

AMERICAN CARPENTER AND BUILDER



THE WORLD'S GREATEST BUILDING PAPER

GET READY for Big Fall Business



We have "inside" advices that this Fall is to set a record for building activity. More work is now in progress than ever before in the history of this country. Crops are good; everyone is building. Last year eight hundred millions were spent in building construction. This year will beat last by twenty per cent.

A backward spring season, in a great many places, made this work late in starting. This means a very busy Fall and early Winter business for builders. Important work is now being commenced that will scarcely be under cover before snow flies. The readers of the American Carpenter and Builder will finish and equip more than one hundred thousand modern residences, stores and public buildings in the next five months before January First.

Progressive builders find the American Carpenter and Builder indispensable as a guide to all that is best or worth while in tools, contractors' equipment and building materials needed to finish these structures and make them complete in every way.

Wise builders are coming more and more to use the Advertising Section of the American Carpenter and Builder as their trade directory and buying guide.

"YES IT'S NEW. Saw it advertised in the American Carpenter and Builder—which proved to me that its manufacturers have confidence in it and are standing back of it. So I investigated and am now trying it out on this job—Looks like it's all right too; and will make me some money—the Owner is pleased also; and that's what I'm after, satisfied customers."

These words and others like them may be heard every day from Maine to California and from the Mexican border to Hudson Bay. They come from forceful, wide awake contractors, builders, architects and carpenters—Men who are making good—Men who are building up their reputations by keeping up-to-date.

Our best advice at this time is to follow the experience of other successful builders by studying the advertising pages of the American Carpenter and Builder and investigating all the propositions you might be able to use to advantage in your work.

Get ready for YOUR SHARE of this big fall business.

AMERICAN CARPENTER AND BUILDER.

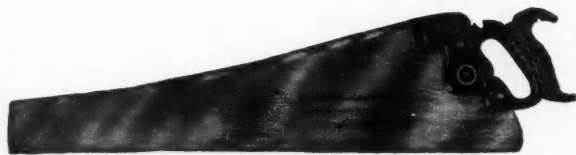
*Chances to
Make Money
and Give
Satisfaction*

ATKINS "SPRING BEAUTIES"

Here are just a few of the tools that you will find invaluable in your kit. They represent the most scientific construction and Highest Quality. Your regular dealer will supply you. Just tell him you want "ATKINS SILVER STEEL". He will order from his wholesale house, if he does not have them in stock. Why not "sort up" your outfit—this spring—now—and enjoy the benefits these really fine **mechanics** tools will bring.



Two Man Saws—For Heavy Cutting



Hand, Rip and Panel Saws



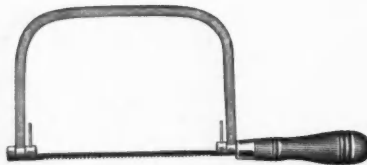
For Heavy Framing



Floor Scrapers. Blades of Saw Steel



Nests of Saws with Metal Cutting Blade



Coping Saw



Back or Mitre Saws



This Mark on all Genuine Atkins Tools



Trowels Made of Saw Steel



Improved Hack Saw Frames



Atkins No. 100 Flooring Saw



Atkins AAA Saw Clamp



Another Popular Floor Scraper

FREE Send your name and address with ten cents for postage, and we will register you on our list of High Class Mechanics and send you **Free** our Carpenters Book, called Saw Sense, a handy monthly Time Book, with wage scale and a fine carpenters nail apron.

E. C. ATKINS & CO., INC.

THE SILVER STEEL SAW PEOPLE

INDIANAPOLIS, INDIANA

When Writing Advertisers Please Mention the American Carpenter and Builder.

We Manufacture a
Complete Line of

Contractors' Equipment

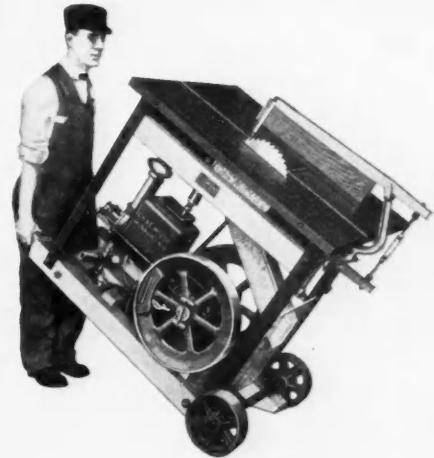
WRITE US

For our large Colored Wall
Hanger descriptive of this
number three Portable Saw
Rig.

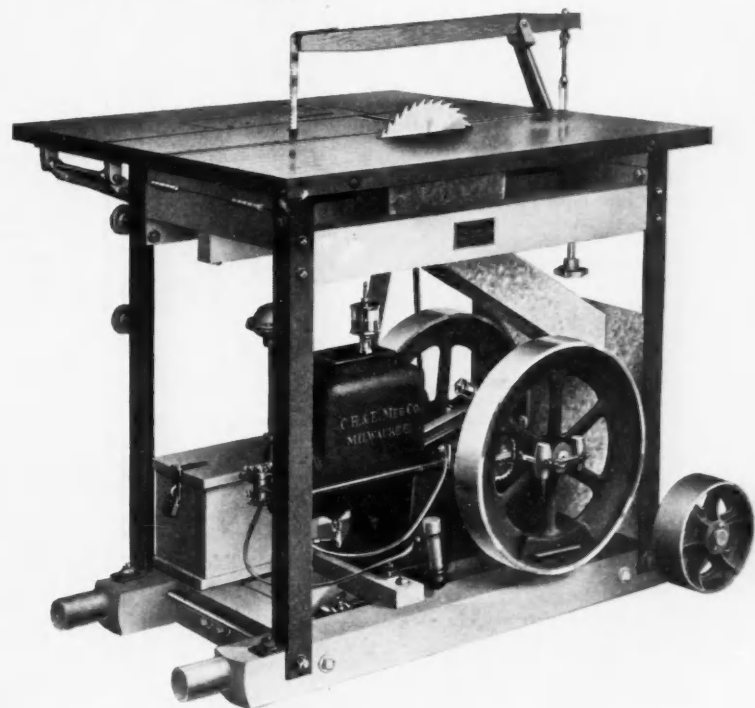
**C. H. & E.
Manufacturing Co., Inc.**

322 Mineral Street

MILWAUKEE WISCONSIN



WHEEL IT
To Any Part
of Your
Job



When Writing Advertisers Please Mention the American Carpenter and Builder.

The American Floor Surfacing Machine

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

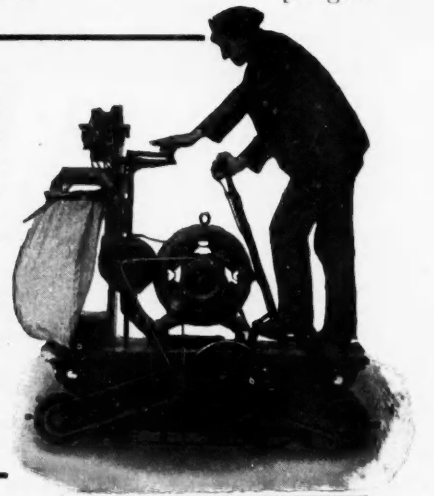
IT IS THE ORIGINAL and only two-roll, self propelled, dust collecting machine, that surfaces close to the wall and can be used in small rooms. Anyone can operate it.

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

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

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

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



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

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

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

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

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

AMERICAN VENEER CO.

Specialists and Manufacturers of Built-up Veneer Panels

We appreciate small orders as well as large ones

12 Market St.,

KENILWORTH, N. J.

THE RAPID FLOOR SCRAPER

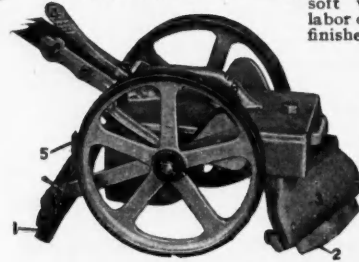
Large Wheels—easy motion. Automatic brush, sweeps floor ahead of knife. Knives sharpened in machine. No bolts to loosen when knives are sharpened or changed. Scrapes hard or soft wood. Saves labor of 3 men. Does a finished job. With the

RAPID KNIFE SHARPENER (INCLUDED FREE) ANY MAN CAN SHARPEN KNIVES.

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



SEND FOR CATALOG — AND — **FREE TRIAL OFFER**



"It Works Like a Plane"

The Boss Floor Scraper

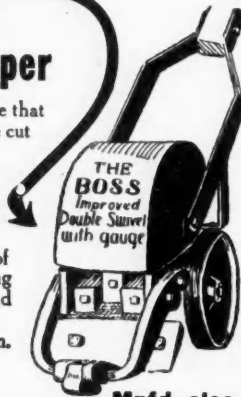
The "Boss" is the only Floor Scraper made that will plane a floor without leaving a square cut where knife first starts cutting. Why? Because the "Boss" is made with a gauge on front, to which is attached a pear-shaped wheel which raises when machine is pulled and lets the knife down gradually.

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.

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.

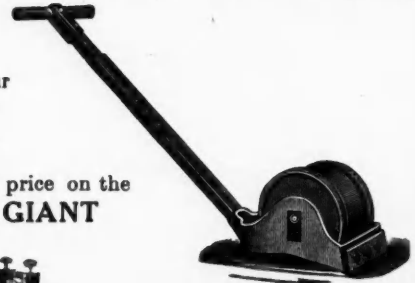
DON'T BUY A FLOOR SCRAPER of any kind until you have tested the

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

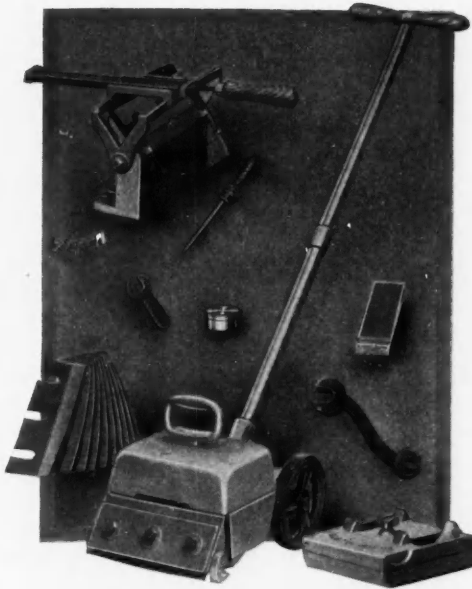
1008 Flatiron Building
NEW YORK

37 So. Clinton St.
CHICAGO

When Writing Advertisers Please Mention the American Carpenter and Builder.

OVER \$100,000.00

Has been **SAVED** by **USERS** of the



Acme Floor Scraping Outfit

during the past five years. Thousands of machines are now in daily operation, and every mail brings letters from users commenting upon the satisfactory work their outfits are doing and the vast amount of labor expense they are saving.

Now, Mr. Contractor, you do not have to rely upon what I say regarding the merits of my machines, but I want you to let me send an outfit to you on **one week's free trial**, and you can then let the machine demonstrate on your own work just what they can do. If, after working with the equipment for one week, you are not convinced that the same will save you many dollars, and do your floor scraping better than it was ever done before, just pack up the machines, return them to me, and you will owe me nothing.

Write to-day for booklet and full details of my proposition.



is another labor saving tool. It is absolutely accurate, can be set at any angle and fits in the pocket where it is always ready for instant use. If your dealer does not carry them in stock, then write to me for circular describing this wonderful little tool.

JOSEPH MIOTKE
247 Lake Street : : Milwaukee, Wis.

Here's Your Chance---

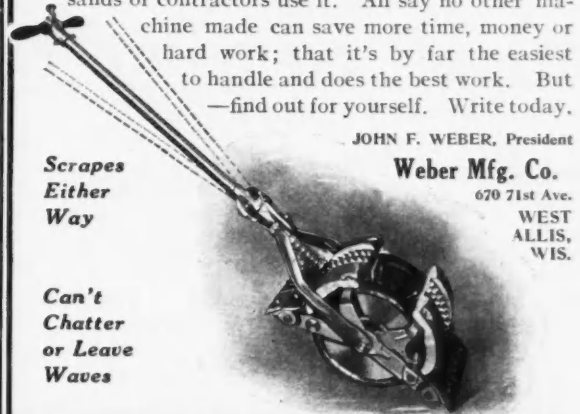
The WEBER DOUBLE ACTING Floor Scraper
On Ten Days' Free Trial

Send for it. Put it right to work as soon as it comes — on the hardest, fussiest job you have. Before even half the ten days are up you'll say its work can't be beaten. But don't stop there. After having tried it alone, put it up against any other scraper made; if its work isn't better send it right back. The trial won't cost you one cent.

You are to be the sole judge. This is the way the WEBER has been sold for the past five years — absolutely on its merit. Thousands of contractors use it. All say no other machine made can save more time, money or hard work; that it's by far the easiest to handle and does the best work. But — find out for yourself. Write today.

*Scrapes
Either
Way*

*Can't
Chatter
or Leave
Waves*



JOHN F. WEBER, President
Weber Mfg. Co.
670 71st Ave.
WEST ALLIS, WIS.

Read this Letter

The Webber Lumber & Supply Co.
Building Material at Wholesale,
Fitchburg, Mass.

May 6th, 1912.
FOX SUPPLY CO., Brooklyn, Wis.
Gentlemen:—

We are going to push the sales of this Fox Floor Scraper and we will do our level best to push the sales this month. We have already sold one of the six we ordered, and received not over a week ago, and have several inquires more at the present time. We have a man in Winchenden who took one of your floor scrapers on trial, also one of another make, for which the people charged him \$50.00. He tested them both and said that even at the same price he would have taken the Fox Floor Scraper. He paid us for the Fox and returned the other scraper. It is working satisfactorily and he is very much pleased with the machine.

Other people who have bought them from us say the very same thing. They are very well pleased with them and think they are fully as good and better than some of the higher priced machines. This is very encouraging and it gives us great encouragement to push the sales of this machine.

Yours very truly,
Webber Lumber and Supply Co.

You get your money's worth when you buy a Fox Floor Scraper—\$25 The Price is.....\$25

Fox Supply Co.
Manufacturers
BROOKLYN :: WIS.



"A Planing-Mill on Wheels"

THE FAMOUS (NO. 3) PORTABLE UNIVERSAL WOODWORKER IS A COMBINATION OF SEVERAL MACHINES IN ONE, AND IS AN IDEAL OUTFIT FOR CONTRACTORS

HERE'S all the machinery you need— assembled all together—all ready for use—arranged on one base so that you can simply hitch a horse to the outfit and have it moved around from place to place as easily as a wagon.

There's a 27" Band Saw, 10" Jointer, Upright Shaper, Boring Machine and Saw Table, connected to a 5 H. P. Gasoline Engine fitted with an endless belt. More than one machine can be used at the same time when desired.

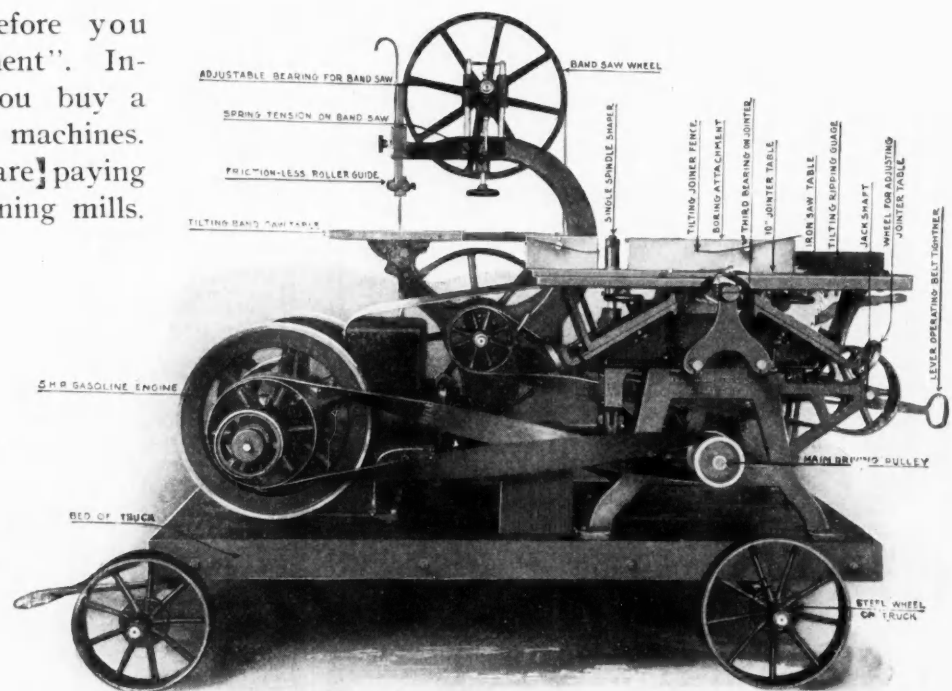
Investigate this before you buy a flimsy "experiment". Investigate it before you buy a number of individual machines. Investigate it if you are paying out your profits to planing mills.

You raise your profits when you lower your millwork costs. You can outdistance competition, save time on the job and give greater satisfaction to your customers.

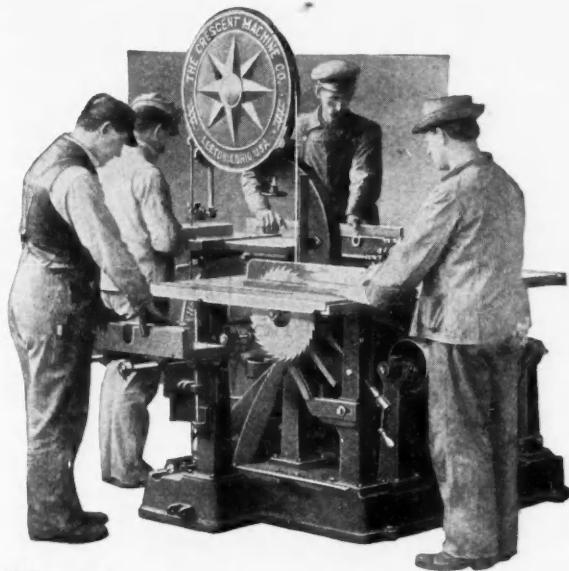
Over 1,300 Famous Universal Woodworkers are in use. The FAMOUS quality in this No. 3 Portable is absolute protection and a guarantee of satisfaction. Write at once for a complete description.

The
Sidney
Tool
Company,

Sidney,
Ohio



When Writing Advertisers Please Mention the American Carpenter and Builder.



This No. 51 Crescent Universal Woodworker Is a Five-in-One Machine And Four Men Can Work on it at Once

Here is a woodworking machine that can be used with profit by Carpenters, Contractors, Lumber yards or Dealers.

It is the most practical, most easily handled, most compact woodworking machine manufactured.

This No. 51 Crescent Universal Woodworker gives you all the facilities of a fully equipped planing mill.

It is really five separate, complete, machines in one—a combined band saw; jointer; shaper; saw table and borer. Each machine is entirely independent of the others.

The attachments with our No. 51 Crescent Universal Wood-

worker include a mortiser, tenoner, panel raiser emery wheel, knife grinder, disk grinder, dado head and resaw gauge.

The machine is so constructed that four men can work upon it at one time.

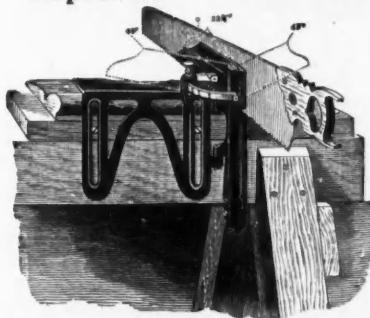
Our No. 51 Crescent Universal Woodworker does away with all separate countershafts. This machine is built thoroughly strong throughout. It is always in workable condition.

Carpenters: Contractors: Builders: Shops: etc.—Don't definitely decide upon any certain woodworking equipment until you know about the No. 51 Crescent Universal Woodworker. Write for our descriptive catalog and other information. Drop us a line—TODAY.

The Crescent Machine Company, 224 Main Street, LEETONIA, OHIO

RED DEVIL
Improved

MITRE BOX IT'S THE ONLY MITRE BOX MADE



All Metal
Light in Weight
Practical in Every Detail
Folds up to Carry in Tool Box

That will cut any angle with any saw, any place. Can be used anywhere in the shop or on the job. You want this "RED DEVIL" Mitre Box and no other. All good hardware dealers sell it. Just insist on the "RED DEVIL" Mitre Box and take no other. It's to your advantage to use it and do perfect work and save time. If you can't get it locally, send us \$2.00 and your dealer's name, and one sample only will be sent you prepaid.

