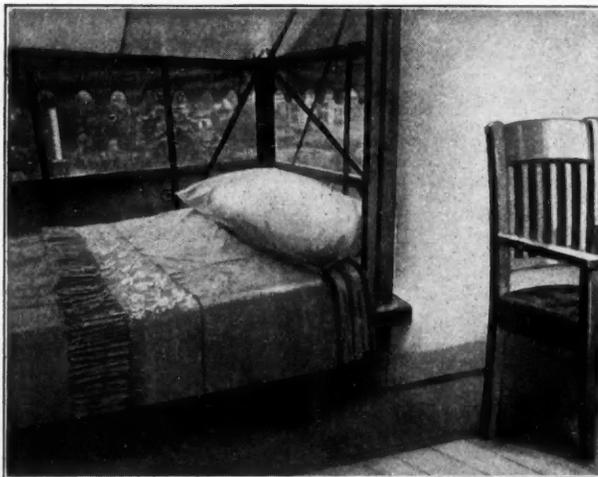
the part which holds it. Draftsmen, engineers, carpenters and other mechanics will find many uses for an implement of this kind.



Outdoor Sleeping Berth

In many a home there is some one who would like to enjoy the benefits of outdoor sleeping, but there doesn't seem to be any porch or balcony suitable,—and to build a sleeping porch means too great an expense. These will be interested in a new outdoor sleeping berth which consists of a frame work of light steel angles hung outside a bedroom window. It can be easily attached to any frame or brick building, and provides a practical open-air sleeping arrangement at minimum cost.

The bed is made up on regular bed springs and mattress; heavy welded wire netting extends around the sides of the frame so that you can't fall out; and a canvas roof and adjustable side curtains protect it from high winds, rain or snow, yet without shutting out the fresh air. This is real com-



Looking out Into Outdoor Sleeping Berth

comfortable out door sleeping. In the winter time you undress in a warm, comfortable room, and then open your window and get into bed, closing the window after you.

Those who are well can keep well by sleeping out doors; and those who are not well will quickly regain their health if they follow this custom. Out door sleeping is not a fad. Builders are often asked to supply some arrangement of this kind. This one is strong, easily erected and offers a novel solution to the problem of arranging a satisfactory, inexpensive out door sleeping balcony.



Wire Trussed Ladders

A ladder of just *half the weight, yet stronger*, is what has been accomplished by wire trussing. The ladder made of the lightest stock, reinforced by hardened and galvanized steel

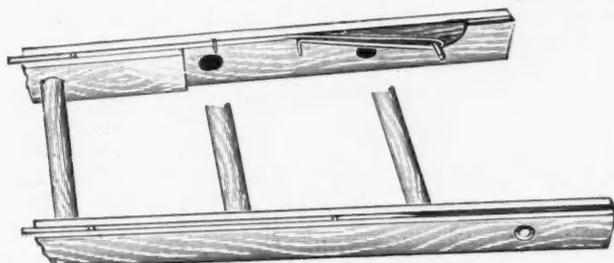


Light Weight, Wire Trussed Ladder
in Severe Test

wires running the length of each riser or side rail, properly embedded in the material and securely and permanently fastened, makes the ladder stronger than one of twice the weight stock but without the wire truss.

Builders who have tried these wire trussed ladders are enthusiastic over them; even the very long ladders are so light that one man can easily carry them and place them in position.

The half-tone illustration shows a test made in one instance



Anchoring of Trussing Wires at Ends—A Perfectly Secure
Fastening (Patented)

of a ladder 20 feet long made of 1 5/16 by 2 inch stock. Five men, whose combined weight was 758 pounds, were easily supported by the ladder without weakening it in any way. As ladder equipment is a big item with builders, they will be glad to know about these wire trussed ladders.



Built Like an Eagle's Claw

A wrench that will hold anything you want to hold, no matter what its shape—round, square, hexagon or oblong, would find a welcome place in the shop of 'most every mechanic. A wrench of very simple construction that is claimed will do this, is illustrated. The jaw points come together with three distinct bearings; and we all know that



A New Wrench That Will Grip and Hold Anything

a three-legged object will rest solid on any kind of a surface. With these three-point jaws, this wrench will hold pipe, bolts, nuts, and make itself generally useful about the shop. Mechanics will say it is just the tool they have been looking for. The jaws of this one illustrated are set at an angle of 45 degrees so as to get into places where it is impossible to reach with any other wrench or pliers. Jaws at the regular 90 degree or right angle are also supplied.



He Used Esperanto

From architecture to the International language would seem a far cry, but an event in connection with the recent competition for design of the Federal Capitol of Australia, shows very practical use of this language Esperanto. *The Age*, a Melbourne (Australia) newspaper, states the method used by Alfred Agache, the young Parisian architect, who won third place in the competition.

This architect is proficient in Esperanto and first noticed about the competition in one of the Esperanto magazines, to which he is a subscriber. The magazine gave a full translation of details of the competition, made by an Australian Esperantist, a full month before they were given any publicity in the ordinary national-language channels. That gave Mr. Agache a good start, and he also could communicate directly with Esperantists in Australia, who took far more interest in giving needed information than if they had merely been approached in English or French. The design submitted, for which he won a \$2500 prize, is simpler and cheaper than those awarded first and second prizes, and would have won first place except for the fact that he did not allow as wide streets for the suburbs as the judges deemed necessary.

At any rate this \$2500 ought to repay the Frenchman many times over for the little time and effort he spent in mastering Esperanto, and the affair may contain a hint for American architects to follow his example, and be prepared. A small pamphlet on Esperanto may be obtained free by an architect who will take the trouble to send name, address and stamp to the Esperanto Office, Washington, D. C., which is the headquarters of the Esperanto movement.



Death of Dixon Company Official

It is with regret the AMERICAN CARPENTER AND BUILDER learns from the Joseph Dixon Crucible Company of the death of the company's honored vice-president, Mr. William Horace Corbin, on the twenty-fifth of last September at Jersey City, New Jersey.



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

Who Will Check This?

To the Editor:

Chicago, Ill.

I am going to ask for a few minutes of your time and for a little aid where it will be appreciated. I have been following the Noon Hour Talks closely, and believe that the Boss Carpenter is trying to do something for some of the fellows which is of true service to them.

I followed his suggestion in regard to trying a problem for myself, but believe that my results are doubtful. I will give my problem and the answer, thinking that some of the Brothers, or possibly the Boss himself, may be able to check me or set me right in the solution.

What size of yellow pine floor joist, 2 inches thick, would be needed in a stable floor where the joists were spaced 16 inches centers. Length of joist, 12 feet, and load to be carried including weight of floor is 75 pounds per square foot.

Using 1,000 pounds to the square inch as the strength of the timber, I got a 2 by 10 inch for my answer. As I am not sure of myself, will somebody please try this and check my results.

ONE OF THE SQUAD.

Answer: We will leave this proposition to the rest of the Calculating Squad. If they cannot help you, the Boss will.

EDITOR.



Not Sure of His Answer

To the Editor:

Rockland, Maine.

As one of the Calculating Squad, I would like to have another member of the Squad check my results in the following problem.

What load could a porch floor, supported by 2 by 10 inch yellow pine joists placed 16-inch centers carry, if the joists are supported at points 10 feet apart and figured on a bending strength basis of 1,000 pounds per square inch of cross-section in the timber?

I solved this backward from the method given by the Boss and found that I could count on a load of 166 pounds per square foot of floor surface. Is not this too high? Will some of the Brothers who are interested check me if they can?

SUBSCRIBER.

Answer: Would advise that you exchange work with the Squad member from Chicago, and then let the Boss settle any differences.

EDITOR.



Sawing Concrete

To the Editor:

Los Angeles, Calif.

Have any of the carpenters ever cut a concrete wall with a saw?

I recently got a wall 6 inches inside the property line by mistake in measurements; and as the property was quite valuable, the owner wanted that 6 inches. This wall was 12 inches wide at the bottom, 8 inches wide at the top, 18 inches high, 48 feet long, and had been poured two days and two nights. We had an old cross-cut saw about 5 feet long,

and I suggested using it to cut the wall in two.

Everybody laughed, but I got the saw and started. I cut a slot about an inch and a half wide and when we would strike a pebble too large for the saw to knock out, I took a cold chisel and hammer to it. We cut the wall in 12-foot lengths and as we had plenty of laborers in the lumber yard near by, I got eight of them to sit on the ground side by side inside of the wall with their feet against it. Then, by pushing against it with their feet and pulling the top to them and letting it back again in a kind of rocking motion we easily moved it out to the line.

We accomplished this work at a cost of about three dollars, whereas, if we had destroyed the wall, set forms and poured a new wall, the cost would have been near twenty dollars.

After the wall was in line and the joints repaired, everyone agreed it was a good job and the laugh was on the other side. Of course the teeth in that saw were *slightly* damaged, but we could afford to throw the saw away considering the amount we saved.

I did not like the noise that the saw made; it sounded too much like running a saw on a nail, but I said nothing and sawed concrete.

W. E. HORNBECK.



Grant or Lee?

To the Editor:

Barre, Vt.

In your September issue, just received, I notice on page 34 a medallion cut of General Robert E. Lee, with the name of General Grant beneath.

Shades of Lincoln! Are your contributors so unacquainted with our greatest military men of the past that they cannot distinguish between the foremost Confederate general and the first Union general of their day?



What Old Soldier Will Identify Him?

The terra cotta work shown in the beautiful cuts in the AMERICAN CARPENTER AND BUILDER is apparently equal in artistic merit with the best bronzes and will, we hope, be used more generally.

Pardon our criticism, but we could not resist the impulse to take a shot at the party responsible for the error.

Your publication is the best in the world of its kind and we wish every man of the trade might be a constant reader.

Sincerely yours,

W. H. MESSER,

Contractor and Builder.

Answer: Shades of Honest George! (who never told a lie). We solemnly swear it's General Grant. We have the sculptor's word for it. Remember, the pictures of the two great generals do look a great deal alike, only Grant's beard is a trifle blunter.

EDITOR.

Salon, Iowa, Builders

To the Editor: Salon, Iowa.
Please find enclosed \$2.00 for renewal for the AMERICAN CARPENTER AND BUILDER and a postal card of a house which I am building for Geo. Rushek. I am standing in the bal-



Builder Hartman and his Crew

cony, and in the double window is F. J. Dvorak and J. E. Dvorak, carpenters that are working for me.
I am very well pleased with your paper.

J. W. HARTMAN,
Carpenter and Builder.

Hardware for Accordion Doors

To the Editor: Hackensack, N. J.
I am not a subscriber to your magazine, yet I get it every month from my news dealer, and have had it over two years now. Think it is the finest and best book printed for the mechanic to read and study. They all ought to read it and learn something every month. I know that I do.

I have a job on hand now to put in a set of accordion folding doors. That is something new in this town; and I had never seen any put up—or after they were put up—until I got my September AMERICAN CARPENTER AND BUILDER, and read the article by your "Hardware Expert"; which was very good and to the point.

Do you leave the adjustable hanging strip loose, as shown? or is it screwed fast? Why not use doors wider than 3 feet? He says use not larger than 4 by 3½ butts. Why not?

ALONZO MONROE,
Carpenter and Builder.

Answer: I take it that the doors you have to supply are like detail No. 21, viz., four full and two half width doors.

I suggest that the soffit be screwed or nailed in place as the strikes or keepers are to be attached to same.

The writer suggested the use of the 4 by 3½ butt because a 4 by 4 butt on the 1¼ doors makes the doors stand apart 1 inch. This does not make a perfect job.

I think that it is better to use 3⅞ by 3½ in place of 4 by 4 if you cannot readily get the 4 by 3½.

I am glad to see that you are interested in these articles and hope that my meaning is clear to you. I have tried

ever so hard to tell my story, so everyone of the readers will understand what I mean. OUR HARDWARE EXPERT.

Runs Belts Hair Side In

To the Editor: Bushnell, Ill.
In answer to Joseph Fennell's letter in Sept. issue about cowhide: He seems to think when God made the cow he put the hair side out because that was the side that would have the most abuse or wear. But after the hide is taken off he thinks the flesh side ought to be put next to the wear or wheel.

Now this is all wrong. All belt manufacturers tell us to run hair side next to pulley for long life of belt. The flesh side is soft and spongy and the hair side the reverse.

The outside of a belt has to expand in going around the pulley as the circumference there is the greatest; this is what causes it to crack and weaken across the face.

By running the belt with hair side to pulley it does not crack and the life of it is prolonged. J. B. ROBERTSON.

Good Management of Winter Work

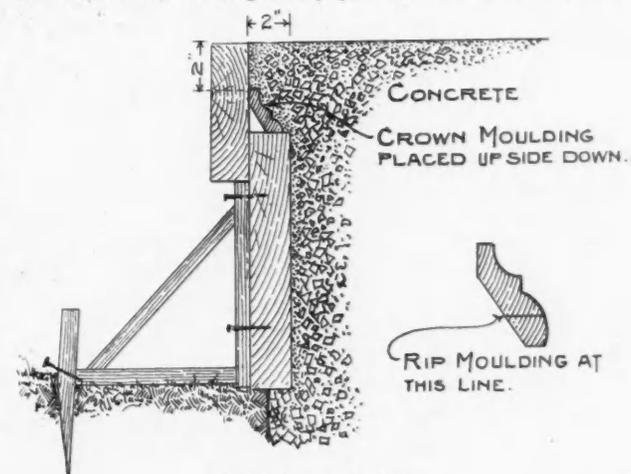
McPherson, Kans.
Editor AMERICAN CARPENTER AND BUILDER:
I have always tried to manage my work in the fall; before the cold weather sets in I have tried to have a house inclosed, so when cold weather comes I will be working on the inside. I have also kept back small buildings, like buggy sheds, chicken houses, etc.; also reshingle houses, make window screens, storm doors and do small jobs; so it keep me busy to New Years.

First of the year I always find out who intends to build next season, and go and see them, talking up new building projects for spring. I also make window frames for the coming jobs in the spring. Between times I study my building paper, looking up better ideas and better buildings.

OSCAR W. NORDSTROM,
Carpenter and Builder.

How to Build a Neat Form

To the Editor: Elkland, Mo.
As I have been reading the AMERICAN CARPENTER AND BUILDER for some time and have never contributed anything to its columns, I will give my plan for a form suitable for



Form for Porch Floor

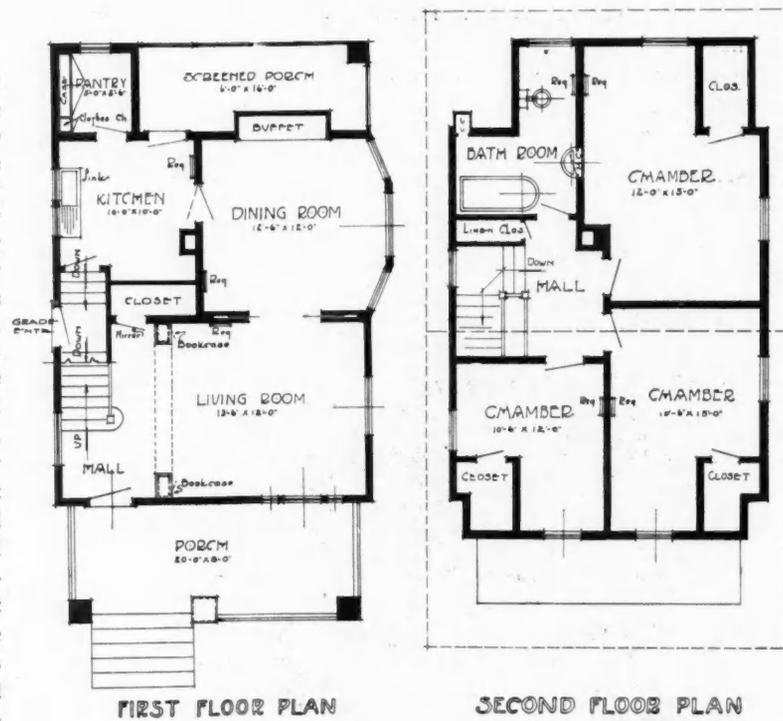
concrete porch floors. I use a large crown mould and cut away a portion, as shown in the accompanying drawing, and turn it upside down in the form. Thus, I make a form for a crown mould in the concrete. The moulding should be well oiled and should be left in position for some time after the work is completed. FRANK M. COFER.

Built From "A. C. & B." Ideas

To the Editor:

Morris, Ill.

The cottage shown is an example of what can be done with views of houses—which have been published in the *AMERICAN CARPENTER AND BUILDER*—in the issue of February, 1911, will be found a story and a half cottage designed by O. S. Lang, architect, from which I took my views for a home for myself. After changing the plans, I have built a house which is away from the ordinary. After building the frame and sheeting it all over outside, I put on lath from bottom to top—every one a foot apart; then put on No. 24 metal lath, all over the house; also covered my porch posts with metal lath. Then I put on a two coat work of cement. After troweling straight I scratched it lightly so as to receive the last coat. When first coat was dry I turned the hose on and wet it all over. Then put on my last coat of cement and followed up very close with a fine crushed granite or pebbles. I throw them into the cement while soft, being very careful to get the cement on very even all over the house. It then shows the color of any granite or pebbles used and will not require to be washed with an acid to clean off the cement, making one of the finest effects that can be put on the outside of a house.



Arrangement of 6-Room Taylor House



6-Room Dwelling Planned and Built by Contractor H. A. Taylor, Morris, Ill.

I have used on this house pebble stone taken from a gravel bed, but the color is a golden color and makes one of the finest effects in this part of the country. This cottage has been built four times this summer.

You can also see how I put in my furnace, with only three hot-air pipes. I cut two 2 by 12's and frame them in between the joist, making a cold-air pipe only 12 inches below the floor and only 4 inches below the joist. I run this from the wall over to the side of the furnace, then down straight with only one bend into my furnace. I have in this way a cold-air pipe, out of the way and will not be in the road of persons walking along below it.

I do know that the heat will work in three pipes, as I have tried it twice before this house; and last winter was a cold one to try a furnace; it worked well. I also have my water pan put into the cold air pipe instead of having it in the furnace; as it does not make so much moisture to keep the windows frozen up in the winter. And it also catches the dust as it circulates back through the cold air and comes back heated.

H. A. TAYLOR,
Carpenter and Builder.



To Find the Length of Chord

To the Editor: Buffalo, N. Y.
I wish to build a pulley 4 feet in diameter; to be built up in layers to the proper thickness or width. Suppose it to contain twelve pieces to complete the circumference. The miter of the segments would stand at 30 degrees, which is easy enough to get at; but what I would like to know, is how to get the chord or span?

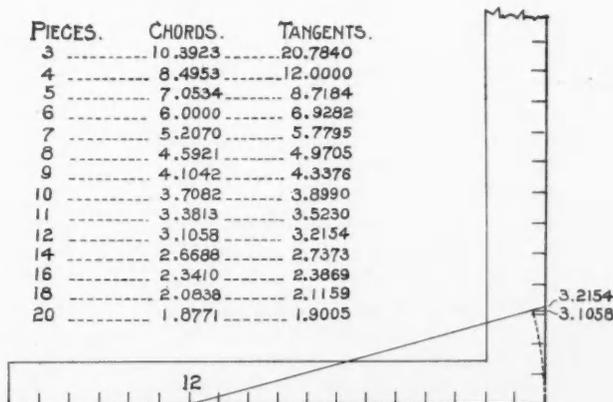


FIG. 1.

Table of Circumference Pieces for Built-up Pulleys

Will you please publish a reliable rule by which the chord can be found; one that applies to any number of pieces used.

ROBERT L. RAGUSE.

Answer: Why, yes,—and it can be done on the square, too. In Fig. 1 is shown the lengths of the tangent and chord from a circumference of 1 foot in diameter and running from three to twelve pieces and for even number of pieces up to twenty.

The first column gives the length of the cord, while the second column gives the length of the tangents. The latter represents the figures to use on the blade when 12 is used on the tongue to obtain the miter; the blade giving the cut. This has reference to the straight edge of the board and by cutting the desired number of pieces to the length designated in the table, the tangents will form a polygon with an inscribed diameter of 1 foot, as shown in Fig. 2. In this example the diameter is equal the sides, but the chord is only 8.4953 (8½) inches and represents the length of the

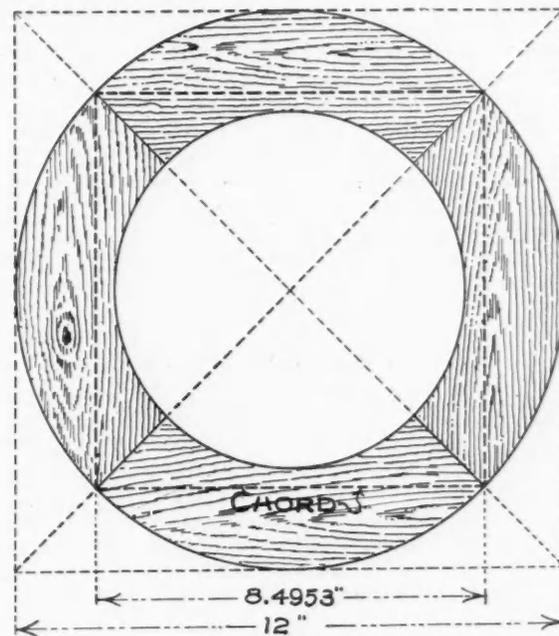


FIG. 2.

One Foot Pulley Made of Four Pieces

pieces to form a circle 1 foot in diameter and containing four pieces.

Now, suppose the sawyer in the mill is told to saw up all the waste boards into circular stuff for a 12-inch pulley; and the result is a mixed lot of length pieces. Then these are turned over to another workman to cut up into exact length pieces to build pulleys, say one each of the numbers given in Fig. 1. Naturally, the first thing he would do, would be to lay out a diagram for pattern for each one, but the boss says "Never mind, do it with the square." Now, how is he going to do it?

Here is where the use of the chord comes in. Simply lay off its length on one of the pieces and apply the steel square to this, with the figures (12 and the tangent) or their proportion as before described in the case of the polygon. Cut the number of pieces required for each and they will fit to their respective places. Having the length of chord for a 12-inch diameter, it is an easy matter to find the length for any diameter.

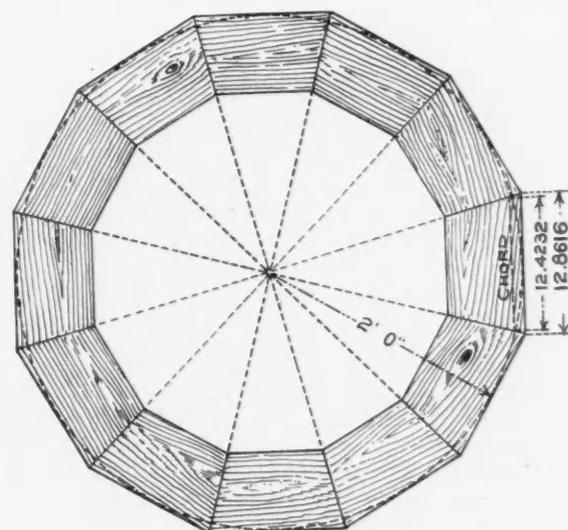


FIG. 3.

Four Foot Pulley Made of Twelve Pieces

Mr. Raguse's problem calls for a 4-foot diameter and for a pulley containing twelve pieces. (See Fig. 3.) Then, 4 times 3.1058 equals 12.4232 inches; and the figures that give the miter are 12 and 3.2154 (37/32) which remain so regardless of the diameter. If the diameter had been 49 inches, then 4 1/12 times 3.1058 would give the length of the chord.

So much for the pulley, but if the question had been for a roof containing the same number of sides, we would find the foundation work just the same as given above, except for the chords, which do not enter into the case.

A. W. Woods.

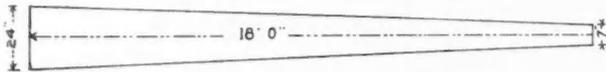


A Board Problem

To the Editor: Elkland, Mo.

I have a problem on which I would like to have a mathematical solution. Here it is:

A plank is 18 feet long; at one end it is 24 inches wide and at the other it is 7 inches wide. I wish to cut the



Where is the Middle of This Board?

plank crosswise so that each end will contain the same area in square feet. How wide is the board where it is cut, and how long is each piece?

FRANK M. COFER.



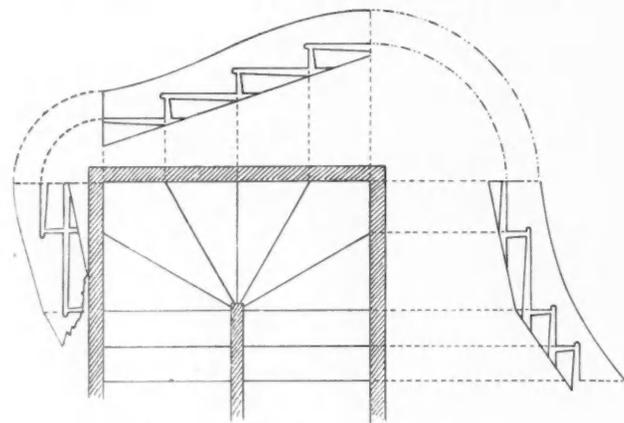
To Lay Out the Stair String

To the Editor: Fitchburg, Mass.

I would like to ask this question. How is the length of the finished stringer found in a box stair of the winding style?

ALBERT GAGNE.

Answer: Lay it out full size on the floor, or some other smooth surface, and get the measurements from that. The accompanying illustration shows how to proceed, though it is not necessary to execute all the work that is shown here; simply enough to get symmetrical curves to the string board, keeping at or near about the same height over the nosing of each tread. These curves will necessarily have to be run offhand; and this requires one with experience in that line of work to lay them out with graceful lines pleasing to the



Stringers for Box Stair With Winders

eye. About all the instructions we can give in this is "If at first you don't succeed, try, try again." In saying this, we have reference to laying out the diagram, and then if not sure that it is going to look alright, better call in one or more that might possibly have a better eye for the beautiful. When finally passed on as satisfactory, take accurate measurements and transfer to the wood, and go to it with saw and hatchet (and some other tools), judgment and elbow grease will do the rest.

A. W. Woods.

A Handy Measuring Pole

To the Editor: North Yakima, Wash.

Enclosed find drawings of a sliding 10-foot pole, which I think very useful for carpenters and builders.

Fig. 1 shows a full length sketch. A and B are pieces 6 feet long by 1 inch square.

Fig. 2 shows how the pieces are fastened together. A, B and C are bands of tin 1 inch wide, the A and B bands are fastened to the lower piece. D and E are end views of the pole, F is a screw set in the lower piece to stop the slide when it is pulled out to the 10-foot mark.

Fig. 3 shows how to clamp the pole when the desired length is taken. A is a piece of file about 2 inches long, which is mortised in the under side of the top piece; B is

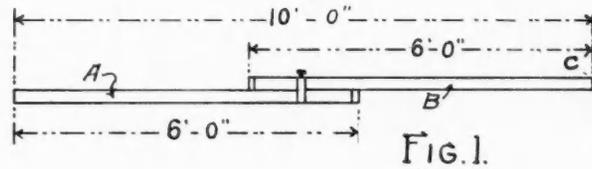


FIG. 1.

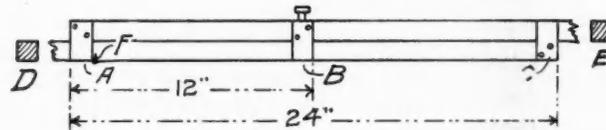


FIG. 2.

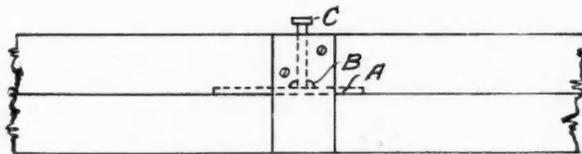


FIG. 3.

Arrangement of Measuring Pole

a nut which is mortised in over the file so as to fit tight; C is a set screw which is screwed in the nut from the top. When ready to clamp, turn set screw which presses the file against lower rod. Begin to number the feet from the C end of the pole, as shown in Fig. 1, and the last foot can be divided in inches.

I read the AMERICAN CARPENTER AND BUILDER from the first to the last page. It surely is the carpenter's friend.

HARRY E. ROSE,
Architect and Builder.



Fast Work with the Straight Edge

To the Editor: Page, N. D.

I note with much interest the letters in your paper regarding fast shingling.

We once had a professional shingler here, who would lay and nail 13 thousand shingles in twelve hours, besides carrying up his own shingles and rolling and smoking a cigarette between each and every course.

And we are right up to date in swiftness, even if we use the same old straight edge our grandfathers or forefathers used.

I do not think throwing away the straight edge will improve our record in North Dakota even if it may at Attelbro, Mass., or El Centro, Cal.

LINCOLN WOODBURY,
Contractor and Builder.

Final Word on Fast Shingling

To the Editor:

Los Angeles, Calif.

I have been reading about fast shingling in the last two or three issues and some of the letters have been rather sarcastic. Maybe I can throw a little light on the subject for both parties. The California carpenter, as a rule, does not understand conditions in the east and the eastern carpenter does not understand conditions here. I have worked east and west.

In the east, where there is rain the year around, a good roof is required and shingles are put on with great care, generally laid to a chalk line or straight edge; four-penny nails used to fasten them on; and carpenters usually do the shingling. About three thousand shingles is an average for eight hours, and is called a fair day's work.

In California we have professional shinglers that do nothing but shingle; and it is very seldom the carpenter shingles a roof. The bungalow roof is very flat; no scaffolding is needed, and the shingles are put on without chalk line or straight edge. The shingler has a gauge on his hatchet, takes six or seven rows at a time and uses three-penny nails. They also have California count shingles (that is, two hundred to the bunch) and they call four bunches a thousand, just as they call 3 feet by 4 feet by 8 feet a cord of wood. Shinglers here often put on 10,000 shingles in a day from sun up to sun down; but California shingling would not pass in the east.

Now, with these few remarks about shingling, let us admit that both sides are right and *forget it*.

W. E. HORNBECK.



Fasten Sash Pulleys with 20^d Nail

To the Editor:

El Centro, Calif.

I wonder how many of the boys have trouble in fastening the sash pulleys in the pulley-style?

The next time you put the pulleys in a frame drive a 20^d nail through the holes in the pulley and you have them securely fastened. Drive the nail from inside edge of pulley-style and if any thing goes wrong with a pulley it can be easily removed.

S. N. HARRIS,

Contractor and Builder.



Well Set for the Winter

To the Editor:

Atlantic, Iowa.

I just finished reading the October number of the AMERICAN CARPENTER AND BUILDER and think it one of the best yet, although I have read them all since its start.

I think the article "How To Do Work Fast," by I. P. Hicks, is good, and agree with him when he says it is not the make of the square but in knowing how to use it—any old square, just so it is square and has figures so you can see them.

My advice to a man starting to learn roof framing would be to learn the principles involved and not to fool with a square with rafter cuts on it. Because there are times when your cuts are in odd inches and your patent square is no good to you at all. Whereas, if you know the principles involved it will make no difference what the pitch is or any thing else.

I also think article "Advantages of Fall Building" is good and wish we could get more people who intend to build in the spring to put in their foundations in the fall as by doing that we could add about a month or six weeks to the working year of the average carpenter.

I came to this city on the 1st of March, practically a stranger, but by advertising, hustling and doing first-class work, have had all I could do and am working 12 men

and have shop with gasoline engine for power.

At present I have three houses ready for millwork and contracts for four more which I am putting in foundations for.

Here's hoping all readers of the AMERICAN CARPENTER AND BUILDER have all they can do and then some.

L. A. PETERMAN,
Contractor-Builder.



That Hood Rafter

To the Editor:

De Witt, Iowa.

I notice the answer to the hood rafter question in the August AMERICAN CARPENTER AND BUILDER. Out here we always put the hood rafters in like a brace and in plane with the roof; and the distance down from the ridge on the gable rafter is always greater than from the gable out to the point.

Now, suppose we have a barn with 9-inch rise to 12-inch run, and it is 5 feet down to the hood rafter, and 4 feet out to the point. The side cut across the top would be the same as for a brace; but is there any easy way to get the plumb cut at the upper end without scribing it?

CHARLES HAMMONS.

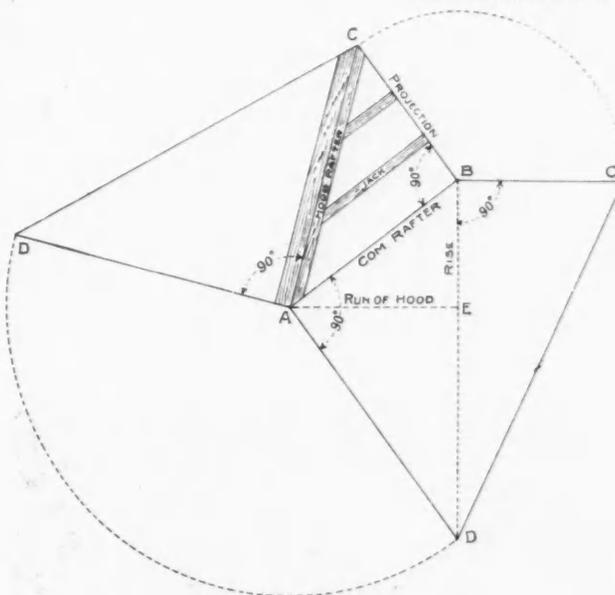


Diagram of Hood Rafter Framing

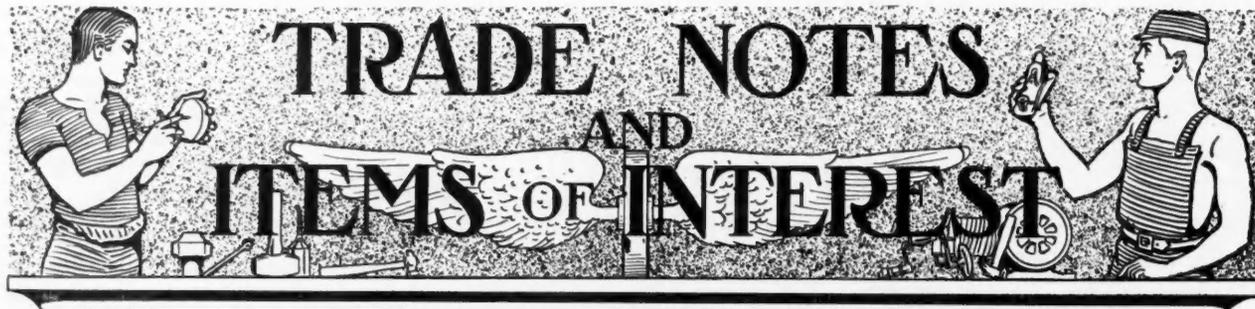
Answer: This question was fully answered in the September number for Mr. George M. of Gypsum, Kansas, and Mr. J. E. F. of Lamoille, Nevada. We have nothing to add to the September answer in the way of explanation to make the subject clearer, but thought we might simplify the illustration by making one that can be cut out and folded up so as to show the rafters in one-half of the hood in the actual position, using the same descriptive letters as shown in the September article.

Now, trim to the solid lines and fold at right angles on lines A-B, B-C and B-D in such a way that the rafters will show on the outside of the model and they will show in their true position, clearly showing what parts the descriptive letters represent.

The proportions to take on the steel square to obtain the cut in question is A-D and A-C and the cut will be on the latter. The diagram is laid out for a 9-inch rise to the foot run, as called for by Mr. H. and the proportions are found in the angle bounded by A-B-E from which with the projection the other angles are developed.

Now, we hope no one will mutilate his copy of AMERICAN CARPENTER AND BUILDER, trying to prove up this example; better copy it and gain experience in so doing.

A. W. WOODS.



The items in this department, like all the editorial contents of the American Carpenter and Builder, are written, illustrated and presented here for the information and benefit of our readers. Act of Congress, August 24, 1912, Paragraph 2, Section 467½, Postal Laws and Regulations, seems to require, however, that all news and reading matter pertaining to advertised goods shall be marked "Advertisement". Complying with this law, items in this department are so marked.

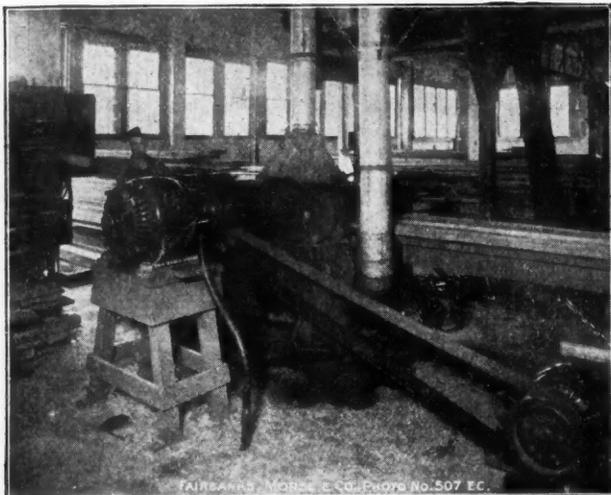
Electrical Equipment of Big Louisville, Ky., Mill

By W. G. Hesser

The Louisville Planing Mill & Hard Wood Flooring Co., is incorporated under the State laws of Kentucky, for the purpose of manufacturing interior and exterior millwork, sash, doors and high class stair work. The plant covers approximately 75,000 square feet, employs 90 men and uses about 500,000 feet of lumber annually, which is manufactured into various kinds of interior and exterior finish.

This plant formerly operated its own power plant, but after being destroyed by fire, installed entire new wood working machinery, operated by motors in the most up to date style of drive. Practically all the machines are direct connected.

All motors are of the Fairbanks-Morse manufacture, and are 3-phase, 440-volt, 60-cycle. The total horse-power of motors installed is 294 of which 246 H. P. operates on indi-



30x12 Double Surfacer, driven by 20 H. P. and 7½ H. P. Fairbanks-Morse Motor

vidual drive, and 48 H. P. on group drive as shown in schedule.

The principal points of interest in connection with the electrical equipment of this plant, is the extreme limit of speed, which is rather unusual for this class of motor. The planers have the motors directly attached to the cylinders, motors operating cylinders at a speed of 3,600 R. P. M. Motors being directly connected through flexible couplings.

The double surfacer shown in cut, is operated by a 20 H. P. motor at a speed of 3,600 R. P. M., direct connected to the upper cylinder through flexible coupling. The lower

cylinder of this machines belted to a 7½ H. P. 1,750 R. P. M. motor.

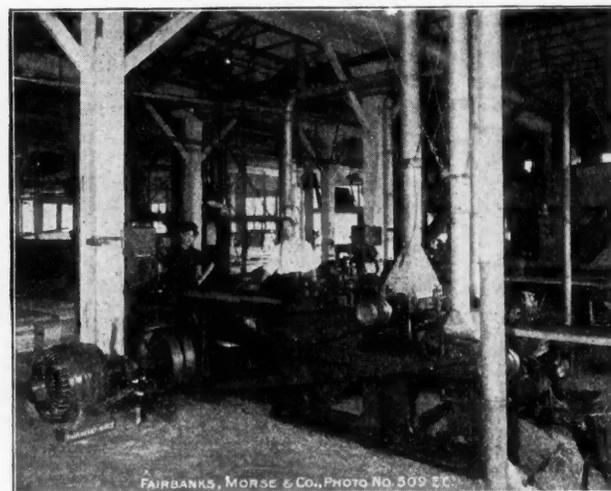
While there are some few cases where the planer cylinders are operated by induction motors direct connected to cylinders, the direct connecting of motor to the cylinder of the double surfacer is entirely new in this territory, and is proving successful and is giving most excellent satisfaction.

The triple drum sander is driven by a 20 H. P. 570 R. P. M. motor, direct connected through flexible coupling to the countershaft on machine.

The 70-inch Sturtevant low power blower is operated by a 40 H. P. double end motor at 475 R. P. M., the shaft of motor being extended sufficiently for the fan blades to be directly mounted on each end of shaft. This blower serves readily all the machines given in the following schedule:

SCHEDULE OF MOTORS.

- 1—40 H. P. 1,150 R. P. M. motor, belted to Fig. 501 American 54-inch band resaw, with
- 1—3 H. P. 1,750 R. P. M. motor, operating Fig. 511 double jointing attachment, which is direct connected to the cylinders by belt
- 1—40 H. P. 475 R. P. M. double end motor, operating a double 70-inch Sturtevant low power blower.
- 1—25 H. P. 850 R. P. M. motor, direct connected through flexible coupling to countershaft of S. A. Wood No. 107 inside moulder. This is a general purpose machine, combined planer, matcher and moulder for manufacturing flooring, interior finish, moulding, etc. The chief characteristics are ease of adjustment, large range in capacity, and quickness of operation.
- 1—20 H. P. 3,600 R. P. M. motor direct connected through flexible coupling to the cylinder of a 30x12 double surfacer, having
- 1—7½ H. P. 1,750 R. P. M. motor belted to the lower cylinder of this double surfacer.
- 1—20 H. P. 570 R. P. M. motor, direct connected through flexible coupling to countershaft of Fig. 1073 Columbia 48x10-inch triple drum sander.



S. A. Wood Inside Moulder, Driven by 25 H. P. Fairbanks-Morse Motor

- 1—15 H. P. 850 R. P. M. motor direct connected through flexible coupling to countershaft of Fig. 8441 No. 22, 10-inch four side moulder.
- 1—15 H. P. 1,750 R. P. M. motor belted direct to mandrel on one figure 5701 No. 2 self-feed circular rip saw.
- 1—10 H. P. 3,600 R. P. M. motor direct connected through Grundy patent flexible coupling to the cylinder of one Fig. 783 No. 4½, 24x7-inch single furniture planer with sectional feed rolls.

BIG NEW BUILDERS' CATALOG—FREE

5,000 BARGAINS

**Order All Millwork Staples and Specialties
Direct From Gordon-Van Tine Co. Save 50%**

The great new Building Material Catalog we have just issued fairly bulges with bargains for carpenters and contractors.

Over 5,000 money-saving offers on staple items in Millwork and specially designed styles, meeting every possible requirement of the builder.

Over 152 solid pages, each packed with high grade materials at prices that defy competition.

We guarantee highest quality, prompt shipment, safe delivery and satisfaction or agree to refund every dollar and pay the freight both ways. Write for your catalog today and save 50 per cent.

Where Can You Beat These Prices On Staple Items of Building Material?

White Pine Doors—2 ft. 8 in. by 6 ft. 8 in.—1 $\frac{3}{8}$ —4 panel—Strictly "A" Quality, each \$1.79.

Yellow Pine Doors—2 ft. 8 in. by 6 ft. 8 in.—1 $\frac{3}{8}$ —5 panel—Strictly "A" Quality, each \$1.95.

Windows—4 lts.—1 $\frac{3}{8}$ —glazed 10x22—SS—each, 72c.

Windows—2 lts.—1 $\frac{3}{8}$ —glazed 16x22—SS—each, 63c.

Storm Sash—2 lts.—1 $\frac{1}{8}$ —glazed 16x22—SS—each, 65c.

Storm Doors, Glazed and Painted—2—8 $\frac{3}{4}$ x6—9—1 $\frac{1}{8}$, each \$1.71.

Yellow Pine Base Moulding—Size 13/16x2 $\frac{1}{4}$ in., per 100 lineal feet, 83c.

Lattice—Per 100 lineal feet, 30c.

Yellow Pine Cove Moulding—Per 100 lineal feet, 30c.

Outside Window Frames—Complete, for 10x20—2 lt., each \$1.18.

Why Pay The Planing Mills To Make What WE Carry as Regular Stock?

We offer at a mere fraction of usual "made-to-order" prices an immense variety of new style, specially designed Doors and Windows, Casement, Sash, Stair and Porch Material, China Buffets, Mantels, Grilles, Consoles, Colonnades, French Windows, Doors, etc., etc.

Why not use our immense facilities, get all your "Special" material at regular "stock" prices, save money and prevent exasperating delays?

Get the Big Catalog! Put Our Prices, Quality and Service to the Test!

More than 100,000 splendid homes have been built from our Millwork and Building Material. **Every item in all these buildings was ordered direct from the Catalog.** Hundreds of the most prosperous and progressive Carpenters and Contractors in the United States buy **exclusively** from us.

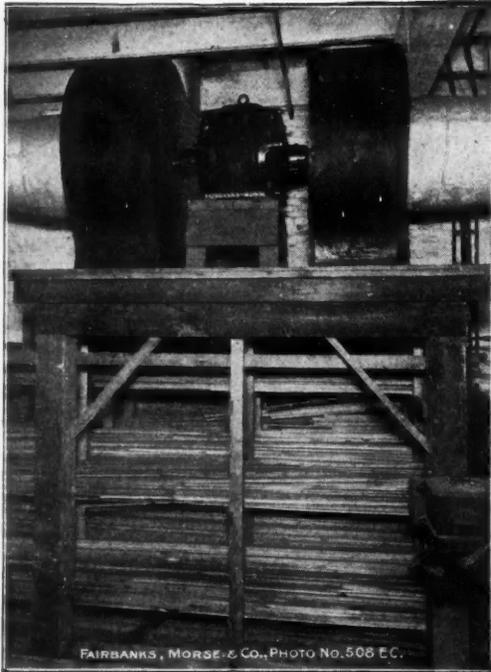
The saving to our customers is over a million dollars a year.

Let our catalog help swell your bank account. Write for it NOW.

GORDON-VAN TINE COMPANY 630 FEDERAL STREET
DAVENPORT, IOWA

When Writing Advertisers Please Mention the American Carpenter and Builder.

- 1—7½ H. P. 3,600 R. P. M. motor direct connected through Grundy patent flexible coupling to the cylinder of one Fig. 7651 No. 5, 24x8-inch single surfacer.
 1—7½ H. P. 850 R. P. M. motor direct connected through a flexible coupling to the countershaft of one Fig. 8601 No. 1, 6-inch side moulder.
 3—5 H. P. 1,750 R. P. M. motors, each motor belted to the mandrel of a No. 11 John T. Towsley Mfg. Co. hand feed rip saw.
 1—5 H. P. 1,750 R. P. M. motor belted direct to the mandrel of one Fig. 633 No. 1 variety saw with boring attachment.



70-inch Sturtevant Blower, driven by 40 H. P. Fairbanks-Morse Double End Motor

- 3—3 H. P. 1,750 R. P. M. motors, each motor belted to a new pattern swing cut-off saw, and each motor is belted to the iron frame of the swing cut-off saw which eliminates all counter shafting.
 2—3 H. P. 1,750 R. P. M. motors, each motor belted to the cylinders of one Fig. 801 No. 1, 12-inch hand jointer and one Fig. 802 No. 1, 16-inch hand jointer.
 1—15 H. P. 850 R. P. M. motor direct connected through flexible coupling to:
 1 15-16x20-foot line shaft running at the speed of the motor, having ring oiling bearings. To this shaft are belted the following machines:
 1 Smith & Phillips window frame machine.
 1 Figure 801 No. 1, 12-inch hand jointer.
 1 Figure 616 No. 7½ combination saw.
 1 Figure 7651 No. 5, 24x8-inch single surfacer.
 1 Figure 633 No. 1 variety saw with boring attachment.
 1—15 H. P. 850 R. P. M. motor direct connected through flexible coupling to:
 1 15-16x28-foot line shaft running at the speed of motor, having Sells' patent roller bearings. To this shaft are belted the following machines:
 1 Figure 9421 No. 1 Tenoner with double heads and two copes.
 1 Figure 907 No. 1 mortiser with boring attachment.
 1 Figure 8848 No. 3 hand feed panel raiser.
 1 New Britain No. 2 standard chain saw mortiser.
 1 Figure 8842 No. 5 blind stile mortising and boring machine.
 1 Figure 929 No. 2½ two spindle shaper.
 1 Figure 1095 No. 9 column sander, Nichols pattern.
 1 J. A. Fay & Egan No. 8852, 24-inch drum sander.
 1—10 H. P. 850 R. P. M. motor direct connected to 1 15-16x28-foot line shaft running at the speed of motor, having Sells' patent roller bearings. To this shaft are belted the following machines:
 1 Figure 878 No. 2½, four side sash sticker.
 1 Figure 1104 No. 2 universal sander.
 1 Figure 978 No. 9 post borer.
 1 Figure 898 No. 10 sash relisher and mortiser.
 1 Fay & Egan double end emery wheel stand.
 1—5 H. P. 850 R. P. M. motor direct connected through flexible coupling to:
 1 11-16x20-foot line shaft running at speed of motor, having ring oiling bearings. To this shaft are belted the following machines:
 1 Figure 510, 38-inch hand saw.
 1 Black Bros. No. 1 pioneer 8-inch moulding sander.
 1 Figure 3231 stationary double scroll saw.
 1 Figure 1054, 10x24-inch pattern makers' lathe.
 1—3 H. P. 850 R. P. M. motor direct connected through flexible coupling to:
 1 3-16x12-foot line shaft running at speed of motor, having ring oiling bearings. To this shaft are belted the following machines:
 1 S. A. Woods' automatic knife grinder.
 1 Hanchett automatic circular saw grinder.
 1 Samuel J. Shimer double end emery wheel stand.

✦ "Advertisement"

All of It

Nurse (to young doctor)—"Your practice is waiting, sir. Shall I show him in?"—Judge.

Key to Steel Square

This is a convenient little instrument, suitable for carrying in the pocket. It is the work of Mr. A. W. Woods, the well known specialist on the use of the common steel square and whose writing on the subject in the AMERICAN CARPENTER AND BUILDER is well known to thousands of carpenters throughout this and other countries. It does not matter how well one may be posted on handling the steel square, he needs this device as a ready reckoner, just the same as the accountant in the bank uses the interest table. In fact, everybody whose work deals in angles should have this instrument, for it is a great instructor and time saver. The retail price is \$1.50, postpaid and may be had from the AMERICAN CARPENTER AND BUILDER Co., 178 W. Jackson Boul., Chicago.

"Advertisement"



Cement Products at Shows This Year

Visitors at the Cement Shows of former years have frequently expressed disappointment at not being able to see interesting displays of articles actually made out of concrete. The exhibits of machinery, reinforcing, and concreting materials and equipment have been most interesting and instructive; but exhibits of purely cement products—examples of actual concrete work—have not been as numerous as they should.

This year, at both the Chicago and Pittsburgh Cement Shows, there will be no lack of this sort.

The management has set aside considerable space at both Shows for exhibits of actual examples of concrete work. All those interested are invited to display, entirely free of charge, anything they have, can produce or secure that is made of cement concrete and which would add to the variety, novelty or instructiveness of this exhibition.

We are informed that the management will attach a small, uniform, white placard to each article so exhibited which will give the name and address of the exhibitor and perhaps a few words of suitable description.

It is certain that this feature will be a welcome addition to the Cement Shows. It will accomplish much toward popularizing concrete construction among people who come to these shows to see actual examples of concrete work.



A Shot at the Draftsman

During an experience of nearly 40 years in many wood-working shops the writer necessarily has come in contact with lots of drawings for woodwork construction and, naturally, I find the methods of expressing various needs upon such drawings are as many as the draftsmen who made the pictures in question, says Peter Hanscom, writing in "Wood Craft." Some things the draftsmen might do which would greatly assist the shop man in executing the work, and some things the draftsman might not do to the sure pleasing of many more shop workers!

To begin with: Don't try to make a pretty picture—try to show the work the plainest way for the worker. The shop man doesn't care a continental if the section lines are all spaced like lines on a banknote, or whether they are put in with the stub of a match dipped in the ink bottle. In fact, the latter way does give section lines which are easier for the worker to read, than the best section lines laid off by a mechanical spacer. The irregular hand-sectioning appeals more to the worker, in showing broken off interior sections, than does the exact machine ruled lines.

Do not imagine that I want slouchy, carelessly made drawings; for the neater, more carefully the draftsman executes his work, the better it goes through the shop. But I do wish to protest against the making of shop drawings as though they were to be hung in the Paris Salon instead of worked to

ARCHITECTURAL Draftsmen Draw \$125 to \$175 Per Month

That's what good architectural draftsmen make right at the start. Many earn three, four and five thousand dollars a year. You can do the same—if you receive the proper practical instructions.

Carpenters, builders, tradesmen—in fact men in most every walk of life—have taken my personal instructions in architectural drafting and doubled their incomes the first year. Here is the most excellent opportunity for you to become an expert practical architectural draftsman. I offer to teach you in a short time at a nominal expense RIGHT IN YOUR OWN HOME.



Chief Draftsman Will Instruct You "Personally"

For over 20 years I have been doing the highest paid expert drafting work. I am CHIEF DRAFTSMAN of a large and well known Company. Long ago I saw the urgent demand for practical trained draftsmen and I organized my practical methods for ambitious men whom I trained personally. Every week I have dozens, yes scores of calls and requests for practical trained draftsmen. Some weeks over 500 positions all over the country remain open for want of good practical experienced men. If you wish, I will send you a weekly list of open positions to prove to you what I say is true.

Never before have we felt the need as we do today of men who REALLY KNOW practical drafting—the way I am training my students. At this time I can accommodate a few more men (between the ages of 16 and 40) in my spare time. If you will write AT ONCE I will send you my book "Successful Drafting" with full particulars—all FREE.

If you are a carpenter or builder or contractor, you can increase your efficiency—your earning capacity—from 50 to 100% by taking my expert training in draftsmanship.



FREE!

This \$15.00 Drawing Outfit and Free Position

Right now I am offering this \$15.00 drawing outfit free. There is such a demand for trained, skilled, practical draftsmen, that I am making this free offer as a special inducement. I also know that it is necessary for you to have this remarkable set of drawing instruments in order to properly succeed in your drafting work. The ordinary instruments which you would buy in your town—no matter how much they cost—would handicap you in this work. The instruments I will give you free are the very finest (German Silver Finish) instruments made. I am able to get

them at a reduced price of \$15.00 and I am giving them to you ABSOLUTELY FREE. To show you what I can do for my students I WILL GUARANTEE to instruct you until you are competent and PLACED IN A POSITION PAYING FROM \$125 TO \$175 PER MONTH.

Get This Valuable Book

My book "Successful Draftsmanship" gives you information that you should know. It tells how you can become a Practical Architectural Draftsman and draw big money. This book with complete information FREE.

Just Mail the Coupon

That's all that's necessary. Just put your name and address on the coupon and mail it today. I will immediately send you my book "Successful Draftsmanship" and particulars of my offer to personally instruct a few ambitious men.

Get this book and information—it will start you on the road to unbounded success. Send the coupon to me at once.

Chief Draftsman, Dept. 2668

Engineer's Equipment Co.
CHICAGO, ILL.



FREE COUPON

Chief Draftsman, Dept. 2668
Engineer's Equipment Co.
Chicago, Ill.

Dear Sir:—
Without any obligations on me whatsoever, please send me your book "Successful Draftsmanship" and full particulars of your offer to personally instruct a few ambitious men. I assume no obligations whatsoever.

Name.....

Address.....

When Writing Advertisers Please Mention the American Carpenter and Builder.

by a mechanic in a busy machine-room.

In fact, the draftsman when making drawings from which work is to be done should be able to put himself in the place of the actual worker for the time being. Then, and only then, will the draftsman be able to appreciate the kind of drawing which enables the worker to obtain best work most quickly. But, in order to be able to do this, the draftsman must have had actual experience in the shop, at the several machines and at the bench.

Here is where the young technical man falls down and makes the drawings cause shop men to wish they had never been born—until after that draftsman died! The technical man, who has no idea of work in the shop, can not make as good drawing to work from as he could with a year's actual experience in the shop. And I earnestly advise each and every man who is taking or intends taking a technical course to take a year in the shop first.

If you don't know what line you intend to take up, and are just going to "Tech" for a general education, then, just as soon as you decide what line you will follow, right then and there, break away from school, go to work in overalls and jacket for one year, and your technical work will be ten times of as much value to you as though you had crammed first and then spent three years at sifting out the little acquired knowledge that is of use to you, and unlearning the rest!

Just a few hints of some of the things this leads to: The technical student with shop experience "knows what he doesn't know!" That is, he knows what things will be of value to him in his chosen work and he can specialize in these, passing over the other things as lightly as possible. But when a young man knows nothing of shop work or requirements he "must believe everything they tell him"—to quote a certain person, and cannot select the useful and reject the useless things placed before him.

In making details, the man with shop experience places dimension figures where they will prove the handiest—where they are at hand just when the worker gets to need those dimensions. But the man who is not "shop-broken" will place dimensions in such out of the way places that a map and card index seems necessary to find the figures. When one is wanted it may be necessary to hunt the whole drawing over and finally drag the required dimensions out of some corner into which it had been hidden by some mental acrobatics known only to the tech-bred draftsman.

Some young draftsman—and some old ones too, I am sorry to say—work by the rule that no dimensions, under any consideration whatever, shall appear across the face of any drawing. Dimensions, their lines and witness marks, must all be located at the sides or ends of the several views, no matter whether it is convenient to find a certain dimension in a special part of the detail or otherwise.

The writer, in his work, places dimensions, in all cases, where they will be found most convenient, no matter whether they fall across the face of a drawing, or at the tail end of 6-inch work lines.

Another point is the "projection" of a drawing. Some men become so imbued with "third angle" or "first angle" that they will use no other projection angle, no matter how inconvenient that angle may prove in certain situations.

The generally accepted form of projection is the third angle. The shop works frequently call them "pick" (third angle) projection, and "roll" (first angle). The "roll" is where an object is simply laid upon the board, marked around, then rolled over upon another side or end, and marked around in that position. This is straight "first angle" projection and the side which was on top, before the roll, is the farthest from its plan view after the "roll" has been made.

In the "pick" form, after a side has been "marked around" so to speak, it is picked up—hence the name "pick," carried

Send for a Sample of
WATERPROOFED
BIRD & SON'S WALL BOARD
 Finished in Plain Oak and Quartered Oak

The board that comes to you all decorated
 ready to put on your walls. It saves you all
 the expense of papering and painting.

F. W. Bird & Son, 125 Washington Street, East Walpole, Mass.



Branch Offices:
 New York
 Washington, D. C.
 Columbus, Ohio

Established 1795

Canadian Plant, Hamilton, Ontario

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



When Writing Advertisers Please Mention the American Carpenter and Builder.

CAST IRON COLUMNS

IN ALL LENGTHS UP TO 12 FEET
CARRIED IN STOCK

CHEAPER
THAN WOOD,
STRENGTH
AND
DURABILITY
CONSIDERED



A-5
Special Cap

FIRE AND
WEATHER
PROOF
PRACTICALLY
INDES-
TRUCTIBLE

Immediate shipment will be made on orders for cast iron columns from our stock as follows:

Net Prices F. O. B. Foundry, Coshocton, Ohio

		A-3 Plain Cap and Base	A-4 Moulded Cap and Base
5 inch columns	12 feet long,.....each	\$ 6.40	\$ 7.10
7 "	" " 12 " " " " " " " "	9.60	10.60
9 "	" " 12 " " " " " " " "	13.00	14.50

The above prices are given on a column 12 feet long over all including cap and base. For columns of different lengths deduct per foot

5 inch columns.....	\$.25
7 " " " " " " " " " " " "	.35
9 " " " " " " " " " " " "	.50

A-5 Special Cap, each, 5-inch \$1.75, 7-inch \$2.50, 9-inch \$3.25
Prices on larger size columns on application.

A-3 Plain Cap
and Base

A-4 Moulded
Cap and Base

Safe Load in Pounds for Cast Iron Columns

Made Up from Base and Top Castings	5-inch Column		7-inch Column		9-inch Column		
	Cap and Base 10 in. Square	Cap and Base 12 in. Square	Cap and Base 14 in. Square	Approximate Weight	Capacity	Approximate Weight	Capacity
Length	Approximate Weight	Capacity	Approximate Weight	Capacity	Approximate Weight	Capacity	
6 Feet	135 Pounds	38,400	222 Pounds	71,800	288 Pounds	90,500	
6 Feet 6 inches	145 "	37,000	239 "	69,800	310 "	90,500	
7 Feet	155 "	35,600	256 "	69,200	332 "	90,500	
7 Feet 6 inches.	165 "	34,200	273 "	67,600	354 "	90,500	
8 Feet	175 "	32,900	290 "	65,500	376 "	90,500	
8 Feet 6 inches.	185 "	31,500	307 "	64,500	398 "	90,500	
9 Feet	195 "	30,300	324 "	62,900	420 "	90,500	
9 Feet 6 inches.	205 "	29,000	341 "	61,300	444 "	89,100	
10 Feet	215 "	27,800	358 "	59,700	466 "	87,400	
10 Feet 6 inches.	225 "	26,600	375 "	58,100	488 "	85,700	
11 Feet	235 "	25,500	392 "	56,500	510 "	84,200	
11 Feet 6 inches.	245 "	24,400	409 "	54,900	532 "	82,500	
12 Feet	255 "	23,300	426 "	53,400	554 "	81,000	

JAMES B. CLOW & SONS

HARRISON STREET BRIDGE, CHICAGO

FOUNDRIES: COSHOCTON, OHIO.

NEW COMERSTOWN, OHIO.

SAVE THIS PAGE FOR FUTURE REFERENCE.

OTHER CAST IRON SPECIALS WILL FOLLOW

When Writing Advertisers Please Mention the American Carpenter and Builder.

SIMONDS SAWS

Are the Best and They ARE the Best



Made of Simonds Steel

Simonds Steel is made in a Simonds Steel Mill by an exclusive Simonds process for Simonds Saws. This patented process gives Simonds Steel an unequalled uniformity of temper and cutting power.

That is why we guarantee every Simonds Saw to meet any fair trial—money back whenever it fails to do all that a good saw should.

Whether you are a carpenter and must have the best, or an amateur craftsman who will enjoy the best, buy a Simonds Hand Saw. In mills, factories and lumber camps, Simonds Circular, Band, Cross-Cut and other Saws for trade use command the highest price and are conceded the standard by which competition is measured.



This trademark is etched on every saw—see that it appears or refuse to purchase. If you can't get a Simonds Saw from your dealer, send us his name and write us direct—we will see that you are promptly supplied.

Our "Simonds Carpenter Guide" mailed free on request.

Simonds Manufacturing Co.
FITCHBURG, MASS.

to one side, turned over and laid down again with what before was the top side resting adjacent to the plan of that side. So much for the often discussed difference between first angle (roll) and third angle (pick) projection. But the point I wish to drive home, even if, Mr. Woodworker, it has to be placed in your chair, is that either or both forms of projection should be used when the most convenient or when either will show the work the best.

The writer often uses both forms of projection in the drawing of a single piece. I use third angle projection whenever it is convenient to do so, but, with one elevation of an object made at third angle, I may make the other elevation first angle. Whenever this is done I always tag such projection with a line reading: "First angle (roll) projection." This enables anybody to determine, without studying the matter out, whether or not the several views are first or third angle projections. This simple method is found to help things a whole lot, in actual practice, where hundreds of drawings are being continually made and used. As a last word, I wish to advise that in all cases, where dimensions depart from scale, the figures be underscored so a man will know whether he can trust the drawing as well as the figures. This is a very fine habit to get into.



The Red Cedar Shingle

That it has remained for the great Northwest, and particularly for the state of Washington, to furnish the major part of the shingles manufactured in this country is gathered from certain facts as set forth in the booklet issued by the Red Cedar Shingle Manufacturers Association of Seattle, Washington, and which they have entitled "The Red Cedar Shingle."

In the year 1910 there were 11,824,475,000 shingles manu-

House Cold—Last Winter?

You don't need to suffer again—take steps **now** to avoid the inconvenience, discomfort and actual **danger** in a cold, drafty house, unevenly heated, at best.

With Campbell's Guaranteed Heating System you get **steady**, even, moist radiation, **clean** and free from gas. And at any desired temperature.

And you get this good heating with **perfect ventilation**—or you are not a penny out of pocket.

CAMPBELL'S WINTER CHASER

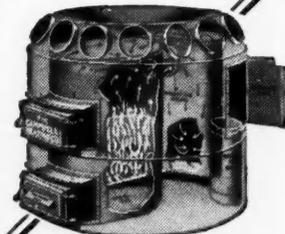
will do the work, and do it with economy and efficiency that will surprise you. No "hit-or-miss" methods. In the first place, the furnace, itself, is right—in the second place, every installation is backed up by the expert advice of the man who made it.

Campbell's Factory guarantee is behind every Winter-Chaser. You run no risk, and it can be installed in any residence within 24 hours. Order it **now**.

The large firepot and perfect combustion method **saves fuel**; the over-sized reservoir assures **moisture** in the atmosphere; the large air-chamber and entrance door in jacket avoid the accumulation of dust and germs. Get this even, economical, moist, **clean** heat by ordering a Winter Chaser **now**. Address

CAMPBELL HEATING COMPANY

Des Moines :: IOWA



When Writing Advertisers Please Mention the American Carpenter and Builder.

BIRCH

AMERICA'S FINEST WOOD

The Native Wood

BIRCH timber reaches its best development in Wisconsin and Michigan. The trees are large, symmetrical, clear and sound, yielding lumber of the highest quality. The wood is close-grained, with a fine figure, tough and strong. It does not mar easily, shrink or warp out of place.

The sapwood of BIRCH is nearly white, the heartwood light to dark reddish brown, from which comes the beautiful RED BIRCH that has no superior in even the costly imported woods. Both sapwood and heartwood take stains so easily and permanently that every effect from soft silver gray to the warmest red is readily produced. BIRCH gives especially good results with white enamel, while a finish in the natural color of the wood itself is very attractive:

The Wood of Distinction

Although BIRCH is used for a great diversity of purposes—the Government Report lists over 150—it is above all a high-grade (but not expensive) furniture and finishing wood. The reception room, the living room, the dining room, the den, the cosy corner, the fireplace nook and the sleeping room can each be given an appropriate individual aspect by the use of BIRCH and yet all be in perfect harmony.

Our BIRCH BOOK shows by accurate sketches and illustrations how BIRCH can be artistically used in modern houses, apartments and office buildings. The book and a sample of BIRCH is stained and natural colors will be sent postpaid upon application to Department C.

NORTHERN HEMLOCK
& HARDWOOD MANUFACTURERS ASSOCIATION
WAUSAU, WIS.

factured in this country. Washington produced 8,333,639,000 of the total output.

The tree from which these shingles are manufactured attains its best development in the rich, moist soil of Western Washington, although Red Cedar is found all along the Pacific Coast from Cape Mendocino in Northern California to Sitka, Alaska, in altitudes from sea level to 7,000 feet.

The association's "Red Cedar Shingle" booklet contains, besides the detailed story of the red cedar and the red cedar shingle, many photographs of houses, bungalows, farm buildings, etc., showing, not only the beauty and durability of red cedar shingles as a permanent and satisfactory roof covering for every style of house having a roof slanting more than 30 degrees, but also to show the charm and elegance of houses covered from crest to foundation with shingles.

Eight pages of the booklet are devoted to bungalows, each page containing three photographs and the floor plans of each bungalow illustrated.

To obtain a copy of "The Red Cedar Shingle Booklet," readers should write to the Red Cedar Shingle Manufacturers' Association at Seattle, Washington. "Advertisement"



Harmony in Interior Decoration

Such is the title of a most interesting booklet which is credited to the Murphy Varnish Company of Newark, New Jersey.

The purpose of this little book is to put into the hands of the contractor, builder, home owner and housewife practical suggestions which will prove artistic and upon which they can rely.

Where a decision must be made in regard to the exterior trim and color for the residence, and the interior finish for

standing woodwork and floors, it is a matter which vitally interests the woman.

It is the housewife that builders must look to for a final answer, and it is to her, also, that the Murphy Varnish Company particularly appeal in their "Harmony in Interior Decoration" as to the selection of the finish for the wood trim of the several rooms of her home and the relative color treatment for sidewalls and ceilings.

Through description and illustration, "Harmony in Interior Decoration" details in special types of houses, viz., the Colonial house, the cement house, the medium size and the small house, the general requirements of finish for wood trim and floors, and also for the interior. The types are sufficiently elastic to cover the needs of many other houses more or less elaborate.

The Murphy Varnish Company issue many booklets on materials for house finishing work, and covering the many various products of their manufacture. For any of these, address either the company's Newark, N. J., or Chicago, Ill., offices. "Advertisement"



Merchant's Old Method Tin

All contractors, builders and carpenters fully realize that in the use of tin anywhere in the construction of a new building, whether for roofing purposes, eaves troughs, ventilators, etc., etc., or for general repair work, it is the best-in-the-long-run policy to make use of only the best tin.

The Merchant and Evans Company of Philadelphia, Pa., are manufacturers of an exceptionally high quality tin plate which is adaptable for general purpose uses. For complete particulars concerning the tin of their making, circulars, etc., write them—Merchant and Evans Company—at Philadelphia, Pa. "Advertisement"



Main Part of This Roof Is 24 Years Old;

The Addition 6 Years: "You Cannot See Any Difference"

Read the letter, then consider this:—Dr. King decided upon

Cortright Metal Shingles

for the addition to his building, after having been protected by them from storm, wind, fire and lightning for 18 years.

To you, as a Contractor, this remarkable satisfaction not only helps increase your business, but really eliminates competition by giving you an article far superior to all other forms of roofing.

Let us tell you how we work with you in developing business. Write us right now for our special offer to Contractors and Builders.

CORTRIGHT METAL ROOFING CO.

Philadelphia and Chicago

Huntingtown, Md., Sept. 7, 1912.

Gentlemen:
A portion of the home of Dr. I. N. King, Barstow, Md., was built about 24 years ago and covered with Cortright Metal Slates. About six years ago we built an addition to it, and also covered it with your roofing, and today you cannot see any difference between the roofs.

Yours very truly,
Lyons & Gibson.

Mail Us This Coupon Now
You may send me book, "Concerning that Roof," as advertised in A.C.B., 11-12
Name _____
Street _____
Address _____
City _____

When Writing Advertisers Please Mention the American Carpenter and Builder.

The New Extra Thick, Rough Edge J-M Transite Asbestos Shingles



For many years the standard of excellence for most available asbestos shingles has been the making of J-M Transite Asbestos Shingles—full quarter inch thick, twice as thick as any other asbestos shingle offered today—and instead of the edges being smooth and uniform, they should be finished slightly irregular or rough.

This extra thickness and rough finish make these shingles more durable and attractive.

Other advantages of J-M Transite Shingles are that they are fire proof and weather resistant, weigh less than slate or tile and consequently do not require such heavy roofing timbers; and like slate and tile, do not split, crack or shatter when exposed continuously to extremes of weather; will not rot, corrode or decay and do not require painting or any other up-keep expense.

Made in colors of Indian Red, Slate and Natural Gray, in size 24" x 18" and 24" x 12".

First Course—Starters, Gutters, Ridge, Roll Sections, etc., furnished to match the shingles. Thickness 1/4" and 1/2".

Full
1/4"
Thick

Natural,
Rough Edges

Ask our nearest Branch
for Sample and Booklet.

H. W. JOHNS-MANVILLE CO.

MANUFACTURERS OF ASBESTOS
AND MAGNESIA PRODUCTS.

ASBESTOS

ASBESTOS ROOFINGS, PACKINGS,
ELECTRICAL SUPPLIES, ETC.

Albany
Atlanta
Baltimore
Birmingham
Boston
Buffalo

Chicago
Cincinnati
Cleveland
Dallas
Denver
Detroit

Duluth
Houghton
Houston
Indianapolis
Kansas City
Los Angeles

Louisville
Memphis
Milwaukee
Minneapolis
Newark, N. J.
New Orleans

New York
Oklahoma City
Omaha
Philadelphia
Pittsburgh
Portland, Ore.

Richmond, Va.
Rochester
St. Louis
St. Paul
San Francisco
Seattle

Syracuse
Tacoma
Washington
Wilkes-Barre

1821

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

Toronto.

Montreal.

Winnipeg.

Vancouver.



This Truck Replaces Three Teams

In eleven months this 3-ton KesselKar covered in actual service 4,760 miles at a fuel cost of \$1.08 per day.

Manned by a driver and one helper, it replaced three teams of horses. The average daily burden was 37 17/20 tons.

It carried an average load of four tons—one ton overload—but in the entire period named was laid up only two and one half hours for repairs.

"We can recommend the KesselKar Truck and assure you that it lives up to its guarantee," writes Thomas E. Fleischer, manager of the Sheboygan Lime Works.

KISSELKAR TRUCKS

1500 lb. 1—2—3—4 and 5 Tons

Note these striking KesselKar Merits:—

Simple engine—easy to operate—reserve power—excess capacity—differential lock, preventing one drive wheel absorbing all the power on slippery places, and stalling the truck—four speed transmission geared up—fourth speed permitting high speed without racing engine: 15% to 20% lower fuel consumption than average trucks—light spring suspension for power plant—heavy spring suspension for load—gauge that weighs load—greatest accessibility—easy control—larger brake drums, and extra powerful brakes—special bodies designed to meet every need.

At the disposal of KesselKar owners is the unrivaled KesselKar Service, consisting of completely equipped service buildings at leading centers, where the mechanical end of motor trucks is taken off your hands.

Ask us to analyze your present horse haulage as compared to motor haulage. The result will be interesting.

Send for free book showing KesselKar Trucks in actual use in yours and any other lines of business.

Kessel Motor Car Co., 546 Kessel Ave., Hartford, Wis.

Branches: New York, St. Louis, Minneapolis, Chicago, Milwaukee, Los Angeles, Dallas, Boston, St. Paul, Kansas City.

KesselKar Service Stations
and Agencies at over 200 leading
points throughout United States

Improved Breast Drills

The new line of breast drills recently placed on the market by the Millers Falls Co., of Millers Falls, Mass., and 28 Warren St., New York, include some novel and highly valuable features.

The illustration, Fig. 1, shows breast drill No. 87, which is typical of the new series, for although other numbers have special features, all have the basic elements here shown.

The breast plate is adjustable and can be set at the most

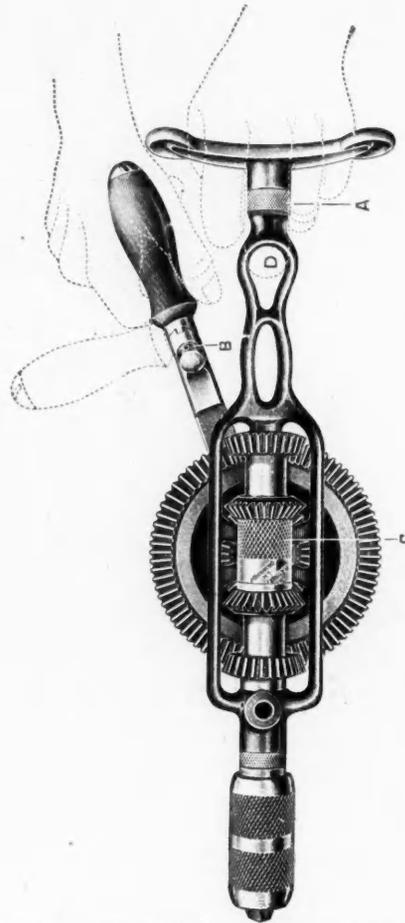


Fig. 1. Breast Drill No. 87, Millers Falls Co.

convenient angle by simply loosening the knurled nut A. When working in cramped or difficult positions, where the drill must be steadied by hand, the middle finger is slipped through the hole in D in the frame and as the breast plate is made to conform to the shape of the hand, it can be very firmly held. For ease and convenience in doing heavy work with breast pressure, an auxiliary breast plate, Fig. 2, is furnished, which clamps over the regular plate.