Smith & Hemenway Co.

Only Makers of Genuine Red Devil Tools. Over 3,000 Different Kinds and Sizes. **150-152 Chambers St. - New York, U. S. A.**
240 Lemoine St. - Montreal, Canada

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

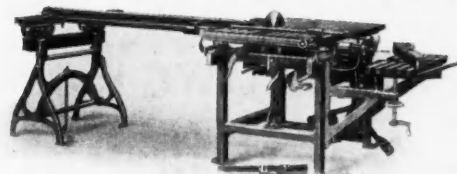
HEDDEN CONSTRUCTION COMPANY,
Builders
Metropolitan Tower, New York City.

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

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

RWB/NC.

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



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

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

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

BEACH MANUFACTURING CO. - MONTROSE, PA.

When Writing Advertisers Please Mention the American Carpenter and Builder.

It Will Pay You As Well As It Does These Men

Let a week's free use of an Eveready complete outfit show you why it saves dollars a day in wages for hundreds of other men in your line. Heed their testimony here:—

Ferber Construction Co. of N. J., says: "The Eveready has given us perfect satisfaction. We would not be without such a machine."

H. O. Seiffert Lumber Co., of Iowa, says: "The Machine has saved us a good deal of trouble and we are well pleased in every respect."

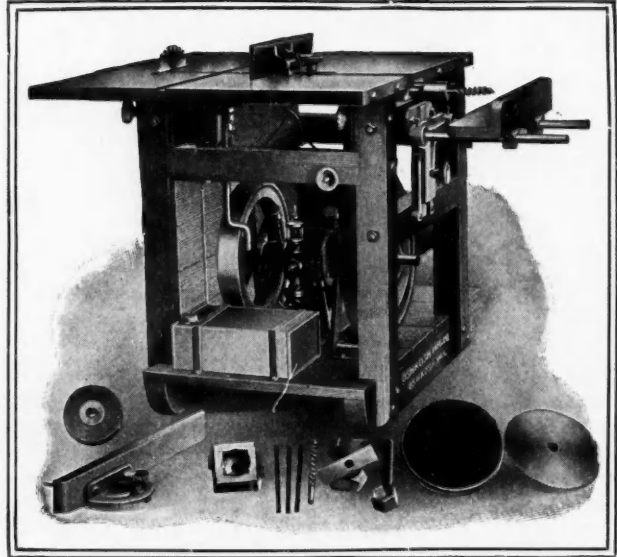
A. C. Dill, Franklin, Neb., says: "The machine pays even on the smallest jobs. I could not get along without it."

F. C. Bryant Stair Co., of Missouri, say: "Just the machine I have long felt the need of. I am well pleased."

THAT kind of talk ought to make you keen to own **NOW** the

**"Guaranteed
for Life"**

OSHKOSH
TRADE MARK



EVEREADY PORTABLE SAW RIG

Cross Cuts, Rips, Jig Saws, Cuts Dadoes, Mortises,
Does Boring, Sanding, Jointing, and other Hard Jobs

Six Times Quicker Than Hand Work


MULTIPLY the best carpenter you know by six, and the gang couldn't begin to do the work an Eveready does at a cost of a quarter a day—and at a saving of fully \$25.00 a week. It's a **COMPLETE** machine, driven by its own motor (gasoline or electric), with all the "extras" supplied free. And you can test it a week on your own work without cost or obligation to keep it—**SAY THE WORD AND LET IT COME TO "SHOW" YOU.**

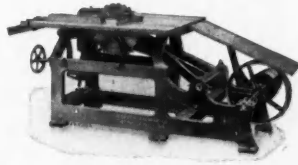
**OSHKOSH MANUFACTURING
COMPANY**

316 SO. MAIN STREET
OSHKOSH, WISCONSIN

**Try It
FREE On
Your Own Work
Buy It If It Suits**

When Writing Advertisers Please Mention the American Carpenter and Builder.

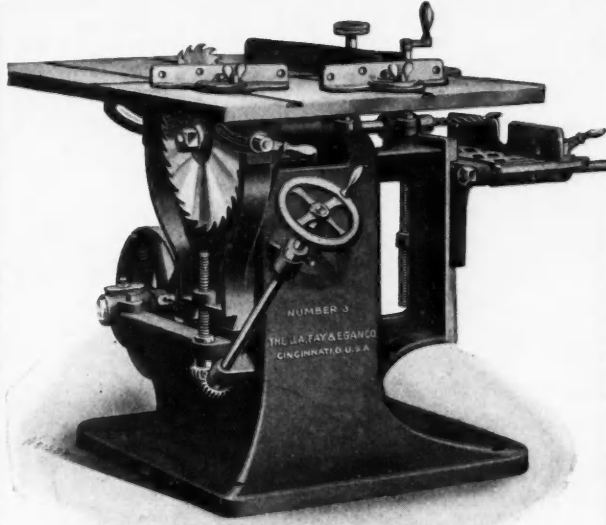

Woodworking Machinery



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

Wood Working Machines

Address
H. B. SMITH MACHINE CO.
 SMITHVILLE, N. J.
 NEW YORK CHICAGO ATLANTA SAN FRANCISCO




No. 3 Improved Variety Saw

WILL do many different kinds of work, and is really a first-class woodworker. Yet you get it at a variety saw price. A fine investment for the contractor.

Write for circular fully describing it.

J. A. FAY & EGAN CO.
 545-565 W. Front St. :: Cincinnati, O.

"AMERICAN"
 Contractors' Portable
VARIETY WOOD-WORKER



With this machine on the job, you can not only cut, match and bore the lumber for your concrete building forms, but you can handle the wood finish and trim as well.

For the "American" is a simple, sturdy, reliable little planing mill that you can take from job to job, right on the work—at a price that brings it within the reach of every contractor.

In the "American" Wood-Worker you really get three distinct machines—each capable of a great variety of work—each independent of the other—each so arranged that a man can work on it without interfering with the men on the other two machines.

Note that last feature particularly—the "American" is a three-man machine with three times the capacity and usefulness of any mere saw bench.

On its saw table you have a rip saw, cut-off saw and mitre saw—a dado and gaining machine—a grooving machine and a rabbitter.

At one side is a 6-inch jointer and planer; and matcher bits and moulding cutters can be inserted for all shapes. A sander drum and a disk sander are provided. And there is an emery wheel for grinding.

The boring table has a 6-inch feed and a vertical adjustment of 3½ inches. For sanding or grinding it supports the work.

And remember that all these functions are combined in a solid, compact, self-contained, durable machine with power built in (gasoline engine or electric motor), easily moved anywhere, ready for work at a moment's notice, right on the job.

American Saw Mill Machinery Co.
 82 Main Street 1655 Hudson Terminal
 HACKETTSTOWN, N. J. NEW YORK CITY

When Writing Advertisers Please Mention the American Carpenter and Builder.

124.80


FOUR MACHINES FOR THE COST OF ONE

A Band Saw—A Saw Bench—An 8 inch Jointer and Planer—A Mortiser and Borer—all in one machine for only \$124.80.

Here is big value for you. A real woodworking equipment for only \$124.80. This type "C" Universal Woodworker is a substantial, portable, easy-to-operate, all cast iron machine, that represents the best investment you can make. In this type "C" Woodworker you get FOUR distinct machines in ONE A Band Saw—A Saw Bench—An 8 inch Jointer and Planer—A Mortiser and Borer. Our type "C" Woodworker is equipped complete, including tools and belting. The heavy base is fitted with wheels—one of which swivels—making it very easy to move machine.

Get our descriptive matter about this machine, also particulars about our 30 day trial selling plan. Drop us a line for full details right now.

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



Are you satisfied with the growth of your business?
Do you want to make more profit?

A GRIMM Woodworker

9 Machines in 1, will increase both.

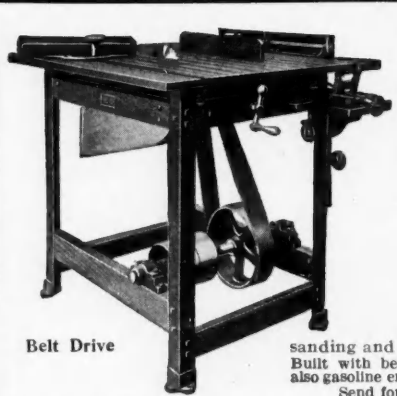
It will complete all the work you now have done at the planing mill, such as ripping, cross cutting, dadoing, jig sawing, jointing, boring, moulding, sanding and emery wheels.

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

Send for catalogue and prices.

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

Belt Drive



FOOT, HAND AND LIGHT POWER WOOD-WORKING MACHINES

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

Send for Catalog "A" describing our complete line

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

"Victor" Scroll Saw "Diamond" Mortiser

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

Use Real Machines

Chicago 8-inch Jointer and Planer

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
1213-1224 Washington Boulevard - - - CHICAGO, ILL.

27-inch Chicago Band Saw

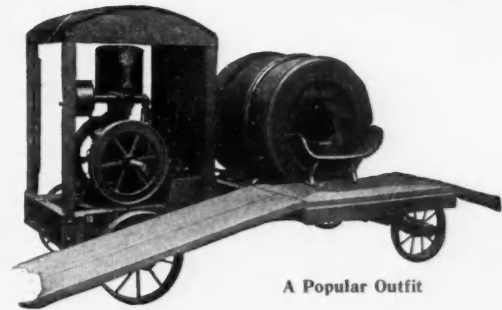
Send for our Free Special Catalogue today. We issue a catalogue of machines especially adapted to Contractor's and Builder's Use.




When Writing Advertisers Please Mention the American Carpenter and Builder.

ABOUT—"The Standard" Mixing Equipment AND Hoists— READ

All of our Batch Mixers are low charging and consequently require no mechanical elevating arrangements or platforms. In all "The Standard" machines the materials are charged directly into mixer from the platform about two feet from ground.



A Popular Outfit

"The Standard" Batch Mixers are always ready for use. They are of simple construction. Nothing complicated—nothing to break down—about them. "The Standard" discharging arrangement operated simply from either end of the drum. This saves extra man required with other machines. "The Standard" is easy running. Practically no friction. Requires less power, less fuel, less attention than any other mixing equipment. "The Standard" machines are moderate in weight. They can be moved very easily from job to job.



("The Standard" Low Charging Mixer with Hoist for Mixed Concrete.)

"The Standard" Low Charging Mixer with Hoist for Mixed Concrete—(shown here) is made for the easy, quick and inexpensive handling of the mixed concrete without the necessity of having separate hoisting equipment. One engine drives both the mixer and the hoist. This equipment is especially adapted for general building work, silos, towers, tanks, etc., etc. We can furnish you with this equipment in various sizes and capacities, and with or without reversing hoist for operating two cage elevator.

"The Standard" Hoist with either gasoline or steam power is especially designed for building construction and contractors use for either single line hoist or double platform elevator.

Write to-day for Mixer Catalogue No. 144.

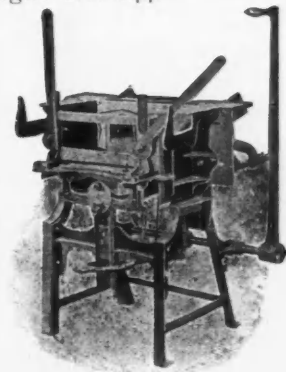
The Eclipse Concrete Stone or Block Machine

The Eclipse face-down concrete stone machine has many desirable features, such as adjustability, simplicity, rapidity in operation, accuracy, high quality of stone, low first cost and operating cost.

The Eclipse is adjustable in that one machine will make stone 4 inches to 12 inches wide and 4 inches to 18 inches long, and can be made up to 24 inches long by securing extra plates.

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Large capacity. Low Price.

The Perfect Brick Machine is automatically operated by either hand or foot or both, constructed of steel, superior because of its rapidity, simplicity and durability. The fastest machine on the market.

With this machine three to ten thousand bricks can be made per day by one to three men.

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The Standard Scale and Supply Company

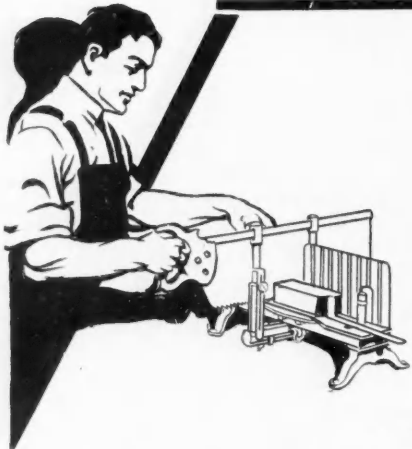
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**THE LANGDON
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When supplied with back saws fitted by ourselves, they are warranted to do perfect work.

Quickly Adjusted for any Angle

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

In a graduated arc showing the various angles commonly used.

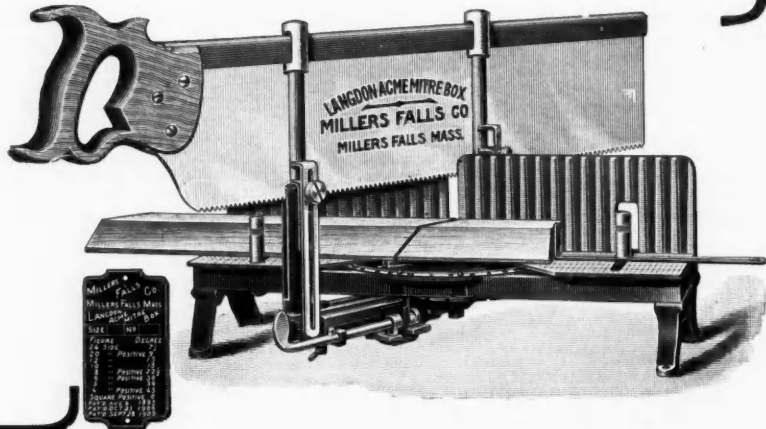
In supporting guides to hold the work in place.

In an appliance for quicker adjustment of extension lever.

In a length gauge for duplicate lengths.

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

Send for the FREE book "Tool Practice".

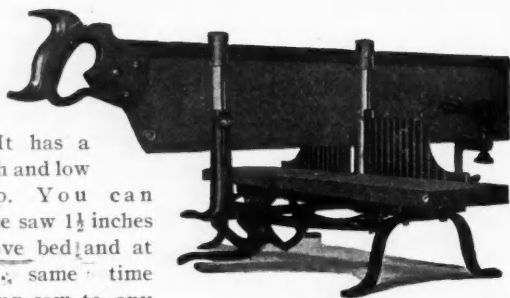


MILLERS FALLS CO.

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One of Our Crown Miter Boxes



It has a high and low stop. You can raise saw 1 1/2 inches above bed and at the same time swing saw to any desired angle with one hand, and hold stock you are cutting with the other. It has a positive, center, octagon and forty-five stop.

Formerly sold for \$12.50. Now \$8.95.

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DOUBLE CLAW HAMMER
 "for the mechanic with an ambition to succeed"
 16 oz. or 21 oz. Head - WHICH?
 \$1.50 at your dealer's
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 Worth ten times more than the common
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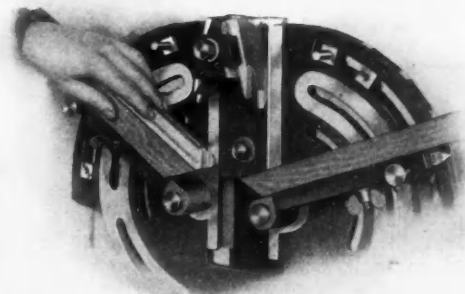


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Because it bears the same relation to fancy sash that the moulding machine does to fancy moulding.

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

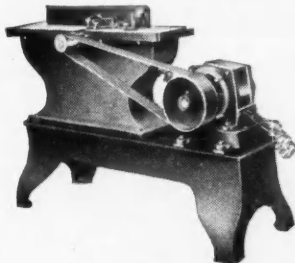
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We will gladly ship a machine on approval to any responsible concern

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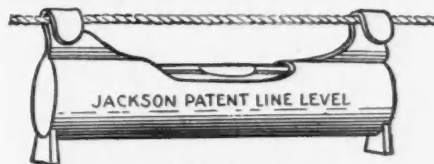


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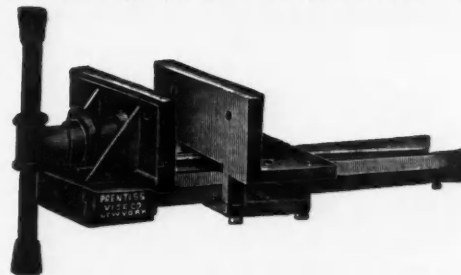
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It's the workman's prize and treasure,
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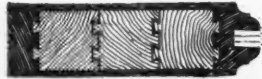


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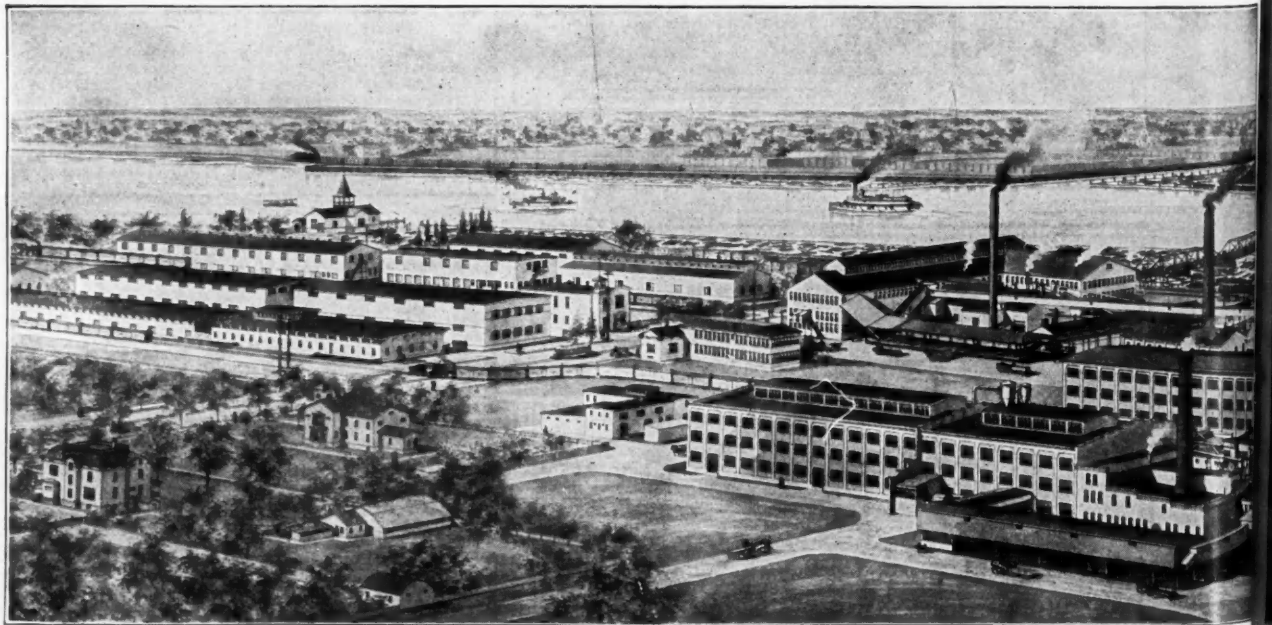
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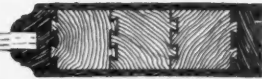
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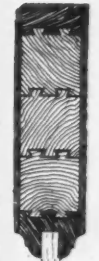
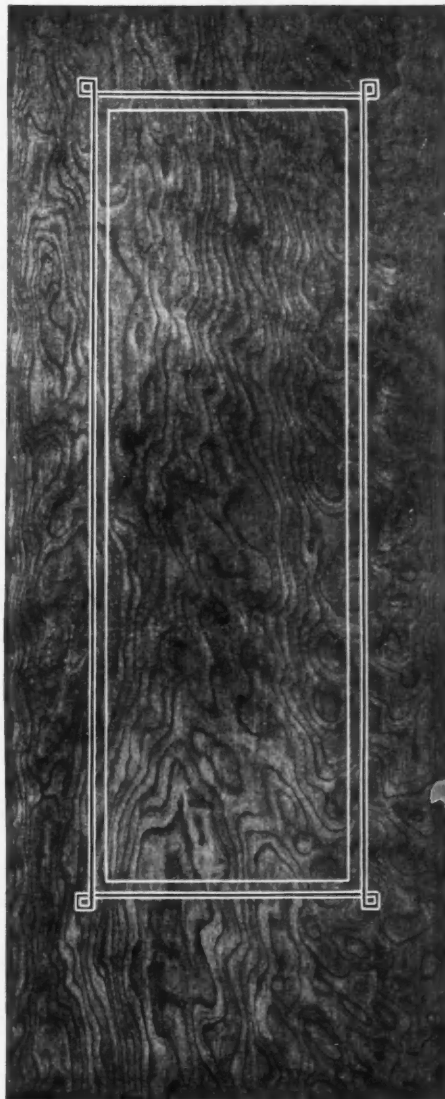
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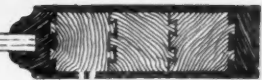
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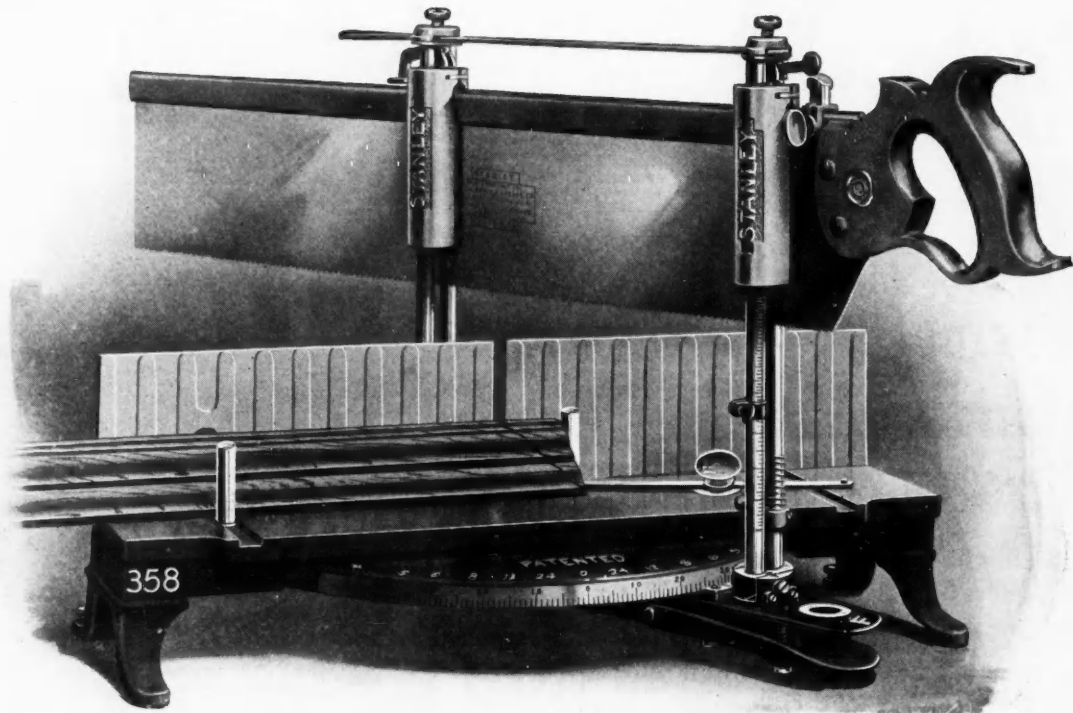
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244	24 x 4 "	8 "	5½ "	3½ "	11 00
246	26 x 4 "	8 "	5½ "	3½ "	11 25
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460	30 x 6 "	11 "	7½ "	5½ "	16 00