The crank handle can be set in line with the crank or



Fig. 2 Auxiliary Breast Plate

Handle

When Writing Advertisers Please Mention the American Carpenter and Builder.



"32" Touring Car—\$975

F. O. B. Detroit, including windshield, mohair top with envelope Jiffy curtains, quick detachable rims, gas headlights, Prest-o-lite tank, oil lamps, tools and horn. Standard color, black. Trim-mings, black and nickel. Roadster, fully equipped, \$975.

"32" Delivery, fully equipped . . . \$950
"20" H. P. Runabout, fully equipped . . . \$750
 F. O. B. Detroit

An axle that is an axle

The Hupmobile rear axle is of the full-floating type, a type almost wholly restricted to cars of the highest price.

The chief advantage of this type is that no load whatever is carried on the axle shafts. They do nothing but drive the wheels.

The Hupmobile housing is built up of the two tapered steel tubes, 1, 1, the malleable iron central housings, 2 and 3; and the propeller shaft housing tube, 4—five pieces which form a case so strong and rigid that it does not require the support of truss rods.

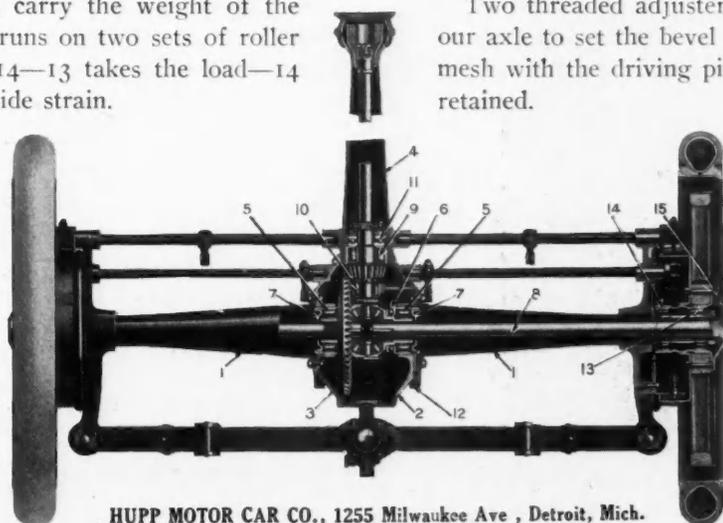
The tubes 1, 1, carry the weight of the car. Each wheel runs on two sets of roller bearings, 13 and 14—13 takes the load—14 takes care of the side strain.

Thus, the axle shafts, 8, are freed to do the driving, with flanges bolted to the wheels at 15.

The large bearings, 5, 5, take only the up and down loads from the differential, the end thrust bearing being taken by two ball bearings just outside the rollers. One of these is shown at 6.

In mounting the bevel driving pinion, we use two roller bearings, 9 and 10, instead of one, placing one on each side of the gear. They hold it in perfect and permanent alignment, while the ball bearings, 11, take the end thrust.

Two threaded adjusters, 7, 7, are used in our axle to set the bevel gear so that proper mesh with the driving pinion is secured and retained.



HUPP MOTOR CAR CO., 1255 Milwaukee Ave., Detroit, Mich.

When Writing Advertisers Please Mention the American Carpenter and Builder.

at right angles to it as shown by the dotted lines in Fig. 1, by simply inserting the pin in the handle into the hole in screw B, where it acts as a wrench for loosening the screw. This has the advantage of giving the right angle position for ordinary work while in cramped quarters or where increased power is necessary, by putting the handle in line with the crank you get increased power and need less side room. Ordinarily, the handle is screwed into the main

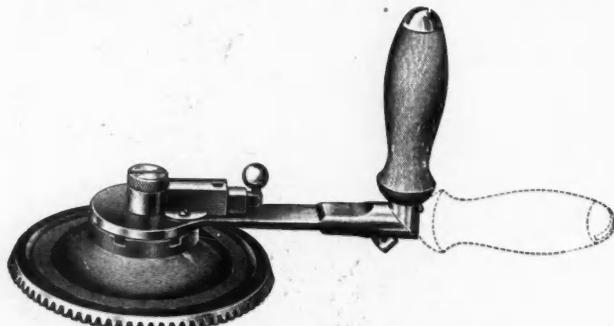


Fig. 3. Showing the Two Positions of Handle

frame between chuck and gears where it can be used for steadying the tool.

The chuck has three actions; a continuous action without ratchet and right-hand and left-hand ratchet motions, controlled by the ratchet action C. In both right- and left-hand actions, the chuck moves continuously to right or left, as the case may be, while the crank is moved alternately backward and forward.

There are two speeds. $2\frac{3}{4}$ to 1 and even, either one of which may be set by simply shifting the knob shown, without removing the drill from the work, the same knob being used

for locking the gears when the chuck is to be loosened or tightened.

Workmanship and finish are of the higher order throughout. It is double geared; cut gears are used and small gears are of steel. The thrust bearing is of the ball type and can be adjusted to take up wear. The chuck of the master pattern takes all sizes round shanks $\frac{1}{8}$ to $\frac{1}{2}$ inch No. 1 Morse Taper and all sizes of bit stock shanks.

The handles are of hard wood, stained, while the malleable frame is painted black; large gear and breast-plate French gray picked out in red; other metal parts handsomely nickelled and polished.

"Advertisement"



Cedar Lined Closets the Latest

Doubtless every builder and carpenter appreciates just what a terror the moth is to the housewife. Camphor balls, tar paper, flaked tobacco and various other "sure deaths to moths" are from time to time utilized in every household and still the moths continue merrily on with their feasting upon overcoats, furs, suits, underwear, etc., etc.

What should interest every house builder and home owner, as well as the feminine portion of the house, is the Cedar Filmwood which is now being manufactured by the Cott-a-lap Company of Somerville, New Jersey, manufacturers of Filmwood, Cott-a-lap and various other wall fabrics, dyed burlap and wall specialties.

This Cedar Filmwood has been giving excellent results for the lining of clothes closets, clothes chests, etc., etc., and as it gives the cedar smell which is generally considered deadly to moth life, it is seemingly quite practical for the particular purposes it is being used for.

Cedar Filmwood gives a general decorative effect, as it is rich in color. When used for chest or closet lining purposes

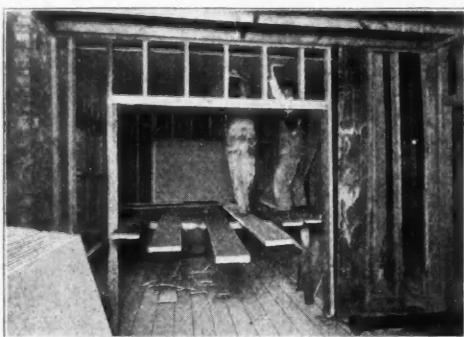
HERE IS THE ANSWER How to Keep Busy in Cold Weather

Bestwall Solves The Problem Bestwall

The Winter Building Material—Fire Proof Wall Board

(Not Made of Wood Pulp or Paper)

An improved construction over lath and plaster. Use it for the entire house. No panel strips necessary over the joints. Apply any kind of decoration; wall paper, burlap, paint or kalsomine.



TRADE PRICES TO CARPENTERS

The photograph shows two progressive carpenters who have contracted to finish an entire building with Bestwall Fire Proof Wall Board.

This building is now finished and we shall be pleased to send illustrations, upon request, showing rooms completed without the use of panel strips over the joints.

You can find plenty of ways to increase your business in winter by writing to us.

BESTWALL MANUFACTURING COMPANY

1247 First National Bank Building, Chicago

Warehouses: Cleveland, O.; St. Louis, Mo.; Kansas City, Mo.; Lincoln, Neb. California Bestwall Company, Rialto Building, San Francisco

When Writing Advertisers Please Mention the American Carpenter and Builder.

The "ABC" of BEAVER BOARD Construction

The eleventh of a series of twelve monthly talks to carpenters about the practical use of *Beaver Board*, the pure-wood-fibre wall and ceiling material that is durable, economical, artistic; has none of the disadvantages of lath, plaster and wall paper; and is appropriate to any type of building new or old.*

Beaver Board is essentially a proposition for Carpenters and Builders.

CHAPTER XI

Stenciling Beaver Board

"Stencil your Beaver Board walls and ceilings." There's a suggestion that you can profitably make to your clients.

They can purchase inexpensive stock designs or, better still, they may have original stencils cut to suit their individual tastes.

The possibilities of the stencil in conjunction with Beaver Board are practically limitless.

You have a golden opportunity to be of genuine assistance to your man by suggesting this inexpensive and exceedingly decorative solution of the wall problem.

Original and Striking Effects Possible with Stenciled Beaver Board

Stencils are used effectively for frieze designs, border of panels, center decoration of wall or ceilings, either with or without border, as preferred.

Such conventional treatment as fruits, flowers, plants, geometric designs, trade-marks, monograms, coats-of-arms, etc., are easily obtained.

Also a subject appropriate to the individual tastes or to the business of your client invariably makes a hit. Thus a cigar store may have a stenciled design of tobacco plants; a florist's shop or a restaurant suggest a dozen subjects typical of the trade, that can be used with attractive results. In the residence, a centered initial or symbolical design is always in good taste.

In short, wherever Beaver Board is the wall-covering there is an unequalled opportunity for attractive and exclusive stenciled designs—whether the job be an office, a show room, a mansion, or a bungalow.

GENUINE BEAVER BOARD has our registered trade-mark on the back of each panel and sample. It has also a light cream color all the way through, that comes only by the use of sanitary, durable PURE-WOOD-FIBRE. Insist on seeing both trade-mark and color before buying.

Write for "*Beaver Board and its Uses*," if you want to have laid before you the entire possibilities of Beaver Board. Every Master Carpenter can turn the information given in this book into actual dividends. Sent free on request.

*This series began in the January issue. If you haven't seen the earlier chapters, write us and we'll send them to you.

The Beaver Companies

Address all correspondence to

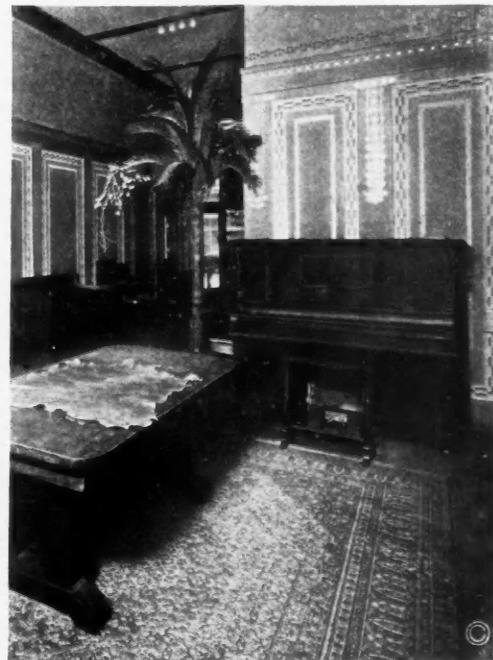
UNITED STATES: - - - 441 Beaver Road, Buffalo, New York
CANADA: - - - - - 381 Wall Street, Beaverdale, Ottawa
GREAT BRITAIN: 4 Southampton Row, London, W. C. Eng.

When Writing Advertisers Please Mention the American Carpenter and Builder.

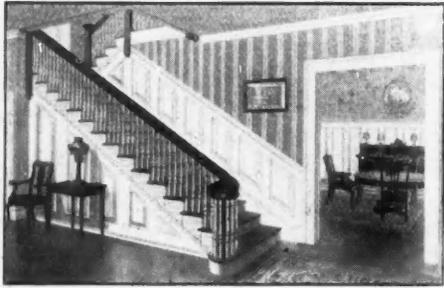


You can see how effectively stencil treatment applies to a Beaver Board frieze from this glimpse into Mr. Roy Hammond's dining room at Santa Cruz, California.

BEAVER BOARD PURE-WOOD-FIBRE Walls & Ceilings



The Beaver Board Walls and Ceiling of The U. S. Music Store at Chicago have attracted great attention. Many equally impressive designs can easily be worked out by any one.



Vitralite

The Long-Life
WHITE ENAMEL

As polishing brings forth the scintillating brilliancy of an uncut gem, so does Vitralite, *The Long-Life White Enamel*, develop the full beauty and worth of architectural creation.

In perfect harmony with it — a combination reminiscent of the Old Colonial, is "61" Floor Varnish — a subdued luster of lasting wear.

Let us send you samples, both liquid and on wood.

Our Architectural Service is most complete and always at your command. Please feel free, at all times, to avail yourself of this co-operation.

See Pratt & Lambert Specifications, 1912 Sweet's Index, pages 1668-1669, before specifying wood finishes.

Pratt & Lambert Inc.
110 Tonawanda St., Buffalo, N. Y.

"61" FLOOR VARNISH

PRATT & LAMBERT VARNISHES
AMERICAN FACTORIES: NEW YORK, BUFFALO, CHICAGO, BRIDGEBURG, CANADA
ESTABLISHED 63 YEARS
FOREIGN FACTORIES: LONDON, PARIS, HAMBURG

it, of course, requires no finishing, as this would shut in the cedar smell.

Cedar Filmwood like the various other filmwoods, is a very thin veneer of the real wood backed with a suitable paper by a special process so that it can be hung just like any wall paper.

The Cott-a-lap Company will gladly furnish detailed particulars concerning their Filmwoods to all AMERICAN CARPENTER AND BUILDER readers. Address them at Somerville, New Jersey. "Advertisement"



Paper Vs. Cloth Sacks for Cement

When asked his opinion as to whether the best results were secured by buying cement in cloth sacks or in paper sacks, Leonard C. Wason, president of the Aberthaw Construction Co., Boston, stated that this is at the present time a much mooted question among the users of Portland cement. He then went on to say that he thought the time would never come when either form of package is entirely eliminated but that as time goes on and the buyers of cement analyse more carefully the methods of the question, the use of paper sacks would steadily increase. In bringing out the disadvantages of the cloth package as compared to the paper package Mr. Wason took a hypothetical case which clearly showed the situation. To quote Mr. Wason:

"Let us assume the price of bulk cement to be \$1.40 per bbl.

"A" buys 1000 bbls. packed in cloth and is invoiced at \$1.80 per bbl., or \$1800. Of his invoice \$400 covers the cloth bags purchased at 10 cts. each from the cement manufacturer. It is part of the purchase contract that the cement company agree to buy back this \$400 worth of bags for \$400 provided they are all returned to the cement company's mill in good condition. The purchaser who does not carefully analyse the question therefore concludes that this cement cost is only \$1400 plus the item of freight in returning the bags.

"B" purchases 1000 bbls. of cement in paper bags and is charged \$1.50 per bbl. for same; \$1.40 being for bulk cement and 10 cts. for paper packages. His invoice is therefore \$1500.

"At first glance and before analysing the question it would appear that 'A' had acquired 1000 bbls. cement for \$100 less than 'B', a difference of 10 cts. per bbl. 'B', however, who possesses an analytical mind reasons to himself that he is better off than 'A' for the following reasons:

1. "A" has an item of expense for prepaying freight on the bags he returns. "B" has none.

2. "A" has the time and labor expense of collecting, counting, storing, keeping tally, packing, carting, etc., of the cloth bags, which item is one of large proportions. "B" has none of this trouble or expense.

3. The cloth bags purchased by "A" require time to untie and time and care to empty thoroughly. "B's" paper sacks require little time to untie, can be handled easily, cut with a hoe, broken across a box or barrel and emptied instantly.

4. "A" sustained a loss of cement in transit, estimated at one lb. per sack or 4 lb. in a barrel, sifting through the bag in handling. "B" sustains no loss through sifting. He runs the risk of a possible loss in tearing, but the present good grade of Manila rope paper sacks turned out by the established bag manufacturers reduces this risk to a minimum. The quality of paper turned out today is better than any heretofore produced.

5. "A" sustains a loss in emptying his cloth bags. Laborers are often so careless as to leave from .5 to 1.5 per cent adhering to the sides of the bags. "B's" paper sacks empty easily; no sticking of cement to sides.

6. "A" is almost sure to suffer loss through theft and carelessness. A cotton sack is an attractive article to laborers. They use them for aprons, tool bags, clothes for the family and they are handy to have around the house for other purposes. They are also used to carry coal, brick and stone and

When Writing Advertisers Please Mention the American Carpenter and Builder.



One Good Job Deserves Another

GOOD carpentry deserves good varnishing. From your point of view, as well as the customers', poor varnishing is a bad ending for a good job.

Help your customers avoid it.

Tell them about Berry Brothers' Varnishes. Tell them that good varnish is the first essential of good varnishing. Tell them to know the Berry Brothers' label and to be sure they get it, for all varnishing, on any of your work.

Every carpenter should own a copy of "NATURAL WOODS AND HOW TO FINISH THEM". Free to all readers of "American Carpenter and Builder".

BERRY BROTHERS, Ltd., Detroit

When Writing Advertisers Please Mention the American Carpenter and Builder.

every bag so used is damaged or destroyed. "B" suffers no loss through this channel.

7. "A" runs the risk of loss through dampness. Moisture is absorbed and easily penetrated the cloth bag, damaging the cement and causing it to stick to the bag. "B" suffers no loss from ordinary dampness, and, in fact, cement in paper bags frequently goes through short rain storms without damaging the cement.

8. "A" suffers a loss of 40 cts. or 2/7 the prices of a barrel of bulk cement for every four bags unreturned to the mill. If the bags are not carefully packed several are often lost in transportation. If not properly tagged, whole bundles are often lost. Add to this the number of bags not returned because stolen or not accepted because damaged and this item is surprisingly large. Fifteen to 20 per cent of bags purchased are lost or so damaged as to be worthless for credit. "B" suffers no loss of this character.

9. "A" runs the risk of, at least, a disagreeable dispute with the mill over the sacks he has returned both as to the condition of the bags and the count. Disputes take time and energy and are costly to both parties. Furthermore, the cement mills usually take their estimate of condition and count as final. "B" through the use of paper sacks, obviates this possible disagreeable feature in his business.

10. "A" runs the possible risk of not getting the brand of cement specified. Unscrupulous dealers have been known to pack poor cement in second hand bags bearing the label of the brand supposedly purchased. "B" knows positively he is getting the brand he orders.

"A" pays the cement company a profit ranging from 10 per cent to 40 per cent on every cloth bag he is obliged to purchase from them at 10 cts. each, since the cement companies purchase the cloth cement sacks at from 7 to 9 cts. each, and their customers buy these bags after they have

often had as many as five or six deliveries with them at 10 cts. each.

The buyer of cement, who, like "B", carefully analyses this problem will, in my opinion, come to the conclusion that a paper package when made of stout, tough paper gives a service which is well worth the apparent higher cost.

"B" estimates that the apparent differential of \$100 in favor of cloth on the 1000 bbl. order here referred to, is reduced 60 per cent through the item of lost and damaged bags alone. On good authority 15 per cent is a just estimate of the number of bags which are not returned or which are so damaged as to receive no credit. Applying this estimate to "A's" order he will fail to receive credit for 15 per cent of 4000 bags, or 600 bags, which he is obliged to buy from the cement company at 10 cts. each or for \$60. This reduces the differential on the 1000 bbl. order to \$40. Now, in addition to the tangible cash loss from uncredited cloth bags "A" also sustains a tangible loss of about 2 per cent from cement sifting through the cloth in transit and from sticking to the inside of the bags when emptied. This item would, therefore, amount to \$28, reducing the cash differential in favor of cloth bags to \$12.

"B" therefore figures that if the return freight charges, the time and labor of collecting, counting, storing, keeping tally, packing, cartage, etc., of the cloth bags, the lost time in emptying them, the risk of loss through dampness, the risk of a dispute with the cement company supplying the cement and the risk of not getting the brand of cement specified, is worth to him \$12 or more, he is a gainer through having purchased his cement in paper bags."

Undoubtedly the above opinion will appeal to accurate thinkers as being well founded on facts and they will prove interesting to those who have hitherto given it the careful analytical study which it merits.

We Convinced Ourselves

of the superiority of our *Copper Bearing Open Hearth ROOFING TIN* by making *long service tests* before placing it upon the market.

We Will Ultimately Convince You

because *merit* is certain to be recognized.

Write for full information and quotations on our Copper Bearing Open Hearth Terne Plates, Continuous Roofing Tin, Apollo Best Bloom Galvanized Sheets, Formed Metal Roofing and Siding Products, etc. Send for our Pocket Reference Book—valuable to roofers and builders.

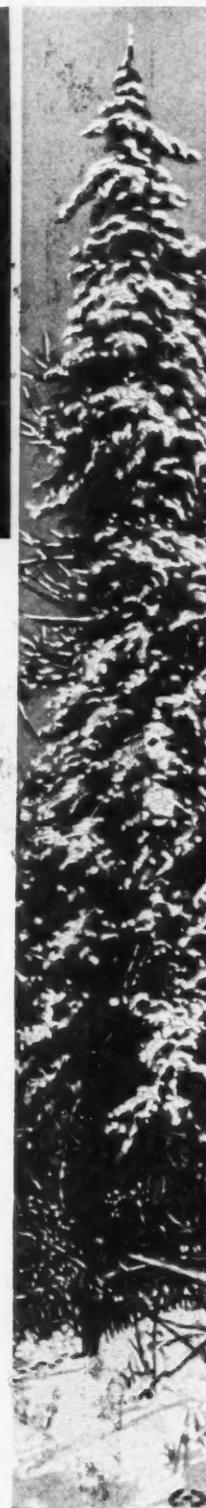
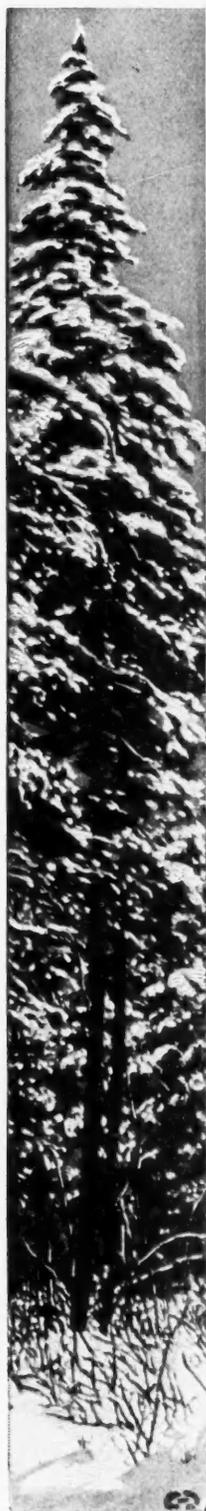
American Sheet and Tin Plate Company

General Offices: Frick Building, Pittsburgh, Pa.

DISTRICT SALES OFFICES:

Chicago	Cincinnati	Denver	Detroit	New Orleans	New York	Philadelphia	Pittsburgh	St. Louis
Export Representatives: UNITED STATES STEEL PRODUCTS COMPANY, New York City								
Pacific Coast Representatives: UNITED STATES STEEL PRODUCTS COMPANY, Los Angeles, Portland, San Francisco, Seattle								

When Writing Advertisers Please Mention the American Carpenter and Builder.



It Doesn't Require "Book Knowledge"

for a good carpenter to know the values of WHITE (and Norway) PINE as compared with other woods. He knows by cold experience the *easy working qualities* of WHITE PINE and the excellent appearing jobs he secures from its use.

There are, however, a lot of people who think they can get "all wool" results with cotton.

They are the kind of persons who ignore the carpenter's advice when he recommends WHITE (and Norway) PINE.

Such people have to be educated. And good carpenters are telling them individually the same facts we are telling them with printer's ink, viz: that *SUPERIOR RESULTS* can only be obtained by the use of *SUPERIOR MATERIAL* and that there is *NO LUMBER SO UNIVERSALLY DEPENDABLE* as good

WHITE PINE

"The Wood America is mostly built of"

and that there is PLENTY OF WHITE (and Norway) PINE, at reasonable prices with prompt deliveries assured.

Buy your White and Norway Pine at your Local Yards.

(We do not sell it as an association)

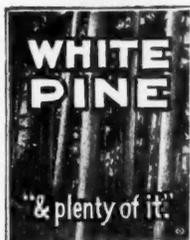
(But we've got 2 Booklets—Good ones—Worth writing for. FREE. Send name.)

NORTHERN PINE MANUFACTURERS ASS'N.

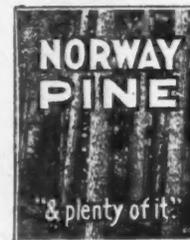
1119 Lumber Exchange - Minneapolis, Minn.

When Writing Advertisers Please Mention the American Carpenter and Builder.

"GOOD NEWS"



"GOOD NEWS"





This trade-mark, "The MARK of the MAKER," is a guarantee of the highest known quality in hand-tools. Always look for it.

What Makes a P. S. & W. Chisel Hold Its Edge?

FIRST—It's the quality of the steel. The blades of these chisels are all forged from solid bars of the best English tool steel.

SECOND—It's the superior hardening and tempering, due to the P. S. & W. knowledge and experience that goes way back to 1819.

THIRD—It's a dozen different points of skill and care possible only to the largest chisel makers of America.

P. S. & W. Guaranteed Tools for Carpenters

Among many other items are Braces, Auger Bits, Chisels, Gouges, Draw Knives, Squares, Pliers, Callipers, Hat-chets, Hammers, etc., etc.

Write for a free copy of the "Mechanics' Handy List," a 170 page book, listing over 200 tools and including 35 pages of valuable information for daily use.

The Peck, Stow & Wilcox Co.

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

SOUTHINGTON, CONN.
NEW YORK, N. Y. CLEVELAND, OHIO

Address 22 Murray St., New York City

When Writing Advertisers Please Mention the American Carpenter and Builder.

Fox Company Announces Picture Contest

The Fox Supply Company of Brooklyn, Wisconsin, manufacturers of the Fox floor scraper, want certain photographs of floor scrapers and floors finished with scrapers. To be sure not only to give every one an opportunity to submit photographs, but to thoroughly interest all as well, they are offering cash prizes of \$25.00, \$15.00 and \$10.00 for the best photographs submitted to them before January 1st, 1913.

The contest will be an open one. The judges who will pass upon the photographs and decide the winners are men well known in the building world. Their presence on the judging committee assures a fair and impartial award.

All AMERICAN CARPENTER AND BUILDER readers can secure complete details regarding this contest by writing to Mr. R. J. Weckerman, secretary Fox Supply Company, Brooklyn, Wisconsin. "Advertisement"



The "Jacks" Practical Investment

When "Pa Jack" and his better half determined to put into a home a part of "Pa's" working cash they decided at the outset that they would in this construction of their home make an investment which, in case the place was ever offered for sale, would increase its value at least 400 per cent.

What did they do? In "The House that Jack Built," a booklet but recently issued by the Paine Lumber Company of Oshkosh, Wisconsin, just what the "Jacks" did, and how and why they did it is fully explained.

This "House that Jack Built" or "the cost of hardwood versus softwood" booklet, analyzes and offers a comparison of the advantages of using hardwoods rather than softwoods. It details and illustrates why, in "The House that Jack Built" hardwood birch doors and trim for the first floor cost "Jack" but \$25.00 more than common yellow pine or other softwoods, and yet increased the value of his house \$100.00 or 400 per cent—it further details and illustrates why, in "The House that Jack Built" hardwood birch doors and trim for the entire house cost "Jack" \$50.00 more than common yellow pine or other softwoods, and yet increased the value of his house \$200.00 or 400 per cent.

AMERICAN CARPENTER AND BUILDER readers can obtain, by addressing the Paine Lumber Company at Oshkosh, Wisconsin, a copy of "The House that Jack Built." "Advertisement."



Canton Company's Interesting Catalog

One of the most interesting catalogs it has ever been our privilege to review is the new catalog number but recently issued by the Canton Art Metal Company, of Canton, Ohio, the large manufacturers of ornamental steel ceilings and sidewalls and various other art metal work.

This company's new catalog D is a 144-page affair, 10½ by 14 inches. The paper used is a very high quality and finish white enamel and on practically every page are half-tone reproductions of photographs of the company's ceiling, sidewall and center piece designs. These photographs were made in the Canton company's own gallery.

The catalog illustrates many more designs than the company has ever before shown and one entirely new "order" (design), termed "Modern French" is given, as are also many new Louis XIV, Greek, Rococo, Colonial, Empire, Gothic, Romanesque and various combination designs. In addition to showing the numerous designs, the catalog also contains many illustrations of both interiors and exteriors of buildings in and upon which Canton art metal work has been used and the pleasing effects obtained are clearly detailed.

Ceilings and sidewalls of metal have many advantages as a covering and decoration. They have long since passed the experimental stage and are now considered of great value as a protection from both fire and water. They do not crack,

ORR & LOCKETT
Established 1872 **L HARDWARE CO.**

This advertisement is directed at contractors who do not realize what our forty years of experience and tremendous buying power means to the man who uses

Contractors Tools and Supplies

In the first place, we carry the largest and most complete line of tools and supplies for carpenters, cement workers, wood workers, electrical workers, masons, etc., in the country. This means that contractors can buy anything needed for the whole job at our store and save time and expense of "shopping around" and placing scattered orders.

In the second place, we are not bound to a single line or brand of tools that vary in quality. We buy saws of the best saw maker, trowels of the leading trowel manufacturer. We seldom fill an order with one line of goods exclusively and the result is no weak link in our shipments anywhere.

The variety of our stock is shown by the fact that you can buy practically any tool advertised in this magazine at our store and find it on the shelves ready for you to take away with you. We can always ship your order at once and our forty years of success is your guarantee that our goods stand upon honor.

GIVE US YOUR NEXT ORDER FOR TOOLS
AND SUPPLIES AND LET US SHOW YOU.

ORR & LOCKETT
Established 1872 **L HARDWARE CO.**
14-16 W. Randolph Street, CHICAGO, ILL.

When Writing Advertisers Please Mention the American Carpenter and Builder.

peel or fall; their durability is conceded and for decorating effects they admit of a high degree of ornamentation.

The one objectionable feature about steel ceilings has been the mechanical construction, as the effect of a large number of artistic designs has been spoiled by open joints.

The Canton company have always aimed to make construction first and design the second consideration in the manufacture of their ceilings. And in keeping with this they have now gone one step further by repressing the beads on steel upper and steel lower dies, making them accurate to the one-thousandth of an inch and at the same operation punching the nail holes in the plate at the nailing points and doing away with any nailing through the metal. A feature which is a saving of at least 20 per cent in the cost of the erection and makes it possible to have a perfect fitting ceiling in every respect.

Contractors, builders, carpenters and all those interested in the installation of metal ceilings, sidewalls, etc., etc., can, by addressing the Canton Art Metal Company of Canton, Ohio, obtain full particulars concerning their metal ceiling work.

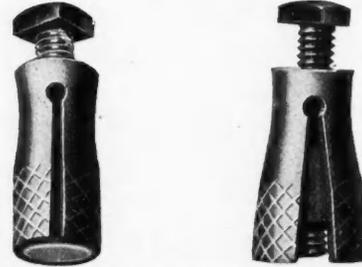


The Van Expansion Bolt

Though expansion bolts are only details for the fastening of apparatus to concrete, brick, stone, marble, tile, etc., as much attention should be paid to the selection of the little things as to those of greater size and weight, because it is the little things that in combination are the big, important features.

Expansion bolts in certain types of buildings are as necessary as the foundation, and care should be taken in the selection of the particular expansion bolts to use, for one defective bolt may be the innocent means of causing untold damage.

The Van expansion bolt is built to hold. The bolt consists of three parts—a flexible shell whose chemical composition is such, that it is rust proof and has great frictional resistance—a specially designed threaded cone of hard, tough metal, which fits exactly into the shell. "V" shaped grooves on the



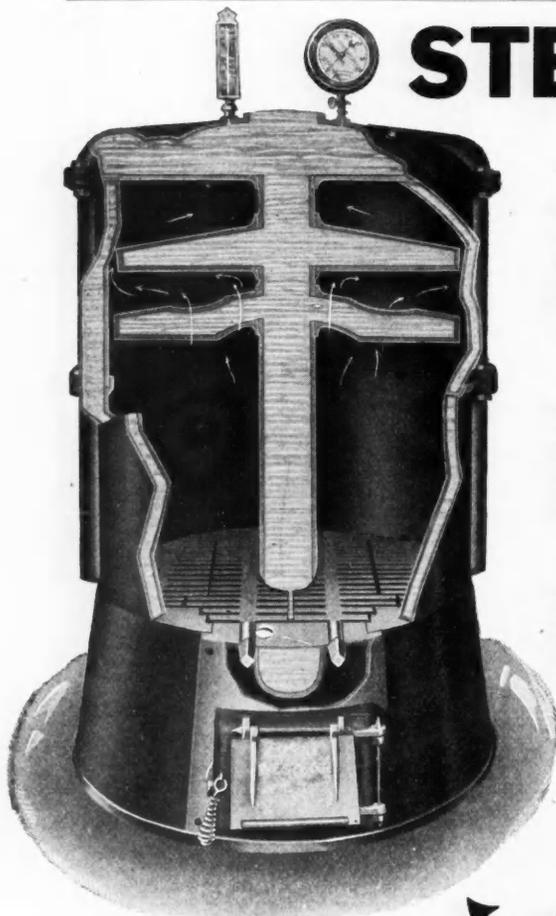
Van Expansion Bolt in First and Extended Condition

exterior of the cone, prevent the cone from turning in the shell—a tin disc, which covers the bottom of the shell and makes the shell, cone and disc a one-piece affair, prevents dirt from clogging the cone threads and falls out of the shell only when the shell is expanded in the hole.

The perfect fitting of the cone, in the shell of the Van expansion bolt, acts as a wedge. The expanding power of this cone wedge is supplied by the action of the screw or bolt upon the wedge and screw principles. The shell is so designed that the greatest stress is placed at the bottom of the hole. Any style of U. S. standard thread machine bolt or screw can be used with the Van.

The Van expansion bolt is manufactured by the Van Expansion Bolt Manufacturing Company, whose offices are in the Fort Dearborn Building, Chicago, and a line to them will bring you an interesting little booklet, "Expansion Bolt Facts," which describes the Van in detail.

"Advertisement"



STERLING

HOT WATER HEATER

¶ Hot Water is recognized as the very best system for heating any home. True, it costs a mere trifle more to install but it saves that extra cost very quickly in economy of fuel consumption.
 ¶ Hot Water heat is steady, satisfying, clean—and it's healthful, too.
 ¶ The Sterling System is unbelievably simple and this simplicity is a source of great economy to the purchaser.

Not an Expense but Real Economy

¶ Durability and up-keep considered, The Sterling System is really cheaper than any hot air or stove heat. That means much to your clients, Contractors and Builders. It means a great deal to and for you, too.
 ¶ Heat economy and satisfaction are wanted in every home. You can be sure of true heat satisfaction in every building in which you install The Sterling System.

Easily Installed in New or Old Buildings

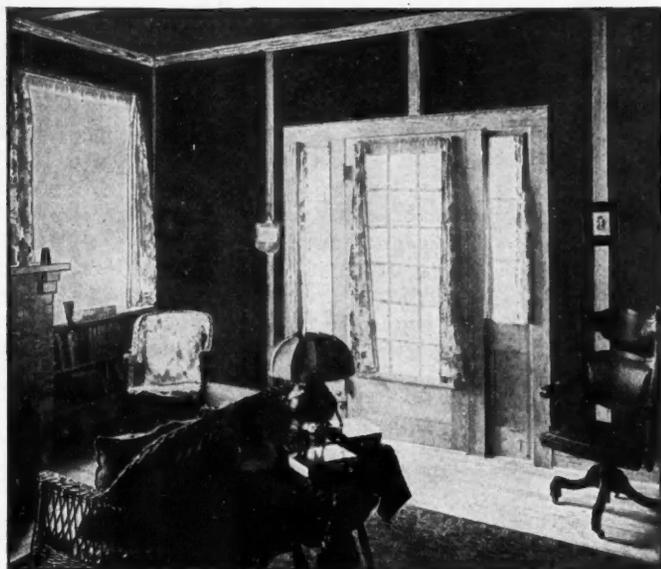
¶ Owing to its simple construction it can be readily installed in a building already built. It requires very little room indeed. Anyone, almost, who can handle tools can install the Sterling as we send complete heating plans absolutely Free. These plans are made by competent heating engineers.

Contractors and Builders

THE STERLING SYSTEM is just what you have been looking for. Our book—"The House of Perpetual Summer"—is something you ought to have. It will pay you dividends. Send for it today. Don't neglect to find out about THE STERLING SYSTEM before installing any particular heating equipment.

CONSUMERS' HEATING COMPANY
 MARSHALLTOWN, IOWA

When Writing Advertisers Please Mention the American Carpenter and Builder.



In building a new house—
In repairing an old house—
You'll find beauty, conven-
ience and economy
combined in

UTILITY WALL BOARD

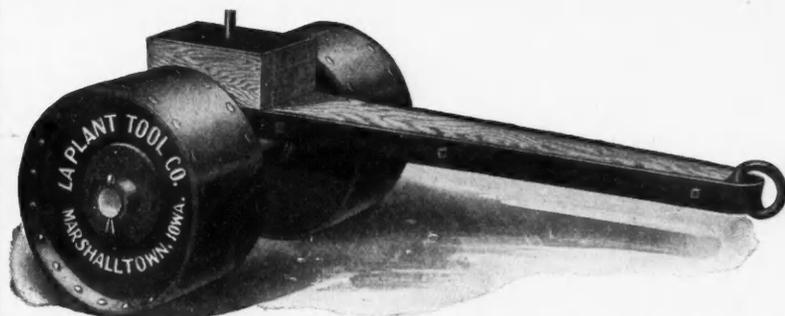
Put it right on over the studding—Do away with all the muss and dirt and uncertainty of lath and plaster—and you'll have walls and ceilings that will not crack or warp and that will last as long as the house stands.

Utility Wall Board is wonderfully convenient for making changes in an old house. You can turn a bare attic or basement into an attractive room—you can put in partitions or build closets at trifling expense—and you can do it all without any of the muss and dirt of lath and plaster. Utility Wall Board comes in sheets of convenient sizes up to 4 feet wide by 16 feet long. It is easily cut and is nailed direct to the studding. It can be decorated in any style desired.

We want to send a free sample to every carpenter and builder.

Write for yours.

THE HEPPE'S COMPANY, 4503 Fillmore Street, CHICAGO, ILL.



THE LA PLANT HEAVY HOUSE MOVING TRUCKS

When you get a job with an old building on the lot—move it with the La Plant Trucks to another place—instead of wrecking it. There is more profit in it for you.

La Plant Heavy House Moving Trucks are made of steel—on scientific lines—are interchangeable so they can be worked singly, in pairs or in fours.

Write for catalogue O and see how easy it is to wheel a building a mile in a day—compared with the profit to be made in moving houses instead of wrecking them.

LA PLANT TOOL CO.

1100 E. Nevada St.

Marshalltown, Iowa

When Writing Advertisers Please Mention the American Carpenter and Builder.

A Little Thing May Get You The Order

A little thing may get you the contract to build that home—especially when the woman decides. Why rest your whole argument on price? Let the other fellow shave his figures to a point where his bid, if accepted, leaves no profit—but do not do that foolish thing yourself.

Make a price that leaves you something for yourself and then look for talking points to get the contract—especially when the woman decides.

Show That You Are Up-To-Date

Show that you are a live builder by offering advertised building materials. Look through a magazine like Good Housekeeping and find out what is being advertised. Then tell the man and his wife that you can furnish those things. You will discover that you have struck a new lead.

Here are some of the specialties advertised in Good Housekeeping, the magazine that absolutely guarantees all its advertisements, and which is read religiously by over 300,000 women heads of households of the home-buying class:

Standard Guaranteed Plumbing Fixtures	Sargent's Builders Hardware
Tuec Stationary Air Cleaning System	Siwelco Noiseless Closet Utility Wall Board
Monarch Metal Weather Strip	Sanitas Wall Covering Beaver Board
Sherwin-Williams Paints and Varnishes	Pratt & Lambert '61' Floor Varnish
Vudor Porch Shades	Vitralite White Enamel
Maxwell's Lakeside Rug Border	Minneapolis Heat Regulator
Tyler's Domestic Hot Water Generator	Macbeth-Evan's Glass Shades and Globes
Carpenter's Spring Shades	Alabastine Wall Tints
Wild's Parquet Inlaid Linoleum	Alabasco Fast Wall Paint
Elastica Floor Finish and Kleartone Stains	Mellotone Wall Finish, High Standard Liquid Paint, Oil Stains (Lowe Brothers)
Brenlin Window Shades	Imperial Sanitary Flooring
United States Radiators and Boilers	Valspar

Give The Public What It Wants It Wants Advertised Goods

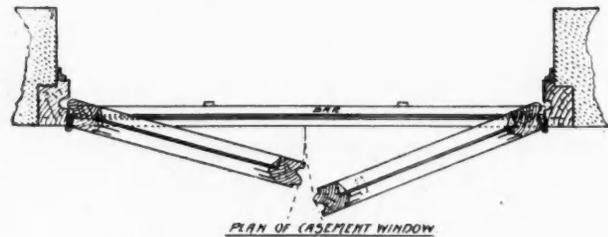
The magazine publishes GOOD STOREKEEPING, a quarterly devoted to this question of cashing in on the wide demand for advertised products. A copy of it, and a copy of Good Housekeeping Magazine, will be sent free on request to any contractor or builder. Address Dealers Service Department, Good Housekeeping Magazine, 381-D, Fourth Avenue, New York.

The Casement Water Excluding Bar

For several months past the AMERICAN CARPENTER AND BUILDER has published some interesting articles in its "Builder's Hardware" department, on the subject of casement windows. These articles showed various methods of properly installing casement windows and the best ways of placing the hardware, as well as descriptions of the different kinds of hardware for casement windows on the market.

Readers of the AMERICAN CARPENTER AND BUILDER should therefore be much interested in the Peters patent casement water excluding bar, now offered for sale by Mr. J. S. Gillespie, Room 1256, 200 Fifth Ave., New York City. This bar is designed for casement windows opening inward and can be applied to old as well as new sashes, and is guaranteed to make the sill joint absolutely waterproof. This device is illustrated herewith.

The water excluding bar proper is formed of a crescent shaped metal bar, which moves up or down when closing or



opening sashes. It is held in place by two sockets set into the frame and by small clips fixed to the sill. The right side sash is fitted with a special hook which catches and moves the water excluding bar into position. When the sashes are closed the bar goes up a full $\frac{3}{8}$ of an inch underneath the sash, therefore preventing the water from coming in.

This bar has heretofore been used with great success in Canada, particularly in some of the best buildings in Quebec. It is simple in construction, cannot get out of order, low in price, lasts a life time and can be easily applied by any carpenter and builder. The bars are made in galvanized iron, bronze, copper or brass.

Further particulars and prices can be obtained by addressing J. S. Gillespie, Room 1256, 200 Fifth Ave., New York. Mr. Gillespie will be pleased to answer any inquiries. He is also looking for agents to handle this device in various parts of the United States. "Advertisement"



The Transfer Brand of Red Cedar Shingles

The Transfer Lumber and Shingle Company of North Tonawanda, N. Y., are now having manufactured for them a particular brand of red cedar shingles which they sell under the trade name of "Transfer Brand—16 inches extra clear."

The company say that there will be at least 2,000 cars of "transfer brand" red cedar shingles used this year, and point in particular to certain features of these shingles which are making them so popular with both contractors and builders and home owners.

The transfer brand of red cedar shingles are cut 90 to 95 per cent vertical grain. They are thick and contain no sap. They are jointed to parallel widths, and they are 100 per cent clear of knot defects.

AMERICAN CARPENTER AND BUILDER readers having shingling work in hand, as well as those generally interested in shingles, can obtain complete particulars concerning the "transfer brand" of red cedar shingles by addressing the Transfer Lumber & Shingle Company at North Tonawanda, N. Y.

"Advertisement."

When Writing Advertisers Please Mention the American Carpenter and Builder.

“PUT A STOP TO DEPRECIATION—BUILD WITH CYPRESS AT FIRST!”



The Wood That Lasts Shall Be First With Wise
CONTRACTORS



By honest and intelligent advice on woods we are not only saving losses to people who are going to **build anyhow**—but we are also



CAUSING MORE PEOPLE TO BUILD

This is going to be of more and more benefit to **you** month by month. It is **up to you** to intelligently take advantage of this by **learning for yourself** that **CYPRESS** is not only the **ONE BEST INDOOR AND OUTDOOR WOOD** for the owner—but also the **ONE BEST WOOD FOR YOU**. Cypress **“makes good.”** That helps your reputation. Cypress is **easy to work**—that’s **good for your tools**.

We are giving away complete working plans and specifications for **THIS CYPRESS SHINGLE HOUSE No. 2**. Many thousands of people **ALL OVER THE U. S.** are writing for them. **THEY WILL HAVE TO GET YOU TO DO THE WORK.**

THEY WILL INSIST ON CYPRESS

It will be **MONEY IN YOUR POCKET** TO HELP THEM GET JUST WHAT THEY WANT.



CYPRESS is the “comer” in your territory. *Listen For It.*

Why not **FIND OUT** what **CYPRESS** can do for **YOU, NOW?** WRITE US—ASK YOUR OWN QUESTIONS—about your own needs, big or little. You can rely on detailed and reliable **CYPRESS** information if you address our “**BUILDERS’ HELPS DEPT.**” We will recommend **CYPRESS ONLY WHERE IT IS THE BEST WOOD TO USE.**

Southern Cypress Manufacturers’ Association

1216 HIBERNIA BANK BUILDING, NEW ORLEANS, LA.

We are producing **CYPRESS**—and talking it—but not retailing it. **BUY IT NEAR HOME.** ASK your lumber man if he sells **CYPRESS**: if he does not, ask him **WHY.** Then **WRITE US.** We will tell you where you **CAN** get **CYPRESS.**

When Writing Advertisers Please Mention the American Carpenter and Builder.

The Increasing Use of Beaver Board

One of the most interesting developments in recent years in the building field has been the rapidly increasing use of Beaver Board for walls and ceilings.

This fact coupled with the extensive advertising of the Beaver Company of Buffalo, has brought its merits prominently before carpenters and builders everywhere.

It is now generally well understood that this is a pure wood fibre product, forming—when put up and decorated—a complete wall in itself, permanently displacing lath, plaster, and wall-paper.

It is one of the most convenient of all materials to handle, inasmuch as it comes in sheets of convenient sizes, which



Dining Room Finished in Beaver Board

can be cut with a fine saw or knife, like wood, and put up with hammer and nails.

Although it is light in weight and about 3/16 inch thick, it forms a very rigid and durable wall, and can be applied

directly to the studding of new rooms, or with equally satisfactory results, nailed right over the old lath and plaster.

This convenience is a very great advantage inasmuch as it means not only much quicker and cleaner construction in new buildings, but is one of the most economical and satisfactory means of remodeling any old building, besides doing away with all of the cracking, deterioration, repairs, repapering and other nuisances connected with lath and plaster.

No one who appreciates the advantages of Beaver Board will ever try to paper over it. Not simply because this makes an unsatisfactory job, but because the beautiful color effects produced by painting the unusual pebbled surface of the Board are far more pleasing and sanitary than anything that can be done with wall-paper.

This sanitary feature is jealously guarded by the Beaver Company who use only selected wood reduced to fibrous form and made up in panels of Beaver Board under tremendous pressure.

This use of new spruce wood entirely eliminates the danger dependent upon the unwholesome coloring matter, disease germs, and other injurious elements in boards that are worked up from old pulp, discarded paper, etc.

The carpenter has good reason for his interest in Beaver Board, inasmuch as it widely extends his field of work, and this is the more impressive in view of the fact that it is all inside work, and Beaver Board can be put up at any season of the year or in any climate.

The possibilities of its use seem to be almost without limit, for while it is undoubtedly an ideal material with which to remodel an attic, fix up a summer cottage, decorate a show window, and do a hundred other similar jobs where economy and quick construction is desirable, at the same time it is used in the finest residences throughout, and in a great variety of large public, semi-public, and commercial buildings.

Paneling is More in Demand than Ever

Our Circassian Walnut Appeals to the Homebuilders—Contractors and Builders—Because it is Both Beautiful and Distinctive

¶ Paneling is being used more and more. It is popular with home owners and home builders for it gives a clean cut, attractive, substantial appearance to any room that is finished with it. Paneling is especially suitable for use in offices, stores, etc., and it is being used extensively in such work.

¶ Paneling offers you—Contractors and Builders—a big field among both new and old buildings. You can secure business through our Built-Up-Veneers. They give your work a certain standing. People see them—admire them—and want them.

¶ Paneling is not hard to install. It can be put into an old, or re-modeling home, as easy as into a new building. And considering the added worth and effect paneling produces, it is not expensive.

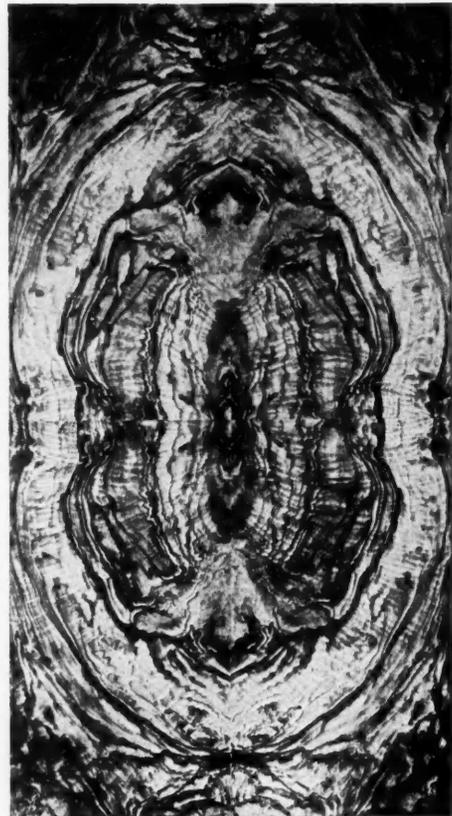
¶ You can buy our Circassian Walnut Built-Up-Veneers at a really moderate figure. Our Circassian Walnut Built-Up-Veneers give a dandy effect, too.

¶ Note the accompanying reproduction of a Circassian Walnut Built-Up-Veneer. Note the distinctiveness of this panel—the perfect and pleasing effect.

¶ Our Built-Up-Veneers are made in many highly figured, also domestic and foreign solid effect woods. They are essentially different in their appearance and make-up than any other paneling manufactured. They represent quality all the way through. They are up-to-date in all respects.

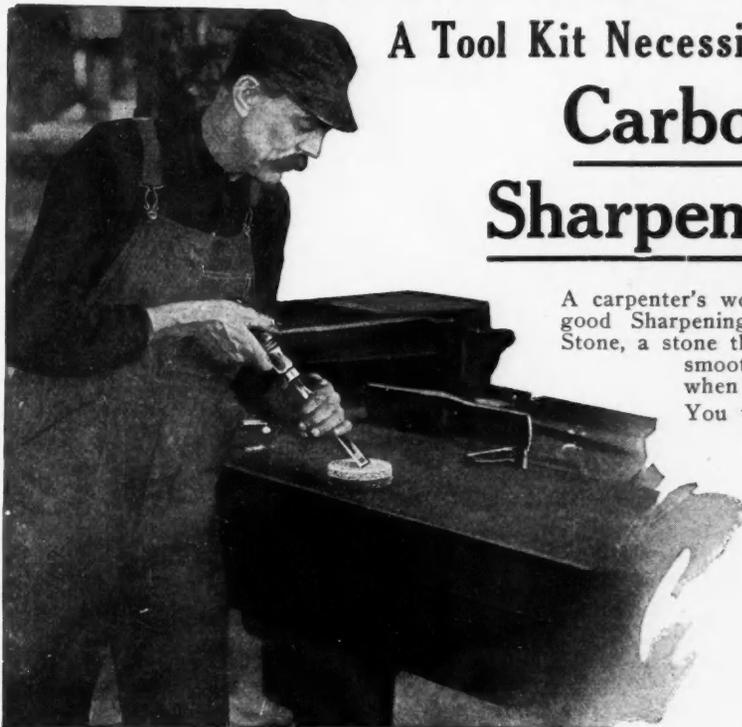
¶ We are the largest manufacturers of paneling and Built-Up-Veneers. We can turn out paneling of almost any size desired up to 17 feet in length. Longer lengths are easily spliced.

¶ Send us your specifications and details and we will be pleased to quote and give you any information you may desire.



The F. Eggers Veneer Seating Co., TWO RIVERS, WISCONSIN

When Writing Advertisers Please Mention the American Carpenter and Builder.



A Tool Kit Necessity---A Workshop Need

Carborundum Sharpening Stones

A carpenter's working outfit is not complete without a good Sharpening Stone. A Carborundum Sharpening Stone, a stone that will cut fast and clean, give a keen smooth edge, wear uniformly and not glaze when properly cared for, one that will last.

You will note the difference the instant you place the tool on a Carborundum Stone, it cuts while other stones merely rub the edge on.

The Carborundum Round Combination Bench Stone is a great stone for all around work.

Carborundum Round Combination Stone No. 107.....\$1.00
Quartered Oak Box Holder..... .50
Handy Pocket Stone in Case.... .15

At your hardware dealers or direct by mail

THE CARBORUNDUM COMPANY
NIAGARA FALLS, NEW YORK



Remarkable Offer **\$1.00**
AGENTS **AN HOUR GUARANTEED**



I want to hear from live hustlers who want to make BIG money, to act as my agents, salesmen, managers and handle the most sensational selling specialty on the market.

New invention. Only device that hones and strops any razor—old style or safety blades—holding it on angle, giving true, scientific, correct barber's stroke.

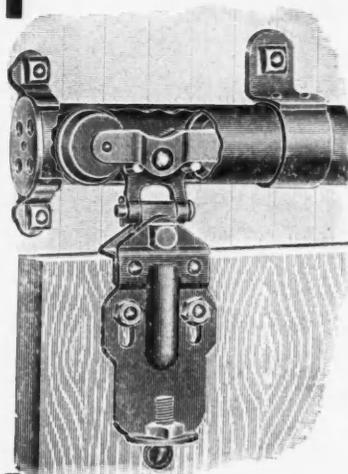
Accurate, automatic, guaranteed for life. Each machine fitted with the celebrated Rubirundum honing strop. Quarter million satisfied users. Every man enthusiastic—delighted. Get ready for big Holiday trade. Women buy for sweethearts and husbands. Jenkins sold 170 in two weeks; Jewell over 500, Hampton cleaned up \$475 in first 5 weeks, Birley sold 3200 in spare time, still going. You do the same—make 100% to 150%. I'll supply the goods—the quick selling plan—you follow instructions, and pocket the profits. Never such an offer to make money fast—gain independence. Samples furnished to workers. Exclusive territory. Send name and address today and get the squarest offer ever made to agents. Do this NOW.

Secretary, THE VICTOR CO., 993 Victor Bldg., CANTON, O.



Door Hangers

that are noiseless, light-running and adjustable



Adjusted in an instant with an ordinary wrench, so that doors can be set nearer or farther from building, lowered or raised as desired.

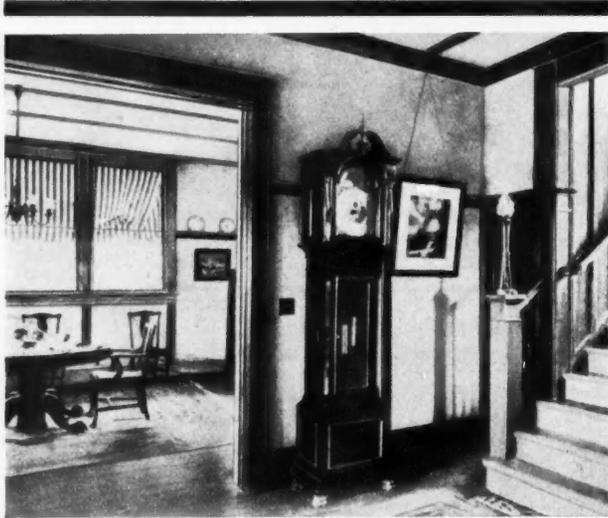
No. 440 CANNON BALL BARN DOOR HANGERS

are steady, light running and noiseless. They never fail to make good. They are one of our famous "Cannon Ball Battery" door hangers, which have silenced competition

Write for Catalog and Exclusive Agency Plan

HUNT, HELM, FERRIS & COMPANY
16598 Hunt Street :: HARVARD, ILL.

When Writing Advertisers Please Mention the American Carpenter and Builder.



When price is a consideration, use

ROBERDS Ideal Wall Board

It costs much less than lath and plaster and it is easy to put on.

Your cheapest man can nail it right to the studding, saving time and money and preventing dirt and confusion.

It makes a beautiful finish which can be painted, kalsomined or papered.

It lasts forever and is proof against vermin, heat and cold, fire and water.

It will not crack, chip, sag, peel or warp.

For remodeling or repair work Roberds Ideal Wall Board is vastly better than plaster because it comes in sheets that can be cut to fit any space, and it completely covers all broken and uneven places in side walls and ceilings.

A saw and hammer are the only tools you need.

You will be delighted because it means a satisfied customer, a nice clean job and a good profit.

**Write for our catalog,
samples and testimonials
from other contractors**

THE ROBERDS MFG. COMPANY

100 Railroad Street

Marion, Ind.

The illustrations shown illustrate how appropriate it is to modern residences where good taste and beauty are considered absolutely essential.

While Beaver Board construction is simple, it is not so easy that anyone can make a good job of it. In fact, an intelligent carpenter has here a great opportunity for working out a finely finished job that will reflect credit upon his reputation, and increase the satisfaction of the owner. The Beaver Company are always very glad to give exact instructions for the handling of any job, and as their long experience covers practically every condition under which Beaver Board is used, the carpenter who handles it should certainly avail himself of their assistance.

An interesting series of articles on Beaver Board construc-



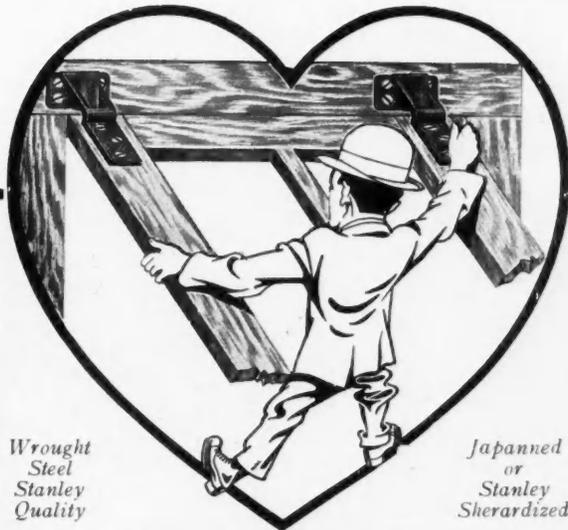
**Artistic Bungalow Finished Throughout With
Beaver Board**

tion has been running in our advertising pages since last January. The one on page 109 is the eleventh in the series, and those who have missed any of the earlier numbers can have them by applying either to us or to the Beaver Company, Beaver Road, Buffalo, N. Y. "Advertisement"

Hendrick's Commercial Register

The twenty-first annual Revised Edition of Hendrick's Commercial Register of the United States for Buyers and Sellers has just been issued by S. E. Hendricks Co., Publishers, 74 Lafayette street, New York. 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 very completely the architectural, engineering, electrical, mechanical, railroad, mining, manufacturing and kindred trades and professions. It is as necessary in the office as the rating books, typewriter or telephone. 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 twentieth edition required 108 pages to index its contents, while the twenty-first edition requires 122 pages, or 14 additional pages. As there are upwards of four hundred classifications on each page, the fourteen additional pages represent the manufacturers of over 5,000 articles, none of which have appeared in any previous edition. The total number of classifications in its book is over 50,000, 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 twentieth edition numbered 1,419 pages, while the twenty-first edition numbers 1,574 or 155 additional pages. Add to the latter about 230 pages of cancellations, errors, etc., omitted from the present edition, and you have a total of 385 pages of new matter, the whole representing upwards of 385,000 names and addresses. An important feature of the Commercial Register is the simplicity of its classifications. They are so arranged that the

When Writing Advertisers Please Mention the American Carpenter and Builder.



Wrought
Steel
Stanley
Quality

Japanned
or
Stanley
Sherardized

"PEERLESS"

Storm Sash Hangers and Fasteners

Just the hardware you want for your Storm Sash. Once applied, no tools are needed to take down or put up the Sash. Full length screens can be hung on the same hooks. The Fasteners hold the Sash firmly in place either open or closed.

Write for Circular "A". It tells the whole story.

THE STANLEY WORKS

New York NEW BRITAIN, CONN. Chicago



Complete High Grade Bathroom Outfit \$35

No matter whether you are building a cottage or a hotel we will equip you at *manufacturer's prices* with everything you need from a drain pipe to a steam heating plant.

Bathroom Outfits \$35 "FACTORY PRICES"
Save You 30% to 60%

Bath Tub and Toilet are white porcelain enamel over gray cast iron; copper-lined oak tank, and oak closet seat. Nickel-plated parts (see illustration).

WE are big big manufacturers; we sell wholesalers, dealers, plumbers and big contractors. We give you the same prices. You can put 30 to 60 cents on each dollar into your pocket instead of the middleman's. That's the way the large builders make big money. Send us plans and specifications, we will make your estimates. You can make another big profit by installing the work yourself, using our simple new-method plans.

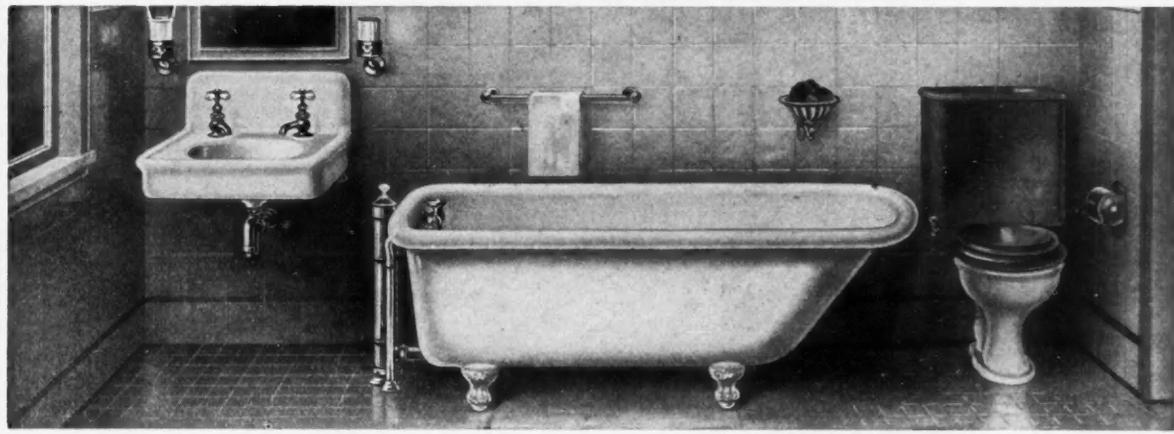
Heating Plant \$95
(steam or hot water)

Water Supply System \$40

Guarantee. Our supplies and tools are just as represented or we return your money and pay the freight both ways. Send today for free catalogue. Use it for reference.

Chelsea Manufacturing and Supply Co.

No. 135 West 24th Street, Dept. F. New York



The rent agent calls attention to the Wolff Plumbing Fixtures as the best guarantee to the prospective tenant of the high grade of the plumbing system—indeed, the type of the whole building is many times inferred from the use of WOLFF material throughout.

The worries from "assembled" plumbing, contrasted with the perfect service of the all-built-by-one-house Wolff Plumbing, makes it easy for the architects to use Wolff specifications.

L. WOLFF MANUFACTURING COMPANY

MANUFACTURERS OF

PLUMBING GOODS EXCLUSIVELY

The Only Complete Line Made by Any One Firm

General Offices
601-627 W. Lake St., Chicago
Trenton, N. J.

Showrooms
111 N. Dearborn St., Chicago
Denver, Colo.

Branch Offices:

- | | | | | |
|--------------------|---------------------|-------------------|------------------|----------------|
| Omaha, Neb | St. Louis, Mo. | Cleveland, Ohio | Kansas City Mo. | Buffalo, N. Y. |
| Minneapolis, Minn. | San Francisco, Cal. | Washington, D. C. | Cincinnati, Ohio | Dallas, Texas! |

When Writing Advertisers Please Mention the American Carpenter and Builder.

book can be used for either purchasing or mailing purposes. As an illustration—they first classify all manufacturers of a particular trade under a general heading for mailing purposes, then sub-divide each firm or corporation under as many classifications as every variety of their products call for.

Again, the value of the Commercial Register for purchasing purpose is not confined to its complete classification 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. It also includes the trade names of all articles classified as far as they can be secured. These trade names appear in parenthesis between the names and addresses under the classifications where they appear. The book is revised, improved and issued annually. "Advertisement."



James Mfg. Company in their New Plant

The accompanying illustration shows the new plant of the James Manufacturing Company, Ft. Atkinson, Wis., manufacturers of sanitary dairy barn equipment. This is a substantial three-story brick building remarkably well lighted. The building will be used as factory and warehouse. It will give the James Manufacturing Company greatly enlarged facilities for taking care of their rapidly growing business.

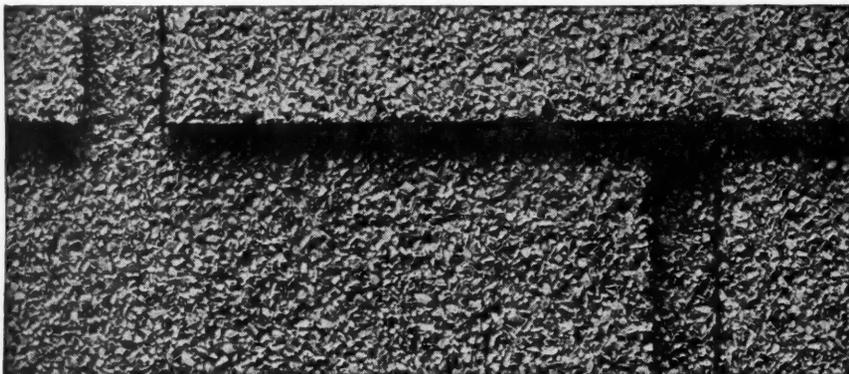


New Plant of The James Mfg. Co., Ft. Atkinson, Wis.

The James Manufacturing Company have prepared a very useful book entitled "Helpful Hints for Barn Builders," which they will send free of charge to any of our readers who have contracts for building or remodeling dairy barns.

In writing for your copy of this book, state for whom you are to build or remodel dairy barns,—when, size, giving

number of cows to be stabled, etc. By furnishing them this information they will be in a position to assist you intelligently in the planning and equipping of the dairy barn. Address the company, 8475 Cane St., Ft. Atkinson, Wis. "Advertisement."



This Cut Shows the surface of Flex-A-Tile Shingles—Beautiful, Convenient, Durable.

It is almost impossible to set fire to a roof that is covered with Flex-A-Tile Asphalt Shingles—and fire resistance is only one of their remarkable qualities.

FLEX-A-TILE ASPHALT SHINGLES

Are made of solid asphalt, into the surface of which is rolled, under heavy pressure, chipped slate or granite. This not only gives a rich, artistic surface to the shingle, but makes it impervious to weather and the elements. The chipped slate and granite are *grayish green* and *deep red*—natural color—hence time and weather have no effect on them.

FLEX-A-TILE Asphalt Shingles are 8 inches wide by 12½ inches long. They are laid in half the time required for wood shingles. They cost less than stained wood and they last much longer.

Send your name today. We want to send you a free sample

THE HEPPE'S COMPANY 1010 45th Avenue **Chicago, Illinois**

When Writing Advertisers Please Mention the American Carpenter and Builder.

You get artistic effect combined with extreme durability, at low cost when you cover homes, barns, and other buildings with

Certain-teed Rubber Roofing and Shingles

Quality Certified—Durability Guaranteed



In city and country the sale of **Certain-teed** Rubber Roofing and Shingles is increasing by leaps and bounds—because of three big advantages—three substantial reasons why you, too, should use **Certain-teed** products in the future. They are durable, guaranteed for 15 years—cost less than wood shingles, metal, tin or gravel roofing—can be put on with less labor and expense

Figure with the lumber, hardware or building material dealer on that new house, barn or any building that you are going to put up, he can quote you low prices on **Certain-teed** Roofing and Shingles. The **Certain-teed** label of quality on every roll and bundle is the manufacturer's pledge to the world that his product must make good!

Every carpenter and builder should have a copy of FREE booklet B-I-5 "How to Build for Less Money."

General Roofing Mfg. Company

Largest Roofing and Building Paper Mfr. in the World

York, Pa., E. St. Louis, Ill., Marseilles, Ill., Minneapolis, San Francisco, Winnipeg, Can., Hamburg, Germany, London, Eng



Artist's Drawing of the Residence of W. F. Harrah, Niles, Michigan. Roofed with Asbestos "Century" Shingles by H. A. Newman, Chicago, Architect, and Grand Rapids Sheet Metal and Roofing Company, Grand Rapids, Michigan, Roofing Contractors.

Asbestos "Century" Shingles

"The Roof that Outlives the Building"

People are showing a lot of interest in these Veneered Red Asbestos "Century" Shingles.

On all buildings where cost is a special object, you can now supply a red roof at practically the same price as a gray one.

Indian Red face backed up with gray. Made of the "Century" asbestos-cement composition, by the famous "Century" process. Strong, fireproof, permanent—never need painting or repairs.

Get the facts. Drop a line to our nearest Branch Office. Write us for Booklet "Everlasting, 1912."

Keasbey & Mattison Company, Factors
Ambler, Pennsylvania

Branch Offices in Principal Cities of the United States

MONTROSS METAL SHINGLES



Fire-Lightning-and Storm Proof

This is an Age of Specializing

The Specialist becomes an expert; does better work; does it in less time--makes better money

We specialize on Manufacturing *Montross Metal Shingles*, which have been in service 32 years, are still giving efficient service and are to all appearances good for as much longer. Made from special, triple, refined, high-grade plate, which can only be had in sheets up to 20 x 28 inches. Has three times the lasting qualities of large sheets, common iron, wood shingles, slate, or cement composition shingles. The safest side-lock and largest overlap of any metal shingle made. Architectural beauty; storm, fire and lightning proof, with assured durability.

Why not YOU become a specialist, selling the goods, and taking contracts to put them on.

Write today for designs and particulars.

Montross Metal Shingle Co., 2nd and Erie Sts., CAMDEN, N. J.

SECRETS

ARTIFICIAL
MARBLE

The Most Complete Book of
FORMULAS and INSTRUCTIONS SANITARY

Price \$2.50 Prepaid

FLOORING

The money-making possibilities of this rapidly growing industry are unlimited. No machinery required; any carpenter can prepare the regular molds; any boy can compound and mix the ingredients. The process has been reduced to extreme simplicity.

We carry in stock at all times a fresh supply of the cementing materials, special fillers and can supply special molds, etc., on short notice. Write for price list. Sample Marbleized tile, 10 cents.

ART. MARBLE SUPPLY & EQUIPMENT CO., 374 Market St., Newark, N. J.

When Writing Advertisers Please Mention the American Carpenter and Builder.

Every Architect, Contractor and Builder Should Have This



PORTFOLIO of WOOD PANELS

Let Us Send You One FREE

With it you can show your clients just how their woodwork and floors will look when finished with Johnson's Wood Dye, Prepared Wax, Under-Lac, Flat Wood Finish, etc.

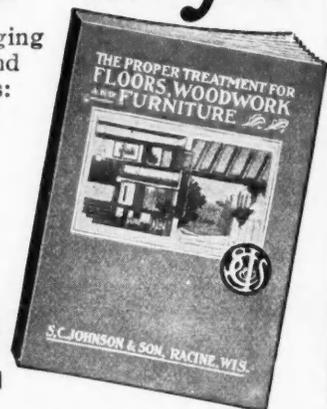
In this Portfolio the Johnson Finishes are shown on oak, pine, cypress, birch, gum, chestnut, maple, etc. Panels of other woods sent on request.

The Portfolio also gives full specifications and instructions as well as covering capacities. Any good painter can successfully use Johnson's Artistic Wood Finishes. Secure one of these portfolios at once to show your clients—from it prospective builders can easily select the finish for their floors and woodwork.

Johnson's Wood Dye

is a dye in every sense of the word—it penetrates deeply—into the wood, bringing out its natural beauty *without raising the grain*. It dries in thirty minutes and does not smudge or rub off. It is made in sixteen beautiful shades, as follows:

- | | | |
|-----------------------|---------------------------|-----------------------|
| No. 125 Light Oak | No. 128 Light Mahogany | No. 121 Moss Green |
| No. 123 Dark Oak | No. 129 Dark Mahogany | No. 122 Forest Green |
| No. 125 Mission Oak | No. 127 Ex. Dark Mahogany | No. 172 Flemish Oak |
| No. 140 Early English | No. 130 Weathered Oak | No. 178 Brown Flemish |
| No. 110 Bog Oak | No. 131 Brown Weathered | No. 120 Fumed Oak |
| | No. 132 Green Weathered | |



Also Get This Book FREE

Coupon

Please send FREE Portfolio of Wood Panels and 1913 Book, Edition ACB11

The 1913 edition ACB11 of our book "The Proper Treatment for Floors, Woodwork and Furniture" is just off the press. Send for it today. It far surpasses all previous editions. It is full of valuable ideas and information for everyone interested in the proper finishing of wood. Its practical suggestions may mean money to you.

Name.....

Address.....

Business.....

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

"The Wood Finishing Authorities"

When Writing Advertisers Please Mention the American Carpenter and Builder.

Generous Samples FREE To Builders, Architects, Contractors

LET us send you free samples of Johnson's Flat Wood Finish and Johnson's Wood Dye, also a copy of our Instruction Book Edition A. C. B. 11. Architects, Contractors, Painters and Home Owners are enthusiastic over the results obtained and the big saving made possible with them.