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Holds with a Grip of
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Makes any angle.
Allows for expansion and
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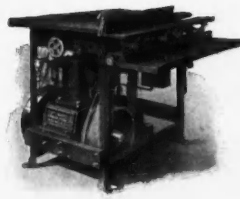
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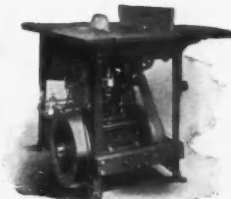
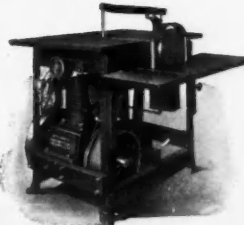


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6 H. P. ENGINE
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provides all the conveniences of a city water works system. It is designed for large or small capacity: is easy to install in any old or new building—operated by any kind of power—economical and practically indestructible. Has more advantages than any other system of water supply. Every reader of this publication should write for copy of our illustrated catalogue. Address

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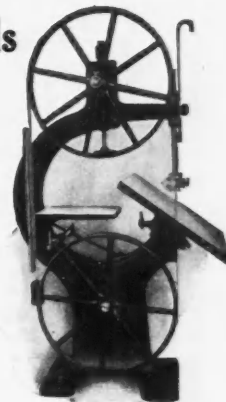
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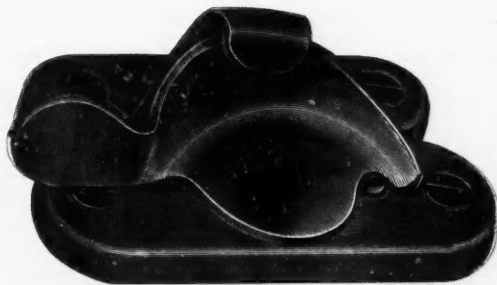
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BECAUSE THEY ARE MADE OF VERY HEAVY GAUGE METAL AND PERFECTLY CONSTRUCTED.

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

Large variety of face plates with machine.

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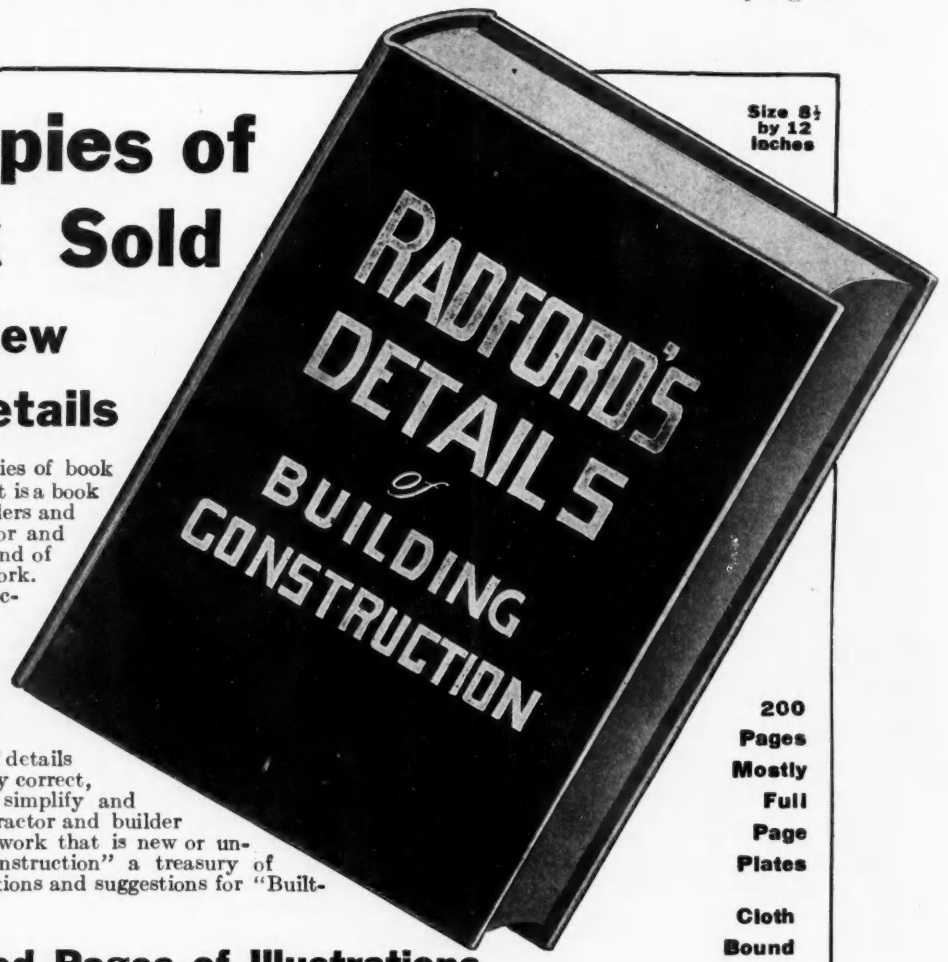
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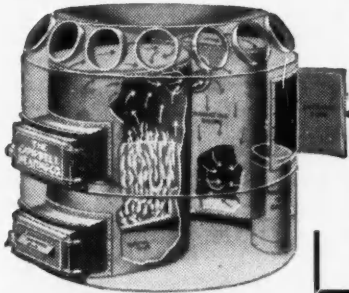
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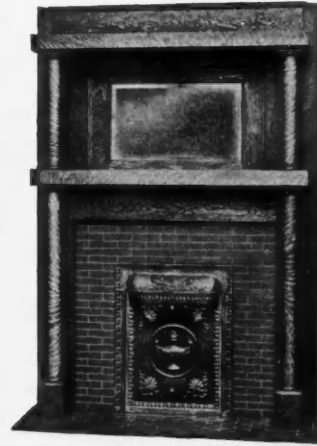
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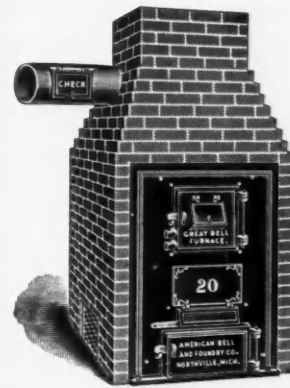
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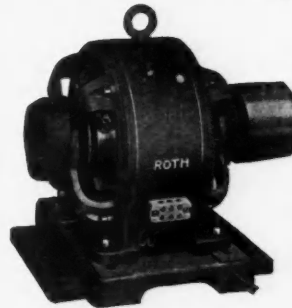
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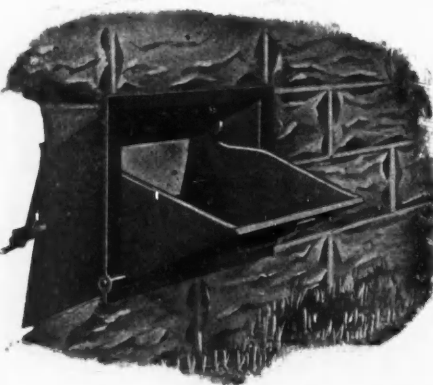
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NO MORE DAMAGED CASINGS OR SASH**

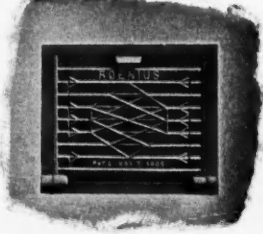
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Absolutely Safe; two of them will carry a ton without even springing, and they last a lifetime. Then think of the time you save! One man alone can put them up and take them down easily and quickly.

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.

High Grade Mantels and Fireplaces

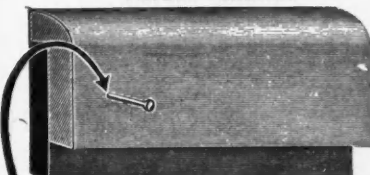


Our line of Colonial, Mission and Standard Mantels is the most complete in the country. All goods are guaranteed as to quality. Our large new catalogue, showing also brick mantels and a large selection of fireplace fixtures, consoles, colonnades, etc., sent free on request.

If building or remodeling be sure and write us.

CHAS. F. LORENZEN & CO.
701 N. Sangamon St. :: CHICAGO, ILL.

THE DENNIS "CLINCHER"™ Specify The
FELT WEATHER STRIP
(PATENT PENDING)



W. J. Dennis Glincher Felt Weather Strip

If You Want the Best Made

NOTE—NAIL PASSES THROUGH BOTH MOULDING AND FELT.

Manufactured only by
W. J. Dennis & Co. - 2226 W. Lake St., Chicago
Free Sample to any address for your Hardware dealers' name.

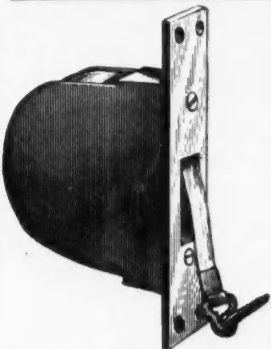
YOU CAN'T AFFORD TO BUILD
without a **LEVEL**, and
YOU CAN'T AFFORD TO BUY
without investigating the advantages of the
"Sterling" Convertible Level



Write **TODAY** for Catalogue and our Special Offer.

ISZARD - WARREN CO., INC.
136 N. TWELFTH ST., PHILADELPHIA, U. S. A.

CALDWELL SASH BALANCE



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

Makes sashes work perfectly.

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

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

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

"Last a Lifetime and Give Satisfaction To the End"



BUTT CHISEL

TRADE MARK
D. R. BARTON
1882
ROCHESTER, N. Y.


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

THE CELEBRATED BARTON TOOLS

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

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

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Stair Work Made Easy

Starrett

Patent

Stair

Gage

This gage is to be used in connection with any carpenter's steel square, and can be adjusted to any pitch or angle desired. For cutting in rafters, braces, stair-stringers, etc., it will soon pay its cost and prove one of the most valuable tools in a carpenter's kit.

The attachment is furnished either plain or graduated in inches, 4ths, 12ths and 24ths.

It is made in the shape of a steel angle, $\frac{3}{8}$ x $\frac{3}{8}$, $\frac{1}{8}$ inch thick, ground straight and nickel plated.

PRICES

No. 110A Plain, 18 inch, nickel plated . . . \$1.00
 No. 110B Plain, 28 inch, nickel plated . . . \$1.50
 No. 110C Graduated, 18 inch, nickel plated . . . \$1.50
 No. 110D Graduated, 28 inch, nickel plated . . . \$2.25

Sent plain unless otherwise ordered.


Send for our catalog No. 196 and see what other time savers we make.

Our builders' combination tool will look pretty good to you.

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

NEW YORK LONDON CHICAGO

42-31



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.



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



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

TRUS-CON

Joist Hangers

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

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

We also furnish Post Caps Post Bases, Wall Plates and Base Plates made in rolled steel, malleable iron, or cast iron.

Write for catalog and prices

TRUSSED CONCRETE STEEL CO., 344 Trussed Concrete Bldg., Detroit, Mich.

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



STANDARD LENGTHS 18"-36"-60"

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

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BUY Goodell-Pratt's

If you want a well made Steel Clamp, that can be depended upon to live up to its reputation on all occasions. It was especially designed for light or medium work and when so used will be found to be without an equal.

We make them in seven sizes, viz.—4-6-8-10-12-18 and 24 inches, but of the same style as shown in cut.

The bar is of drawn steel, finished bright; the arms being made of malleable iron, are well japanned, making a very attractive tool in any carpenter's kit.

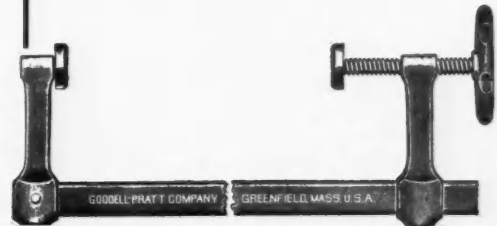
Our catalog shows many other tools. It is free upon request.

Goodell-Pratt Company

Toolsmiths

Greenfield, Mass., U. S. A.

Goodell-Pratt's



Steel Clamps



\$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

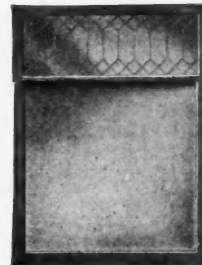
St. Louis, Mo.

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 1/4 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 7/8 in., 30c per 100 lin. ft.

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

HESS SANITARY LOCKER



The Recessed steel Medicine Cabinet

The Only Modern, Sanitary **STEEL Medicine Cabinet**

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

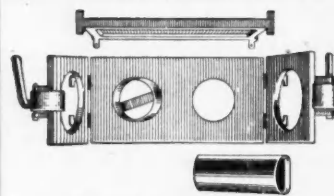
Costs Less Than Wood

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

Should be in Every Bath Room
Four styles—four sizes. To recess in wall or to hang outside. Send for illustrated circular.



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



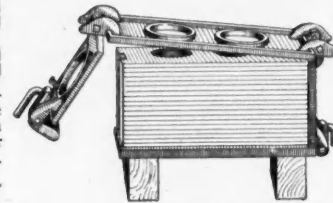
MAKE YOUR OWN TILE AND BLOCK

Tile your farm. It pays. Construct your buildings, water tanks and silos of cement blocks. This work can all be done accurately, economically, and quickly with our wonderful low priced

Combination Tile and Block Machine

Easy to operate. Guaranteed. Excellent work. Made at odd times. Prices from \$7.50 to \$24.00. Write for our complete booklet No. 1.

DUNKIRK CEMENT TOOL & MACHINE CO.
DUNKIRK, INDIANA



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

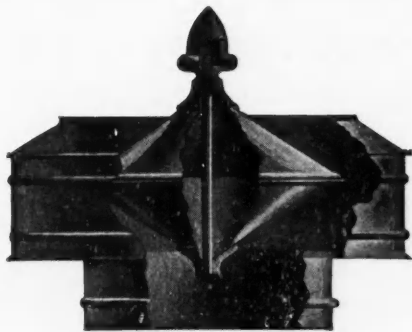
Andrews Heating Co., 1288 Heating Bldg., Minneapolis, Minn.

**ROOF SLATES
BLACKBOARDS**

E. J. JOHNSON
38 Park Row, New York
Quarry Operators
BLACK, GREEN, PURPLE, RED

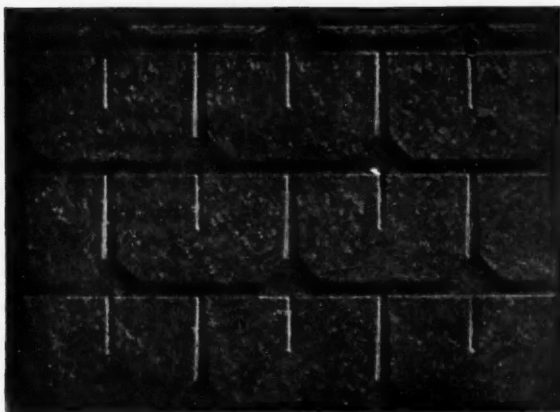
Booklet, Samples and Prices on Application

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"XL" Skylights, Cornices, Ventilators and Special Sheet Metal Work

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



Metal Shingles In Two Styles

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.

THE MASTER SLIDE RULE



Showing lower slide
extended 2 1/2 inches
—making distance
between extreme
ends 10 1/4 inches.

Is the Only Rule in the World whereby inside measurements of doors and windows etc. can be taken rapidly and accurately. It is also far superior to any other rule for outside measurements of walls and ceilings, etc., as it can be extended and closed instantly.

Mechanics, Builders, Draftsmen and Architects

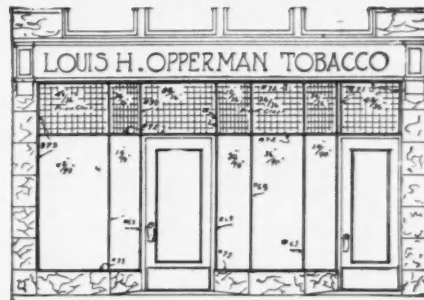
TRY ONE TODAY! DON'T WAIT!

On receipt of 15c per lineal foot, a 4, 5, or 6 foot rule will be sent you, prepaid.

Large profits to agents. Write for circulars and particulars.

DAHL MANUFACTURING CO.

Childs Bldg., 1 East 42nd St. - - NEW YORK CITY



FRONT ELEVATION.

There's Nothing Cheap About Petz Bars

To cheapen them would mean that they would be less strong, less safe for you to use, less perfect in the details that you demand in the important work of planning a modern store front.

Architects and builders who value their reputation specify Petz Bars, because they never fail to back up their known qualities of strength, safety and beauty.

Easy to install, and satisfactory to the owner.

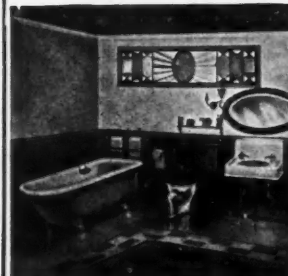
You will find many valuable suggestions in our booklet on "Metal Store Front Construction." Write for a copy today.

Detroit Show Case Co.