Johnson's Under-Lac

is a superior substitute for shellac or varnish. It forms a thin, elastic, spirit finish which will not chip, mar or scratch. It dries hard in less than an hour. We recommend its use where a higher gloss is desired than the wax finish. It is unsurpassed for first-coater under varnish.

Johnson's Flat Wood Finish

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

This flat wood finish opens a new field for the contractor and builder. By the use of Johnson's Flat Wood Finish, you can make estimates on hand-rubbed effects that will land the contract every time—give your customer perfect satisfaction—and make you a good profit besides.

Don't fail to secure Instruction Book Edition No. A. C. B. 11 and samples at once. If your dealer isn't supplied, write us and we will send them direct on receipt of postal or coupon.

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

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

Please send me free samples of Johnson's Flat Wood Finish and Wood Dye Shade

No. Also
Instruction Book Edition
A. C. B. 11.

My Dealer's Name is

His Address

My Name

Address

When Writing Advertisers Please Mention the American Carpenter and Builder.

FIGURE BIGGER PROFITS IN YOUR ESTIMATES

You Can Do It If You Buy Your LUMBER AND MILLWORK

direct from our mills—get better materials and save 40% to 60% on the prices you are paying the Dealer's Combine.

This margin of 40% to 60% below the prices you can get from your local dealers you can turn into profit for yourself. This big buying advantage insures you more contracts and bigger profit on your contracts. The high quality of the materials will mean satisfied customers and more business.

It costs the builders and contractors of the country too much to Get their materials. It is not the cost of the materials but the 40% to 60% which the wholesaler, the jobber, the commission man, the salesman and the profit-hungry retailer add to the cost of the materials. No matter how carefully you buy from your local dealers, from \$40 to \$60 of every \$100 you spend buys you nothing. It is wasted in paying the dealers profits. The prosperous builders have discovered this and have broken away from the control of the middlemen and retailers and buy independently. The saving of these five profits will help you to make every contract a profit-paying job.

Our six big modern mills are producing daily 20 to 30 carloads of the highest quality lumber, sash, doors, shingles and general millwork. We own our standing timber, a hundred years' supply of fir, cedar, spruce, hemlock and western soft pine. We have no dealers, no salesmen. We are pioneers in the new era of distribution direct from the manufacturer to the user.

QUALITY GUARANTEED

Every bit of our material is absolutely guaranteed to be, grade for grade, better than the trust or combine standards. We will promptly refund your money if you are not entirely satisfied with the material shipped you.

Let Us Help You to Make More Profits

Send us your house bills or your material lists and let our estimators figure your material costs. There will be no forgotten items, no extras to trouble you later. Send in the coupon with stamps today for our big free freight-paid price list. Compare our figures with the best prices you can get at your local dealers and see how much more profit we can help you make. Remember our prices include freight paid to your station.

Our immense stocks and the seven trans-continental railroads available at our mills enable us to always make shipments just as promised.

(Coupon)

HEWITT-LEA-FUNCK CO.

623 First Ave., Seattle, Wash.

Name

Address

Occupation

When Wrung Advertisers Please Mention the American Carpenter and Builder.

Simmons Joins Allen Engineering Co.

Mr. G. W. Simmons of Vicksburg, Miss., has joined the Allen Engineering Company of Memphis, Tenn., as head of the machinery department of that concern. We are informed by the H. B. Smith Machine Co., Smithville, N. J., that the Allen company will act as the agents for their woodworking machinery in that part of the Middle South-west and territory adjacent thereto. "Advertisement"



New Data on Pipe Insulation

For the information of architects, builders and others interested in securing a cheap and efficient form of insulation for cold-water pipes, the following results obtained from tests recently made by Professor Charles L. Norton, of the Massachusetts Institute of Technology, should prove valuable.

Professor Norton measured the heat transmitted through J-M Anti-Sweat Pipe Covering of 1 inch thickness and 1½ inches thickness, respectively; also through 2½ inch thick J-M Special Built-Up Frost-Proof Covering.

The heat transmission through the 1 inch J-M Anti-Sweat covering was found to be 0.008 B.T.U. per degree, per square foot, per minute. The transmission through the J-M Anti-Sweat covering 1½ inches thick 0.007 B.T.U. per degree, per square foot, per minute, and through the J-M Special Built-Up Frost-Proof Covering 0.0037 B.T.U. per degree, per square foot, per minute.

These tests show that J-M Anti-Sweat Pipe Covering 1 inch thick is perfectly satisfactory for preventing outside cold-water pipes from sweating and for covering refrigerated drinking water lines; also that when these lines pass through heated rooms the 1½-inch material will give excellent results. For protection from freezing in very low temperatures the results obtained from the J-M Special Built-Up Frost-Proof Covering prove that it possesses a high degree of efficiency with great economy of cost.

All of the pipe covering materials mentioned in this article are made by the H. W. Johns-Manville Co., New York City.

"Advertisement"



Kissels Acquire Additional Plant

News is received of the purchase of an additional plant by the Kissel Motor Car Company, thus greatly multiplying the output capacity of this concern. Following close upon the heels of the announcement that additions have been completed adding 40,000 square feet to the Hartford, Wisconsin, plant of the company, this latest news causes the keenest interest.

The new plant of the Kissel Company is in Milwaukee, corner of Center and 32nd Streets. It is modern, completely equipped and contains some 200,000 square feet of working floor space. It was formerly occupied by the Romadka Trunk Company. The new tenants will take possession at once and expect to have the new plant in operation early in November.

The Kissel Company state that the new plant is ideally designed for its needs and that it is quite possible to turn out 10,000 cars a year there. At present it will be used only for assembling purposes, the manufacture of parts being continued at Hartford exclusively. The general offices of the company will be moved to Milwaukee.

The rapid expansion and progress of the Kissel Motor Car Company within the last few years has brought it into unusual prominence. Inside of six years it has risen from a \$50,000 corporation into a \$1,000,000 concern with a surplus of \$500,000 and subsidiary companies in ten states, each operating on additional capital. The entire stock is owned in the Kissel family, George A. Kissel being president and general manager, and William L. Kissel secretary and treasurer. "Advertisement"

Granite

TRADE MARK

ROOFING



SIX INCH SOLID LAP

SAFEGUARD

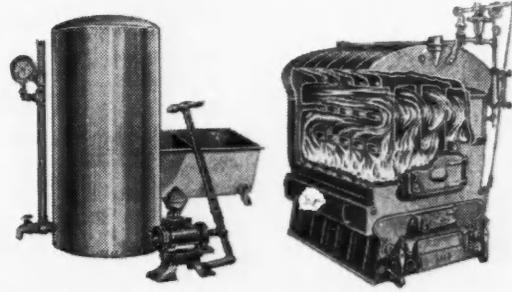
Granite

ROOFING

A six-inch lap is better than a three-inch lap. It gives better protection against leaks and permits nailing down on the under sheet only, so that no nail heads appear on the surface. Otherwise this is the same Granite Roofing that we have sold for 26 years for use on great factories. It is immune from damage by coal smoke or cinders, and it has a sea grit surface which makes painting entirely needless. Behind it is a reputation that has Passed the Quarter Century Mark.

EASTERN GRANITE ROOFING CO.
19 Battery Place, New York

Chicago Pittsburgh



How To Install Modern Heating Plant In Your Home

Builders, contractors and home owners—my big new book tells you how to install modern heating plant or your own water system. New money-saving method. Steam or hot water heating plants. You can easily install one of my modern heating plants from the complete simplified plans and instructions furnished to you free. The saving is enormous. Write today for my great free book.

SAVE ON ALL MATERIAL

My method for saving on all materials is a revelation even to the most experienced contractors and builders. Get this free book and see for yourself. My amazing low prices will prove to you my method is a blessing to every builder and home owner.

Gibbons New Method



Every home, even the smallest cottage, can now have running water or a heating plant. Churches, halls and schools can have these improvements at a low cost. My free book explains all. Write for it today.

BOOK FREE



My new book gives you greater buying power than your local dealer. Thousands of things illustrated and priced. Gasoline engines, hydraulic rams, pumps, pipes, valves, electric lighting plants, acetylene lighting plants, all accessories, everything guaranteed. You certainly ought to have this book. Send your name and get it post-paid free. Send today.

M. J. GIBBONS

apt. 2413

DAYTON, OHIO



ZOLIUM

Is the Roofing FOR YOU

If you are interested in a roofing giving a warm, coppery red tile effect—more durable than shingles or metal, yet less expensive.

If architectural beauty, ease of laying, surety against leaks, extremely fire resisting and absolute permanency appeal to you, look no further for roofing—ZOLIUM is what you want.

ZOLIUM is backed up just as you want it to be. It will serve you well.

Send for sample and booklet A-C-11.

Flintkote Manufacturing Company
88 Pearl St. BOSTON, MASS.

Here is Work for Cold Weather

Never too cold to put up "Pruden System" Buildings. Made entirely of heavily galvanized steel. Screw driver and wrench only necessary tools.

Turn idle days to profit by getting orders for these strong, indestructible buildings.

Pruden System

Portable Fireproof Construction is in successful use for a wide variety of purposes—a few of them are illustrated. Our catalog shows many others. Explains construction fully. Write for copy quick. Pruden Buildings are put up in a few hours. Give you easy, big profit. They are widely and favorably known.



Garage



Warehouse



Warming House

Write for catalog and special terms to contractors, today.

Metal Shelter Company
9-90 W. Water St. ST. PAUL, MINN.

Patentees & Sole Mfrs. of Pruden System Buildings

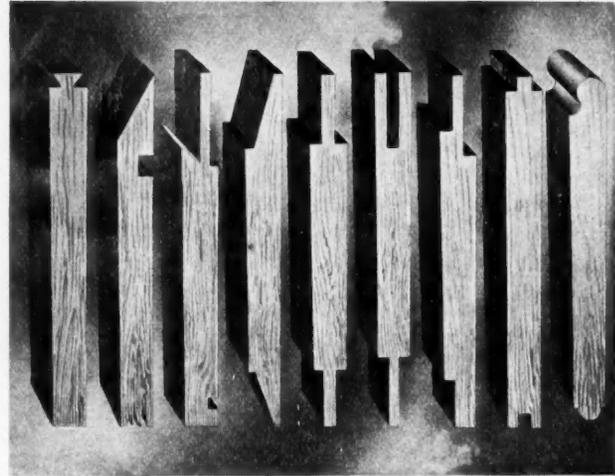
When Writing Advertisers Please Mention the American Carpenter and Builder.

The Smith 200-Be Tenoner

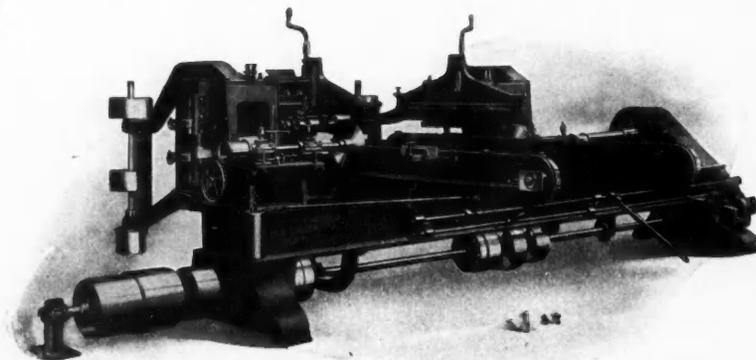
One of the pioneers in the manufacturing of automatic woodworking machinery was the H. B. Smith Co., of Smithville, N. J., known wherever woodworking machinery is used as "Smith of Smithville Woodworking Machinery."

The double-end tenoning machine No. 200-Be, illustration of which is shown here, was designed, patented and constructed by the Smith company as early as 1865, but at that time there was no demand for a machine of so great a capacity. However, H. B. Smith foresaw the signs of the times and gradually perfected this important machine.

One of the early machines was exhibited at the Centennial Exposition, Philadelphia, in 1876, where it attracted great attention, at is was the first public demonstration of a double-end tenoner at any fair. This exhibition machine was fitted with double heads and double copes and also with double cut-off saws. It was sold during the exposition and was seen twenty-five years later, giving good satisfaction.



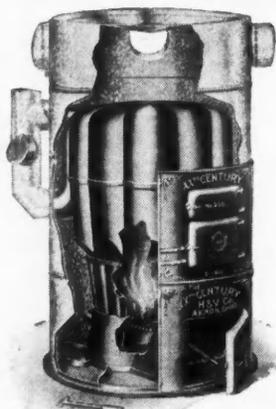
Some of the Tenons Made on This Machine



Smith Double-End Tenoning Machine

The machine illustrated here is an extra heavy machine, which will work as short as 4 3/4 inches and as long as 120 inches between shoulders, and feed stock as wide as 48 inches, hence the machine is of large capacity. It is also fitted with double-heads, double copes, double cut-off saws in front. It is likewise fitted with the Smith patent scoring attachment for working veneered stock without marring the shoulders of tenons.

This style of machine is usually made to work stock as short as 5 inches, as long as 78 inches between shoulder, and as wide as 28 by 4 1/2 inches thick, hence it will be observed that these machines can be varied to suit various kinds



Every Builder Knows—

That, after all, no house is ever satisfactory unless it can be the most evenly, cleanly, perfectly and economically heated that is possible. Whether the heating be of Steam, Hot Water or Warm Air, it matters not. The very building of that house demands the best possible consistent with cost of installation, maintenance and operation.

You Can Burn Cheap Grades of Soft Coal or Screenings

as perfectly, cleanly, and easily, and at a much lower cost and with perfect satisfaction with

Warm Air Heaters

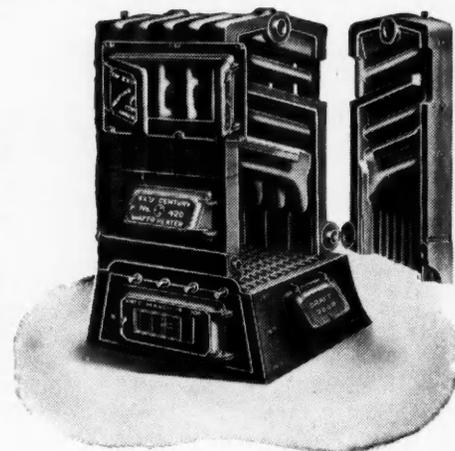
XXth Century Hard or Soft Coal

Steam and Hot Water Boilers

The remarkable design (our exclusive patent) of our Fire Pot in both Heaters and Boilers, guarantees absolute combustion, ease of operation, and the lowest possible fuel-cost. Examine one and see why.

Every Pound of Fuel is Made to Produce the Maximum Amount of Heat Units—No Heat Units Wasted

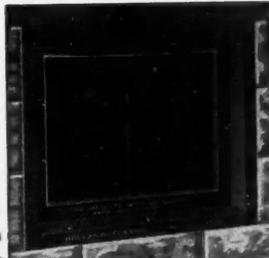
Builders: should ask for our catalogue and prices—the most sensible features ever embodied in heaters and boilers that have stood the test for years. Write us.



The XXth Century Heating and Ventilating Co. - - Akron, Ohio

When Writing Advertisers Please Mention the American Carpenter and Builder.

The Window-Chute Is a Real Necessity In Any Building



Closed—A Real Window

Contractors—Builders—Carpenters—you should install the Window-Chute in all your residence and office building construction work.

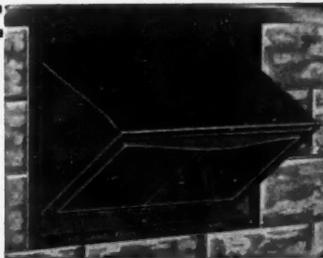
The Window-Chute is absolutely burglar-proof. It can be opened only from the inside.

Our Window-Chute is a real window as well as combination hopper coal chute. Closed—it is an ornamental, attractive basement window. Opened—it is a practical chute. A heavy steel sheet covers and protects the glass when chute is in use.

The Window-Chute is made in two sizes—18 and 24 inches wide by 22 3/4 inches deep.

Let us mail you one of our Window-Chute booklets. Sent FREE to any interested Contractor—Builder—Carpenter. Write for a Copy.

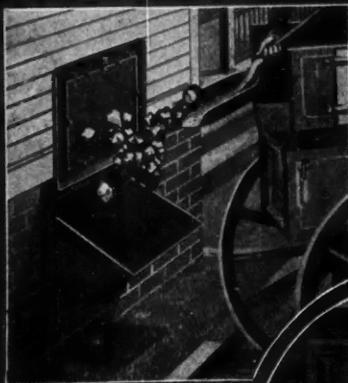
Open—A Perfect Chute



Holland Furnace Company

Holland, - Mich.

MAJESTIC FOUNDATION COAL CHUTE



Protects the building just where most needed—above the opening.

The heavy steel hopper catches all the coal.

When not in use, the hopper lies in the bottom of the chute body. The door locks automatically either open or closed. Strictly burglar-proof. With 1/2-inch wire glass or steel panel in door.

Write for circular and address of nearest dealer.

MAJESTIC FURNACE CO.

995 to 1001 Sixth Avenue Huntington, Indiana



Thousands Testify that the UNDERFEED Cuts Coal Bills 1/2 to 2/3

TWO THOUSAND owners of Underfeed Furnaces or Boilers are listed in "Underfeed Boosters"—a booklet which should be in the hands of every wide-awake contractor and builder. Write for it—then ask any of the 2,000 and learn why it will pay you to recommend the Underfeed as best adapted for all buildings.

Let us also send you testimony of 300 Underfeed users in Binghamton, N. Y., 60 in Ft. Wayne, Ind., and others. EVERYWHERE Underfeed results are the same—adequate, clean, even heat at a saving of 1/2 to 2/3 the usual cost of coal.

THE PECK Williamson Underfeed FURNACES BOILERS

Millions of magazine and periodical readers have seen these truths in their favorite publications this month:

In the Underfeed, fuel is consumed like a candle—Coal is fed from below and burns from the top down. Smoke and gases pass up through the fire and are consumed, converting into useful heat the enormous chimney waste of heaters of other types.

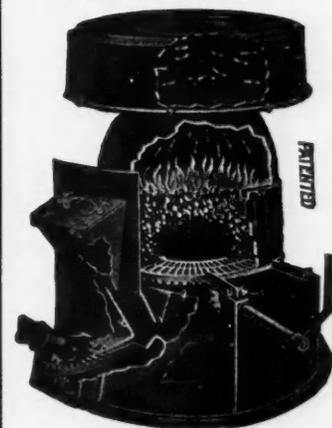
Hottest coals in topfeed heaters are on the grates, far removed from radiating surfaces, whereas in the Underfeed fire is on top in direct contact with the most effective radiating surfaces. Every heat unit generated is utilized.

The Underfeed produces more clean, even heat per ton of the cheaper grades of coal, than topfeed heaters produce with most expensive grades.

SAVES OVER HALF

Fred T. Kenyon, 13 Roosevelt Ave., Binghamton, N. Y., writes: "We heated eight extremely high rooms the entire winter at a cost of \$22.80, whereas previously we heated a six-room house with a top-feed furnace at an expense of \$47."

Harman Hoffman, 2408 Smith St., Ft. Wayne, Ind., installed his Underfeed seven years ago. "Haven't spent a cent for repairs," he writes. "I have an eight-room house and always heat it with about \$20 worth of slack coal."



Send us your building plans and we will furnish free engineering plans, actual cost of installation and tell you where you can get your Underfeed.

Installed in unit or battery form, the Underfeed meets every requirement for successful heating of large or small homes, halls, churches, schools, etc.

Get acquainted with the Underfeed Heating Systems, Mr. Builder and Mr. Contractor. Write TODAY for free booklets.

THE PECK-WILLIAMSON CO.
436 W. Fifth Avenue, - CINCINNATI, OHIO.

When Writing Advertisers Please Mention the American Carpenter and Builder.

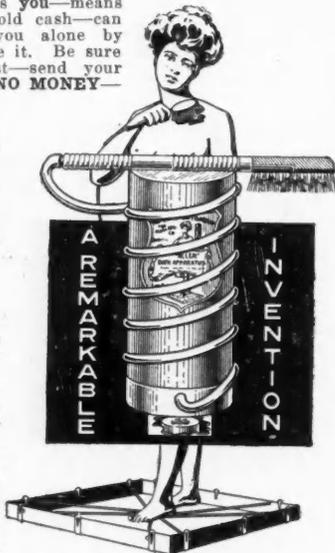
YOU CAN GET

\$500 — 1st Month
\$1000 — 2nd Month
\$1500 — 3rd Month
\$5000 — ALTOGETHER

Reader, this offer says you—means you—this money—the cold cash—can be yours. You and you alone by waiting too long can lose it. Be sure we hear from you first—send your name and address—but **NO MONEY**—this very minute.

YOU MAY BE IN-EXPERIENCED OR EMPLOYED OR WITHOUT CAPITAL

—but don't worry—don't find excuses—We can and will fix it for you to get this money. You don't have to wait a month—not even a week—payments can start the first day—and continue daily up to \$500 first month, \$5000 for you altogether. For years we have been quietly picking men from all walks of life, ministers, clerks, farmers, preachers, doctors, lawyers, teachers and so on—enabling them with our co-operation and **\$50,000.00** appropriation to get what we here offer and can do for you—\$500 first month, \$5000 altogether. Some of these men you may know—possibly have envied without understanding the reason of their prosperity.



INVESTIGATE AND BE AMAZED Demand absolute proof—accept no other kind. Either we have the best thing that ever happened or we're colossal liars. Ask Schleicher, minister, whether it's true that he received

\$195 TWELVE HOURS AFTER APPOINTMENT

Langley, liveryman, \$115 first day; Rasp, carpenter, \$1685 in 73 days; Beem, solicitor, \$164.24 weekly for 12 weeks; Korstad, farmer, \$2212 in a few weeks; Zimmerman, farmer, \$3856 in 30 days; Stoneman, photographer, \$3841 in 60 days; Juell, clerk, \$6800; Hart, farmer, \$5000; Wilson, cashier, \$3000 in 30 days. Let us refer you to these men, to the U. S. government, to banks, business houses, noted people at home and abroad. Heed this caution from Chas. Starr, of Mich., who writes: "Sorry this field is closed. Should have acted sooner but was skeptical. Your local man's great success has set everybody talking and proves I was a chump. Wonderful what a man can do with a real opportunity." Then read this from Lodewick who acted quickly: "Lucky I answered ad. It's great. Money coming fast." Which will you be, Starr, a victim of "neglected opportunities" or Lodewick, the "early worm." To escape Starr's fate, send your postal this very minute—

SPEND ONE CENT TO MAKE THOUSANDS

Ever hear of Allen's Wonderful Bath Apparatus? If not, listen. Gives every home that long-desired blessing, a modern bathroom with hot and cold running water facilities for only \$6.50. No plumbing—no water works—self heating. Only ten minutes to install. Gives cleansing plus friction, massage and shower baths in any room. Equivalent to any \$200 bathroom. Over 200,000 delighted users. Used by U. S. government.

More remarkable than this invention is our startling plan of universal distribution through special representatives who become virtually profit sharing partners in a business that's immense—exciting—fascinating—dignified—and above all, has enabled them, will enable you to get \$500 first month, \$5000 altogether. Asking to be shown doesn't obligate you one bit. Investigate today by all means.

ALLEN MFG. CO. 3583 ALLEN BLDG., Toledo, Ohio

and sizes of work. And the machines may be arranged with single or special heads and with as many attachments as are required to do the work.

Other styles of large automatic tenoners, and likewise smaller machines, are built on the same general plan for a great variety of purposes and concerning which special circulars and booklets can be obtained by AMERICAN CARPENTER AND BUILDER readers addressing the H. B. Smith Co., of Smithville, N. J., for complete information upon their many tenoning, also general woodworking machines.

"Advertisement"

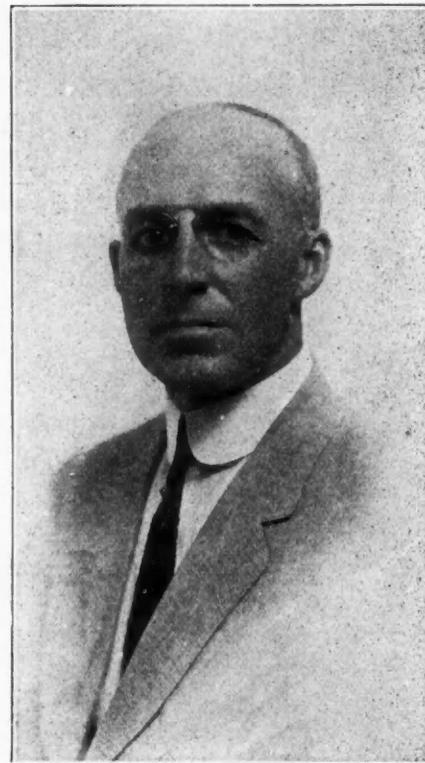


Bishopric Makes Generous Offer

The perfecting of a reinforced wall board for the quick construction of substantial walls and ceilings is a big accomplishment in the field of new and better building materials. This ready-for-use material is said to cost half as much to apply as lath and plaster. It saves a month's time in building. It is nailed to the studding by carpenters, and is ready for decoration at once.

The reinforced wall board was perfected by Allison Bishopric after years of experiments and tests of scores of materials for interior wall and ceiling construction. Mr. Bishopric is general manager of the Mastic Wall Board and Roofing Mfg. Company of Cincinnati, Ohio. The capacity of this plant has recently been doubled because of the big growth in the demand for its Bishopric wall board.

This wall board is made of toughened asphalt mastic in which are imbedded kiln-dried dressed lath. The asphalt mastic is a non-burning material, and the laths are pressed

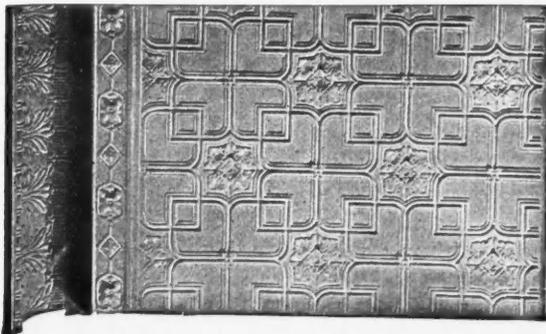


Allison Bishopric
 Originator of the Reinforced Wall Board

into the hot material under a pressure of 500 pounds to the square inch. Over this is pressed a surface of heavy sized fiber-board. It is the lath which gives the permanent solidity to this wall board.

Any builder can cut in half the cost of walls and ceilings by having his carpenters apply Bishopric wall board. There

When Writing Advertisers Please Mention the American Carpenter and Builder.



No. 212. A Design in Modern English

Ceilings in *Stamped Steel* for Public or Commercial buildings. Ceilings of modern refined designs for private residences. Tilings in *Steel*, for Bathrooms and Kitchens.

Half the labor of erecting a metal ceiling is strictly Carpenters' work, that is, the scaffolding and furring. Once started, they can finish it as well or better than anyone else. Secure our agency and push them.

Catalogue on request

Northrop, Coburn & Dodge Co.

No. 29 Cherry St. -:- NEW YORK

PLASTERGON

Mr Carpenter, means plenty of work and profit for you in the winter time



WHEN THE WINTER MONTHS COME, INSIDE BUILDING, FINISHING AND DECORATING ARE AT THEIR HEIGHT

The carpenter or contractor who uses Plastergon and who knows of the hundreds of special uses to which it may be put, is the man who will have plenty to do all winter long.

You all know the good points and the unique differences between Plastergon and other boards—we've told American Carpenter and Builder readers the story of Plastergon for a long time.

Now we want you to write to us and learn from our Service Department just how we can help you to get Plastergon jobs that **Pay**—learn of new uses for Plastergon that you perhaps never thought of.

Write today and let us tell you how we co-operate with our dealers and the carpenters, contractors and builders who use Plastergon.

It's the most successful substitute for lath and plaster—it really substitutes because it's better.

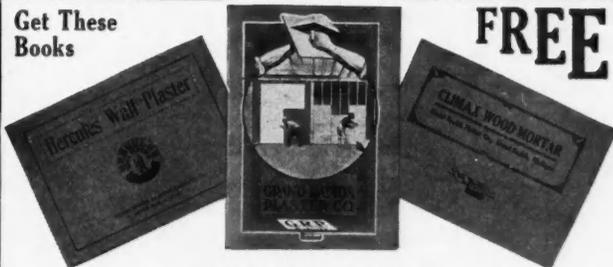
PLASTERGON WALL BOARD CO. Dept. A, Tonawanda NEW YORK

Grand Rapids Plasters Satisfy Both the Owner and the Builder



G. R. (Grand Rapids) Hard Wall Plasters are both trouble and repair proof. Their use always pleases the owner...and always pays the contractor.

Get These Books



FREE

A set of these books will be sent you absolutely FREE. They will explain Hard Wall Plastering to you in detail. They will tell you all about our Hard Wall Plasters—Climax Wood Mortar—Hercules Wall Plaster—Superior Fiber Plaster—Gypsum Wall Plaster and Sackett Plaster Board.

Our Hard Wall Plasters put money in your pocket on every plastering job. They produce far better results than any heavy, cracky, lime mortar plasters can. They save you time and labor. They never need any re-fixing of any sort.

With these books we will also send you our room measurement booklet—from it you can tell at a glance the number of square yards in a room.

CLIMAX WOOD MORTAR

is extensively used. It is a wood fiber plaster made of pure gypsum rock. It is the best plaster made. The fiber adds about one-third to the bulk of the plaster, making it cover a greater area with less weight and maximum solidity and tensile strength. It is absolutely fire-proof. Its density prevents vermin. It is not affected by water. It is durable, flexible and pliable. Plastic and very easy to spread—any plasterer can apply it. It is adhesive and permanent. It does not contain one particle of sand.

Contractors and Builders—Write us NOW for full particulars about G. R. Hard Wall Plasters—your set of books—and the name of your nearest G. R. dealer.

HERCULES WALL PLASTER

is a gypsum rock hair fiber plaster—we do not sand at the factory. It makes a wall that is dense, durable, hard, tough and economical. It is absolutely fire-proof. It dries quickly after applying. It spreads better and with less waste than any other wall plaster. We use only high grade hair in its manufacture and it contains no chemicals, acids or vegetable matter.

Let us show you just how you can give better plastering results—also make more money—through using our Hard Wall Plaster.



Grand Rapids Plaster Company

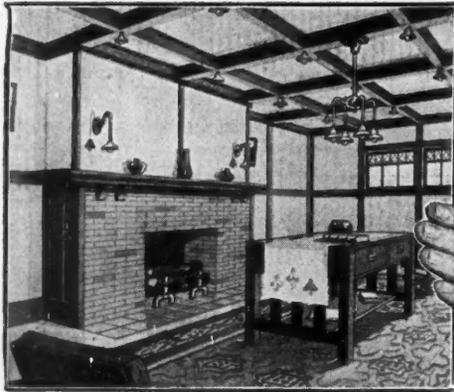
"Remember the TRADE MARK"



N. B. We solicit inquiries from Michigan, Ohio, Indiana, Illinois, Wisconsin, Kentucky, Tennessee, West Virginia, and Pittsburgh districts, Pa., only. Freight rates will not permit shipment to other territory.

Grand Rapids, Mich.

When Writing Advertisers Please Mention the American Carpenter and Builder.



Bishopric Rooms are Artistic

is no expense for plasterers, lathers and laborers. There is no dampness, no dirt, no waiting for plaster to dry before decorators can do their work. The walls and ceiling of a room can be finished by any carpenter in a day, and they are then ready the same day for paint, paper, kalsomine, burlap or any other form of decoration. Any carpenter can apply this material without help.

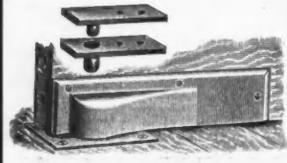
This new material is shipped in sheets of four feet square. Any quantity may be ordered. On large jobs the material

is sent in crates of sixteen sheets to the crate, or 256 square feet of material. It is ready at once for use. The material is ideal for the interior work of new buildings, or for remodeling. With it waste space in attic or basement can be turned quickly into usable rooms.

The purchaser of Bishopric wall board is protected by the manufacturer by a "\$5,000 Anti-Warp Bond." Under this bond the material is guaranteed not to warp, shrink, buckle, crack or pull loose. It is moisture-proof, rat-proof and fire-resisting. It is unaffected by temperature, and remains solid and firm in any climate, winter or summer. Keeps out cold in winter and heat in summer. Insects cannot lodge or live in it. It lasts as long as the building.

Bishopric wall board lends itself to artistic interior decoration. Bishopric walls, whether paneled or plain, are of permanent beauty. The material contains no free chemical, and the most delicate tints can be used on its surface without the slightest change in color. It gives a solid surface which may be cleaned with a damp rag without harm to the decoration.

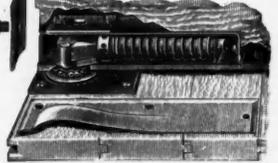
This material is now used for walls and ceilings in fine homes, country clubs, schools, churches, hospitals, bungalows, garages, stores and all kinds of buildings where walls of beauty and permanence are necessary. Once this material is used in a community, it becomes the accepted material of builders, carpenters, contractors and architects for miles about.



THE SHELBY "CHIEF" DOUBLE ACTING, BALL-BEARING, SURFACE FLOOR HINGE

Carries the entire weight of the door on hardened steel ball-bearings. It is a positive hold-open at right angle, or can be made non-hold-open if so ordered. It will hold against the strongest breeze. Easily applied. The deep beveled surface cover plates cover all defects in notching the door, and gives a very attractive finish to the door. Fully guaranteed. Ask your dealer or us about it.

THE SHELBY SPRING HINGE CO., Shelby, Ohio



Schacht

—Will Cut Down Your Hauling Expenses

All your hauling now being done by horses and wagons, can be easily handled by the Schacht Auto Truck, at a saving of 20% to 40%. There is no reason in the world why you should deprive yourself of this additional saving.

The Schacht 1 to 4 Ton Truck has no equal for carrying light or heavy loads. The expert workmanship, and superior materials used in the construction of the Schacht, are features which insure reliability and dependability.

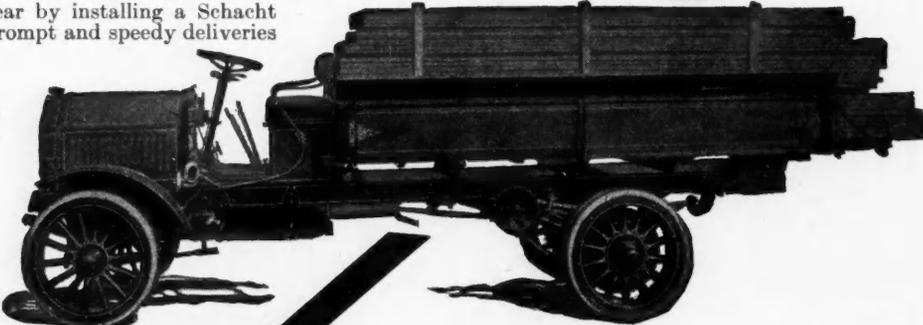
Its speed of 10 to 18 miles per hour makes you sure of prompt deliveries at all times, regardless of weather conditions. The added cost of feeding, shoeing and harnessing horses is eliminated.

Every carpenter, contractor and builder should lose no time investigating this time-saving and money-making truck. Remember the coming winter with its deep snows and icy payments will be a great handicap to you, if you do your hauling with horses and wagon. Serious damage to your horses and delayed deliveries may result in a serious loss to you.

Insure yourself against the cold winter which kills thousands of horses each year by installing a Schacht truck now, and be sure of prompt and speedy deliveries at a reduced cost.

Write us at once for our free illustrated booklet, containing full information regarding the "Schacht." Address

**SCHACHT
MOTOR CAR CO.**
2846 Spring Grove Ave.
CINCINNATI, OHIO



When Writing Advertisers Please Mention the American Carpenter and Builder.

The IRWIN

**Is the Only
Solid Center Auger Bit—
Made in Every Size and Style**

FOR the home, the factory or the shop the IRWIN Auger Bit is the one that will give you *absolutely* satisfactory service—for *every* purpose. Every Irwin Bit is guaranteed—price refunded if not satisfactory. Ask your dealer for the Irwin—accept no other.

The Irwin Auger Bit Co.
Largest in the World
Station K18 Wilmington, Ohio

**Hundreds of Builders
use and sell these**

Triumph Lights

System, Stand and Portable Lamps

on the side and make good money. Why can't you.



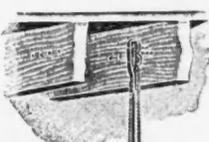
A 300 Candle Power Shadowless Light that can be turned up and down like gas. They meet all requirements of Home, Store, Church or business lighting, in or out doors at less than half the cost of Kerosene or Electricity, simple enough for any one to install and operate. Write for ACB catalog, it tells all about them.



BRILLIANT GAS LAMP CO.

Dept. 20 182 N. State St., Chicago, Ill.

A Minute's Delay



in boring a hole means a larger time loss on a big contract—and time means money. The cost of a

Standard Boring Machine

is saved soon. It operates perfectly in hard wood or when adjusted to difficult angles. It saves the workman many hours of work in cramped positions, ladder climbing, etc. Our booklet will tell you more about it. Send for one.

Ford Auger Bit Co.

HOLYOKE, MASS.



Save 50% or Your Building Material Bill!

NO shrewd Contractor or Builder can afford to be without our newest catalog of guaranteed Millwork and Building Material. It's the best thing of its kind ever published. Has 3,000 superb illustrations and 8,000 dollar-saving prices—Buy your material from us, we ship *direct* to you and there are no jobber's or middleman's profits to pay. We sell at *wholesale*, guarantee satisfaction and safe delivery.

H. B. Munger, Pres.

8000 BARGAINS

Everything in Lumber, Flooring, Doors, Windows, Mouldings, Porchwork, Building Paper, Hardware, Tinwork, Roofing, Paint—All at Even Less Than Wholesale Prices! Buy From Us Direct And You'll Save 33 1-3% to 50% On Everything You Buy.

PLAN BOOK OF MODERN HOMES

Illustrates 50 up-to-date modern houses and barns ranging in price from \$400.00 up and tells how to secure *free* blue prints, specifications, itemized bill of materials, complete with price. Our method of furnishing material complete saves 50% in price and 100% in trouble and worry. Get our 2 Free Books Today.

Hardware

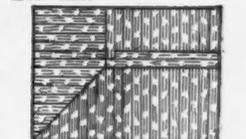
Get our money-saving prices on reliable building hardware—You take no risk our designs are standard and every item is fully guaranteed—Our regular lock sets carried both in genuine bronze and steel—Just get our prices.



Economy Rubber Roofing

2 Ply, 45 Lbs. Guaranteed 7 Yrs. \$1.35
3 Ply, 44 Lbs. Guaranteed 10 Yrs \$1.60
Rolls Contain 100 Sq. Ft.
Free from tar. Made from long woolen felt saturated and coated with pure asphalt.

\$773 We will furnish complete all lumber, millwork, hardware, spouting, paint—everything except masonry and labor to build 7-room house. Plans free. Allis.



Fancy Flooring
Quarter Sawed White Oak to cover 1 sq. ft. 12c

CHICAGO MILLWORK SUPPLY CO.
1422 W. 37th Street Chicago

Fill In This Coupon Now DATE
Mail It To Us



Chicago Millwork Supply Co.,
1422 W. 37th Street
Chicago, Ill.

Gentlemen—Please send your FREE Books listed below, to—

Name

Address

CATALOG—No. 43 of Building Material
PLAN BOOK—No. 53 House and Barn Plans

When Writing Advertisers Please Mention the American Carpenter and Builder.

A Free Book of Money Saving Ideas For Dairy Barn Builders



You will be interested in reading "Helpful Hints to Dairy Barn Builders." It tells many of the things learned by W. D. James—America's foremost dairy barn designer. It will help you make more money.

It tells about the new plank frame construction, the famous King system of ventilation, perfect lighting, proper width and arrangement. It tells about stable floors, site, size, appearance, design, drainage and equipment. And it shows four floor plans of barns that have attracted wide-spread attention.

You can obtain a copy of this valuable, helpful book FREE. Merely answer these few questions and the book will come by return mail. For whom do you expect to build or remodel dairy barns? (Give name and addresses.) When? For how many cows? Address

James Manufacturing Company
8675 Cane St., FT. ATKINSON, WIS.

Special Offer of Blue Prints

Mr. James wants to make you a special offer of complete working blue prints of modern dairy barns of different sizes and types. Also ask how to secure free help from our architectural department. Write today.



Because of the low cost of this material, it is used extensively by carpenters and farmers on small construction work. Any carpenter may take any sort of an interior job, and complete it quickly at small cost without the aid of lathers and plasterers. The money which would go to the plasterers is money in the carpenter's pocket. And the excellence of the job when Bishopric board is used leaves the carpenter's patron satisfied and pleased. This is the best advertisement that a carpenter can have. Farmers use Bishopric board for homes, rat-proof feed bins, weather-proof shelters and sanitary poultry buildings.

Mr. Bishopric is now conducting a big educational campaign to let carpenters, builders, contractors and home-owners know of the wonderful advantages of this splendid material. To introduce it in every community in the country, liberal samples and complete information are sent to every inquirer who writes for prices. The big Bishopric book, a sample of the Bishopric wall board, a duplicate of the \$5,000 Anti-Warp Bond guarantee, and blue print plans of a model home are sent to carpenters, contractors and dealers and to their patrons. The fact-story of Bishopric wall board is being told in large space in the best magazines and journals which go to home-makers, carpenters, farmers and builders.

This campaign of education in the advantages of Bishopric wall board has a direct benefit to carpenters and dealers in every community. It sends patrons to the dealer, and it gives additional work to the carpenters who apply the material. It is making better homes and satisfied home-owners everywhere.

Thousands of inquiries for prices and samples of Bishopric board are being received right now as a result of these announcements. These inquiries come from people who are about to build. This is assured by the condition under which the Bishopric sample, book and house plans are given out—the interested party must pay the cost of postage to get this sample and the accompanying literature. Only men who are probable purchasers will pay the six cents necessary to secure this data.

So, when the name of an inquirer is sent to the dealer or to a carpenter or contractor who is using Bishopric board, the prospective buyer already has been told of the composition, qualities and advantages of Bishopric wall board. He has received a sample, and has examined its splendid construction. The sale is virtually completed when the local agent meets the enquirer. These names are being sent to agents all over the country by the Mastic Wall Board and Roofing Mfg. Company, and the sale of this wall board is increasing by leaps and bounds.

Many orders for Bishopric wall board are being received from builders in communities where there is no authorized agent of this company. In such cases it is often necessary to send the material to the purchaser direct from the factory. In these communities where there is an opening for an agency for Bishopric wall board, the Mastic Wall Board and Roofing Mfg. Company have an exclusive dealer proposition which means big and steady profits for the man who writes for it. If you are a dealer in building supplies, or a carpenter or contractor in a position to sell Bishopric wall board, write at once for this exclusive agency proposition. Address the Mastic Wall Board and Roofing Mfg. Company, Cincinnati, Ohio.

"Advertisement"

WANT SHINGLES?

If this Label



is on every bunch and you lay them with Zinc Nails your roof should last forty years. 2000 carloads of this Brand of Washington Red Cedar SHINGLES being used this year. Why? Because they have the combined merits of all other good shingles on the market. Extra thick, 100% clear, no sap and other good features.

Ask your Dealer, or write us.
The Transfer Lumber & Shingle Co.
NORTH TONAWANDA, N. Y.

THE "HAN-COT" SASH MOUSE

for placing sash cord in window frames.

59 in. long, consisting of fastener, chain and weight. Takes but an instant to insert the cord in the fastener, or release it, and does away with the tying and untying necessary when using the old style chalk line and piece of lead.

Sample sent postpaid for 30 cts. If your dealer hasn't it.
HANDLEY & COTTERMAN
Atlas Bldg., 164 N. Wabash Avenue, CHICAGO



When Writing Advertisers Please Mention the American Carpenter and Builder.



USE Crescent Nails In Your Roofing Work

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

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

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

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

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

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

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

Crescent Brass and Pin Company
DETROIT, MICHIGAN



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

DECO VENEER

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

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

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

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

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

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

Illustrated catalog sent on request.

Deco Manufacturing Company
Indianapolis, Indiana

IT'S up to you to be the man
at the top instead of the
man with the dinner pail.

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

The LIGHTNING ESTIMATOR

stops worry, lying awake nights, over or under estimating and guessing—in fact, by showing you how to estimate the cost correctly, it spells the word **\$UCCESS** 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 anyone 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.

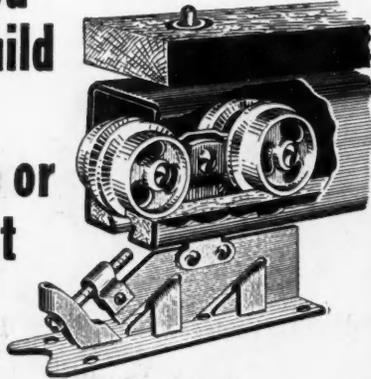
1260 Michigan Avenue

JACKSON, MICH.

When Writing Advertisers Please Mention the American Carpenter and Builder.

**Before You
Plan or Build
another
Residence or
Apartment
House**

"EVERY HANGER A CAR"



No. 221 R-W
"Advance" Ball-Bearing Trolley House
Door Hanger

We want to send you, absolutely free of charge, a sample of our improved Richards-Wilcox House Door Hangers.

We want to place right in your hands one of these satisfaction-giving Hangers that are so popular with leading architects and contractors throughout the country. For we want to show and tell you all about the simple but effective adjustments, in both Hangers and Track, that provide for settling and sagging; the forged steel yokes; the ball-bearing wheels and center hung trucks that insure easy operating doors; the strongly constructed, clincher type, hard maple track that can be quickly, and easily removed if required after plastering, without injuring or disturbing the walls, and a dozen and one other desirable features not found in any other hanger. In short, we want to prove to you that Richards-Wilcox Hangers are far superior in every way to the hangers you are now using.

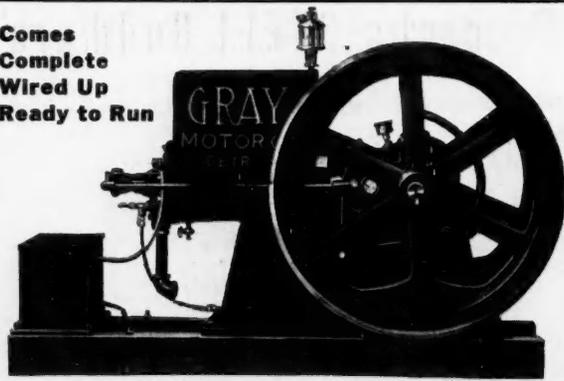
Now then, it's up to you to decide whether or not you want a hanger that stands head and shoulders above the kind you are specifying or installing at the present time. If you do, accept our offer now, today. Don't lay this ad aside and "study about it," for if you do, the chances are ten to one that it will slip your mind, and you'll never think of it again. Send today for sample Hanger.

Richards-Wilcox

MANUFACTURING CO.
AURORA, ILL. U.S.A.

111 Third Street

**Comes
Complete
Wired Up
Ready to Run**



**RELIABLE POWER FOR THE
CONTRACTOR AND BUILDER**

Use this engine in the shop or out of doors—makes an ideal portable outfit to take around to the different jobs.

Let it run your band saw, emery wheel, cutoff saw, jig saw, combination woodworker, hoisting rigs, cement mixers, etc.

Especially well adapted to running the various wood-working machines advertised in this publication.

Runs in any kind of weather—requires very little attention—furnishes big power or little power as required and uses fuel in proportion to the power need—the automatic governor works perfectly.

HOISTING RIGS

We can quote you a very attractive price on a complete 4 H. P. hoisting rig—if interested, write for special information.

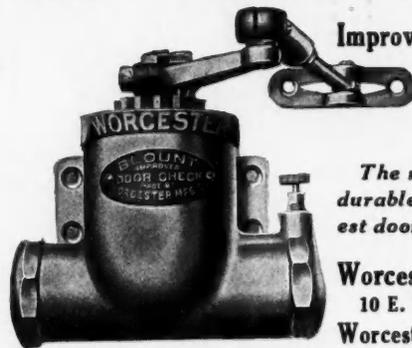
30 DAY TRIAL

Try this engine out at your own work—give it hard jobs to do every day—test it out thoroughly—if it does not prove to be everything we claim for it, we take the engine back and pay the freight.

Write today for our big engine catalog "S" and ask for information about this special trial offer.

**GRAY MOTOR COMPANY, 115 G. M. C. Bldg.
DETROIT, MICH.**

THE WORCESTER



**Improved BLOUNT
DOOR
CHECK**

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

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

Hurry that Material

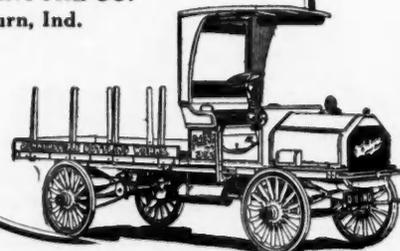
with a MOTOR TRUCK.

Write Us This Minute

We have it at prices within reach.
You are wasting time and money with horses.

**W. H. McINTYRE CO.
Auburn, Ind.**

Catalog
AC



When Writing Advertisers Please Mention the American Carpenter and Builder.

"Prudential STEEL Buildings"



All sizes from 4 feet to 30 feet wide,—4 feet to 10 feet high and as long as desired.

For all purposes that a one-story building is used.

The C. D. Pruden Patent

PORTABLE AND FIRE-PROOF BUILDINGS have received the endorsement of more than one hundred engineers, who have thoroughly examined the construction and pronounced it unequalled and in a class by itself.

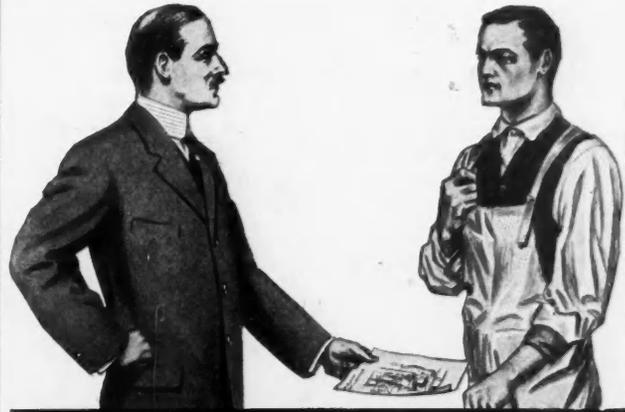
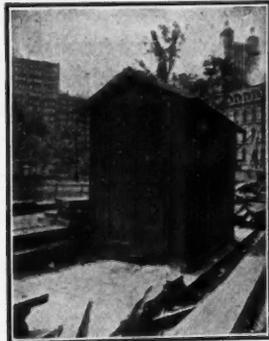
Prudential Steel Buildings are also Portable. We make them in Telescoping Unit Sections of No. 22 and No. 24 Galvanized Steel, either of single or double walls.

We invite your investigation of our product and our Agency Terms.

THE C. D. PRUDEN COMPANY

Sole Manufacturers

Baltimore, Md., U. S. A.
Station C



"That suggestion was fine. If you had the training, I would make you superintendent."

DON'T let that "if" stand between you and a better job! This is an everyday occurrence—the boss willing to promote but the workman lacking in training. Would you be unprepared? You can quickly get the knowledge that will sweep away all "ifs" and *compel* promotion. You can make yourself so valuable that you'll be *demande*d!

Be Prepared for Your Opportunity!

Don't be caught napping when your chance comes! If you have the training, you can make your opportunity. Mark the coupon below—*NOW*—act while you have the chance! No matter what your trade is, these courses will lift you to its highest position.

Chicago Technical College

Our Short, Complete Home Study Courses in Architecture and Building Construction, Architectural Drafting, House Planning, General Contracting, Etc.

Regular and short courses offered. Students study plans of buildings *actually being constructed*. Leading Chicago contractors and architects approve your work. *Complete outfits supplied free to students*.

Low tuition. *Study at home in leisure hours*. Remember, the home study work is the same as our college day and evening classes. We give both resident and correspondence courses. State which you want.

Mark and Mail the Coupon! Do it NOW!

Chicago Technical College

654 Athenaeum Building

Chicago, Illinois

Whatever work you are interested in, mark with a cross (X) on the coupon and mail today!

Chicago Technical College, 654 Athenaeum Bldg., Chicago, Ill.

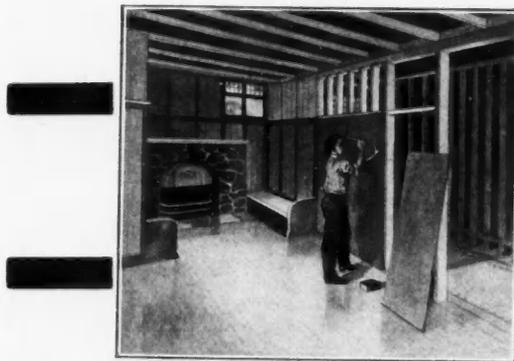
Gentlemen: I have marked with a cross (X) the branch or branches I am interested in. Please tell me how I can qualify for a well-paying position.

- | | |
|---|--|
| <input type="checkbox"/> Architectural Drafting | <input type="checkbox"/> General Contracting |
| <input type="checkbox"/> Builders' Course | <input type="checkbox"/> Structural Drafting |
| <input type="checkbox"/> Estimating | <input type="checkbox"/> Structural Design |
| <input type="checkbox"/> Plan Reading | <input type="checkbox"/> Mechanical Drawing |
| <input type="checkbox"/> House Planning | <input type="checkbox"/> Machine Drafting |
| <input type="checkbox"/> Building Superintendence | <input type="checkbox"/> Machine Design |

Name Address

Town State

Resident or Home Study Course



How this Contractor got the Job at Highest Price

THERE'S a money-making suggestion here for you. "I commenced a job this morning which I got although I was the highest bidder. My bid was accepted on account of being able to complete the work fifteen days sooner than the other contractor, because I am using Compo-Board * * * * * Here is what happened on another job. Compo-Board delivered yesterday at 3 p. m.—put up at 11 a. m. today, papered at 2 p. m.—and the room will be occupied tonight. I have used Compo-Board on cold, damp walls and it has given entire satisfaction." John B. Walls, Philadelphia, Pa.

You can afford to specify or recommend only a wall board that will give the greatest satisfaction. You're safe in recommending Compo-Board. It's not only impervious to heat, cold, moisture, vermin, not only fire-resisting, and non-warping, strong and durable, but it has several exclusive features. Can be papered, painted or kalsomined just as satisfactorily as a plastered wall, with or without panels.

Send your name on a postal card for free booklet and sample. Learn why the government and others who know prefer Compo-Board. It may be the most profitable postal card you ever wrote.

NORTHWESTERN COMPO-BOARD CO.
8777 Lyndale Ave., No. Minneapolis Minn.



When Writing Advertisers Please Mention the American Carpenter and Builder.



Building for the Future

requires that you make provision for stationary vacuum cleaning precisely as you make provision for stationary heating, lighting and plumbing.

Really efficient air cleaning depends upon the volume of air moved in a given time, and this requires piping of ample capacity. Therefore you should always use 2½-inch pipe if you want to be able to install the most efficient and economical system of cleaning.

THE TUEC STATIONARY Air Cleaning System

operating in connection with piping of this size does the most effective work at the lowest cost. Competitive tests prove conclusively that the TUEC is superior to all other vacuum cleaning systems in the following particulars:

- 1—Greatest air capacity per minute at openings.
- 2—Sufficiency of vacuum inside every orifice.
- 3—Lowest cost of operation.
- 4—Simplicity of design and strength.

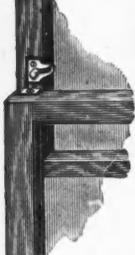
- 5—Nothing to wear out or make trouble.
- 6—Perfect lubrication.
- 7—Noiseless running.
- 8—Labor-saving tools.
- 9—Minimum floor space required.

More than two thousand buildings were equipped with TUEC systems during the past year and a thousand more, now in course of construction, are being piped for TUEC installation.

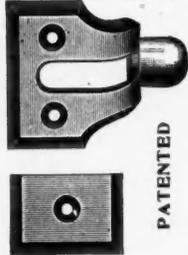
We make a special truck machine for buildings which cannot be piped.

Send for descriptive literature

THE UNITED ELECTRIC COMPANY, 30 Hurford Street
CANTON, OHIO
Tuec Companies in All Large Cities



The Ives Window Ventilating Lock.



PATENTED

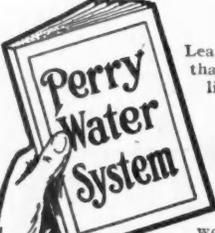
A Safeguard for Ventilating Rooms.
A Lock, quickly applied and operated.
Affording Sure Protection against Intruders.

CHILDREN KEPT IN.

BURGLARS KEPT OUT.

—WRITE FOR DESCRIPTIVE CIRCULAR.—

THE H. B. IVES CO., NEW HAVEN, CONN., U. S. A.



Send for This Book

Learn all about the only system of water supply that eliminates the storage of water. That delivers water fresh from the well. The

Perry Water System

provides all the conveniences of a city water works system. It is designed for large or small capacity; is easy to install in any old or new building—operated by any kind of power—economical and practically indestructible. Has more advantages than any other system of water supply. Every reader of this publication should write for copy of our illustrated catalogue. Address

UNITED PUMP & POWER CO.
495 Old Colony Building, CHICAGO

SEND
POSTAL
TO DAY



Can be used as a

Music Cabinet Book Case or China Cabinet

Measurements:

Width 26 inches
Height 42 inches
Face 11 inches
Veneered Columns

Chicago Grille Works
828-838 Wells Street
CHICAGO :: ILLS.
Special Prices to the Trade.



When Writing Advertisers Please Mention the American Carpenter and Builder.

Fifty Salem Doorways

By
FRANK COUSINS

More of the America of yesterday is in these fifty photographs than in many ponderous written volumes.

It took over twenty years to make this series of unequalled photographs of the best examples of Colonial houses and architectural details. The cream of the series is given here.

Many of the buildings and interiors that were secured, are no longer in existence, or are closed to the public.

The most admirable feature of the author's work, is his rare skill in selecting the best subjects, and making pictures of unusual quality. There are fifty plates in the portfolio.

Illustrations by Glen Brown, secretary of the American Institute of Architects.

Cloth. Net, \$5.00

Doubleday, Page & Company

GARDEN CITY, NEW YORK

*It has the best American record
None other makes so good a roof
or lasts so long*



**MERCHANT'S
16
OLD METHOD**

*That's the reason
Merchant & Evans Co
Philadelphia and Eight Branches*



When in Detroit

—STOP AT—

Hotel Tuller

New and Absolutely Fireproof
Corner Adams and Park Streets
In the center of the Theatre,
Shopping and Business Districts.

Has large Convention Hall.
"Grand Roof Garden Cafe."
Music from 6 p. m. to 12 p. m.
Every room has private
bath. European plan.
Rates, \$1.50 per day and up.
L. W. TULLER, Prop.



Metal Top.

"Royal" Ventilators

are the ventilators you should specify and use to secure positive ventilation.

Royal Ventilators provide an ever changing supply of fresh air without Cost of Operation. Correct principles and careful workmanship have won for us an enviable reputation.

Royal Ventilators are absolutely Storm Proof, and are the best and cheapest means for the proper ventilation of Buildings of all characters.

Each Royal Ventilator is sold with a guarantee covering efficiency, durability and workmanship that cannot be excelled.

Write for 80 page catalog, fully describing Royal ventilators.



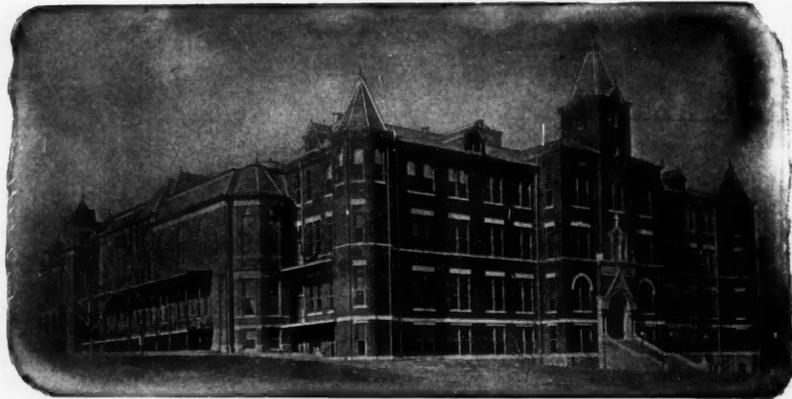
Glass Top.

ROYAL VENTILATOR COMPANY
417 Locust St. PHILADELPHIA, PA.

When Writing Advertisers Please Mention the American Carpenter and Builder.

ST. FRANCIS HOSPITAL, Colorado Springs, Colorado, is a very fine building, as this photograph shows. No expense or care was spared to make it THE BEST AND MOST SANITARY hospital in the West. After exhaustive competitive tests, the authorities decided to roof it with THE BEST COVERING FOR ROOFS KNOWN—for

Walter's Galvanized Metal Shingles Last



INVENTED AND PLACED ON SALE BY THIS COMPANY IN 1885

Here is a sample of the roofing accepted by this Hospital and by thousands of other public and private builders. IT WAS THE ORIGINAL DESIGN OF THE INVENTOR IN 1885 AND IS THE FIRST SHINGLE COATED WITH PURE ZINC EVER MADE. Hand dipped so that every crevice is FILLED. No chance for rust to creep in EVER. Send for free sample and confidential information. Might as well have THE BEST.

NATIONAL SHEET METAL ROOFING COMPANY

Inventors of the FIRST Metal Shingle
JERSEY CITY, NEW JERSEY

GENUINE BANGOR Roofing Slate
Structural Slate
Blackboards

Large Facilities, Prompt Deliveries

EAST BANGOR CONSOLIDATED SLATE CO. - - - East Bangor, Pa.

PLACE YOURSELF ABOVE YOUR COMPETITOR

AND SELL **"TITELOCK"** THE BEST

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

Write for Samples and Prices

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

Style "B"—Showing Method of Laying

ROOF SLATES

STRUCTURAL SLATE BLACKBOARDS

When Writing Advertisers Please Mention the American Carpenter and Builder.

E. J. JOHNSON

38 Park Row, New York

Quarry Operator

BLACK, GREEN, PURPLE, RED

Booklet, Samples and Prices on Application

No other shingle is or can be made under the patented process that gives just the right taper to—

Winthrop Asphalt Shingles

Made of solid asphalt—the exposed surface is covered with fine chipped slate, in natural colors of red and green, rolled into the asphalt under tremendous pressure. Extremely durable—easy to lay—light as wood shingles and as low in cost. Fire resisting and absolutely weather proof.

Winthrop Asphalt Shingles are beautiful in appearance and give a tile like effect to the roof that particular people appreciate.

Write today for a free sample and the booklet

WINTHROP ASPHALT SHINGLE COMPANY

8 Sixty-First Street
ARGO :: ILL.



OAK FLOORING

Increases the Renting and Selling Values and Attracts a Better Class of Tenants

Builders and owners will find it a clinching argument to say "It's floored with OAK FLOORING." It is the biggest single feature to look for in any house or apartment building. It imparts an air of refinement and elegance. It is the modern flooring.

OAK FLOORING ¾ inch thickness by 1½ inch or 2 inch faces can be laid over old floors in old homes or over cheap sub-floors at a very low cost. It is cheaper than carpets or pine flooring. When laid it has all the appearance of heavy flooring.

There is a solid satisfaction and lasting pleasure in the substantial and dignified appearance of OAK FLOORING.

Contractors and carpenters find it very profitable to lay ¾ inch stock over old floors in old homes during dull periods. A little canvassing is all that is necessary to secure jobs. A carpenter or handy man can lay OAK FLOORING successfully.

For durability, OAK is the best. OAK FLOORING laid thirty years ago, after very hard use, is still in good condition.

Write for Booklet

THE OAK FLOORING BUREAU, 890 Hammond Bldg., DETROIT, MICH.

SAND'S PLUMBS AND LEVELS—ALWAYS READY TO USE—NOTHING TO GET OUT OF ORDER



No. 24. 24-inch Aluminum Reversible All-around

No. 30. 30-inch Aluminum. Works Either End or Edge

No. 18. 18-inch and 20-inch Long Wood Level

Be sure you ask for Sand's Plumbs and Levels. If you can't get them write to us. Better write and get our catalog anyway.

Sand's Plumbs and Levels are made by men who have had 25 years experience in the building line. Sand's Plumbs and Levels are thoroughly accurate. They are strong, light and durable. There are over 75,000 Sand's Plumbs and Levels in daily use.

Our new model aluminum levels are made of the best quality tested material. Our famous wood levels are made of thoroughly seasoned wood.

In our plumbs and levels the spirit glasses are protected from dust, dirt, moisture, etc., by a plate glass covering.

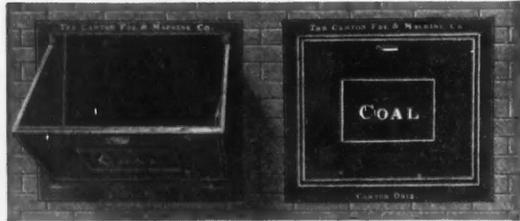
We make plumbs and levels in plain or brass bound finish. We can make anything in the plumb and level line to your order.

Our plumbs and levels are for sale by all good hardware dealers. Be sure you ask for Sand's—if you can not get them from your dealer WRITE US. Get our catalog and prices.

J. SAND & SONS

1023-25 Rivard St. Detroit, Mich.

When Writing Advertisers Please Mention the American Carpenter and Builder.



The Canton Coal Chute

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

Are made to last and at the same time be practical and ornamental.

Burglar Proof and Self Locking

Locks automatically when closed but can be opened from the outside—when owner wishes to avoid crawling over his Coal Pile—only by special key, furnished with the Chute. There is no more excuse for blackened walls, soiled and battered Window Frames and Sashes, Littered Walks and Lawns.

We also manufacture Sidewalk Doors (45 sizes), Coal Hole Rings and Covers, and a host of other Contractors' and Builders' Accessories.

Get our booklet "B-I" on "The Complete Line for the Contractors and Builders who know."

THE CANTON FOUNDRY AND MACHINE CO. CANTON, OHIO, U. S. A.

High Grade Material—Low Grade Price Satisfied Customers—More Profit for You

As a contractor and builder you are as directly and as vitally interested in the quality and price of lumber as are the people you build for.

You can satisfy your customers easier and more surely when you work up the high grade stock you get from us than if you have to contend with the inferior grades of the Line Yards.

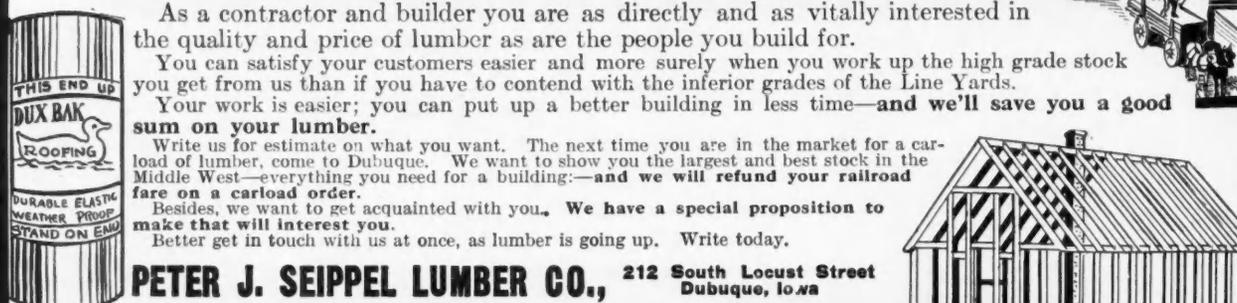
Your work is easier; you can put up a better building in less time—and we'll save you a good sum on your lumber.

Write us for estimate on what you want. The next time you are in the market for a carload of lumber, come to Dubuque. We want to show you the largest and best stock in the Middle West—everything you need for a building:—and we will refund your railroad fare on a carload order.

Besides, we want to get acquainted with you. We have a special proposition to make that will interest you.

Better get in touch with us at once, as lumber is going up. Write today.

PETER J. SEIPPEL LUMBER CO., 212 South Locust Street
Dubuque, Ia. Va




A Valuable Book For Every One---Just Published

INDUSTRIAL RECIPES

A Collection of Useful, Reliable Recipes, Rules, Methods, Wrinkles and Practical Hints for all Engaged in the Various Industrial Arts and Trades

By **JOHN PHIN, Ph. D.**

Every mechanic is from time to time called upon to do many things outside of his regular line of work, and to enable him to be successful at this we have issued a book of trustworthy recipes and directions prepared especially for the practical man rather than the chemist.

The book contains 288 large, 5x7 inch pages of closely printed matter, well indexed for quick reference, finely printed on eggshell paper and handsomely bound in English cloth. You run no risk in ordering the book, as we will cheerfully refund your money if you are not pleased.

Price, Only \$1.00 Prepaid

This large useful book contains directions and recipes about accidents; alabaster, alcohol, alloys, rules for making; amber; annealing and hardening glass, balloons, copper, steel, etc.; blackboards, brass, how to work, polish, color, varnish, clean, etc.; brazing and soldering, bronzing; burns, how to cure; case-hardening; cements, general rules for using; chamois; copper, working, welding; cork, crayons, liquid cuticle; ebony; etching copper, steel, glass; fires, to prevent; freeing mixtures; gilding; glass, cutting, drilling, turning, powdering, packing, imitating ground glass, washing glass vessels, etc.; handles, to fasten; ice houses; inks, rules for selecting and preserving; ink eraser; inlaying; iron, forging, welding, case-hardening, etc.; ivory, javelle water; jewelry, care of, cleaning, etc.; lacquer, how to make and apply; lights, signal and colored; lubricators, selection of; marble, working; metals; mirrors; noise, prevention of; painting bright metals; paper, mounting drawing paper; nails and screws; patina; patterns, to trace; pencils, indelible; pencil marks, to fix; pewter; plaster-of-Paris, how to work; polishing powders; putty; resins; rubber; saws; preparation of various kinds of; skins, tanning and curing; stains, to remove from all kinds of goods; steel, tempering and working; tin, methods of working; varnish; veneerings; voltaic batteries; waterproofing; whitewash; finishing wood floors, waxing, staining and polishing wood, staining; zinc, etc., etc.

INDUSTRIAL BOOK CO. 178 Fulton Street NEW YORK

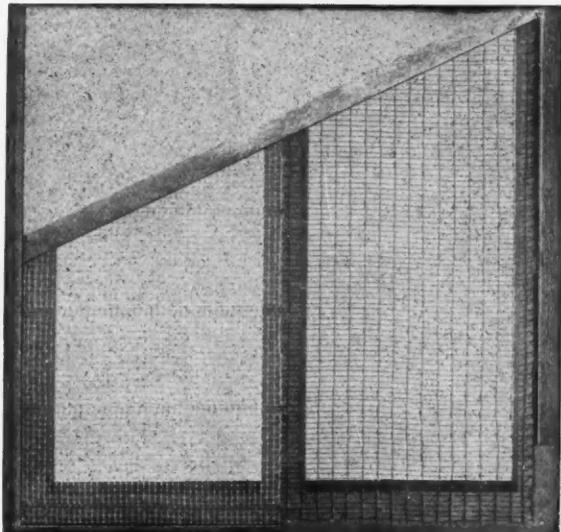
When Writing Advertisers Please Mention the American Carpenter and Builder.

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.'

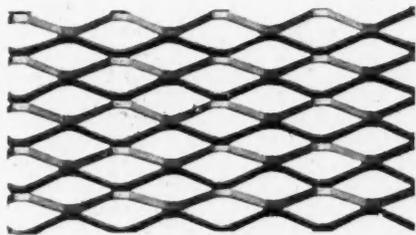


Grimm's Galvanized Corrugated Wire Lathing
"Patent applied for"

Greening's Patent Trussed Steel Wire Lathing

BUFFALO WIRE WORKS CO., BUFFALO, N. Y.

METAL LATH



Sykes Expanded Cup Lath

FURNISHED WITH EITHER AN

"Anti-Rust" Coating, Painted Black
or Galvanized

WE ALSO MANUFACTURE

Sykes Trough Sheet Lath

WRITE US TODAY FOR
PRICES AND SAMPLES

The Sykes Metal Lath & Roofing Co.
NILES, OHIO



400 free suggestions for Carpenters, Contractors & Builders

Knowledge of present day building construction and familiarity with every detail of modern architecture is essential to the success of the up-to-date carpenter or contractor. Nor should the builder—the man whose money is behind the job—be without some information regarding the work, information which will enable him to judge whether or not he is getting value received for every dollar spent. The American School's new Plan Book, "Modern American Homes," and their great **Cyclopedia of Architecture, Carpentry and Building**, will give you the information you need in the most accessible form.

The New Plan Book

contains hundreds of valuable suggestions, besides 108 plates, complete plans for every style of the modern American home from the medium priced cottage to the most palatial suburban and city residence; also a large variety of tent houses, garages, boat houses, apartment buildings, libraries, churches and institutional buildings—the best in modern architecture by the greatest American Architects. This great book of plans is 9 1/2" x 13" in size, printed on special paper and substantially bound.

The Cyclopedia of Architecture, Carpentry and Building

consists of ten massive volumes: 4,760 pages, 7 x 10 inches; 4,000 illustrations, full page plates, building plans, diagrams, etc.; hundreds of valuable tables and formulas; carefully cross-indexed for quick, easy reference.

This great work covers everything in the building professions, from the first rough sketch of the architect to the acceptance of the finished structure. It includes wood, stone, steel, and reinforced concrete construction; estimating and contracting; a study of the Greek and Roman Orders; interior finishing and decorating; and modern house lighting and sanitation.

Partial Table of Contents

Mechanical, Freehand, Perspective and Architectural Drawing, Lettering, Pen and Ink, Rendering, The Orders, Superintendence, Strength of Materials, Masonry, Reinforced Concrete, Carpentry, Steel Square, Stair-Building, Hardware, Steel Construction, Roof Trusses, Practical Problems, Estimating, Contracts, Specifications, Building Law, Sanitation, Sheet Metal Work, Electric Wiring and Lighting.

We'll Send the Plan Book FREE

With every order for a Cyclopedia we will include the Plan Book, absolutely free of charge and send you the Cyclopedia and the Plan Book, express prepaid, for seven days' free examination. You keep the books a full week—examine them thoroughly at your leisure—and if they don't meet with your expectation they may be returned at our expense. Remember—the complete set, Cyclopedia and Plan Book, are sent free upon receipt of the coupon below and we pay express charges both ways if they are not satisfactory.

Another Free Offer With each set is included a year's Consulting Membership, regular value \$24.00, entitling you to the free advice of a corps of Expert Architects. This will give practical help in handling building problems which are too specific to be taken up in detail in the Cyclopedia. This service alone is worth more than the first cost of the books.