SOLE MAKERS

491 Fort Street, West, Detroit, Mich.

PLUMBERS' SUPPLIES AT WHOLESALE



When in the market for Plumbing Supplies and you wish to

**SAVE
20 to 40 Per Cent**

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

Small orders are as carefully handled as large ones.

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

When Writing Advertisers Please Mention the American Carpenter and Builder.



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.

**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

A FREE BOOK

On Concrete Machinery

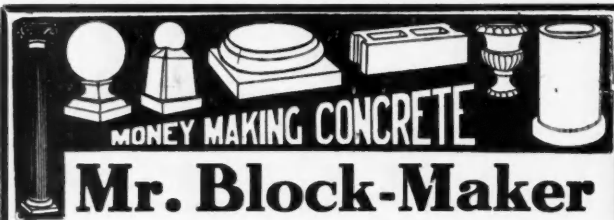
**BUILDING
BLOCKS
BRICK
PORCHES
CHIMNEYS
DRAIN TILE
SEWER PIPE
SILO BLOCKS
AND OTHERS**

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



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

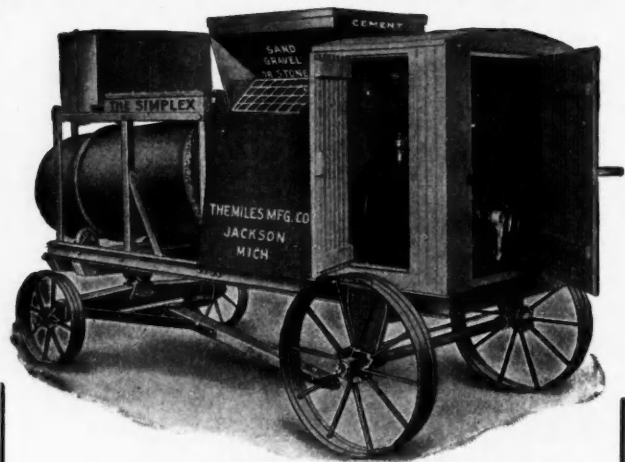
**The Mogul Invincible Block Machine
COMBINES ALL THESE
IT IS RIGHT**

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

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



**THE SIMPLEX IMPROVED MIXER
1912 MODEL**



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

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

Makes Stone in Lengths, 4", 6", 8", 10", 12", 16", 18", 20", 22", 24"; in Width: 4", 6", 8", 10", 12"; in Height, 4", 6", 8". Also Angle Stone, 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

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**"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**

Hotel Cumberland

New York

Broadway at 54th Street
Near 50th Subway Station and 53d St. L.



"Broadway" Cars from Grand Central Depot pass the door; also 7th Ave. cars from Pennsylvania Station.

New and Fireproof

Best Hotel Accommodation in New York at Reasonable Rates.

\$2.50 with Bath and up.

European Plan. All Hardwood Floors and Oriental Rugs.

Ten minutes' walk to 30 Theatres

Excellent Restaurant

Prices moderate

SEND FOR BOOKLET

HARRY P. STIMSON, Formerly with Hotel Imperial.
Only New York Hotel Window Screened Throughout.

Every "Yankee" Tool is a Hot Weather Tool

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

Here are a few



No. 90
No. 11
No. 65
No. 130
No. 110
No. 75
No. 44
No. 1540
No. 1530

But you ought to get acquainted with the full line. Our Tool Book tells you. A postal brings it.

Your dealers sell the "Yankee"

North Bros. Mfg. Co.

Department A
PHILADELPHIA, PA.

When Writing Advertisers Please Mention the American Carpenter and Builder.

IT'S PRICE
 THAT INTERESTS YOU
 SEND FOR CATALOG DA, AND FIGURES ON
METAL CEILINGS and SIDE-WALLS
 WE CAN SAVE YOU MONEY.
THE KANNEBERG ROOFING AND CEILING CO.
 CANTON, OHIO

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.

SEE THAT NAIL

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

TRADE **FOX** MARK

6-E Universal Wood Trimmer

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

Bench and Floor Type

Universal Wood Trimmers

To Meet Every Demand

4-A Universal Wood Trimmer

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

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

WRITE TODAY FOR COMPLETE CATALOG OF OUR TOOLS

FOX MACHINE CO.

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

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Jobs Like This Boom Your Business

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. For these very reasons

**"BERGER'S"
Classik
METAL CEILINGS**

is the line for you to sell. The large selection of beautiful designs, deep, clear embossing, and acknowledged superiority will make them real business builders for you.
A postal to the nearest Berger Branch will bring you a handsome catalogue—a catalogue that is winning trade today for others—one that will win trade for you.

New York
Philadelphia
Boston

THE BERGER MFG. CO.
CANTON, OHIO

St. Louis
Minneapolis
San Francisco

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

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

**LEITELT
Freight Elevators**

We can furnish you with freight elevators for any purpose—and for either power or hand operation.

Let us figure with you and advise you as to the most practical equipment for you to install.

We Make Complete

DOUBLE BELT ELEVATORS
(line shaft drive)

SINGLE BELT ELEVATORS
(electric motor drive)

HAND POWER ELEVATORS

CARRIAGE AND AUTOMOBILE LIFTS
(power and hand)

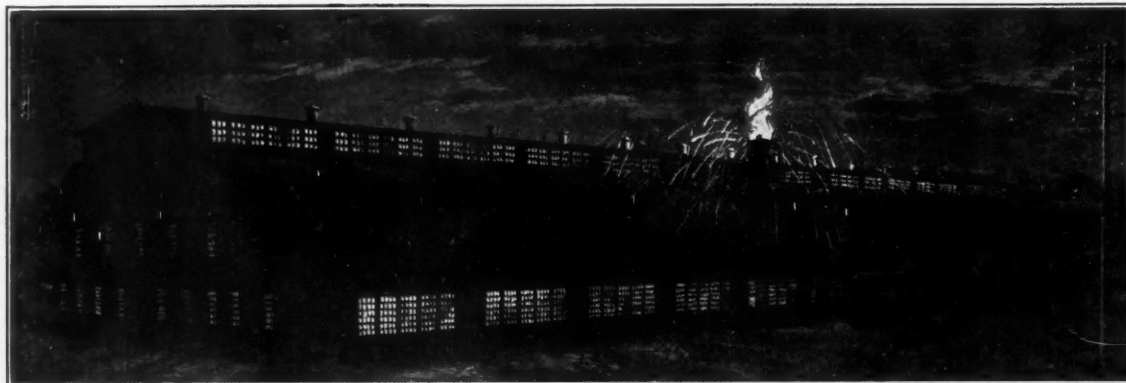
HYDRAULIC LIFTS
(direct plunger type)

Our freight elevators are in extensive use. They are mechanically right in every detail. They give continuous satisfactory service under the most severe usage. They are built of the best materials.

Take up the elevator question with us. Let us send you our Catalogue C and other descriptive matter. Write now for this and any other information you want.

ADOLPH LEITELT IRON WORKS
GRAND RAPIDS, MICH.

When Writing Advertisers Please Mention the American Carpenter and Builder.



Severest Kind of Roofing Test

A roof which will stand service such as that demanded at the Schill Bros. Foundry, Crestline, Ohio, pictured above, is equal to severest tests of any nature—fire-brands, snow or rain, or heat or cold.

This Carey Roof was laid over 17 years ago, and is good for many years to come. It has not only given perfect protection from all kinds of weather during this time, but also has been under a *daily* fire of white-hot cinders and sparks from the casting furnace. Greater proof of Roofing Strength, Safety and Durability cannot be required. Its economy cannot be questioned.

The extraordinary service given by Carey's Roofing is due to its unequalled construction. Its vital part—a heavy body of flexible asphalt cement—is hermetically sealed from the action of the elements. Thus its *life* is preserved—it cannot dry out or crack.

Carey Flexible Cement Roofing

After the sheets of Roofing are laid, the joins are nailed down and then *sealed over* by the Carey Patent Lap—an exclusive feature of this Roofing, giving *one* solid protecting surface. There are no exposed seams or joins—the laid roofing is Weather-proof and Time-proof.

46 branch houses, giving national distribution, make it convenient for carpenters, contractors and architects in all parts of the country to investigate this roofing. Let us show you what service Carey Roofs in your vicinity are giving. Generous sample and new book of Carey's Roofing will be sent on request.

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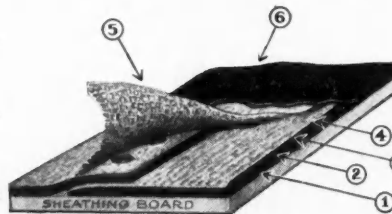
Saturated with oily cement to make waterproof and preserve flexibility.

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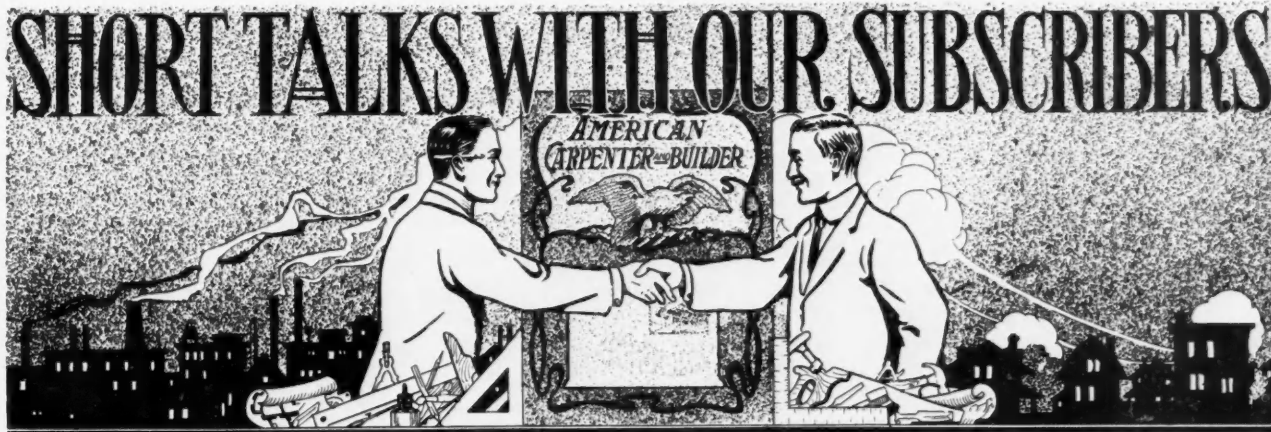
5. Carey Patent Lap Over Joins

An extension of the Burlap that covers over the nails along the joins, keeping them from rusting or working loose.

6. Asphalt Compound (Outer Surface of Roof)

Covers over and cements down Carey Patent Lap, making joins watertight and permanent, and making Carey Roof *one solid sheet*.

When Writing Advertisers Please Mention the American Carpenter and Builder.



Pardon Us Just a Moment

WE know you are all so busy right now you can hardly stop to take money when its offered you. This is your busy season, and ours, and things are stirring. Nevertheless, even in such a busy time you can't afford to miss some of the good things we offer you in this issue.

Save Your Copies of the American Carpenter and Builder

If you are too busy right now to study this number as thoroughly as you want to, lay it aside carefully. You will want to refer to it later. And anyway, whether you read it now or not, don't fail to keep ALL your copies of the AMERICAN CARPENTER AND BUILDER, carefully preserved for future reference.

We are very glad to know that so many of our readers do keep all of their building journals on file and refer to them often. Many bind them up, advertising and all. In fact, in a practical building trade magazine like the AMERICAN CARPENTER AND BUILDER, the advertising pages are of just as much interest and value as the editorial pages; (in real money return they may be more valuable). Our subscribers realize this; and do continually consult their "business directory," the advertising section of the AMERICAN CARPENTER AND BUILDER, when about to buy building materials, tools or supplies.

Instructive Series of Articles Worth Studying and Saving

TAKE the features now appearing in the AMERICAN CARPENTER AND BUILDER. Running through a series for a year or more they form a veritable builders' cyclopedia.

The Builders' Hardware articles;—

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These contain facts which every builder should know, but which have never before been published. They are written "from the inside," by an authority. The builder who has these articles in his office or shop to refer to, has the big advantage when it comes to builders' hardware questions.

Noon Hour Talks by the Boss Carpenter;—Talk 1. will be found in this issue. No builder who will study this series of articles and refer to them from time to time need ever be "on thin ice." "Better Building" means safe construction. You will find "the Boss" entertaining and instructive. Pay attention to what he has to offer.

More Prize Winning Letters

THE personal experience letters from builders presented last month made a big hit. Some more are presented in this issue. They are just as good—some will say ever better. They are real experiences, frankly and truthfully narrated. Anyone who will can profit by reading and studying them. They are real Helps to Bigger Business.

Extra Special Feature Next Month

IN the September number of the AMERICAN CARPENTER AND BUILDER the carpenters and builders who have power woodworkers will tell us all about how these machines behave out on the job; also how they have their carpenter shops arranged to handle their work to the best advantage and in comfort even in the coldest winter weather.

Some day all of us are going to have our own power wood working shop. Don't miss this September number; it will be full of good business ideas for builders.

Faternally yours,
Editor AMERICAN CARPENTER AND BUILDER.

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



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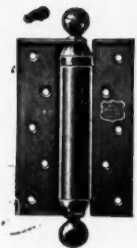
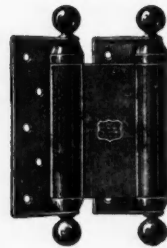
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Hundreds of carpenters and others have written us for our booklet "Saw Points." We are glad to send it to anyone interested in the proper way to Set and Sharpen Saws. For 30 years we have been making the Morrill Saw Set—nobody has ever made a Saw Set that equals the Morrill. Fully described in our booklet No. 9, which will be sent free to you.



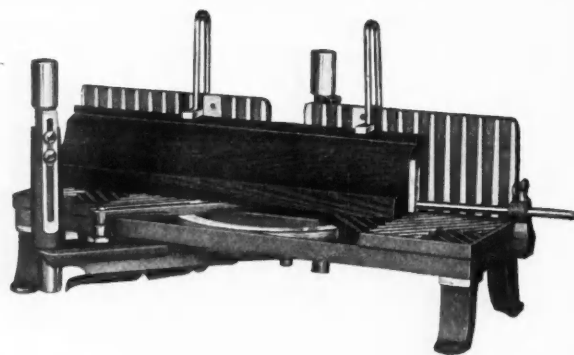
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<p><i>The</i> World's Greatest Building Paper</p>	<p>Important Notice When your subscription expires, renew at once, using the blank enclosed in your final copy. If it expires with this issue your renewal must reach us before August 25 to avoid missing the September number. Use P. O. or Express Money Order if possible, but bills or 2-cent stamps may be sent at our risk.</p>	<p><i>The</i> World's Greatest Building Paper</p>
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American Carpenter and Builder

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ADVERTISING RATES

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

Wanted: Pointers on Power Woodworkers

WE want to hear from every one of our readers who has a power woodworking machine.

This is the day when builders do not permit skilled muscles (whether their own or their men's) to do heavy work that gasoline and steel can do cheaper and better. This is the day of power on the job and in the carpenter's and builder's shop.

A good many builders have invested in power woodworking machines—some portable, some stationary. They have found that these pay.

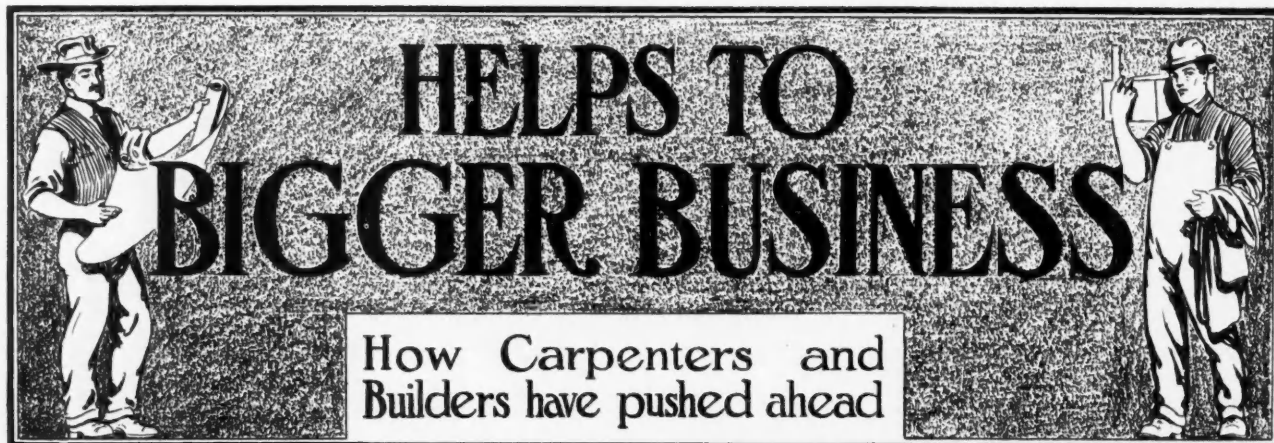
Other builders are anxious to learn what YOU have found out. Our Bigger Business Contest for September is on *Power Woodworkers*. You are all invited.

Further particulars on next page.

Why Foreign Losses are Less

NO argument in the campaign against the fire waste of the United States has been more effective than the comparison of the fire losses here and in foreign countries. The fact that the foreign losses have been about one-tenth of those in this country has opened the eyes of the people to the importance of better construction, strictly-enforced laws and a sense of individual responsibility for fires.

The difference between America and Europe in this matter was well put by the Hon. Robert Stone of Topeka, Kan., in a recent address before the business men of that city. He said: "We are a nation of money makers, Europe is a nation of money savers. We are a people of waste, they are a people of thrift. We figure that the most important thing is to make a dollar, and they that it is of equal importance to save one. This is evidenced in our hurried construction of inflammable buildings, and in their slow and solid masonry; in our willingness to pay a high rate of fire insurance with the attendant risk, and their insistence on a low rate and unceasing care; in our elaborate fixtures for the putting out of fires and their precaution in preventing fires. We regard a fire as a misfortune and sympathize with the man who has had one; they regard fire as a crime and investigate and punish the man who is guilty. Our temperament is also shown by the different view we take of an insurance policy. Here, if our property is insured and we have a fire, we do not count it as a loss; simply that we have transferred the loss to other and distant shoulders. There, the insurance is regarded as a tax, which is ultimately borne by everyone. Here, we regard insurance as a gamble, and if there is a fire the insurance company has lost the bet. There, it is regarded as a means of reducing the loss to a certainty and is borne by the whole community. Here, we figure that the insurance company restores the loss; they, that it merely indemnifies the owner for a loss which can never be restored. We endeavor to extinguish the fire, they labor to prevent it. We are losing a fortune every year, they are saving one."



September Prize Contest—Power Woodworkers

LETTERS WANTED TELLING WHAT SUCCESS YOU HAVE HAD WITH POWER WOODWORKING MACHINES EITHER IN YOUR OWN CARPENTER SHOP OR OUT ON THE JOB

A GOOD many of our readers now own and operate power machines. Some have permanent shops—snug little buildings housing from one to half a dozen different machines, where work can be turned out *in comfort and at a profit the year round*; others have portable woodworkers which they take right out “onto the job” to do their work.

These machines are proving money makers. A carpenter shop *with power in it* is a luxury that every builder can afford because it will make money for him. The experience of builders now using power equipment shows this to be a fact.

We want to hear now from every carpenter and builder who has a power shop or power on the job. For the sake of “Bigger Business” we invite you to write fully and frankly your experiences with power woodworkers; tell your brother builders some of the things you have learned,

and if there are any questions you want to ask about how “the other fellow” does it—some little points that have been bothering you—this is the place to ask, and perhaps learn the answer.

There is a BEST WAY to arrange a shop, in fact there is a BEST SIZE and a BEST DESIGN for the building. There is a BEST METHOD of operating the machines in the shop; and there is a BEST SYSTEM for handling a portable woodworker out on the job.

Let's get together now and find out what all these BEST things are. If you are gaining in prestige and making money with your power equipment, tell your brother builders in other parts of the country how you are doing it. Maybe you will get some ideas that will make you *more* money in return.

For the September “Bigger Business” Contest we want strong, direct letters, aimed at the following:

FIRST PRIZE (\$10.00) FOR BEST LETTER—SECOND PRIZE \$5.00

“Why I Invested in a Power Woodworker and How I Now Use It”

FIRST PRIZE (\$10.00) FOR BEST ARTICLE DESCRIBING

A Model Woodworking Shop for the Average Carpenter and Builder

SECOND PRIZE \$5.00

This article should be illustrated with diagrams and sketches (rough) showing design and dimensions of shop and arrangement of interior.