American School of Correspondence, Chicago, U. S. A.

THE FREE PLAN BOOK COUPON

American School of Correspondence, Chicago, U. S. A.

Please send **Free Plan Book** also Cyclopedia of Architecture, Carpentry and Building for seven days' examination. I will send \$2.00 within seven days and \$2.00 a month until I have paid \$24.80 for Cyclopedia (Plan Book included free), or notify you and hold books subject to your order. Title not to pass until fully paid. A. C. & B.

NAME
ADDRESS
OCCUPATION
EMPLOYER



Mr. Builder:—If you are lucky enough to read this advertisement, and wise enough to write and tell us what you buy in

IRON, BRASS and BRONZE

we will send you catalog that is attractive enough to go in any man's library. Do you want it?

DOW WIRE & IRON WORKS
Incorporated
Louisville, Kentucky

There is Money for You in Our Iron and Steel Work

Any Architect, Contractor, Builder and Carpenter can represent us locally—and make money.

We are specialists in the manufacturing of a varied line of iron and steel ornamental, architectural and structural work, such as iron stairs, fire escapes, window guards, fencing, grates, shutters, lawn seats, etc., etc.

You can find a big demand for our work in your locality—and you'll build up an independent business for yourself. Give just a small portion of your time to this and you'll profit by it.

Let us tell you in detail about our entire proposition. Write for our complete descriptive matter, etc. If you are now figuring on iron or steel work let us quote you before closing with any one.

THE MACK IRON AND WIRE WORKS COMPANY
SANDUSKY OHIO



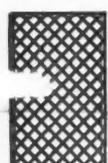
H O T O F F THE PRESS!

Our trade bulletin No. U-1 Containing valuable information for the Architect, Woodworker and Builder. All the information you need regarding wood columns. Free for the asking.



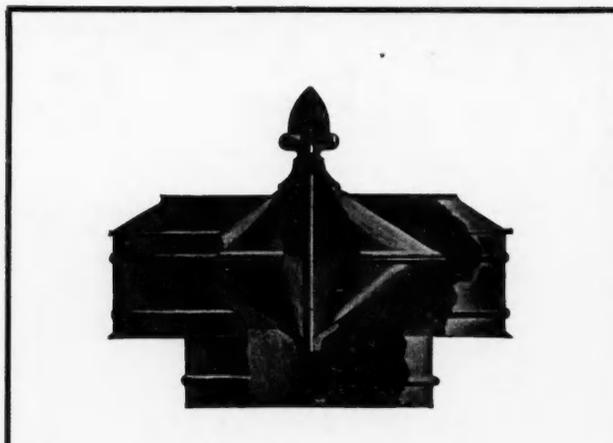
HARTMANN - SANDERS COMPANY
Sole Manufacturers of
KOLL'S PATENT LOCK JOINT COLUMNS
2155-2187 Elston Avenue, CHICAGO
Eastern Office: 1123 Broadway, New York City
The best columns for porches, pergolas or interior use.

Wire Window Guards



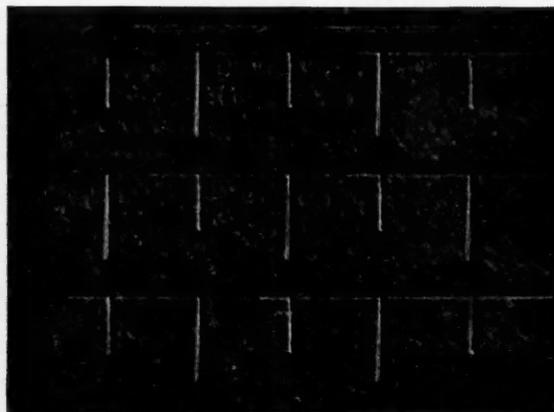
Counter Railings
Elevator Enclosures
Tubular Hand Rails
Brass and Bronze Work

The Cincinnati Mfg. Co. Cincinnati, O.



"XL" Skylights, Cornices, Ventilators and Special Sheet Metal Work

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



Metal Shingles in Two Styles

WRITE FOR CATALOG AND PRICES

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

New York Branch
Cor. 11th Ave. & W. 25th St.

Minneapolis Branch
206 S. 3rd St.

Father—Mother—Anyone Can Now Play Without Practice



Wouldn't you like to play, right in your own home, all the old-time melodies---all the church hymns---all the great marches---all the wonderful operas---and do it without learning to play---without any practice at all---just as well as a musician?

With a Crown Combinola

You may become as familiar with the music of Beethoven, Wagner, Liszt, Chopin, and the other great masters, as you are with the news of the day, and that, too, without the drudgery of years of hand practice. You may get the same enjoyment in your own home as you would at the Metropolitan Opera in New York. You may have concerts, entertainments and church meetings without sending for someone who has learned to play.

No Lessons or Practice

You don't need to take a lesson in music to play anything you want. You don't have to wait for children to grow up so they can play for you. You don't have to leave your musical longings unsatisfied because someone begs off because of lack of practice. There are no disappointments because your friends who do play have left their music home. You can now have music when you want it---the kind of music you want---the very piece you want---and you or anyone can do the playing. That is what a Crown Combinola will do for you.

Always Ready to Play

It is always ready. It is not the silent piano found in so many homes, but one that anyone can play, classic music, grand opera, old-time airs, church songs, latest musical hits, the popular songs that everyone is singing and whistling, the newest waltzes and two-steps. All these you may play, perfectly, if you have a Crown Combinola.

Give This to Your Family

The best present you can make your family is a Crown Combinola. And you owe it to them. They have all done their share to make your home enjoyable. Now, give the family this one thing that will please them most. Let them have at home all possible musical advantages. It will please the wife and keep the children at home. And, don't forget, you will enjoy playing this piano just as much as any of the children.

You Can Afford It Now

Let us tell you of our special plan to introduce one Crown Combinola in your neighborhood. Let us tell you what we will do if you already have a piano. Let us tell you more about the Combinola, and send you a beautiful piano book, free. Write us, or send this coupon, to-day, while you think of it.

Crown Pianos



This elegant design is one of our most popular styles. Moderate priced. Highest grade. Beautiful style. This piano may be purchased under our special plan. If you want a piano, let us prove to you the worth of the Crown.

Special Coupon

GEO. P. BENT COMPANY,
Wabash Ave., Chicago, Ill.

Tell me about your special plan to introduce one Crown Combinola in my neighborhood. Also send me your beautiful piano book, free of charge.

Name

Address

.....

GEO. P. BENT COMPANY

MANUFACTURERS

South Wabash Avenue, Chicago, Illinois

When Writing Advertisers Please Mention the American Carpenter and Builder.

ASHBY'S
Designs of Schools and Libraries

display a composition of utility, durability and good, pure architecture without any "gingerbread."

No buildings are too large or too small for our personal and prompt attention.

We develop your own ideas into a practical set of plans and specifications which can be executed to the smallest details into a building that can be built within your means and to your entire satisfaction.

Ashby's "Designs of Schools and Libraries" will be sent to parties interested in the erection of a school building or library for which plans have not yet been procured.

G. W. ASHBY—ARCHITECT
 11th Floor, Medinah Bldg.
 CHICAGO, ILL.

When Writing Advertisers Please Mention the American Carpenter and Builder.



Write
For
Free
Catalog

No. A1264

Send only
50c
And We Ship You
THIS SUPERB
Rocker

Yes, only 50c and we ship you this magnificent rocker.

Only 50c down and then 50c per month—\$3.95 in all for this handsome piece of furniture. Positively the greatest bargain ever offered here or at any other place. Write for free catalog and bargain list today.

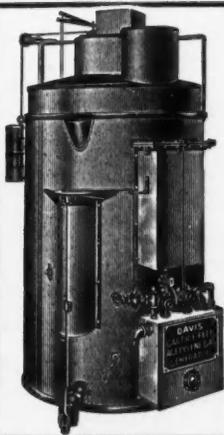
We defy any house in America to equal our stupendous offers. You can see for yourself what an elegant rocker this is. It is made in American quarter-sawn oak finish—profusely carved, upholstered in the best grade Boston Leather—diamond tufted. No. A1264. This rocker is only one of the special bargains we are now giving. Send for this bargain list today.

Easy Payments The great house of Straus and Schram, with a proud quarter century record, endorsed by the greatest bank, will trust you and allow you to buy any article on easiest monthly payments. If you want anything in rockers, chairs, bedsteads, carpets, rugs, curtains, washing machines, crockery, silverware, baby carriages, go-carts, Men's, Women's and Children's apparel, stoves, ranges or any other article of housefurnishing, don't fail to get our sensational easy terms.

Special BARGAIN LIST and CATALOGS FREE Don't wait a minute before sending for our great bargain catalog and special monthly bargain list. Bargains which are positively astounding; bargains which simply can not be met by our competitors because of our stupendous buying and manufacturing facilities.

Write Today—Don't Wait Send a postal or letter—but send right now. Take advantage of these special offers while they last. This month only. So hurry. Just your name and address on postal or letter and we will mail free and postpaid our catalog and bargain list.

STRAUS & SCHRAM (Inc.) Dept. 2668, 35th St., Chicago, Illinois



Mr. Contractor and Builder

Why not equip the home or other building you are erecting with

Davis Acetylene Lighting?

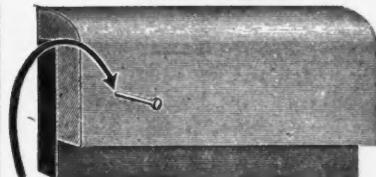
You can greatly increase your income by selling and installing Davis Acetylene Lighting Systems for new buildings and during dull seasons for buildings already erected. No previous experience required and we help you get started.

Write us for cost of equipping a building and for our terms to salesmen.

Architects desire to recommend the best and we, therefore, invite them to carefully investigate what we have to offer.

Davis Acetylene Company
90 Crawford St., Elkhart, Ind

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.



What Y' Doin' Now, Bill

You don't have to ask that question of the trained man, because you know what he is doing—you know his position is a permanent one—and you know his position is one that pays a good salary. You also know that the trained man is not at the mercy of conditions that affect the untrained man.

How many untrained men are constantly watching the "want" columns of the newspapers—only to be painfully reminded of the positions they can't fill and the work they can't do! Engineers are wanted; Mechanics are wanted; Electricians are wanted; Builders are wanted; Draftsmen are wanted; Advertising Men are wanted; and the Government offers big pay to those qualified for Civil Service positions. But there is seldom a chance for the untrained man. Because of his lack of training he must stay at uncongenial and unprofitable work.

For more than 20 years the I. C. S. have been helping men to qualify for more congenial occupations and better salaries.

To learn how the I. C. S. can help you and how you can easily qualify for success in your chosen occupation, mark and mail the attached coupon today. Doing so costs you only postage and will bring to you stories of success of thousands of I. C. S. students. You assume no obligation in asking for information.

But Mark the Coupon NOW

International Correspondence Schools

Box 910, SCRANTON, PA.

Please explain, without further obligation on my part, how I can qualify for a larger salary and advancement to the position, trade, or profession before which I have marked X.

Architect	Estimating Clerk	Automobile Running
Arch'l Draftsman	Civil Engineer	Foreman Machinist
Contract'g & Build.	Surveying	Sh.-Met. Pat. Drafts.
Building Inspector	Mining Engineer	Textile Manufact'g
Structural Engineer	Mechanical Engineer	Bookkeeper
Structural Draftsman	Mechanical Drafts.	Stenographer
Plum. & Heat. Con.	Stationary Engineer	Advertising Man
Supt. of Plumbing	Electrical Engineer	Window Trimming
Foreman Steam Fit.	Electric Lighting	Commerci'l Illustrat'g
Plumbing Inspector	Electric Railways	Civil Service Exams.
Heat. & Vent. Eng.	Concrete Construct'n	Chemist

Name _____

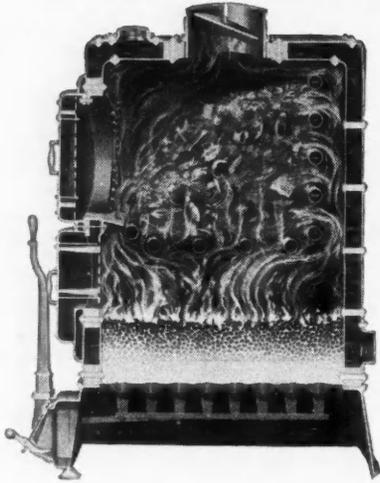
Street and No. _____

City _____ State _____

Present Occupation _____

When Writing Advertisers Please Mention the American Carpenter and Builder.

WHY THE KEWANEE GARBAGE BUNING WATER HEATER IS A MONEY, TIME, HEALTH AND LIFE SAVER



As a **Money Saver** it transforms your Garbage of all sorts into valuable fuel.

It reduces your fuel bill 30 to 40 per cent.

It annihilates your cartage charges.

It gives you oceans of **HOT** water in apartment houses at 2 to 5 cents per family per day.

In Hotels and Hospitals these advantages are greatly emphasized.

As a **Time Saver** it keeps the storage of hot water twenty-four hours round, and one never has to wait.

It responds more quickly to fresh firing than any Water Heater extant.

As a **Health Saver** it instantly removes the source of foul stench, of noisome flies and venomous germs.

It makes the disease-breeding garbage can a thing of the past.

As a **Life Saver** it makes impossible infectious contamination to every member of the family, father, mother and the babies, from the Disease-laden flies, which no longer infest your kitchen, the Dining room and the Nursery.

The family pests need no longer be feared as disease carriers.

For Valuable Information Write to

KEWANEE BOILER COMPANY

KEWANEE, ILLINOIS

MAKERS OF THE INFALLIBLE KEWANEE FIRE-BOX AND SMOKELESS BOILERS

CHICAGO

NEW YORK

ST. LOUIS

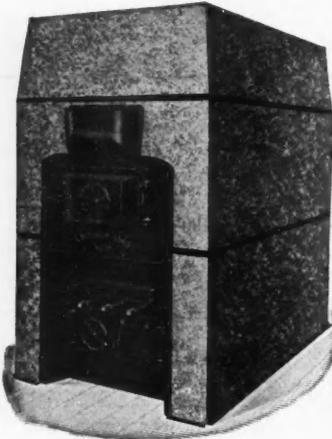
KANSAS CITY

SALT LAKE CITY

LOS ANGELES

Sold in Canada exclusively by the DOMINION RADIATOR CO.

BUY FROM THE MAKER



We have made and sold thousands of steel furnaces in Chicago, and we have sold them everywhere, by mail, direct to contractors, builders and house owners, all over the country, from Maine to China. We don't offer them through dealers, for the **DIRECT DEAL** with the consumer is the most satisfactory to all concerned. It means **BETTER SERVICE**—because of the direct interest of the maker in each contract—and it means **BETTER PRICES**, for the middlemen's profits are cut out.

In buying the Hess Furnace, you needn't have faith. You can buy it now, on trial, and test it before January 1st, 1913. We will deliver it at your station, with all

pipes and registers—freight prepaid.

Set it up and use it. If you're not pleased; not sure you have big value for the price—send it back to us—we paying return charges—and we won't claim one cent from you.

We don't offer you credit, however, for we require the price to be deposited with your local banker when you receive the goods. He holds it till the test is made, subject to the conditions outlined above, and gives it to you or to us, according to the result of the test. You take no risk, and you will save money.

Our furnace is made of steel, **EVERY SEAM WELDED**, and therefore permanently gas, dust, and smoke-tight. Made in six sizes, and burns any fuel. There is no furnace, better, at any price.

Our 48-page booklet on furnace heating is free. Ask for one. It will give you a lot of useful information on heating.

Hess Warming & Ventilating Co.

920 Tacoma Bldg.

Chicago

We make these beautiful white steel medicine cabinets, cheaper than wood.

"Everybody's Doin' It Now!"

At least, all of the best builders are.

Doin' What?

Why!
Specifying

GILT EDGE Furnaces and Boilers

They have found it is easier to sell houses with a heating plant of established merit.

If you are going to build either a house or a hotel, it is worth \$\$\$ to you to get the Gilt Edge catalogue.

Write the manufacturers

R. J. Schwab & Sons Co.,

295 Clinton Street

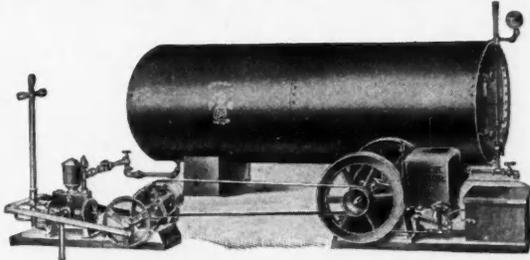
MILWAUKEE

WIS.



When Writing Advertisers Please Mention the American Carpenter and Builder.

Fairbanks-Morse Pneumatic Tank Systems



furnish water under pressure for the kitchen, bathroom, laundry, etc., and give service equal to and, in certain respects, even superior to that furnished by city mains.

Installation cost reasonable. Operating cost trifling.

The outfit here shown is easily set up in the basement of any ordinary residence and it can be operated by hand, engine or electric motor.

Complete Diagrams Showing Installation

will be furnished with each outfit and as our line is complete you will be able to select an outfit exactly suited to your requirements.

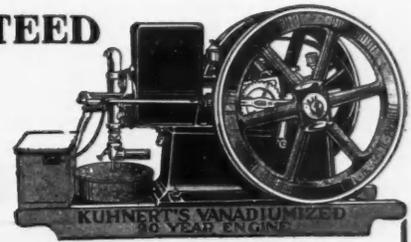
Write for Catalog No. WD1409.

Fairbanks, Morse & Co.

Wabash Ave. and Eldridge Place Chicago, Ill.
Hoists, Trench Pumps, Water Systems, Electric Light Plants

GUARANTEED

20 YEARS



Use the Vanadiumized 20 Year Engine FREE

The only engine with the marvelous strength of vanadium in it. Use it for 10 whole days free. Use it free to prove that the new vanadiumized engine is the wonderful engine you have been wanting—practically lasts forever. Easiest to handle. Use less gasoline. Write for description of this marvelous 20-year engine.

The only vanadiumized engine on the market today. The only engine that can stand up under our unequalled, sensational guarantee of 20 full working years. Full 20 years guarantee on all sizes of engines. Write for particulars of this great sensational guarantee. You never heard of anything like it before. Write for particulars today.

EASY PAYMENTS

Never mind the money. Our payment terms are so very easy that you never think of the money. Marvelous quadruple duration Kuhnert 20 year engine is paying for itself and giving you big dividends before you ever begin to pay us a single cent.

No Money Down Not a single cent. When you get our catalog describing the quadruple duration 20 year engine you will be astonished to see that we do not ask you to send us a single cent when you are sending for this engine to try it free. By all means see our sensational selling offer. This is a limited offer. Write for particulars now.

Special To all who write promptly we will include our special offer of free equipment. You certainly want to know all about this sensational improvement in gasoline engines. Just send your name and address and full particulars of this special limited offer will be sent to you post-paid, free.

L. C. KUHNERT, Jr. COMPANY, Dept. 2413 Chicago

Do Away Sash Weights, Cord, Pulleys, etc.

BY USING AUTOMATIC SASH HOLDERS

Easily Installed **Durable**
Simple **Saves Money**
Positive **Prevents Window Rattling**
For Old as Well as New Windows
Made in Three Sizes for Sash Weighing
35 lbs. and More

If your hardware dealer does not have them send us \$1.00 for a trial set (enough to equip two sash or entire window) all charges prepaid, stating weight or size of sash.

ANYHOW send for prices and literature NOW

AUTOMATIC SASH HOLDER MFG. CO.

52A CHURCH STREET, NEW YORK

Canadian Representative Smith Hardware Co., Ltd., Montreal, Que.

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.



Easily Erected—Most Economical—Absolutely Guaranteed

Write for free sample and prices

Atlas School Supply Co.

1022 Van Buren Street :: Chicago, Ill.

KRAOPLATE

Will last a lifetime under ordinary school room usage.

The BEST Composition
Blackboard Manufactured



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.

When Writing Advertisers Please Mention the American Carpenter and Builder.

Casement Water Excluding Bar

(Peters Patent)
Most perfect ever invented for casement windows opening inward. Suitable for old or new sashes and doors. Cut shows sill plan of casement window.

**Efficient
Tried and Tested**

This bar is formed of crescent shaped metal which moves up and down when closing or opening sashes. Right side sash is fitted with a special hook which strikes bar and moves it into position. Simple, cannot get out of order, low in cost. Easily applied. Write for circular. **Agents Wanted.**

J. S. GILLESPIE
Room 1256, 200 5th Avenue, - - NEW YORK

Sash closed, bar up.

GUARANTEED MIXED PAINT

\$1.15 A GALLON

Direct from the Manufacturer
A Wonderful Paint Offer

If any of your buildings need painting, write at once for our free paint sample offer. We sell the best ready mixed paint in the world at lowest prices ever heard of—55c a gallon for the best Barn Paint, \$1.15 a gallon for the finest House Paint in quantities. We pay the freight charges.

Guaranteed for Ten Years

We furnish full directions how to do any job, and just now we are making a surprisingly liberal offer. Write at once and get this great paint offer, free shade samples, strong testimonials and valuable paint information. Just say "Send me your latest paint offer." Address

Crosby-Frank & Co., 298 Peoria Street, Chicago, Ill.

SPECIFY THE JAHANT DOWN DRAFT FURNACE

ARCHITECTS! BUILDERS! CONTRACTORS!
Don't run risks.

It's an established fact that nine-tenths of the time you will be condemned for using poor judgment should you specify a steam or hot water heating system.

The heating requirements of residences, flats, schools, hotels, churches, etc., vary according to climatic conditions, size of building and number of rooms, style of architecture and nature of material used in construction.

The Jahant warm air system costs less and is easier to install than other systems. It is easiest to care for and delivers plenty of heat at a saving of 1/4 to 1/2 in fuel bills.

We guarantee the Jahant, make prompt deliveries and prepay all freight.

Our free illustrated book gives general specifications, descriptions and prices. It explains our co-operative policy of furnishing without cost to you, special blue prints and specifications to be submitted with your building plans and tells why it will pay you to specify the Jahant.

THE JAHANT HEATING CO. 85 Mill Street, Arkon, Ohio
Furnace Builders for more than 30 years.

WE SEND BLUE PRINT PLANS—FREE

PLUMBERS' SUPPLIES AT WHOLESALE

When in the market for Plumbing Supplies and you wish to

SAVE 20 to 40 Per Cent

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

Small orders are as carefully handled as large ones.

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

MORE PROFIT FOR YOU

You can now give your customer the popular mitre-corner effect without the slow careful work of cutting and fitting bevels. **USE METAL BUILDING CORNERS.**

They take the place of corner boards. Save fully \$2 worth of time in finishing each corner. Make a stronger and neater job

WRITE FOR FREE SAMPLES TODAY

ED. KEES MFG. CO. BEATRICE, NEB. Box 552.

If you've never used Gossett Hinges for full length window screens, say so and we'll send you a sample pair free.

THE KEYSTONE FOLDING SAW CLAMP

The latest, most complete, simplest constructed, easiest and quickest operated, also the most durable saw clamp on the market. Fastened instantly to a work bench, edge of a board, pile of lumber, or any other suitable place. One drive of the points will fasten the Clamp to the wood.

The jaws are 14 inches long, requiring but one shift for filing a 28-in. saw.

The jaws drop to position by their own weight, allowing free use of both hands for adjusting the saw.

The eccentric lever automatically centers the jaws exactly opposite each other. Felt face jaws deadens the noise of filing, also protects scratching the finest finished saw.

The jaws have a half inch opening sufficient clearance for quick and easy working. The Clamp weighs but 3 lbs. It is made of malleable iron (not cast, like most clamps) and is warranted not to break. It folds up like a jack knife and can easily be carried in the pocket. It occupies no more space in the tool box than the ordinary hammer.

Price, \$1.00 each.
Send for descriptive circular.

JOS. WOODWELL CO. 201 Wood Street, Pittsburgh, Pa.
Our catalogue is free; send for one.

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

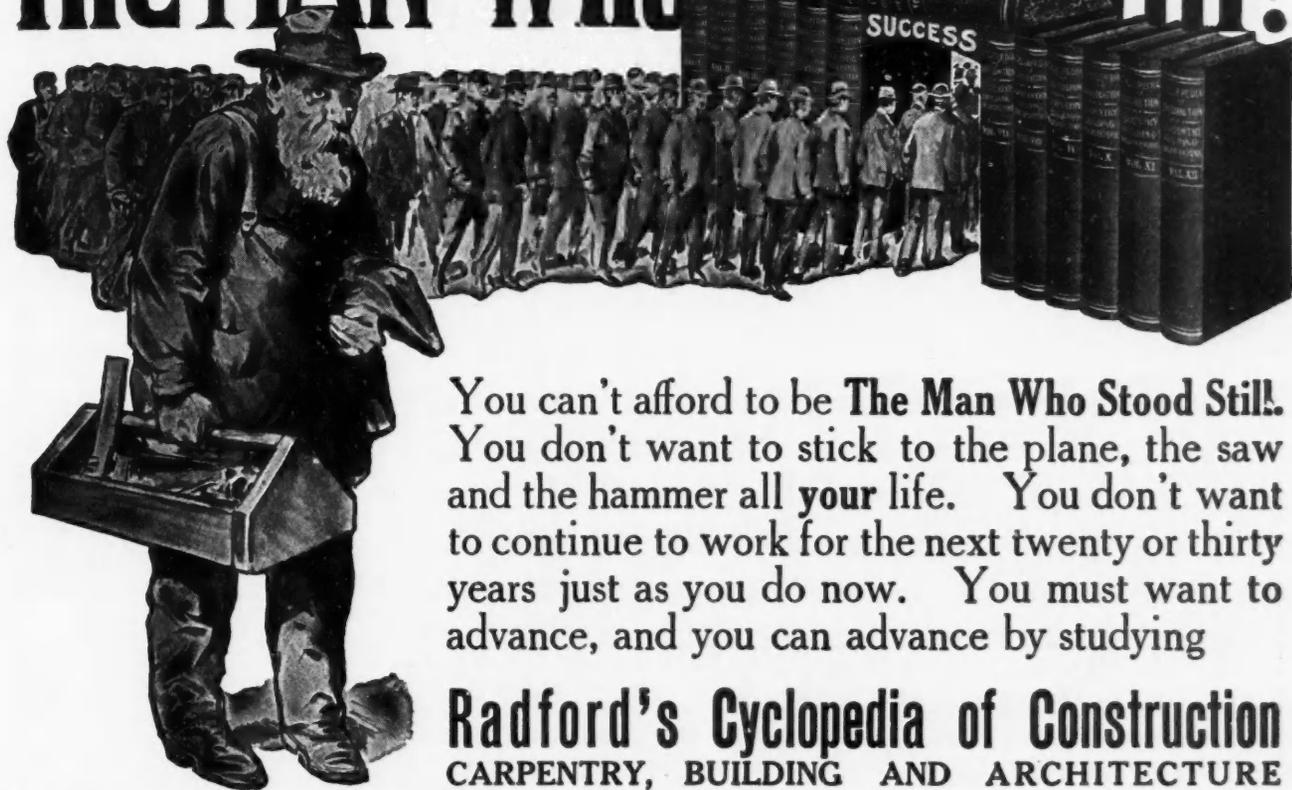
TRUSSED CONCRETE STEEL CO., 344 Trussed Concrete Bldg., Detroit, Mich.

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.

When Writing Advertisers Please Mention the American Carpenter and Builder.

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 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

- | | | | | |
|---|---|--|---|---|
| Carpentry | How to test Cement | Walls and Foundations | Use of Tiles | Invaluable to the house owner or prospective home builder |
| Stair Building | Standard Specifications for Concrete Blocks | Steps and Stairs | Ventilation and Plumbing | |
| Steel Square | Concrete Blocks | Concrete on the Farm | Heating—Steam, Hot Air, Hot Water, Furnace | 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. |
| Test Questions, Practical Problems, Reviews | Establishing a Concrete Block Business | Roofings, Chimneys, etc. | Steam Fitting, Gas Fitting, etc. | |
| Framing | Concrete Block Systems | Reinforced Concrete Bridges | Architecture, Mechanical, Free Hand and Perspective Drawing | 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. |
| Roof Construction | Proportions—Sand, Stone, Gravel and Water | Railroad Work, Concrete Ties, Abutments, Culverts | Rendering in Pen and Ink and Wash | |
| Strength of materials | How to Overcome Concrete Troubles | Concrete Dams | Lettering | Name _____
Address _____
Employer _____ |
| Foundations, Retaining Walls, etc. | Curing Stone by Steam | Retaining Walls | Practical Problems in Mensuration | |
| Piles and Caissons | Color of Concrete Blocks | Reinforced Concrete | Water Color Effects | |
| Sewers and Drains | Waterproofing | Various System, Tables Showing How to Reinforce Cement Ornamentation | The Five Orders | |
| House Drainage and Sanitation | Cement Plaster Work | STEEL CONSTRUCTION | | |
| Estimating and Superintendence | Cement Mortar | This subject is handled thoroughly | | |
| Laws of Building Contracts | Monolithic Concrete Construction | General Principles | | |
| Painting and Glazing | Expansion Joints | Practical applications | | |
| Blue Printing | Concrete Floors | Practical Problems in Construction | | |
| Specifications for Portland Cement | | Fireproofing | | |

RADFORD ARCHITECTURAL CO.

Medinah Building, Chicago, Ill.

When Writing Advertisers Please Mention the American Carpenter and Builder.

A NEW METAL TILE

ABSOLUTELY WATER TIGHT—PERFECT FITTING
OF THE WELL KNOWN

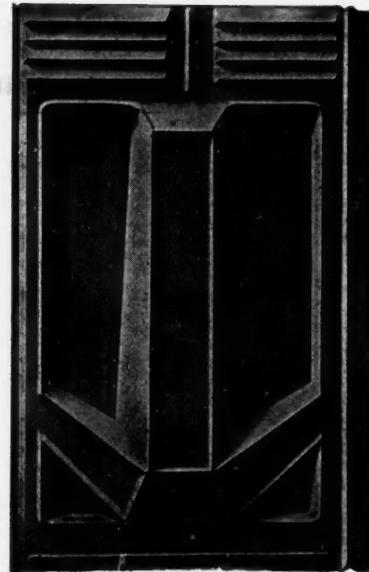
KANNEBERG QUALITY

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

We also manufacture Cushman Metallic Shingles, Metal Tile, Cornice, Skylights, Ventilators, Eaves Trough, Conductor Pipe and all Styles of Roofing and Siding

Catalog Ec for Metal Tile, Catalog Dc for Ceiling

Kanneberg Roofing & Ceiling Co.
Canton, Ohio



STOP THE FLOPPING

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

The RIXSON PANTRY CHECKING Floor Hinge

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

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

Makers of Sperry Casement Adjuster.

Fastens Anything to Masonry

Absolutely the cheapest and quickest means of fastening fixtures of all kinds to Concrete, Brick, Stone, Marble or Tile floors, walls or ceilings. Guaranteed to hold.

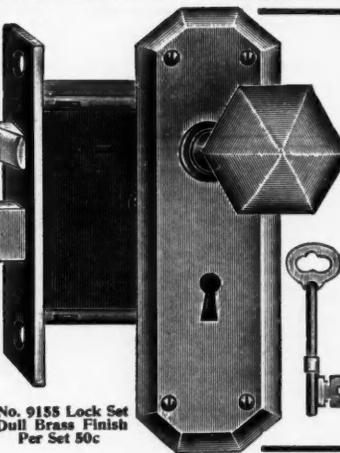
The Van Expansion Bolt Special Trial Offer

25 size 3-16" Complete \$1 Send a Dollar Bill Today
15 " 1-4" with screws
10 " 5-16" screws

Money refunded if not satisfactory. Larger sizes on request. Write for free sample and booklet "Expansion Bolt Facts."

VAN EXPANSION BOLT CO.

Expanded 1209A Fort Dearborn Building CHICAGO



No. 9155 Lock Set
Dull Brass Finish
Per Set 50c

Going to Build

Send for Rehm's Builders Hardware catalog and Net Price list and select up to date Hardware for your job. Catalog mailed free to contractors, carpenters and Material men.

We do not sell to Contractors or Carpenters in Cook Co. Ill. When sending for Catalog please state whether Contractor, Carpenter or Material Man.

REHM HARDWARE CO.
1501 Blue Island Ave.
CHICAGO, ILL.

SHULTZ WINDOW BARS FOR STORE FRONTS

PATENTED

SHULTZ ALL-STEEL BURGLAR PROOF COAL CHUTES

PATENTED

The Newest, Strongest and most Convenient Coal Chute made. Prices also Lowest. No modern residence complete without it. Locks itself when closed up. Can only be opened from inside. Architects, Contractors and Owners are invited to write for descriptive circular.

C. H. SHULTZ, Manufacturer, St. Joseph, Mo., U. S. A.

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.

When Writing Advertisers Please Mention the American Carpenter and Builder.



The Sanitary Wall is the Washable Wall

No wall finish can be clean, healthful, sanitary, that can't be washed. Why not have a beautiful lusterless washable finish?

JOHNSTON'S DULL KOTE

is a wall paint adapted to any room in any house. Has wonderful decorative possibilities, is easily applied and gives a beautiful, soft, velvety flat finish that can be cleaned with soap and water like tile.

Any Dull Kote dealer will furnish color card and information, or address

THE R. F. JOHNSTON PAINT CO.
Pearl and Main Streets, Cincinnati, Ohio

Antiseptine

Registered

Shingle Stains

"Wood preserving stains that stay put."

The New Standard in Exterior Stains

† Antiseptine Shingle Stains are made of the well known wood preserver Antiseptine in combinations with selected pigments.

† Antiseptine cannot evaporate from the wood like creosote and the Antiseptine insures lasting coloring effects by permanently protecting the pigments.

† Antiseptine Stains have been welcomed by all who are building reputations as well as building houses, as the first REAL step ahead in exterior stains.

† Antiseptine Stains at first cost, cost you NO more than the ordinary kind of stains—and they save you time, labor, money and worry in the long run.

We want to send you sample Antiseptine Stains on wood. You want to get these.

Made only by

American Wood Preserving Co.

1345-1351 North Branch Street

Incorporated 1892

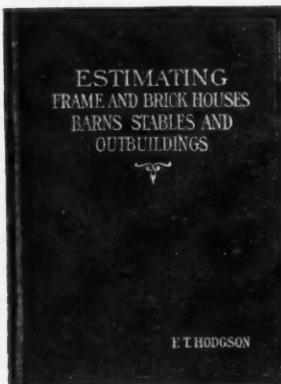
CHICAGO

Phone, Dearborn 119

Antiseptine

Registered

Shingle Stains



ESTIMATING FRAME AND BRICK HOUSES, BARN, STABLES and OUTBUILDINGS

By F. T. HODGSON

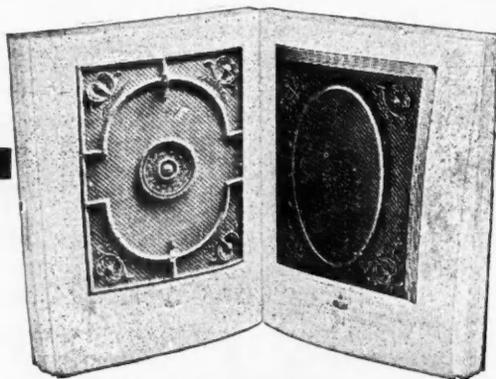
200 pages (5 x 6 $\frac{3}{4}$ inches), fully illustrated.

Price \$1.00 Postpaid

THE book aims to give a careful consideration to all the items and elements of cost in construction, beginning at the foundation of the building and progressing to the finished structure. Young contractors and builders especially will find it to cover the subject in a plain, practical way, with detailed consideration of cost factors, items and quantities. There is a detailed estimate of a \$5,000 house and additions; detailed estimates of kitchen, dining room, parlor, den, halls, bedrooms, conservatory, basement, bathroom, closets, etc., all figured out and measured by the quickest and simplest methods. The author also tells how to estimate by cubing, by the square of floors or walls, and by the process of comparison, and gives hints and practical suggestions for taking measurements and making tenders for work.

INDUSTRIAL BOOK CO., 178 Fulton St., NEW YORK

When Writing Advertisers Please Mention the American Carpenter and Builder.



The Catalog Bonanza

That is what it will be to you if you secure a copy and immediately get in touch with the architects and builders of your vicinity. You naturally want to handle the most artistic, handsome designs, the line with the largest variety—in short, you want quick, easy sales and good profits. If that is the case

Berger's Classik Metal Ceilings

is the line you want to sell. The large selection of beautiful designs, deep, clear embossing and acknowledged superiority will make them real business builders for you.

A postcard to the nearest Berger Branch closes the deal

Get it in by the first mail



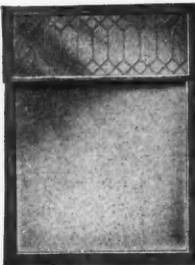
THE BERGER MFG CO CANTON OHIO
 FOR PROMPT SERVICE ADDRESS NEAREST BRANCH.
 NEW YORK · BOSTON · PHILADELPHIA · ST. LOUIS · MINNEAPOLIS · SAN FRANCISCO.
 Also manufacturers of Ferro-Lithic and Multiplex Reinforcing Plates, Metal Lath, Roofing, Eaves Trough and Conductor Pipe and Sheet Metal Building Products of all kinds.