THIS CONTEST CLOSES AUGUST 15th. SO ACT QUICKLY

All letters submitted shall become the property of the *American Carpenter and Builder*. The Prize Winning letters will be published in “Helps to Bigger Business” September *American Carpenter and Builder*. They will appear over the names of the authors, unless otherwise requested. In addition to the Prize Winning letters, all others of real value and general interest will also be presented.

Let us have a full and free discussion of the power woodworking question which is of vital moment to every builder. Address all contributions to “Bigger Business” Editor, *American Carpenter & Builder*, Chicago

Prize Letter—Making Good as Foreman on Work Not Done by Contract

CLIMBING UP FROM APPRENTICE TO BUILDING FOREMAN—IMPORTANCE OF FOREMAN IN DETERMINING WHAT MATERIALS AND EQUIPMENT ARE TO BE USED

By G. E. S.

“Foreman Builder” Boise, Idaho

Editor AMERICAN CARPENTER AND BUILDER:

MY father being a carpenter, I first worked for him as helper, scarcely getting any wages, only the use of tools. Not until I had gained a little experience and confidence would he trust me to do the more important work, and he was always drilling into me that no matter how long it took to do a thing, do it well, and that after awhile I would gain more speed.

Began by working for different contractors, and soon saw the fellow who held his job was there and had his apron on, tools out and in good repair, ready to begin promptly. A few minutes on several men make

quite a loss each day.

Work as hard when the boss is away as when around. Don't be the fellow who is so afraid he will work a minute over time, and constantly be watching your watch. Don't work hurriedly to make a big showing that has to be done over; but be exact.

Keep your tools bright and sharp. If you come on a job with a lot of rusty tools the boss soon sizes you up that you don't amount to much. They don't work so well either. Carrying a little can of coal-oil with you will fix that.

By following these plans, I found the same fellow would hire me the second time. Soon I got small jobs



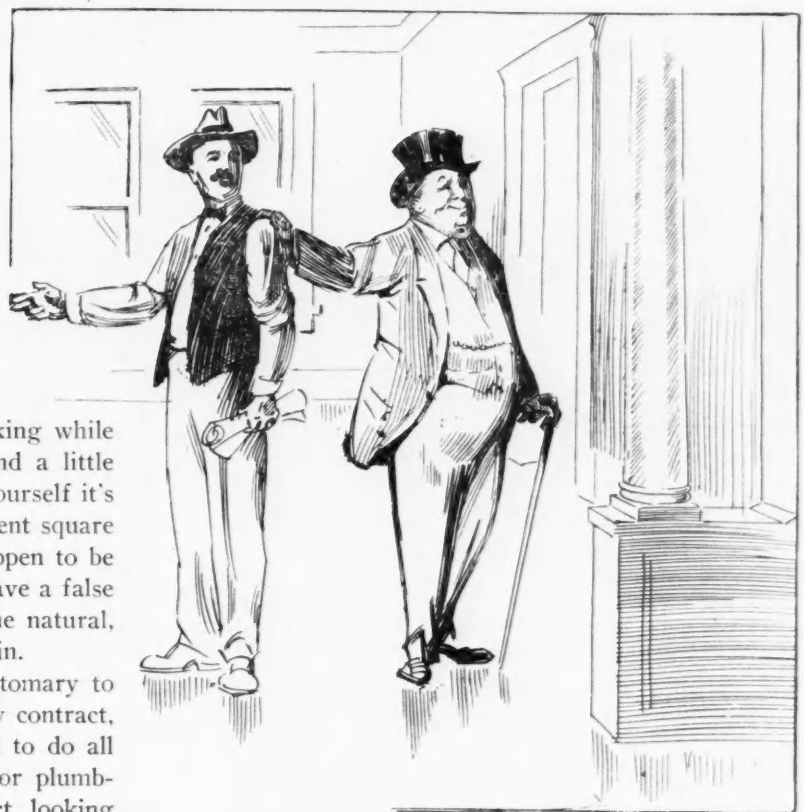
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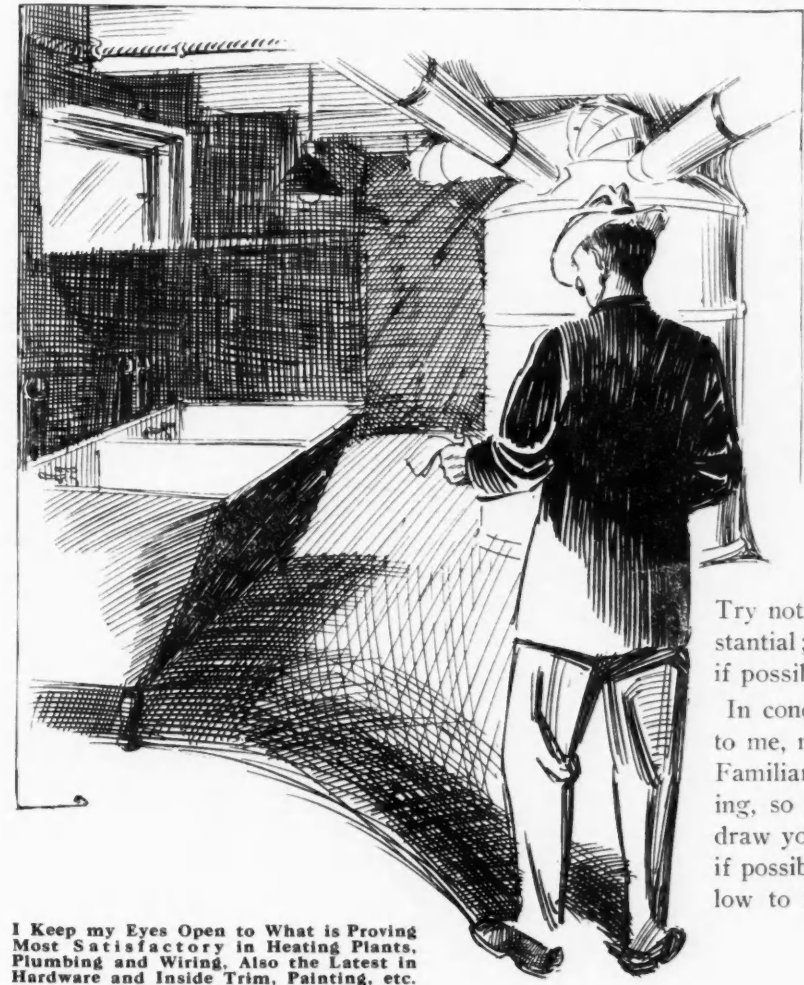
of my own. The same rules worked there, too. A satisfied person is the best ad. one can have. And so I worked up and finally got larger buildings, either by contract or by the day, acting as foreman, which is growing very much the custom in these western towns.

I find it more satisfactory to hire all first-class men, except for helper. I have to dismiss more men because they won't be accurate and can't go ahead with their work, than for any other reason. Also prohibit chewing and smoking while around a building. Now, this may sound a little like a crank, but when you don't use it yourself it's mighty unpleasant to have a mouth full sent square on your back, or in your face, if you happen to be working beneath, and where they don't have a false floor, and the woodwork is finished in the natural, it is almost impossible to remove the stain.

As I spoke before, it is becoming customary to hire a foreman instead of letting it all by contract, especially on residences. He is expected to do all the hiring of help, letting of contracts for plumbing, heating, wiring, painting, etc., in fact, looking after things in general. Often the person who is



Often the Person who is Having the Building Done Knows Practically Nothing of Materials, but Wants a Good Job and Knows one When it is Finished



I Keep my Eyes Open to What is Proving Most Satisfactory in Heating Plants, Plumbing and Wiring, Also the Latest in Hardware and Inside Trim, Painting, etc.

having the building done, knows practically nothing of materials, but wants a good job and knows one when it is finished. So when they have placed so much confidence in one, he ought to do his best.

Before commencing, I get posted on prices on the various articles used in a building, find who carries the best grade of lumber at the best prices; also keep my eyes open to what is proving the most satisfactory in different heating plants, plumbing and wiring, also the latest in hardware, windows, doors, built-in book-cases, etc.; in short, *keep up to date.*

Be honest with your employer; don't be looking for a big scoop all the time. Be satisfied with a reasonable margin.

Try not to put up something which won't be substantial; but please the fellow you are working for if possible.

In conclusion, to tell what has been worth more to me, might be summed up in these few words: Familiarize yourself with every detail of the building, so you know when all is right. Be able to draw your own little sketches of details and plans if possible. Be honest; don't expect the other fellow to accept what you wouldn't have yourself.

G. E. S.,
Building Foreman.

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Prize Letter—Steps in a Successful Builder's Rise—Methods Used

JOURNEYMAN CARPENTER—FRAMING SPECIALIST—PRACTICAL DRAFTSMAN AND STUDENT OF COSTS
—FOREMAN BUILDER—SMALL CONTRACTOR—GENERAL BUILDING CONTRACTOR

By J. P. McLarty

"Contractor and Builder"—Wilburton, Okla.

Editor AMERICAN CARPENTER AND BUILDER:

SEVENTEEN years ago I decided to learn the carpenter trade, not with the view of making a permanent journeyman carpenter, but with the idea of making a building contractor, or suburban real estate promoter, if I ever succeeded in accumulating enough funds. At first I was put in the saw and hatchet gang at \$1.50 per day, 10 hours.

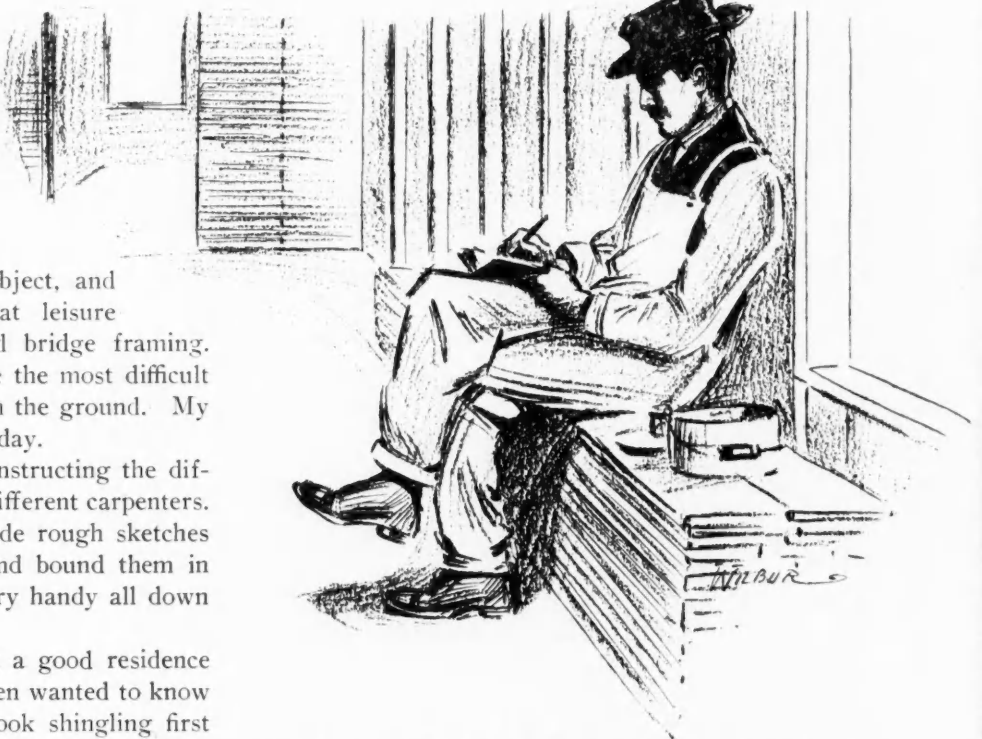
I realized in order to obtain better wages and get lighter work I would have to become proficient in some particular branch of the business, so I adopted framing, and proceeded to learn all I could about the steel square. I asked questions of the older carpenters and bought all the books I saw advertised on the subject, and studied them and experimented at leisure time on the problems of roof and bridge framing. The result was, I could soon frame the most difficult roofs with ease, and do the work on the ground. My wages were advanced to \$2.50 per day.

I next took up the manner of constructing the different parts of building as done by different carpenters. I picked up detail drawing and made rough sketches of the many things I saw done, and bound them in book form (which I have found very handy all down the line).

After I had learned to construct a good residence in a good workmanlike manner I then wanted to know how to arrive at the cost. So I took shingling first and made a notation in a small book about the kind of roof and the kind of men that put them on; struck

an average as to what each man would do per hour; and in that way learned what it would cost per thousand to shingle on the various roofs.

I used the same method for arriving at the cost of all the things that go into the construction of a building. I figured the working of lumber by the 100 square feet and by the 1,000 feet, board measure; always being



I Observed the Cost of Doing all Items of Building Work and Jotted Them Down in My Little Book; Also Studied Where Materials Could be Bought to Best Advantage.



Made Rough Sketches of the Many Things I Saw Done and Bound Them Into Book Form for Future Reference

careful also to make notations as to the kind of construction and the general conditions under which it was executed.

Then I ascertained the cost of the various materials and the cost to place same in their respective places in the building.

I also studied the best and quickest and most economical method for doing the work, and made a few suggestions from time to time to the boss if I thought he would stand for it (but I used discretion at this point).

I soon got the foremanship on almost all of the jobs on which I was employed.

I worked and studied hard for promotion and never asked for a raise in wages until I was fully satisfied that I was earning more than I was paid for, and that it would be very inconvenient for the contractor to do without my services, and I never failed to get

it. I will state here that I always looked well to my employer's interest in every honorable way I could.

After working in this way for 8 years, I commenced to contract small, cheap building—turn-key jobs. I informed myself as to the market prices of all materials; bought where I could buy the cheapest; and discounted all my bills. Consequently my business was sought after and I could get closer prices than some of my competitors—which landed me several jobs. I have made it a rule to be frank in my dealings and to settle with my customers without friction, when possible.

And as the opportunity presented itself I have taken contracts on brick, stone, and cement buildings, sidewalks, etc. Have used the same method in arriving at the cost that I did at the start. I am cautious in selecting my force and have discharged very few men.

I am very reserved on the work and treat men with consideration, but try to be a jolly good fellow off the job. There is one thing I won't stand for at all, is drinking on the job, and in selecting men, I always give men of sober habits the preference, though they may not be as good mechanics.

I have always taken the leading trade journals and read them from cover to cover, advertisements and all. If I find something new—something I might want to refer to—I make a notation in a little book, giving date, name of periodical and page. I bind them for future use. I have been fairly successful. One of the reasons is, I like the business.

Yours for better building,

J. P. McLARTY,

Contractor and Builder.

Prize Letter—How a "Kid" Went After Building Business—and Got It

REMARKABLE SUCCESS IN SIX YEARS IN SPITE OF THE HOME-FOLKS VERDICT OF "TOO YOUNG"—PORTABLE WOODWORKER PROVES MONEY MAKER

By Paul N. Holm

"Carpenter and Contractor"—Maquoketa, Iowa

Editor AMERICAN CARPENTER AND BUILDER:

I STARTED out as an apprentice just six years ago this last March, at \$1.50 per day. I liked the work very much from the start. I was always figuring and studying out some new and easier way to do my work. I was always a hard and fast worker; the other men—one in particular—were always telling me I would get over working so hard, but I haven't, and that has a lot to do with my standing today.

I notice we have thirty-two carpenters in this town, and with my force I do more in one season than all the others—well, this is getting ahead of the story.

One day the boss got stuck on an octagon roof, and I showed him the way out, and after that he gave me \$2.00 per day.

I worked this way for three years, and found out that I was doing all the work, both mentally and physically, and the other fellow was getting the money. So I came to the conclusion that I better make the jump; but I sure looked beforehand.

The first year I just managed to keep busy on small work. I was pretty well known in this locality. I would hear of a job and would strike out after it, but they would look me over, then laugh and say "too young." You see, I was only 23, so I had to skidoo.

The next year I heard of a job about 20 miles from here, and got after it. I had been turned down so many times that I didn't think it was any use. But before I arrived at the place, I had made up my mind I would have the job or the other party would do it for nothing. I don't believe in cutting prices, but I had to show the public what I could do.

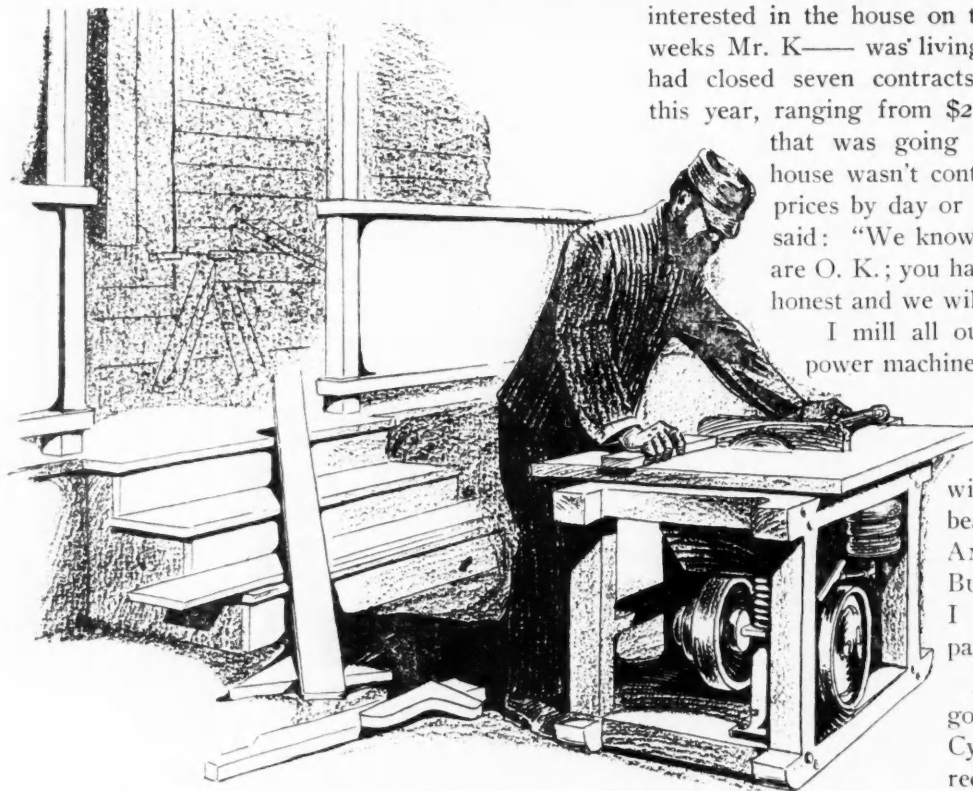
I got the job—a Catholic church. I lost some money

on that job, but I did my work well and they knew it. That was the start of my reputation. I gave satisfaction regardless of the cost.

That same year two men and myself went to a nearby town to build a house 28 by 30 feet. How well I remember that job! A young lady told me this after I had ringed a contract for life with her. She was a



One in Particular was Always Telling me I Would get Over Working so Hard; but I Haven't and That has a lot to do With my Standing Today



I Mill all our Finish With a Gasoline Power Woodworker Right on the job; and in that way Save Quite a Sum

interested in the house on the corner. In just eight weeks Mr. K— was living in his new house, and I had closed seven contracts for houses to be built this year, ranging from \$2,500 to \$12,000. I think that was going some. But the \$12,000 house wasn't contract work. I gave them prices by day or job, and this is what they said: "We know you, Mr. Holm, and you are O. K.; you have the reputation of being honest and we will leave it to you, by day."

I mill all our finish with a gasoline power machine and in that way can save quite a sum. I carry this machine on the job. For ripping and making window frames it can't be beat. I can thank the AMERICAN CARPENTER AND BUILDER for this machine, as I saw it advertised in this paper.

I have gotten a pile of good out of the Radford Cyclopaedia. I thought I had received value in full, but there are millions in it yet.

And the AMERICAN CARPENTER AND BUILDER is the finest reading I ever read. There is only one thing I don't like about this building paper, and that is it don't come often enough.

I have found out this: A man that is honest in his dealings and will do unto others as he would be done by, and not do others before they do him, will certainly succeed in his work.

PAUL N. HOLM,
Carpenter and Contractor.

P. M. and was in a good place to hear what was said. These are some of the things they said:

"Well, Mr. K—'s carpenters are here; they will have noise all summer." "It's funny he didn't hire a man, and get his house built before cold weather," and this was in April. "The boss is only a kid."

But when we had been there about three days, everybody was changing their minds; they became deeply

Prize Letter—How I Get "Value Received"— and More—Out of My Building Journal

KEEP YOUR MAGAZINES WORKING. STUDY THEM AND REFER TO THEM OFTEN—PRACTICAL VALUE OF BUILDING PLANS AND OTHER FEATURES—BEAUTY OF FRIENDLY CO-OPERATION BETWEEN READERS

By F. L. M.

"Carpenter and Builder"—Fenton, Mich.

Editor AMERICAN CARPENTER AND BUILDER:

IN the first place my building journal and myself are close friends, and are always together when possible. I read it and study it as I would a school book. I not only study the editorials, correspondence, etc., but I study the advertising pages and by so doing I am in touch with all that is up to date in building supplies.

Often I have men ask, where did you find such and such? And to answer them honestly, I have to say, through the AMERICAN CARPENTER AND BUILDER.

When I pay for an article, I expect to get some good out of that article. If I pile up my journals and never look at them, what good are they to me? I

will say to my brother craftsman, study your building journal; study it in a way that you will remember it. There is a volume of knowledge in each number. Go after it.

What building journals have done for me they will do for you. I have learned through building journals (and I have taken many) how to handle my work to better advantage; how to place my men on a job so as to get the best results. There have been a thousand and one little kinks that have been made plain to me through these journals; and for me to be without a good reliable building paper would be as bad as putting me to bed without my supper.

I look forward for each issue, and am sure to find

some brother who would like to know how to do this or that, or a brother who has something to offer in a way that will help anyone through difficult places. I am glad for the friendly spirit manifested in the correspondence department of the AMERICAN CARPENTER AND BUILDER; and I am glad that the time has come when brothers of the same trade or profession are alert to help each other. I verily believe men are brought closer together by contributing now and then in the way of news for the journal; and in this way we hear of each other, and at the same time we feel more of an interest in our journal and in each other.

My brothers, take a building journal, and take the *best*, and when you find the *best*, stick to it.



When I Pay for a Thing I Expect to get Some Good out of it. If I Pile up my Building Journals and Never Look at Them What Good are They to me?

Don't lose too much time fussing around, but steer straight for the best one that was ever put between two covers—THE AMERICAN CARPENTER AND BUILDER. The building plans alone are of great value to any builder.

What we get from our journal in the way of information can be relied upon as a usual thing, because the contributions are not mere theory, but are tried and proven facts; and this is what you and I are



When you Pack Your Kit and Start out for Your Next Job put in a Copy of the American Carpenter & Builder—and put it on top

looking for—something we can depend upon.

Some two or three years ago I built a dwelling, and from what information I got from my journal I decided I would finish the interior myself, just to see how I would come out. I used Southern pine throughout, except staircase, which was oak, stained mission. I stained each piece of interior finish on the bench before being put in place. And I want to tell you, I had one of the neatest and most evenly stained jobs you ever saw.

I give my journal credit.

My brothers, when you pack your kit and start on the next job, just put in a copy of THE AMERICAN CARPENTER AND BUILDER, and put it on top (not in the bottom) of your chest; and you will be able to open your chest with considerable more pride than ever before. You know your brother builders are always on hand to see how the other fellow's chest looks when he opens it up, and when they see the kind of journal you are reading, they will see you have on the breast plate of your profession, and with you the very breast works of the building art.

F. L. M.,

Carpenter and Builder.

Personal Experience Letters from Builders Who Have "Made Good"

A PART OF THE LETTERS SUBMITTED IN PRIZE CONTEST FOR JULY

Urges Builders to Take Intelligent Interest in Business Intrusted to Them

Sabinal, Texas.

EDITOR AMERICAN CARPENTER AND BUILDER:

The foundation of all permanent business success is honesty; the good old-fashioned kind, not the chin-music. The prospective builder or owner is at the mercy of the contractor and builder to a large extent and he is, as a general rule, willing to pay for what he gets, but wants to get what he pays for.

Here is where a reputation for honesty comes in, the owner wants to feel that his business is intrusted to a man with

honesty of heart and steadfastness of purpose. For this reason, never make an assertion in regard to material or method of building unless you have positive knowledge that it is so. As an illustration, I had a customer who wanted a store and office building. He had read of a steel construction with metal-lath and plaster, the walls being only 2 inches thick when finished. I looked the matter up and found the price about one-third less than brick. When I submitted both prices I was told to go ahead with the steel construction, but I told him I did not like to see him tie up his money in something I knew nothing about and could not recommend, and suggested that we look up the insurance rate on this class of

building. He said there was nothing but steel and plaster to burn, but nevertheless on examination we found the rate too high and the building was put up of brick—and the owner now feels that I took an honest and intelligent interest in the business intrusted to me.

Do not be led off by new ideas in building, be sure they are sound before you recommend them. There are many new things of real value, but do not discard principles that our forefathers have tried out for generations before us to take up something new just because it is new.

Be sure that you understand the climatic and other building conditions of your locality and use only true and tried materials and methods. Get in close touch with the business men of your town, especially the real estate men and your lumber men. Let them feel that you are an honest and competent builder, and as such they can recommend you at all times. It is through the confidence of others that our reputation is shown up in its best light, but there is nothing that will hold business like satisfied customers. I only mentioned the business men as a means of reaching new customers that you might never know of otherwise. Never bid high, just because you have the advantage of your competitors or possibly are without competition, and, on the other hand, do not swap dollars, for that is a waste of time. If you use foremen, see that they are kind and agreeable to the workmen. If you run your jobs yourself come on the job with a smile that will not wear off, for more and better work can be done. See that all work is done in a thorough and substantial manner.

I find it a good policy to insist that the owner inspect the work as it goes up and a few minutes and a little extra expense in satisfying him is well spent.

S. T. HUTCHINSON,
Building Contractor.

The Rise of the "Boy Carpenter"

Spring City, Tenn.

EDITOR AMERICAN CARPENTER AND BUILDER:

I came home from school one spring to find that carpenters were at work repairing my mother's house. I was past fifteen, so commenced work with the carpenters and helped them repair the house and worked with them through the summer. The next spring I went to Miamisburg, Ohio, and commenced work in a woodworking shop and helping with stair work, the boss being a practical stair builder. He would say, "Now, Githens, I am going to figure on some repair work; come along, and it will be a help to you if you ever do this work for yourself to know how to figure on repair work." In the meantime I was taking a good building journal.

The next spring I went to Franklin, six miles distant, and worked for two summers. The second fall I started home on foot, nine miles distant. When going some five miles a man on horseback overtook me and asked me if my name was Githens. I said, "Yes, sir." He told me he had been after Mr. Zecker (my former boss) to build him a house, but he said he could not build it, but one of his hands, who had just started home, although a young man, could build his house O. K. So he employed me to build his house.

I started at once and completed the house that fall, at eighteen years of age; the next spring I commenced a barn for a party. I had the barn frame almost ready to raise, when on Sunday his father came on a visit and looked over the frame and told his son that it would not go together and that the boy had spoiled all his lumber. When I went to work Monday morning the son looked so sad that I asked: "What is the trouble?" He said: "Father was here Sunday and said you had spoiled all my lumber." I replied: "I am able to pay for all the lumber I have spoiled—for every stick. We will raise this barn this week," and I added: "Have your father here to see it go together." He did so and everything

fitted like a ribbon. Hence the old gentleman, a doctor, employed me to put a porch on the two sides and one end of his two-story 60 by 40-foot brick house, using 20-foot columns. This work gave me a good start and the doctor advertised me for miles around; and my work kept increasing.

My next work was a three-story elevator; and my work soon grew so that I had to get a horse and buggy to look after it at the different places.

I kept at my work, always doing my very best and kept myself posted in my line of work. If I agreed to anything I fulfilled my promise, always kept my bills paid up and pushed ahead, and while other carpenters were talking about "the boy carpenter" I kept still and got a good deal of free advertising—in fact, I did not have time to talk.

Another big help to me was when Mr. Benham, a retired merchant, came to me and said: "Githens, I want to build a house that will cost \$5,000.00, and I want to pattern after another house quite a distance from here; but if you think you can look the house over and build one for me like it I will take you with me and pay all expenses." I said: "All right." I looked over the house and took the measurements and he asked me if I thought I could build one like it. I said: "Yes, sir." He said: "Do you want to take any more measurements?" I said: "No, I am ready to go." I built this house and Mr. Benham was a pleased man. This building helped me, being amongst the best class of buildings and in a town of note.

By this time I was doing a good deal of public work. In putting in a bid for a building, even if every part of the building material must be specified as to cost of each item, I always did so, but would say "all or none" in my bid. I never build on another man's foundation. In all my contract work of twenty-two years in Ohio I never had a lawsuit and never lost a dollar by bad debts, and never did make a miscalculation on my work. I built up a trade that netted me \$3,200.00 per year of eight months in the year.

It does not pay to slight work, either in material or work.

There was one thing I had, that was, Good Credit. I often had all my money tied up in building, but that never stopped work or my taking on more work, for the reason given above.

When I started out as a carpenter and at the very start I commenced taking building journals. The boys would laugh at me for taking carpenters' journals, saying they would not be any use to me and I was fooling away my time. They said, "You had better learn a trade first." But time told a different tale; while I have been making \$10.00 or \$12.00 a day, some of these boys were working for me at \$2.00 per day.

Hence we should not neglect striving and figuring out and learning other men's ideas and I know from experience it will not only help us, but it will strengthen our own ideas and minds and in our planning to grasp things that otherwise we could not see or comprehend without the start our journals give us. Every kind of book on our line of work is a help to us. I know what they have done for me and that being the case I am sure that every one of us can profit by the reading and studying of these journals which are full of the very things we should know to be successful builders.

I can to-day take charge of excavating, stone and brick work, plastering, painting, tin work, iron work and am a practical cement man.

I have found the AMERICAN CARPENTER AND BUILDER one of the most up-to-date journals that it has been my privilege to read and it will keep any wide-awake builder posted in all lines of the building trade, hence the importance of this up-to-date journal for builder and carpenter.

D. GITHENS.

Uses Plan Books to Get Business and Combination Woodworker to Do it at a Profit

Wichita Falls, Texas.

EDITOR AMERICAN CARPENTER AND BUILDER:

I will endeavor to explain how I have built up my trade. I have always hired the best mechanics I could find. If they did a piece of work that was not good I have them take it out and do it right. I always tell my men to take time to do the work in a first class manner. If they cannot do the work in a finished way I put them at something they can.

I have all the building plan books that have been sent out by the AMERICAN CARPENTER AND BUILDER. I show my customers what I have and I sometimes order my plans and sometimes I make sketches myself. I find that I could hardly get along without the AMERICAN CARPENTER AND BUILDER, as well as the two Building Plan Libraries. I have them both.

I am the owner of a combination machine that I can move from one job to another, and I also have a shop, so that I can put it in there in bad weather and go on with my business.

C. C. WILLARD,

Contractor and Builder.

Earthquake and Fire Prove Big Opportunity to Self-made Architect and Builder

San Francisco, Calif.

EDITOR AMERICAN CARPENTER AND BUILDER:

* I am glad to have the opportunity at this time to tell, through your valued journal, my experience from journeyman carpenter to general builder. I arrived in San Francisco from Illinois, the year 1890, entered the field as carpenter on building until the year 1901. Had saved \$350.00. Had tried in every way to learn drawing excepting to take lessons from anyone. In 1904 entered the field as general contractor, furnishing my own plans.

First job was a repair job—changing an old house into three flats; lost my \$350.00 and \$200.00 more—cause, instead of raising old house and building under, I built two stories over. When I was ready for the roof the city building inspector appeared and informed me all first story studding of three-story buildings must be 3x4. He was very kind, allowed me to nail 1x4 on old 2x4. Of course I had to take the rustic off to do so. There was the loss.

I did not allow anyone to know I lost. Got a carpenter friend who had faith in me to assist me. Paid material men as soon as served.

Next job was almost the same and I came out \$100.00 behind. Found decayed joist where least expected. Same party assisted me. I did not even inform my bondsmen how I was getting along. At that time borrowed from friend, paid everything, established a good credit. Owners perfectly satisfied and I not discouraged. Both owners thought I made well on jobs. The only asset I had was honesty, and it is the best one I have this day.

I was determined to stay in the business. I was hustling. As I was finishing second job, a gentleman appeared, asking for builder. He had a set of plans he had purchased. He found I was doing good work and doing it quickly. We were figuring for a time; finally he proposed a percentage job, offered me 10 per cent of cost—cost not to exceed \$8,000.00; date of starting his job, March 1st, 1906. Had frame up, and he perfectly satisfied, when our earthquake and fire came, April 6.

It did not harm me in any way, my credit being good. And the party whom I was building residence for, being prominent business man and wealthy (auto business), equipped me with an auto, and ten days after fire I had 150 carpenters working for more than four months on emergency work (all commission work). Then got down to making plans again for permanent work.

The temporary work I was doing, several cost from \$12,000.00 to \$15,000.00. I would have them ready for occupancy in seven days, including plumbing and electric lighting. All the large ones allowed me more than agreed on for speed.

I have got copies of every AMERICAN CARPENTER AND BUILDER issued; became a subscriber only January 1st, 1912, but bought them from a friend who had a book store. All the knowledge I have gained in making plans has been positively through your journal. I have no education other than a country primary training; what little I know is practical knowledge. I have no competitors, all comes through good work and honest dealings, and I have a job always on hand. I do my own tracing, planning, also blue printing and specifications. I have never done a job from an architect's office. I make my plans for sale where I do not figure at all. There is not a set of plans I have ever turned out but what I have injected ideas gained from your valued journal. I specialize on residence work, flats and apartments, confining entirely to frame construction. I have taken pages of plans from your journals and made what I term my reference book, pasted the pages I most use in a stub leaf book made for that purpose.

I find the best method for getting new business is good work, honesty and promptness. I have no foreman. I can take care of three or four jobs at once. I find it profitable in many ways to not exhaust one's credit—pay promptly leaves you clear to buy from any one who can do the best by you.

EDW. A. F. CARSON,

Carpenter and Builder.

Some Good Pointers for Builders

Reason, Ill.

EDITOR AMERICAN CARPENTER AND BUILDER:

As I am a carpenter and builder and have worked at carpentry since 1885, I need not say I have had a few tough propositions and have been "up against it proper"—and improper, too.

Contractor or builder, never throw, nor allow a man on your job to throw his saw down as though it were scrap iron! When on the job get your men to learn what they are to do before they land. Appear neat and have some style; it doesn't cost anything more than thought. Keep your tools in proper working order, otherwise you can do no good work.

Always test your foundation on which you are to build, and if not exactly level see that it is before you lay or raise a stick of timber; also prove your foundation every way—in size, thickness, and especially the manner in which it has been laid. See that your frame is erect as well as exactly square; and always remember one good job and a satisfied customer get you five new jobs where you couldn't talk up one.

S. JAS. KLING,

Carpenter and Builder.

Always Uses Best Tools and is an Expert

Spanish Fork, Utah.

EDITOR AMERICAN CARPENTER AND BUILDER:

I started in my youth in the carpenter trade and why I did it is because I liked it better than anything else, so I studied my business from the start and soon started to work on my own hook.

From the use of the jack-knife to using the most competent tools I soon started to think of the make of tools or brand of tools that was the finest steel. I soon found that cheap tools are not the kind that a mechanic wants, so I always invested in the best tools I could get, and became an expert in the use thereof.

This is the way I have built up my business.

KNUTE KNUTESON,

Carpenter and Builder.

Rural Builder—More Work than He Can Handle

Warrensville, Pa.

Editor AMERICAN CARPENTER AND BUILDER:

I have worked at carpentering for about 33 years. Started as an apprentice for the small sum of 50 cents per day. My work is nearly all in the country for farmers that want their work all done by the day.

Whenever I went to a job, I first tried to find out what the party wanted and how he wanted his work done. If he was very particular I tried to be the same. I had to make all my own plans and in doing this of late years I find the AMERICAN CARPENTER AND BUILDER a great help. If I knew of something new that I considered good material for building I would advise him to get it, and even help him to get it, free of charge. I tried in every way to please the party I was working for.

When I hire men to work, I am very particular what their character is. This has a great deal to do with the business in our part of the country. Never had any trouble to get hands to work. It has been about 33 years since I started, and I run a crew of about 6 or 8 men, and they are never idle; can't near keep up with the work; could get nearly as much more as I am doing.

Another thing, I hardly ever have work going on unless I am on the job myself. After quitting time I see that all material that has been used or unplied that day is taken care of and that none is wasted. I have seen men that can waste more lumber in one day than their work would amount to. I think great care should be taken of this.

Years ago, before portable mills were so numerous, I had to go into the wood, cut all timber and hew it, ready to frame; even the rafters had to be hewed. But that is a thing of the past. Now, I find that the best way for doing this, when cutting timber for a large barn or any kind of building, is to find the long timbers first and you will have no trouble of finding the rest.

I do all kinds of work—build barns, houses, churches, stores, and any other kind of building that there is to do. In this way I am kept busy all the year round.

Just another word about the AMERICAN CARPENTER AND BUILDER. People are getting to think that bungalows are all right; even the farmers are building many in our part of the country. For this the magazine has been a big help to me.

E. E. KESS,
Contractor and Builder.

It Pays to Be Friends with the Firemen—Advertising Value of Power Equipment

Kansas City, Mo.

Editor AMERICAN CARPENTER AND BUILDER:

Although I am a new subscriber I take pleasure in telling you that I am enjoying the benefits and help that I get from its pages.

My success as a builder, I think, was principally due to the fact that I always felt that the way to go into a fight was to go in to win. That has been my policy from the start. One of the best phrases in the American language, according to my view, is this—*Never lose confidence in yourself.*

I started in the contracting business just 29 years ago. I made up my mind at the start that I was going to be a contractor, and have never given up yet. Things have looked blue at times when work was dull, but I always felt that if there was anything doing I would certainly get my share of it—and go after it.

One thing I have always found to be in my favor is, in case I get short on work by the contract and have to go to work by the day for a while, to have the good will of my fellow workmen. They are very apt to hear of some one

who is going to build; and, if they like a builder, they are sure to tell him about it.

In my business I found out that I was detained very often by having to wait for mill work, so about a year and a half ago I bought a small planing mill, in which I get out all kinds of interior finish, window and door frames, screens, stairs, fronts, and in fact, almost anything but doors and windows—which I can buy cheaper than I can make, unless it happens to be a special size that I can't buy in stock.

Near my mill is a fire station. The firemen have lots of spare time, and some of them are handy with tools, and make their lawn and porch furniture. Consequently they have me get out their oak strips for this work. They being good friends of mine, I never charge them much for what I do for them. So this winter it all came back with big interest added. Kansas City had an epidemic of fires during the cold weather, and fortunately for me, having an excellent knowledge of the cost of repair work from experience, I landed three jobs at a good figure, all inside of two weeks. Well, the firemen took the hunch that it was a good thing for me, and ever since, they call me up and tell me the location of every fire, that I may go and make an estimate on the loss.

So you see it paid me to help them. I have finished up seven fine jobs since last Christmas, and am working on another. Of course I don't get all the jobs that I figure, but one thing I can truthfully say, I have pleased the owners and also the adjusters for the insurance companies.

I have plenty of work and have had ever since I bought the mill, but it makes lots of work for me to look after by having the mill, although I could not get along without it for the advertising it does for my business. People who know feel that I am in a better position to get out work quickly than one who has to depend on getting it out by hand.

One other thing I would mention before closing; my experience has been that it pays to be a good collector. Don't let little bills drag along for months, or even days, if you can help it. Have some place that you want to put the money. Get it and put it there, and mark the account paid on your books and then you don't have to wonder when it will be paid.

DELL T. PARKER,
Proprietor Blue Valley Construction Co.,
General Contracting and Remodeling.

Learned by not Being a "Knows-it-All Carpenter"

Redmond, Ore.