Low Prices : Quality : Quick Shipments

(Our Headliners)



Colonial Porch Columns \$1.33 For cap as shown add 50c net.



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



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

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

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



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



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



BASE Yellow Pine 1 3/16 x 7 1/2 in. \$2.77 per 100 lin. ft.

CLEAT Yellow Pine 3/4 x 1 1/2 in. 35c per 100 lin. ft.



Quarter Round Yellow Pine 3/4 in., 30c per 100 lin. ft.

Use KEROSENE Engine Free!

Amazing "DETROIT" Kerosene Engine shipped on 15 days' FREE Trial, proves kerosene cheapest, safest, most powerful fuel. If satisfied, pay lowest price ever given on reliable farm engine; if not, pay nothing. No waste, no evaporation, no explosion from coal oil.

Gasoline Going Up!

Gasoline is 9c to 15c higher than coal oil. Still going up. Two pints of coal oil do work of three pints gasoline.

Amazing "DETROIT"

—only engine running on coal oil successfully; uses alcohol, gasoline and benzine, too. Starts without cranking. Only three moving parts—no cams—no sprockets—no gears—no valves—the utmost in simplicity, power and strength. Mounted on skids. All sizes, 2 to 20 h. p. In stock ready to ship. Engine tested before crating. Cylinders cannot carbonize. Comes all ready to run. Pumps, saws, threshes, churns, separates milk, grinds feed, shells corn, runs home electric light plant. Prices (stripped), \$29.50 up. Sent any place on 15 days' Free Trial. Don't buy an engine till you investigate money-saving, power-saving "DETROIT." Thousands in use. Costs only a postal to find out. If you are first in your neighborhood to write, you get Special Extra-Low Introductory price. Write! (188)

Detroit Engine Works, 495 Bellevue Ave., Detroit, Mich.



A FREE BOOK

On Concrete Machinery

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

It isn't exactly a catalogue because it gives you the cost of making concrete Blocks, Bricks, Porches, and Chimneys. It tells all about the profits in making Drain Tile for farmers. The advantage of drainage, etc.

You ought to have this book if you are interested in concrete. Sixty-four pages of illustrations and interesting reading. Send at once, today, a postal will do.



W. E. DUNN MFG. CO., 4132 Fillmore St., Chicago

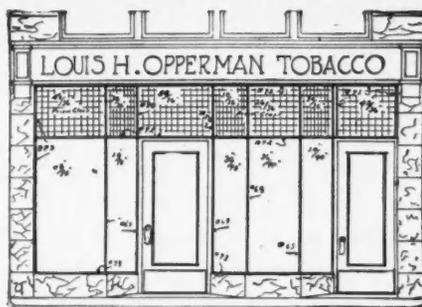
When Writing Advertisers Please Mention the American Carpenter and Builder.



The Plastic Relief Mfg. Co.
945-949 N. Halsted Street
Chicago, U. S. A.

ORNAMENTAL PLASTER WORK
CEILINGS PANELS
CORNICES COVES
CAPITALS BRACKETS
ARCHITECTURAL DECORATIONS
INDIRECT LIGHTING COMPO
BOWLS

Ceiling number 16



FRONT ELEVATION.

The Petz Bar Is a Real Leader

In every line there is a leader. Petz Bars have achieved this enviable position, because they have the full confidence of the leading architects and builders in every part of the U. S.

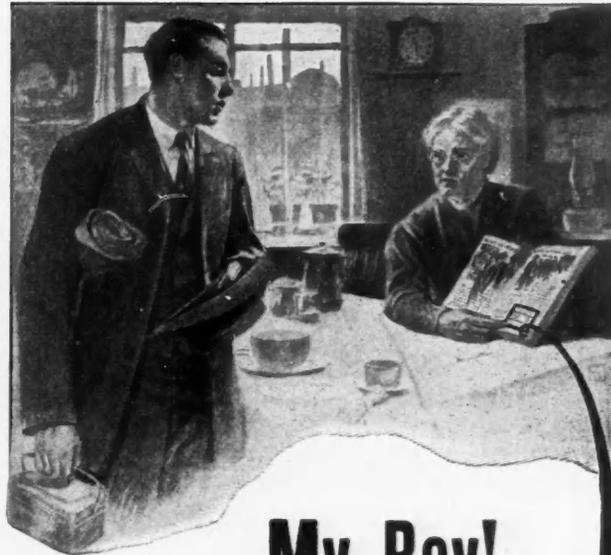
They are honestly made in a factory that does not know what it is to cheapen its product. They have the strength and safety of best materials and superior design. Easy to install, and we have yet to hear of a case where they have broken glass.

Our booklet on "Metal Store Front Construction" serves as a reference book to many prominent builders and architects. Send for a free copy today.

Detroit Show Case Co.

SOLE MAKERS

491 Fort Street, West, Detroit, Mich.



My Boy! Here's Your Chance

It's more than a chance—you can make it a certainty because it depends entirely upon yourself. It's your opportunity to rise to one of the countless positions open to the trained man and obtain a trained man's salary.

The man who sits in his private office and "hires and fires" and lays out your work, was no more qualified to fill that position a few years ago than you are today. He saw his chance and made the most of it. He obtained his training and knowledge by study. You can do the same—the American School will help you.

You don't want to remain in the "time-clock and dinner-pall" class all your life—Don't be satisfied with just a common job at small pay. Show the boys at the shop that you have it in you to advance—you owe it to yourself and to your family.

Don't be afraid to mail the coupon, you won't be bothered by agents or collectors. Like all strictly educational institutions the American School depends, for growth, upon reputation and the success of its students.

Don't let a little thing like filling in and mailing a coupon stand between you and success, congenial work and more pay. Accept your chance to-day.

WE HELP MEN HELP THEMSELVES

American School of Correspondence

CHICAGO, U. S. A.

This is Your Opportunity

Check the course you want and mail the coupon now

American School of Correspondence, Chicago, U. S. A.

Please send me your Bulletin and advise me how I can qualify for the position marked "X." A.C.&B. 11-12

- | | |
|-----------------------------|-------------------------------|
| ... Architect | ... Electrical Engineer |
| ... Building Contractor | ... Elec. Light & Power Supt. |
| ... Architectural Draftsman | ... Electrical Wireman |
| ... Structural Engineer | ... Lawyer |
| ... Concrete Engineer | ... Bookkeeper |
| ... Surveyor | ... Stenographer |
| ... Mechanical Engineer | ... Private Secretary |
| ... Mechanical Draftsman | ... Accountant |
| ... Steam Engineer | ... Fire Insurance Inspector |
| ... Stationary Engineer | ... Fire Insurance Adjustor |
| ... Gas Engine Engineer | ... Fire Insurance Expert |
| ... Automobile Mechanician | ... Sanitary Engineer |
| ... Telephone Expert | ... College Preparatory |

NAME

ADDRESS

When Writing Advertisers Please Mention the American Carpenter and Builder.

"Opportunities"

Have you anything to Sell, Barter or Exchange,
Want Help, Agents, or a Situation? Use our

Classified Department

RATES 5 CENTS A WORD. CASH WITH ORDER

No Display Type Allowed in Classified Advertisements

Patents

O. L. PARKER, PATENT ATTORNEY. Formerly member Examining Corps, U. S. Patent Office. 920 G. St., Washington, D. C. Pamphlet of instructions sent upon request.

PATENTS THAT PROTECT AND PAY—Books free. Highest references; best results. Send sketch or model for free search. Watson E. Coleman, Patent Lawyer, 622 F St., Washington, D. C.

Miscellaneous

ARCHITECTURAL DRAWINGS, TRACINGS, BLUE PRINTS. DURHAM BROTHERS, 1213 Filbert St., Philadelphia.

MACHINE CARPENTER SHOP and Feed Mill; steam power. An immense crop of grain and corn to be ground for feeding. Good town. Graded and high schools. Splendid dairy country surrounding town. Particulars by mail. GEORGE FRATER, Elkhorn, Wis.

Formulas

STAIN Formulas. Eighteen, best formulas for bleaching and staining wood, including all colors, sent postpaid to any address, upon receipt of fifty cents. Money order or coin. HOUSTON FORMULA CO., 203 San Jacinto St., Houston, Texas.

Instruction

DRAFTSMEN'S, BUILDERS' AND FOREMEN'S COURSES—Day, evenings or by mail. MAAACK'S ACADEMY OF ARCHITECTURE, 1742 Chouteau Ave., St. Louis, Mo.

Help Wanted

BRAND NEW 1912 AUTOMOBILES, ANY MAKE, ANY MODEL, fully guaranteed, \$50 to \$500 less than regular prices. State make wanted. Referenced agent wanted every town. Owners! Get our Selling-Cost-Eliminated Prices tires and accessories. THE UNION MOTOR SALES CO., 7CPA., Dayton, Ohio.

For Sale

FURNACES—Wholesale Prices. Book free. 1900 FURNACE CO., Youngstown, Ohio.

Angle Trisection

Mathematical Achievement—The "Famous Problem" solved. Send \$1.00 and get both methods of trisecting angles, mathematically. Reward of \$20.00 will be paid person successfully asserting methods defective. \$100.00 paid for accurate method of "angle trisection," previously Angle Trisection, mathematically.

Write C. W. TALBOT, Hanford, California.]



STEEL TENON SYSTEM

Fastens Corners of Sash, Doors, Screens, Panels, Etc. without mortising, gluing or nailing. Saves time material and money. Stronger and neater than mortising. Popular alike with Architects, Builders, Owners, Small Shops and Big Mills. Costs little to install and one cent card for particulars.

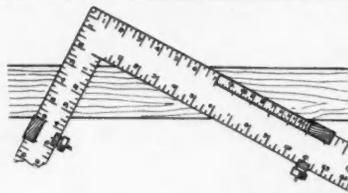
The Steel Tenon Mfg. Company
Denver, Colo.

HOISTS & ELEVATORS

Columbia Dumb-Waiters
Pavement or Cellar Hoists
Jumper Disappearing Dumb-Waiters
Chain Blocks, Cranes and Trolleys

Send for Catalog

J. G. SPEIDEL : Reading, Pa.



For Roof-framing

This gauge is the easiest and quickest tool or method in existence. Any one of 100 pitches in 5 minutes. Is unexcelled as Slay Gauge. Sent prepaid for \$1.50. Returnable with money back. Full description free. Good terms to good Agents.

JOHN PARKHILL
Rochester - Minn.



By getting a work bench like this

you will be able to do most any kind of work around the house. The bench is 4 1/2 ft. long, 22 inches wide and 32 inches high, made of hard maple, has 2 Patent Wood Screw Vises, and will be shipped you at once on receipt of

\$7.00

C. CHRISTIANSEN, Manufacturer
2219 Grand Ave., CHICAGO, ILL.

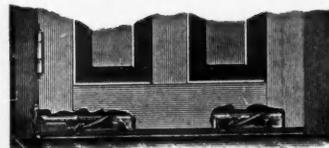
BEST FOR ALL WALLS

TAPESTROLEA

BURLAPS AND CANVASES

Recommended by Architects, Builders, Decorators, Owners.
Illustrated Booklet and Samples on Application.

RICHTER MFG. CO. TENAFLY, N. J.



INTROSTILE

A Crack Sealer which almost hermetically seals the apertures under doors and windows. A handsome, sanitary, permanent fixture whose installation makes no perceptible alterations. Automatic, noiseless, invisible. It BANISHES INDOOR THRESHOLDS leaving floors unbroken.

Write for Catalog. The Introstile & Novelty Co., Marietta, Ohio

THE ZIMMERMAN IRON BASE

is the ONLY BASE having a CENTER BEARING.

It carries the required weight without allowing the corner supports to sink into the floor and prevents the base of column and floor from rotting.

See "SWEET'S" page 876.

S. CHENEY & SON, MANLIUS, N. Y.



Bottom View Showing Center Bearing

When Writing Advertisers Please Mention the American Carpenter and Builder.



The Willis Self-Installing Skylights

From Our Factory Direct to You

and you don't need a soldering outfit to erect them. All Willis Skylights are constructed so they can be erected by any handy man with a hammer and screw driver. Guaranteed absolutely watertight without the use of putty. The ridge and gutter bars cannot sag, buckle or spread.

WILLIS MFG. CO., Galesburg, Ill.

Send for Catalogue No. 6, showing a full line of Sheet Metal Work.

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.

20 Reasons Why You Should Investigate the SANDOW Kerosene Stationary ENGINE



It runs on kerosene (coal oil), gasoline, alcohol or distillate without change of equipment—starts without cranking—runs in either direction—throttle governed—hopper cooled—speed controlled while running—no cams—no valves—no gears—no spockets—only three moving parts—portable—light weight—greater power—starts easily at 40 degrees below zero—complete, ready to run—children operate them—5-year ironclad guarantee—15 day money-back trial. Sizes 2 to 20 horsepower.

Send a postal today for free catalog, which shows how Sandow will be useful to you. Our special advertising proposition saves you one-half cost of first engine sold in your county. (164)

Detroit Motor Car Supply Co.
196 Canton Ave. - Detroit, Mich.

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.

A SHINGLING HATCHET WITH POSITIVE GAUGE



CARPENTERS and BUILDERS

Here is a hatchet you can do some fast shingling with—No. 144 (oval head, 169 points.) Gauge is positive—it cannot slip. Clamps on with screw, gauge is readily changed. This hatchet is also made with flat head No. 44, 81 points, milled. Price of either is \$1.75 prepaid. We make a complete line—and the best—of Lathing Hatchets, from 64 to 225 points. Prices \$1.40 to \$1.75. You get your full money value in a Sayre Shingling or Lathing Hatchet. You can be positive of that. Find them at your dealers or sent direct.

L. A. SAYRE & SON
8 OLIVER ST. NEWARK, N. J.

PHOENIX INSIDE SLIDING BLINDS

WILKES BARRE, PA.

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

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

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

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

Farrand's Self-Clinching Nails

These Nails fasten direct to Hollow Tile and save the time, expense and anxiety of preparing Fireproof Walls to receive Nailing Grounds. They do away with the necessity of burying combustible wooden nailing blocks in the heart of the wall and afford full freedom for changing plans or correcting errors in the location of interior woodwork. Also used for attaching fixtures to all types of finished hollow walls.
Self-Clinching Nail Company, 44 N. Fourth St., Philadelphia, Pa.

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

"SILVER LAKE"

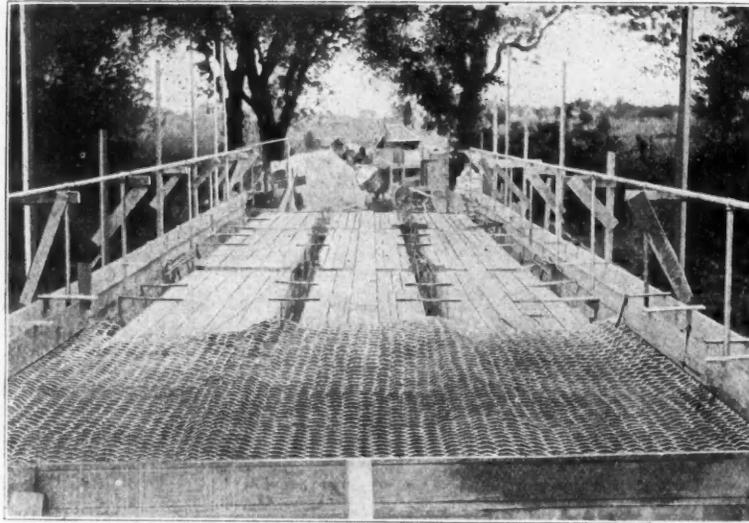
and see that he gives it to you. It is impossible to



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.



Actual size of Mesh is ten times size of this strip.



Girder Bridge at Stotesbury, Mo.

You Save Time and Money

and are sure of the strongest and most efficient construction obtainable when you use



For Bridge **REINFORCING** Floors

Its Diamond Mesh spreads the load in all directions. That's why **ECONO** is *strongest*. It is shipped in flat sheets that can be laid by one man without tying or spacing. That's why **ECONO** saves *time* and *labor*.

It has recently been reduced 25% in price on account of refinements in manufacture. That's why **ECONO** saves you *money*. Send for Booklet 31 for further particulars and let us put you on the mailing list for "Expanded Metal Construction," our free monthly bulletin.

Important: We can ship **ECONO STEEL REINFORCING** within 48 hours of receipt of your order. *The Best is the Quickest.*

NORTH WESTERN EXPANDED METAL CO.

Largest Exclusive Manufacturers of Expanded Metal Lath in the World

903 Old Colony Building, CHICAGO, ILL.



When Writing Advertisers Please Mention the American Carpenter and Builder.

INDEX TO ADVERTISEMENTS, NOVEMBER, 1912

	Page		Page		Page
Alabastine Co.	163	Frater, Geo.	158	Oak Flooring Bureau	148
Allen Mfg. Co.	132	Frost & Adams Co.	19	Orr & Lockett Co.	115
American Bell & Foundry Co.	151	Gage Tool Co.	14	Oshkosh Mfg. Co.	8
American Floor Surfacing Machine Co.	4	General Roofing Mfg. Co.	125	Paine Lumber Co.	16-17
American Level & Grade Co.	24	Gibbons, M. J.	129	Parker, C. L.	158
American School of Correspondence	145-157	Gillespie, J. S.	152	Parkhill, John	158
American Sheet & Tin Plate Co.	112	Goodell Mfg. Co.	14	Parks Ball Bearing Machine Co.	11
American Veneer Co.	154	Goodell Pratt Co.	18	Pearson Mfg. Co.	21
American Wood Preserving Co.	155	Good Housekeeping Magazine	118	Peck, Stow & Wilcox Co.	114
Andrews Heating Co.	25	Gordon Van Tine Co.	97	Peck, Williamson Co.	131
Art Stone Co.	30	Grand Rapids Hardware Co.	24	Peerless Brick Machine Co.	28
Artificial Marble Supply & Equipment Co.	125	Grand Rapids Plaster Co.	133	Pettyjohn Co., The	26
Ashby, Geo. W.	148	Gray Motor Co.	138	Phoenix Sliding Blind Co.	159
Atkins & Co., E. C.	2	Grimm Mfg. Co.	10	Plastergon Wallboard Co.	133
Atlantic Engine Co., Inc.	19	Handley & Cotterman	136	Plastic Relief Mfg. Co.	157
Atlas School Supply Co.	151	Hartman Sanders Co.	146	Porter Machinery Co., C. O.	10
Automatic Sash Holder Mfg. Co.	151	Heald Machine Co.	13	Potter Bros.	24
Barnes Co., W. F. & Jno.	10	Heitland Grate & Mantel Co.	31	Pratt & Lambert Co.	110
Beach Mfg. Co.	11	Heppes Co.	117-124	Prentiss Vise Co.	20
Beaver Co., The	109	Hess Warming & Ventilating Co.	31-150	Progressive Mfg. Co.	25
Beckman Co., The L.	19	Hewitt-Lea-Funck Co.	128	Pruden & Co., C. D.	139
Bent Co., Geo. P.	147	Holland Furnace Co.	131	Radford Architectural Co.	153
Berger Mfg. Co.	156	Houston Formula Co.	158	Rehm Hardware Co.	154
Berry Bros.	111	Hower, J. K.	159	Richards Wilcox Mfg. Co.	138
Bestwall Mfg. Co.	108	Huber Builders Material Co.	156	Richter Mfg. Co.	158
Bird & Son, F. W.	100	Hunt, Helm, Ferris & Co.	121	Rixson Co., The Oscar C.	154
Bishop & Co., Geo. H.	24	Hupp Motor Car Co.	107	Roberds Mfg. Co.	122
Blystone Machinery Co.	27	Hurley Machine Co.	6	Rodgers & Co., R. M.	6
Bommer Bros.	34	Huther Bros. Saw Mfg. Co.	15	Roth Bros.	159
Bovee Grinder & Furnace Co.	151	Industrial Book Co.	144-155	Royal Ventilator Co.	141
Boyle Co., John	30	International Correspondence Schools	149	Russell Jennings Mfg. Co.	15
Brad Publishing Co.	137	Introstile & Novelty Co.	158	Samson Cordage Works	19
Brilliant Gas Lamp Co.	135	Irwin Auger Bit Co.	133	Sand & Sons, J.	143
Brooke Iron Co., E. & G.	21	Ives Co., The H. B.	140	Sargent & Co.	32
Buck Bros.	22	Jahant Heating Co.	152	Sasgen Bros.	26
Buffalo Wire Works Co.	145	James Mfg. Co.	136	Sayre & Son, L. A.	159
Cabot, Samuel	34	Jennings & Co., C. E.	18	Schacht Motor Car Co.	134
Caldwell Mfg. Co.	22	Johns Manville Co., H. W.	105	Schwab & Sons Co., R. L.	150
Campbell Heating Co.	102	Johnson, E. J.	142	Sedgwick Machine Works	6
Canton Art Metal Co.	146	Johnson & Sons, S. C.	126-127	Seippel Lumber Co., Peter J.	144
Canton Foundry & Machine Co.	144	Johnston Paint Co., The R. F.	155	Self Clenching Nail Co.	159
Carborundum Co.	121	Kanneberg Roofing & Ceiling Co.	154	Seneca Falls Mfg. Co.	10
Central Mantel Co.	31	Karol, B. B.	152	Shelby Spring Hinge Co.	134
Century Furnace Co.	158	Keasbey & Mattison Co.	125	Sheldon & Co., E. H.	20
C. H. & E. Mfg. Co.	3	Kees Mfg. Co., F. D.	152	Shultz, C. H.	154
Champion Safety Lock Co.	23	Kepplinger, G. J.	4	Sidney Elevator Mfg. Co.	6
Chelsea Mfg. & Supply Co.	123	Kewanee Boiler Co.	150	Sidney Tool Co.	9
Cheney & Son, S.	158	Kissel Motor Car Co.	106	Silver Lake Co.	159
Chicago Grille Works	140	Knickerbocker Co., The	29	Simonds Mfg. Co.	102
Chicago Machinery Exchange	3	Kolesch & Co.	19	Simpson Cement Mold Co.	26
Chicago Millwork Supply Co.	135	Kuhnert Jr. Co., L. C.	151	Slatington Slate Co.	6
Chicago Spring Butt Co.	34	LaPlant Tool Co.	117	Smith, Otis A.	14
Chicago Technical College	139	Lorenzen & Co., Chas. F.	31	Smith Machine Co., H. B.	11
Chief Draftsman	99	Lufkin Rule Co.	15	Smith & Hemenway Co.	19
Christiansen, C.	158	Luther Grinder Mfg. Co.	21	Smith Co., The T. L.	27
Cincinnati Mfg. Co.	146	McIntyre Co., W. H.	138	Southern Cypress Mfrs. Assn.	119
Cincinnati Tool Co.	22	Maacks Academy of Architecture	158	Spiedel, J. G.	158
Clow & Sons, Jas. B.	101	Mack & Co.	18	Standard Scale & Supply Co.	27
Coleman, Watson E.	158	Mack Iron & Wire Works	146	Stanley Rule & Level Co.	20
Coleman, Watson E.	158	Majestic Furnace Co.	131	Stanley Works, The	123
Consumers Heating Co.	116	Marsh, H. C.	34	Starrett & Co., L. S.	23
Cortright Metal Roofing Co.	104	Mastic Wall Board Rfg. Mfg. Co.	162	Steel Tenon Mfg. Co., The	158
Crescent Brass & Pin Co.	137	Mayhew, H. H.	22	Straus & Schram	149
Crescent Machine Co.	7	Merchant & Evans Co.	141	Swan Co., Jas.	20
Crosby, Frank & Co.	152	Metal Shelter Co.	129	Sykes Metal Lath & Rfg. Co.	145
Crown Tool Mfg. Co.	13	Miles Mfg. Co., P. B.	26	Talbot, C. W.	158
Dahl Mfg. Co.	13	Millers Falls Co.	14	Taylor Mfg. Co., James L.	23
Davis Acetylene Co.	149	Miller Mfg. Co., A. W.	14	Transfer Lumber & Shingle Co.	136
Deco Mfg. Co.	137	Milwaukee Corrugating Co.	142	Trussed Concrete Steel Co.	152
Dennis & Co., W. J.	149	Miotke, Jos.	4	Tuller Hotel	141
Detroit Engine Works	156	Monarch Mfg. Co.	6	Twentieth Century Heating & Ventilating Co.	130
Detroit Motor Car Supply Co.	159	Montross Metal Shingle Co.	125	Union Motor Sales Co.	158
Detroit Show Case Co.	157	Moorman & Otten Co.	31	United Electric Co.	140
Didrickson, H. P.	5	Morrill, Chas.	34	United Machinery Co.	10
Disston & Sons Co., Henry	25	Mullins Co., The W. H.	28	United Pump & Power Co.	140
Dixon Crucible Co., Jos.	159	Myers & Bros., F. E.	4	Van Expansion Bolt Co., The	154
Doubleday, Page & Co.	141	National Mfg. Co.	164	Van Guilder Hollow Wall Co.	28
Dow Wire & Iron Works	146	National Sheet Metal Rfg. Co.	142	victor Co., The	121
Dunn & Co., W. E.	156	North Bros. Mfg. Co.	15	Weber Mfg. Co.	5
Durham Bros.	158	Northern Hemlock & Hardwood Mfrs. Assn.	103	White Co., David	19
East Bangor Consolidated Slate Co.	142	Northern Pine Mfrs. Assn.	113	Wilkinson & Co., A. J.	18
Eastern Granite Roofing Co.	129	Northfield Iron Co.	26	Willis Mfg. Co.	159
Edwards Mfg. Co.	30	Northrup, Coburn & Dodge Co.	133	Winthrop Asphalt Shingle Co.	143
Eggers Veneer Seating Co., The F.	120	Northwestern Compo-Board Co.	139	Wolff Mfg. Co., L.	123
Fairbanks, Morse & Co.	151	Northwestern Expanded Metal Co.	160	Woodell Co., Jos.	152
Fay & Egan Co. J. A.	10	Oak Flooring Bureau	148	Worcester Mfg. Co.	138
Flintkote Mfg. Co.	129	Orr & Lockett Co.	115		
Ford Auger Bit Co.	135	Oshkosh Mfg. Co.	8		
Fouk, Jones & Sons	30	Paine Lumber Co.	16-17		
Fox Supply Co.	5	Parker, C. L.	158		

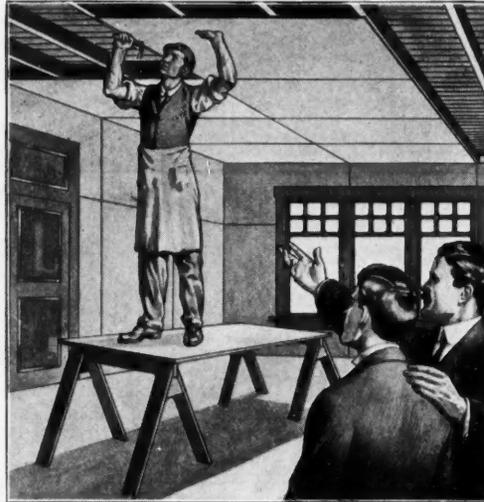
NOTICE TO ADVERTISERS

Forms for the December number of the American Carpenter and Builder will close promptly on November 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.

Chop Off Half Plastering Cost —Get Better Walls and Ceilings and Build Right Through the Winter

Walls and ceilings made of Bishopric Wall Board cost half as much to apply as lath and plaster. These walls are durable, artistic, sanitary. They give lasting satisfaction.

You can have artistic interiors of this material without the dampness, dirt or delay of the old plastering method, and save money. Walls and ceilings of Bishopric Wall Board last as long as the building.



Save a Month's Time

You save a month's time on your building job when Bishopric Wall Board is used. Comes in sheets ready for use. Nail the sheets to studs, and walls and ceilings are ready at once for paint, paper, kalsomine, burlap or any other decoration.

Anyone who can drive nails can apply Bishopric Wall Board. Goes on dry. No waiting for plasterers. Any carpenter can apply this Wall Board quickly, and have a room ready for decorators the same day.

For New Buildings

Bishopric Wall Board is superseding lath and plaster for interior finishing of fine homes, bungalows, schools, churches, hospitals, public halls, stores and every sort of buildings.

Contractors, carpenters and home-builders are now using more than a million feet a month of this wonderful ready-made material. Gives a smooth, hard surface that lends itself to every form of artistic decoration.

For Remodeling

Carpenters who use Bishopric Wall Board can finish their interior jobs without the aid of lathers and plasterers. You can leave walls and ceilings ready for decorators and put the plasterer's profit in your pocket.

Ideal for building partitions, or for turning waste attic or basement space into splendid, usable rooms. Users everywhere are delighted with the beauty, economy and durability of Bishopric walls and ceilings.

BISHOPRIC WALL BOARD AND SHEATHING

\$5,000 Anti-Warp Bond

Bishopric Wall Board will not warp, crack, buckle or pull loose. Stays stiff winter and summer in any climate. Is a non-conductor of heat and cold. It acts as a fire-retardant, is sound-proof and sanitary.

This claim is backed by a \$5,000 Anti-Warp bond. Every purchaser is protected by this bond.

Bishopric Wall Board is the only reinforced ready-to-use material for walls and ceilings. Kiln-dried dressed lath are pressed into hot Asphalt Mastic under terrific pressure. The lath keep Bishopric Wall Board stiff. The Asphalt-Mastic is a toughened, non-burnable material. On this body is pressed a surface of heavy, sized fibre-board which gives the smooth, hard surface.

Costs Less to Apply

Bishopric Wall Board costs 50 per cent less to apply than lath and plaster. Comes in 4 ft. x 4 ft. sheets. Price \$2.50 for 100 square feet; \$6.40 for crate of 16 sheets, 256 square feet.

Book, Sample and House Plan Free

Send for Bishopric book with illustrations of interior work in colors, big sample of Wall Board,

complete Blue Print Plans of Model House, duplicate of \$5,000 Anti-Warp Bond, letters from users, etc. Will give you new ideas for better interior work on all kinds of buildings. Enclose 6c in stamps for packing and mailing.



FREE
SAMPLE

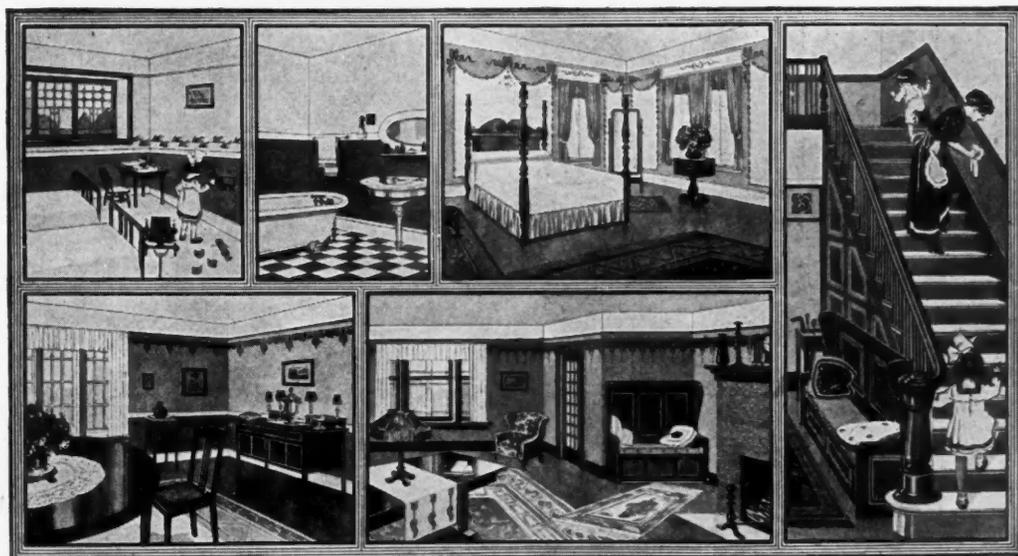
DEALERS!

Write for Great Exclusive
Agency Proposition

The Mastic Wall Board and Roofing Mfg. Co.
360 Este Ave., Cincinnati, Ohio

When Writing Advertisers Please Mention the American Carpenter and Builder.

Every Architect, Builder and Contractor should get posted on this successful *Combination* for Interior Decorating---



Alabastine

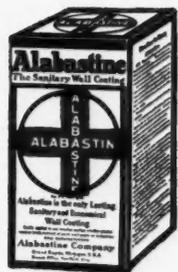
The Beautiful Wall Tint

In dry powder, ready to mix with cold water, applied with a regular 7 or 8-inch wall brush; packed in full 5-lb. packages, in white, tints and colors—also in bulk for large jobs.

Alabastine may be easily washed, if desired, from any surface to which it has been applied.

Alabastine, after being mixed, will remain in working condition for days, does not harden nor set in the bucket.

Full 5-lb. packages; white 50c, regular tints 55c. Also in bulk for large jobs—Hotels, Offices, Schools and Public Buildings.



Alabasco

The Flat Wall Paint

Alabasco is the highest grade, interior flat wall paint produced. It is washable and absolutely dependable. For homes we recommend the use of Alabasco in connection with Alabastine. At a little extra cost Alabasco can be used in places exposed to finger marks—along the stairs, nursery, lower part of bathroom and dining room, also kitchen and cupboards. These exposed places can then be washed with soap and water.

Alabasco comes in the same velvet-like water color tints as Alabastine. Is exquisitely soft and artistic on the walls and, properly applied, does not chip, peel or rub off. Comes in liquid form ready for use.



SEND FOR NEW SAMPLES

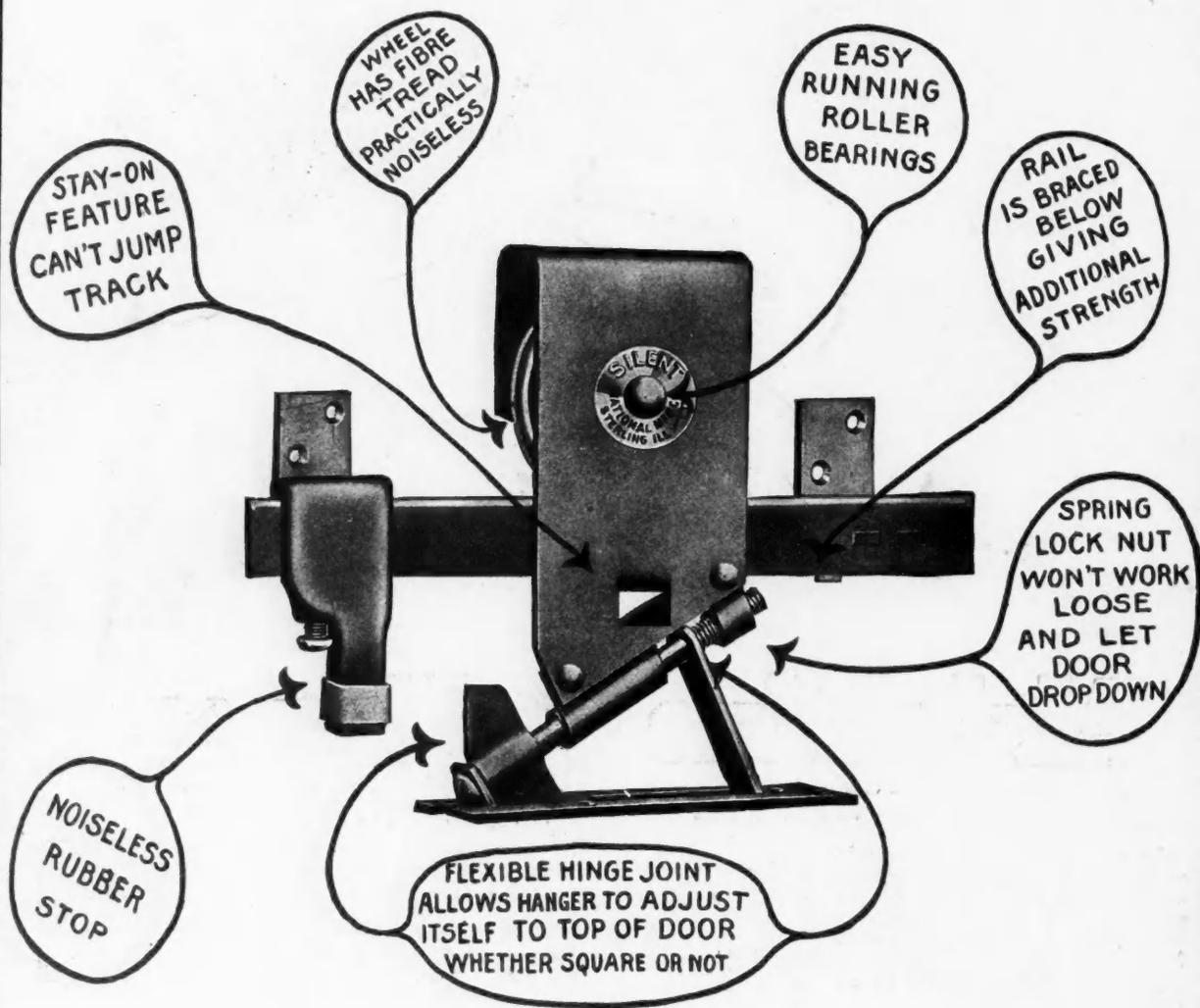
Alabastine Company

748 ACB Grandville Road, - Grand Rapids, Mich.
Desk 48 ACB 105 Water Street, - New York City

When Writing Advertisers Please Mention the American Carpenter and Builder.

"Silent" Parlor Door Hangers

THEY'RE EASY TO HANG



National Manufacturing Company

Sterling, Illinois