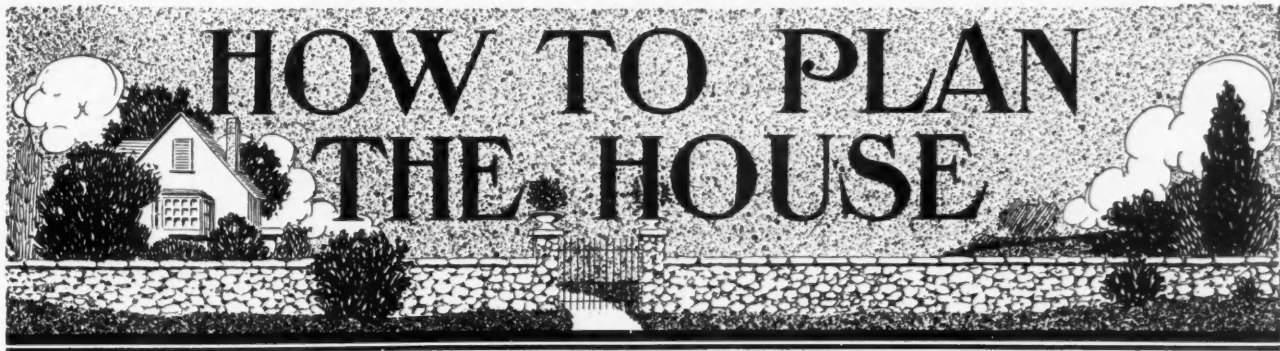
Editor AMERICAN CARPENTER AND BUILDER:

Will say I have been working at the carpenter trade for a number of years and have made good. Have been hampered some on account of a very limited education, but if a man only thinks so he can get along nicely without it. My way was not to be a "know-it-all" carpenter; and so had a chance to learn a great deal from other first-class men. Most any brother carpenter will be pleased to show another his methods if you will receive them in the right spirit. So in this way I have learned some valuable lessons that I could of learned in no other way.

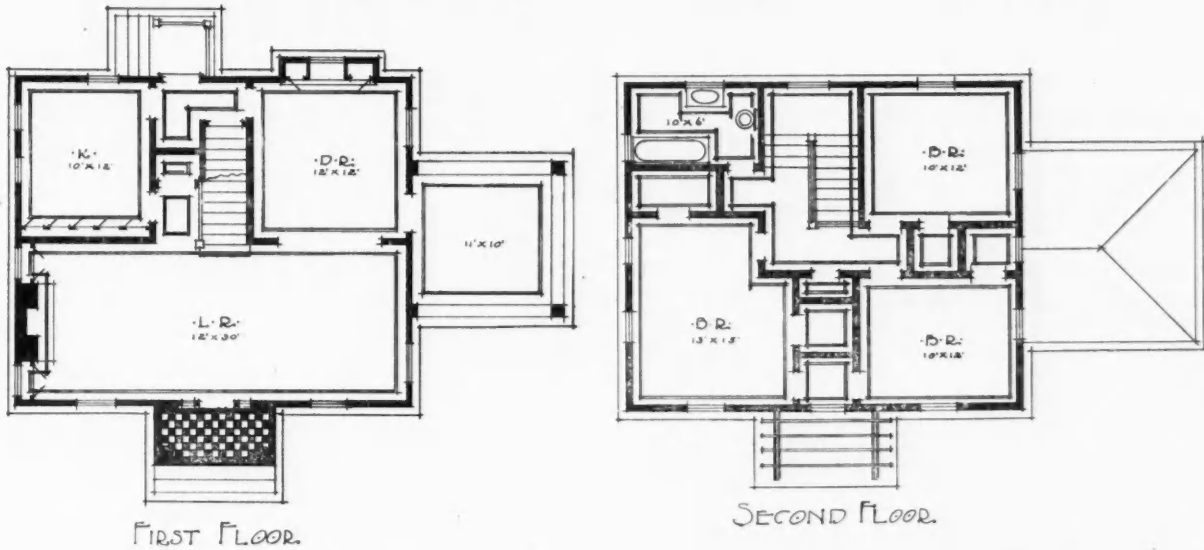
Another thing, when I went on a job I went on to do a day's work, and I find that it pays. I am a firm believer in books and have some good ones on the building trade. I also like the AMERICAN CARPENTER AND BUILDER, and think all men at the trade should have it.

In recent years I have had charge of some good buildings, some of my own design. I always give freely my opinion for what it is worth to intending builders. Have spent many weary hours on plans and designs for which I got no pay; but still it paid in the long run. I have no kick coming.

H. M. S.



Neat Gambrel Roof Design for \$4000



Six Room House; Modern Design with Large Living Room, Pergola Entrance and Comfortable Side Porch; a Homelike, Dignified Residence of Colonial Lines

Rustic Garden Seats and Shelters

By Mary H. Northend

GARDEN furniture, like that used in the house, should suit its environment. An expensive, overdecorated garden seat in a simple garden is quite as much out of place as an upholstered chair in the kitchen. On the other hand, a few pieces of carefully chosen, well built rustic furniture offer an attractive, inviting and homelike air to the garden, and do much towards beautifying it.

In olden times seats were practically the only kind of garden furniture used, and served our ancestors as a convenient place on which to rest after the day's toil. These seats should not only look firm, but be firm, and built of stout material which will withstand sun, wind and rain. Furniture which

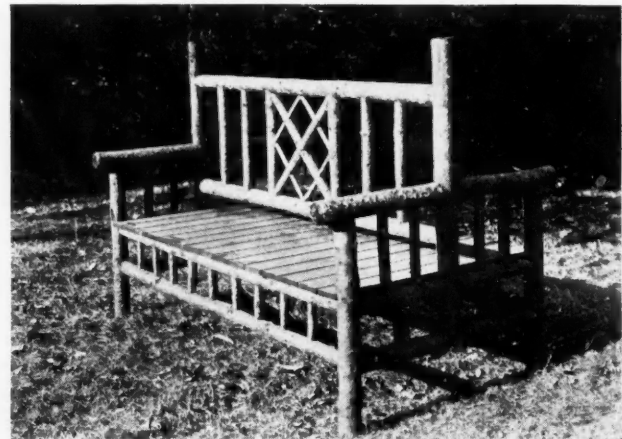
lecting any design for a garden seat, care should be taken that it is made suitable for its surroundings. Some are so intricate in design that they require the services of skilled workmen to manufacture. Others more simple and more rustic in workmanship may easily be made by the home carpenter with a few ordinary tools. One sometimes sees this rustic furniture constructed along very irregular and



The Simplest Garden Shelter — a Rustic Seat with a Roof

must be moved indoors every time it sprinkles belongs indoors. Genuine garden furniture should be so constructed that it can stand the most severe downpour with no ill effects.

There are many styles of seats that look well in our gardens. These vary in importance from the simple wooden bench or settee, some even without backs, to the more elaborate rustic, or painted seats in many and varied designs, often possessing artistic qualities quite apart from their usefulness. In se-



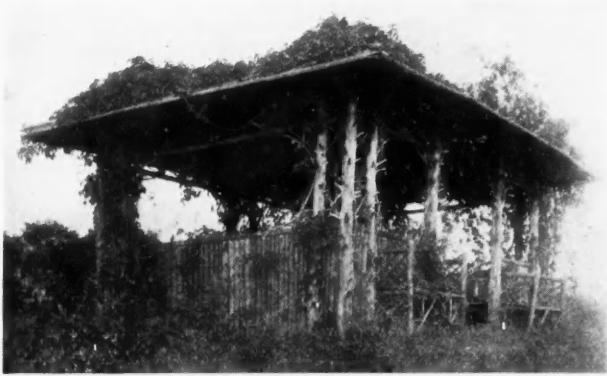
Double Rustic Settee, Facing Both Ways

crooked lines, the finished piece presenting many fantastic twists. A seat built along these lines is not so comfortable as those of plainer design, and the furniture thus constructed is more difficult to keep clean, when it becomes dusty and dirty from weather conditions.

In placing garden furniture a little thought should be given the surroundings as too often the furniture is put in position without regard for its shelter from sun or wind. If it can occupy some vantage point, if possible in the shade, where one may obtain a pleasing view of the surrounding country, having for a background a hedge or a group of small bushes or shrubs, it will be placed to good advantage. If it is



Two Rustic Garden Seats of Pleasing Lines



Summer House or Arbor of Rustic Construction

not possible to find a shady place, a framework should be built over which vines can be trained. Sometimes a seat is placed in a certain position because of some particularly attractive view. This is all very well if comfort is combined as well, but if not then the latter should be the first consideration.



Rustic Chair, Table and Arm Chair

Many of the garden seats constructed today are simple, attractive and practical, and harmonize with any simple garden scheme. There is one design that is particularly interesting. This affords accommodations for four people, as it has two seats, the back extending through the middle. This arrangement



Long Curving Bench

affords of two entirely opposite views, and is especially desirable where only one seat is to be used in the garden furnishing.

All these pieces of furniture shown in the illustrations include the best workmanship and the seats are comfortably as well as strongly built. Care is taken that the backs are of just the right height for comfort, and the seat is far enough from the ground to accommodate the average person. However



Very Attractive Garden Shelter

used, each and every piece is wholly suitable, and so simply constructed that they may be easily made at home. All lines are simple and straight, and they are put together in the strongest, most practical manner. If the wood used is in an unfinished state, the bark is decoration enough.

In furnishing the gardens of today, often pieces of furniture other than tables and seats are used. These include pergolas, arches, gates, sundials, vases, garden houses and others, as pleases the owner's fancy. Garden houses when of rustic design are an ornament, and add an air of hospitality. They afford a comfortable resting place, and a cool and shady retreat on hot days, and a warm spot on cool days. There is usually room here in which to swing a hammock.



In Practise

Husband—"Your extravagance is awful. When I die you'll probably have to beg."

Wife—"Well, I should be better off than some poor woman who never had any practice."—*London Opinion.*



Wicked, Wicked

"I suppose your wife was more than delighted at your raise of salary, wasn't she?" asked Jones of Brown.

"I haven't told her yet, but she will be when she knows it," answered Brown.

"How is it that you haven't told her?"

"Well, I thought I would enjoy myself a couple of weeks first."—*Judge.*

DETAILS YOU CAN USE

A GOLD MINE OF WORKABLE IDEAS FOR THOSE WHO PLAN AND BUILD

Bay Window Seat and Handy Kitchen Cases

WORKING DRAWINGS SHOWING DESIGN AND CONSTRUCTION OF ATTRACTIVE FEATURES ILLUSTRATED IN PHOTOGRAPHS

THERE is no part of a living room more used, or more suggestive of comfort, than the built-in bay window seat. There are a good many times when a feature of this kind is just what is needed to raise a room or maybe a whole house out of the commonplace. Builders can often make a hit by suggesting it.

This seat is one foot four inches high above the

floor. It is finished in the same style as the rest of the trim, which is white enamel over birch or white pine. A set of four windows make up this bay, thus enabling this seat to be of good generous proportions. Either form of windows, double hung or outward

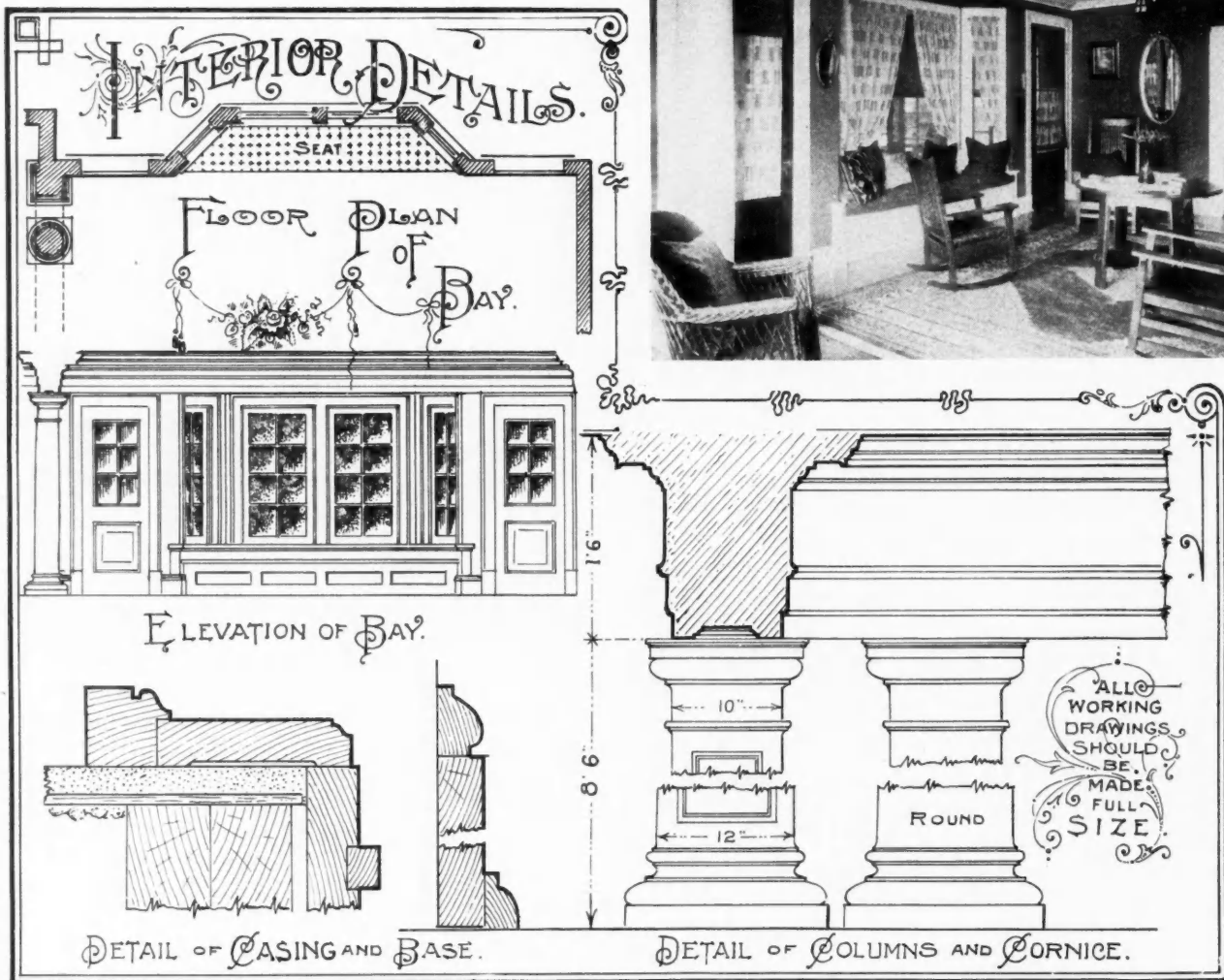
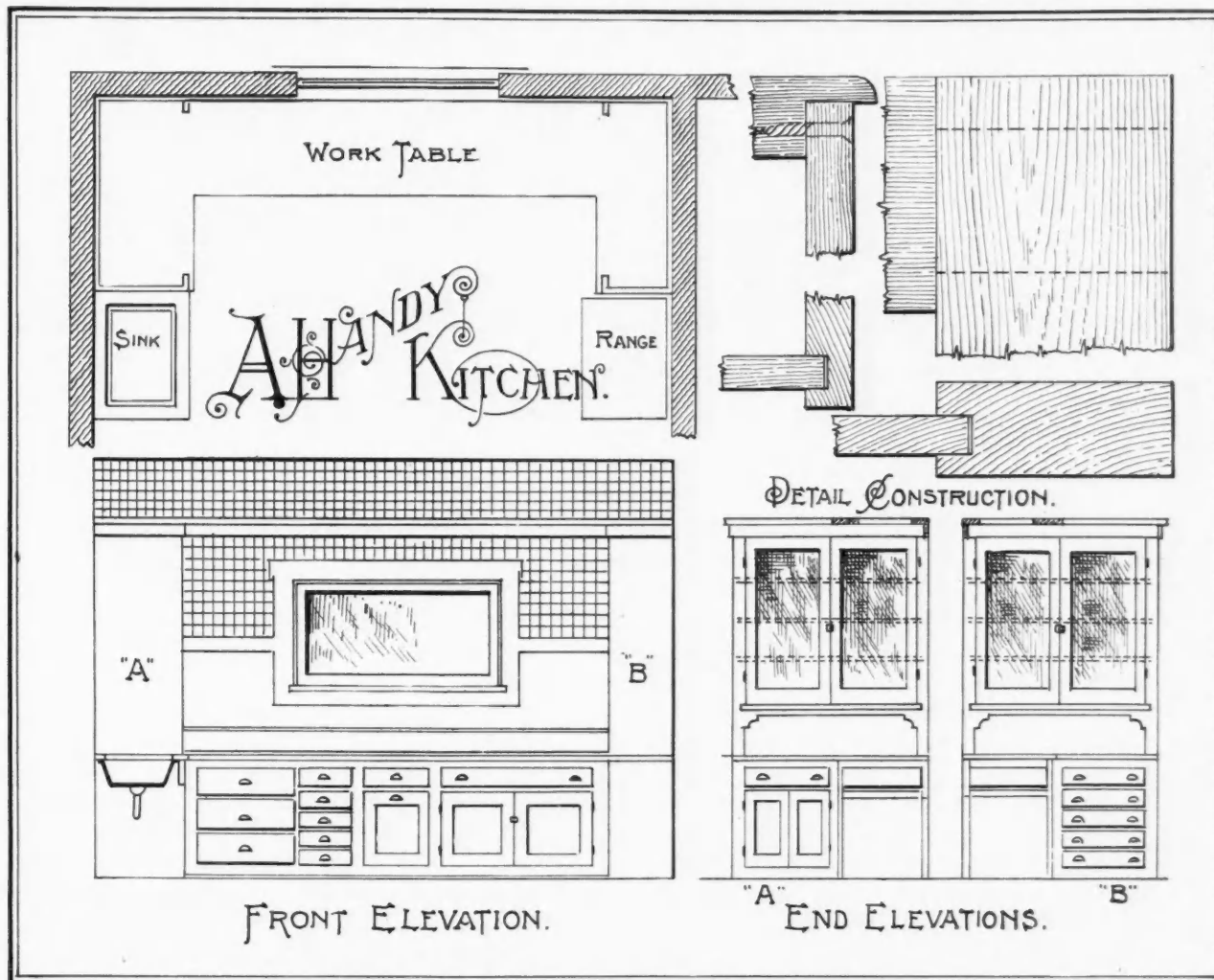


PHOTO AND DETAILS OF BUILT-IN BAY WINDOW SEAT; ALSO RICH COLONIAL COLONNADE



DRAWINGS SHOWING ARRANGEMENT AND CONSTRUCTION OF KITCHEN ILLUSTRATED IN PHOTO

opening casements, may be used without affecting the seat scheme.

A rich columned doorway is also illustrated in this detail. It harmonizes nicely with a room of this kind.

Convenient Kitchen Cases

The working end of a model kitchen is illustrated in the second photo and detail plate. The idea is to have everything as close at hand as possible; all within reaching distance, therefore saving steps.

This is an idea that can be adapted in almost any small kitchen, suiting the dimensions of the drawers and cupboards to the space available.

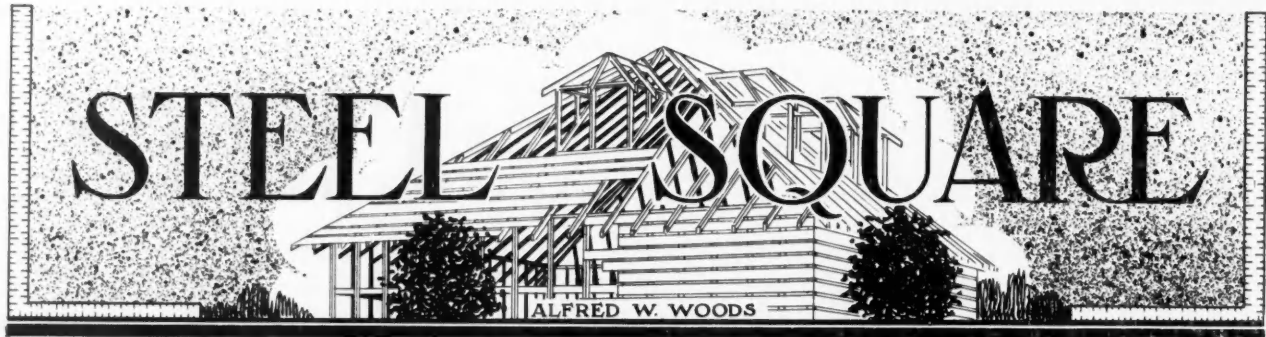
It will be noticed that these cases are built into three sides of a kitchen alcove. This is an attractive novelty no doubt; but is not essential to the success of such an arrangement as this.

A good many housewives would probably consider two or three smaller windows in place of this large one an improvement, as permitting better ventilation and easier handling.

The broad work shelf should be made of maple. Zinc or copper covered kitchen work tables and shelves are also becoming popular, though more expensive.



The Working End of a Handy Built-in Kitchen



Possibilities of the Steel Square

THE STEEL SQUARE AS A RECKONING POWER IN CONSTRUCTION WITH DEGREE DIVISIONS OF THE CIRCLE

WE will take for our subject this time, the circle; and in doing so, we realize we are cutting off a large chunk, because there is a question of where it begins and leaves off; but we have found that it encompasses seemingly an unlimited amount of useful information, which commences at the beginning and quits at the finish. But just where these points are located we are not going to even try to explain, but rather to talk about the relation between round and square measure in roof framing.

To begin with, this earthly home of ours on which we are permitted to live, is in one sense of the word, a circle; and its divisions are reckoned from a central point, and are called degrees; these are subdivided into 60 parts called minutes and these again into a like number of parts called seconds.

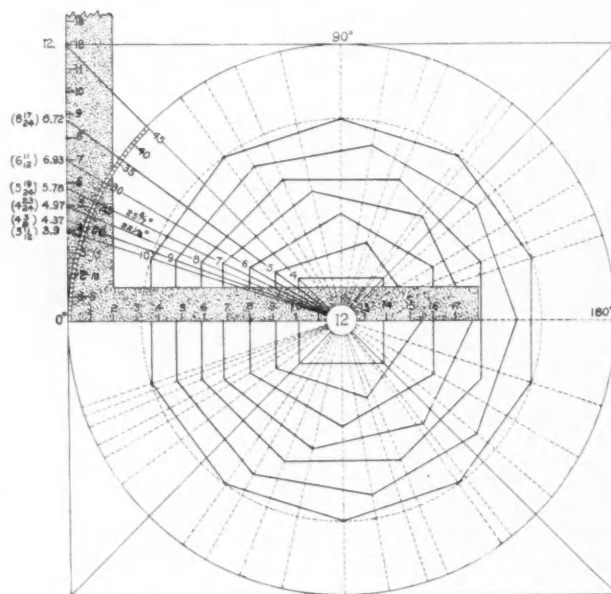


FIG. 1.
Miter Cuts for Various Polygons

Now, coming on down the line, this reckoning applies to the minutest circle, as well as to the greatest possible use it could be subjected to, as mentioned above. The joining of angles for any conceivable shape are determined by these divisions. In fact, the

circle finishes the foundation for all angles; and that is the proper place to begin to build on,—a secure foundation. The trouble with most writers on the use of the steel square, is that they started not only off but without a foundation, and while they gather a lot of useful material, they fail in the assembling of the same into one grand structure on a solid basis invincible to the shafts of would-be critics.

We have, in the course of our work, met a number of fellows prolific in "My rule for this and my rule for that," but when pressed for a reason for same, they were sadly up against it and could not give a valid answer, when, as a matter of fact, their so-called rules were junk handed down from nobody knows where and applying only to certain conditions, and by a simple change of form their so-called rules were of no avail and they were as a rudderless ship at sea.

A rule that is a rule, is one that applies to any condition that may arise; and he that masters that rule can rest assured that each piece of his work will fit to its respective place, barring, of course, mistakes in calculation, which anyone is liable to make with any system.

In Fig. 1 is shown a number of regular polygons which clearly show that it is like divisions of the circle relatively to its center which determine the miter; and the steel square is only as a reading instrument to the degrees contained in the circle to obtain the miter. Why not then give the degree system its just dues for the part it plays, because it furnishes the foundation? It is the beginning and naturally comes first. The square in connection with the illustration gives the reading for the miters, also the basis for the framing of the roof and the lengths of the sides per foot of the diameter, backing of the hip, and, in fact, the whole subject of framing. The tangents are given decimally and near equivalent in common fractions; so that calculations for large diameters can be more accurately arrived at by use of the decimal.

NOTE:—Up to this point, we have not considered the factor of pitch—the incline of the roof. We have now laid the foundation and are ready for the rafters. In this, except in the more pretentious engineering works, custom has side-stepped degrees in reckoning

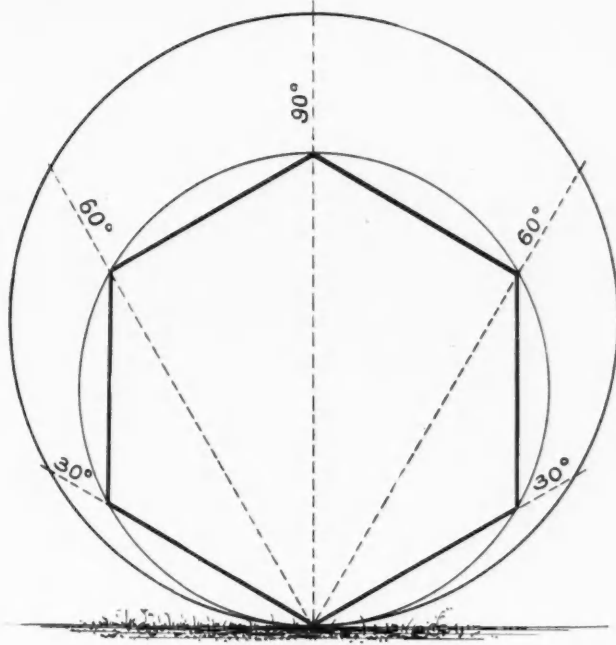


FIG. 2.

Size of Circle Makes no difference with Hexagon Rule

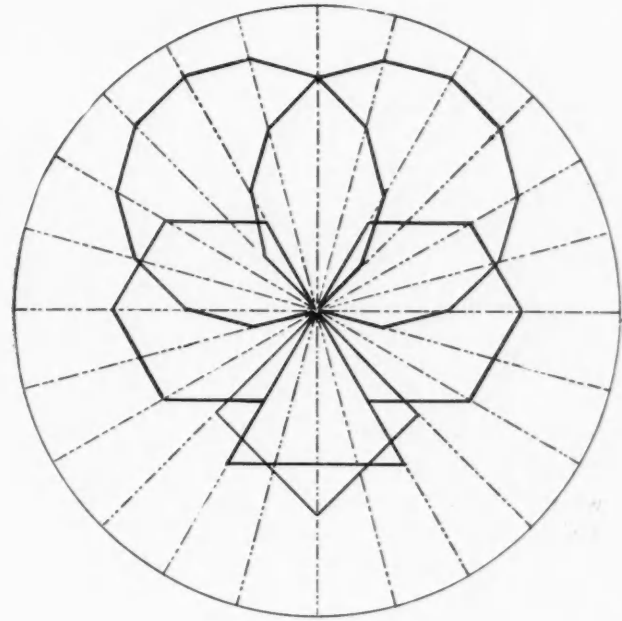


FIG. 3.

Various Polygons Cornering into Center of Circle

the pitch, presumably to avoid fractions in the rise since it does not make any material difference, and for that reason has adopted so many inches rise to the foot run.' But in either case, whether by degrees or per inch rise, the procedure remains the same.

But we have talked long enough on this part of the subject. Now, let us go out and have a little fun. Suppose we take a child's hoop and send it rolling along over an explosive that sends off parts 30 degrees apart, as shown in Fig. 2, and instantly

the hoop is divided into six equal parts. A smaller hoop placed inside of the larger one coming in same contact is divided in like parts, showing that size makes no difference. If the explosive had gone off at $22\frac{1}{2}$ degrees, then the hoop would have been divided into eight equal parts, but enough of this.

Let us take another. Here is a bicycle wheel containing 24 spokes (15 degrees apart). Now let us join it full of polygons, all cornering at the hub, as shown in Fig. 3. Is it a daisy or a pansy?

The Light Motor Truck in Your Service

THE DEVELOPMENT OF THE LIGHTER COMMERCIAL CARS IS OF PRACTICAL INTEREST TO EVERY CONTRACTING CARPENTER AND BUILDER

THAT the light motor truck is more and more offering opportunities for general use by carpenters and builders, and that carpenters and builders are more and more looking with favor upon the medium weight and power horseless truck as a distinct economical and really necessary addition to their equipment is developing into a full fledged fact and one worthy of earnest consideration by every contracting carpenter and builder.

It is quite doubtful if any men or concerns are in business purely for the pleasure of that particular business. The object of every business is to make a profit and anything, regardless of its nature, providing it be entirely legitimate, that will tend to increase that profit or decrease the cost of conducting that particular business is entitled to a respectful hearing before it be cast aside with an "N. G." stamp upon it.

The motor truck, generally, has been rapidly proving its great dollars and cents value in many lines of

endeavor. The larger trucks in heavy tonnage and distance haulage, the lighter commercial cars in general delivery and runabout work.

It is almost a combination of the above classes that the light motor truck has been developing in the carpentry and building fields, and it should be of interest to know that in doing this the trucks have been proving daily their adaptability.

The average carpenter and builder can find many things for a truck to do. The question with him becomes, not his particular need of a light truck—for that is evident in the fact of his horse and wagon—but just how much can a truck save for him.

Keeping in mind the big fact that a truck will greatly increase the territory of any carpenter and builder, some other advantages of the truck are to be gained from the following.

The best general average limits the travel of the horse from five to six miles per hour. A motor truck

can travel from twelve to fifteen miles per hour and keep this pace up indefinitely, whereas the horse would tire after several hours at a five or six mile gait.

At the present time the cost of a good horse and wagon will vary around \$600.00. The cost of a light truck, while something more than the cost of a horse and wagon as far as the original purchase price is concerned, proves itself far cheaper in the long run. This is established by the following comparative facts.

A horse requires a special building for housing, and ordinarily room for the wagon. In fact, a building especially constructed and fitted up for such a purpose. A motor truck requires only room large enough for itself. It can reduce storage space to a minimum.

It is absolutely necessary that a horse be fed, whether working or not. The motor wagon costs nothing while idle. The horse and wagon cost a certain fixed amount per day, whether covering one or twenty miles. The motor truck costs so much per mile regardless of the distance traveled.

Climatic conditions—heat, cold, ice, snow, storms, etc., effect in more or less degree the horse. The motor truck can contend equally well with various weather.

It will be readily seen that, at best, the horse and wagon is limited as to its work per day—the motor truck seems limited by only the amount of work for it to do.

Carpenters and builders can find in this comparison of the horse and wagon, and the motor truck, substantial facts upon which they may figure just what a truck in their service could do for them. The hauling of materials to and from jobs; the runs to the shop where a certain piece of work could be done more economically and quickly than on the job; the moving of men and equipment from place to place; the many runs about, figuring on new business, estimating jobs, etc.; the greatly widened field in which you could profitably do work; must all be given due consideration in your estimate of just what a light truck could do in your service.

It is well to give the subject considerable thought. This is essentially a progressive age. It is the progressive man or firm who gets the business. The motor truck is the present big progressive factor in the commercial and building world. It represents service, economy, profit. If it can undeniably bring these things to you give it its just consideration.



Be Exact in Use of Terms

MANY terms are used by the general run of builders somewhat carelessly, not in their strict legalized sense. While this may not be serious in talk, to use such terms loosely in specifications which become part of a builder's legal contract may result in heavy loss to him.

To illustrate: How large does a knot in timber

have to be to be a "large knot" And what exactly is a "small pitch pocket"?

These and many other commonly used grading and specification terms have been exactly defined and made standard by the American Society for Testing Materials. In the "Year Book 1911" of this society we find the following:

Standard Defects

Measurements which refer to the diameter of knots or holes should be considered as referring to the mean or average diameter.

1. *Sound Knot*.—A sound knot is one which is solid across its face and which is as hard as the wood surrounding it; it may be either red or black, and is so fixed by growth or position that it will retain its place in the piece.
2. *Loose Knot*.—A loose knot is one not firmly held in place by growth or position.
3. *Pitch Knot*.—A pitch knot is a sound knot with a pitch hole not more than $\frac{1}{4}$ inch in diameter in the center.
4. *Encased Knot*.—An encased knot is one which is surrounded wholly or in part by bark or pitch. Where the encasement is less than $\frac{1}{8}$ inch in width on both sides, not exceeding one-half the circumference of the knot, it shall be considered a sound knot.
5. *Rotten Knot*.—A rotten knot is one not as hard as the wood it is in.
6. *Pin Knot*.—A pin knot is a sound knot not over $\frac{1}{2}$ inch in diameter.
7. *Standard Knot*.—A standard knot is a sound knot not over $1\frac{1}{2}$ inches in diameter.
8. *Large Knot*. A large knot is a sound knot, more than $1\frac{1}{2}$ inches in diameter.
9. *Round Knot*.—A round knot is one which is oval or circular in form.
10. *Spike Knot*.—A spike knot is one sawn in a lengthwise direction; the mean or average width shall be considered in measuring these knots.
11. *Pitch Pockets*.—Pitch pockets are openings between the grain of the wood containing more or less pitch or bark. These shall be classified as small, standard and large pitch pockets.
 - (a) *Small Pitch Pocket*.—A small pitch pocket is one not over $\frac{1}{8}$ in. wide.
 - (b) *Standard Pitch Pocket*.—A standard pitch pocket is one not over $\frac{3}{8}$ in. wide, or over 3 inches in length.
 - (c) *Large Pitch Pocket*.—A large pitch pocket is one over $\frac{3}{8}$ in. wide, or over 3 inches in length.
12. *Pitch Streak*.—A pitch streak is a well-defined accumulation of pitch at one point in the piece. When not sufficient to develop a well-defined streak, or where the fiber between grains, that is, the coarse-grained fiber, usually termed "spring wood," is not saturated with pitch, it shall be considered a defect.
13. *Wane*.—Wane is bark, or the lack of wood from any cause, on edges of timbers.
14. *Shakes*.—Shakes are splits or checks in timbers which usually cause a separation of the wood between annual rings.
15. *Rot, Dote and Red Heart*.—Any form of decay which may be evident either as a dark red discoloration not found in the sound wood, or the presence of white or red rotten spots, shall be considered as a defect.
16. *Ring Shake*.—An opening between the annual rings
17. *Through Shake*.—A shake which extends between two faces of a timber.



Noon Hour Talks by the Boss Carpenter

Talk No. 1

THE BOSS TELLS HOW HE FIGURES THE SIZE OF A SIMPLE BEAM TO CARRY A GIVEN LOAD

THE peace of mind and contentment which follows an intimate interview with a well-supplied dinner pail after a forenoon of steady work had settled over the gang resting in the shade of a small building used as a tool house and storage room during the erection of a rather pretentious residence. Pipes were under full head of steam and all were interested in a discussion of the articles contained in the recent issue of THE AMERICAN CARPENTER AND BUILDER. The Boss carpenter, who had worked his way up to the top by using his head as well as his hands, until he had a reputation among the men as being "good at figures" and also of knowing "why" he did things, listened with interest to the various views taken by the men.

"That discussion that you fellows are having, is one of the best investments of time that you ever made," said the Boss, "providing you will look it up afterwards and see if the fellow who talked the loudest is right. There is not one of you younger fellows who expects to stick to day work all of your lives, and you are probably figuring now how long it will be before you can get into the building game for yourselves. 'Contractor and Builder' sounds good, doesn't it? Let me give you a tip. Read that article about *The Builder on Thin Ice* again, and then ask yourself what you would do in case one of your future customers wanted something a little different than what you were accustomed to doing, and put it up to you to make good. Take it from me, and get ready to face these points while you have the time.

"You fellows have placed lots of floor joists and laid lots of floors, but I will wager that there is not one of you who knows just how to figure the size of a joist, or beam, of a given length, to carry a load of a given amount, or, who could tell the amount of load that a joist of a given size and length could carry with safety. You know about the sizes that some other fellow has told you to use, and the buildings which you have worked on have all stood up, but when the responsibility falls on you and you have to judge whether a 2 by 10, 2 by 12, or a 2 by 14 inch would

be best used in a given place, it is up to you to know and not to guess.

"Besides, if you cannot even figure the size of a simple beam, how do you expect to handle such propositions as finding the size of posts, columns, and other important parts of a building? How would you find the width of footings for use in different kinds of soil, or for light and heavy loads?"

The Boss asked other questions of a similar nature, and although some of the men had many good ideas which they had picked up from time to time, there was no real certainty that these schemes would work when used under varying conditions. Finally, one of the men knocked the ashes out of his pipe, and said: "I guess I will get my books out tonight and look things up a little. I believe that the Boss is right, and I for one wish that he would tell us about some of these things that he has studied up." The Boss agreed, and the next noon started in with those men who were really interested.

"We will start," said he, "with the case of a simple timber beam of rectangular cross-section, such as a 2 by 8 or a 2 by 10 inch, which stands with the larger dimension vertical, and is supported by a wall or post at each end. Let us suppose that this beam, or joist, is one of many which are to be used in a floor which is to carry a load of 40 pounds per square foot of floor surface. The walls which support the ends of the joists are roughly, 15 feet apart, and the joists are to be placed 16 inches on centers. *What should be the depth of these timbers, if we assume that they are 2 inches thick and dimensioned in even inches?* The material is yellow pine, and one row of bridging will be used."

The Boss drew a diagram like Fig. 1, on a piece of board and explained that the small circles were used to represent a uniformly distributed load placed along the entire length of the beam. This uniform load to be made up of the load carried by a strip of floor 15 feet long by 16 inches, or $1\frac{1}{3}$ feet, wide. Each joist would then carry the same load, except in the case of the two end joists, which would only

carry one-half as much as the others. He then showed that the total load carried by one joist was 15 feet multiplied by $1\frac{1}{3}$ feet, which gave the floor area supported by one joist, and then this result multiplied by 40, the number of pounds of load to be carried per square foot of floor. Later, this total load is referred to as W and is

$$15 \times 1\frac{1}{3} \times 40 = 800 \text{ pounds.}$$

of inertia. This value may easily be found in any of the hand books issued by the large steel companies, or in some one of the books on architecture or carpentry which you have in your little library at home. One of those little books of general information, called an architect's 'pocket book' or 'hand book,' is of great help to me in my work. The hand books of the Cambria and Carnegie Steel Companies contain many

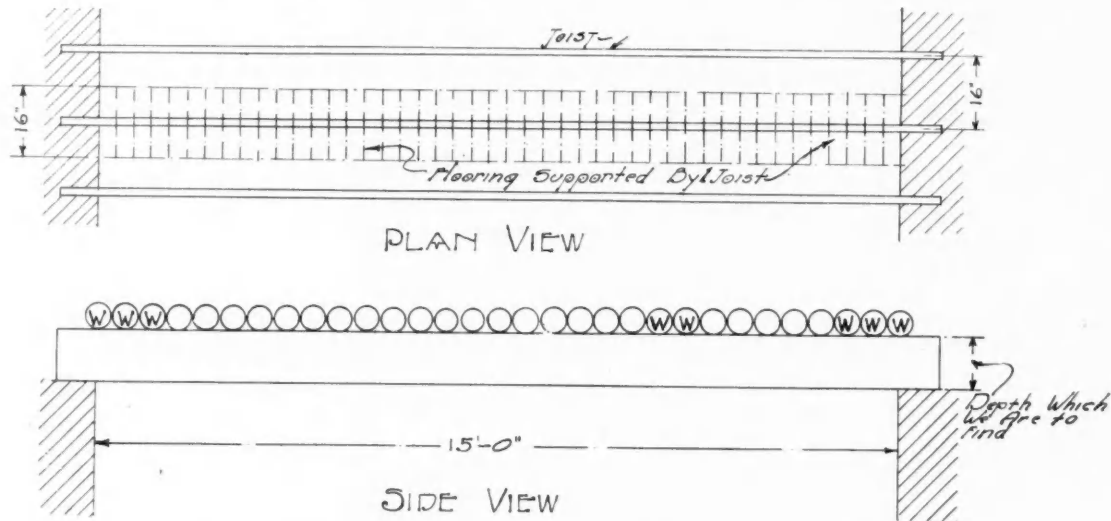


Fig. 1. Uniformly Distributed Load on Floor Joist Supported at Both Ends

"Now," said the Boss, "there is a formula which has been carefully derived with the principles of mechanics as a basis, for use in this particular case as well as in others, when the proper values are substituted for each of the letters in the formula. That is where you must be careful in using strange formulas. Be sure you know what every letter means." He then wrote

$$\frac{pI}{e} = M, \text{ (Formula No. 1)}$$

and explained that the letter p was used to represent the working strength of the material used. Also that this quantity would have a certain value for steel and another for timber, and even different values for different grades of steel or kinds of timber. These values will be found in the hand books under the heading *Safe Working Strengths*, and represent only a part of the total bending strength of the material.

"Suppose that we work this problem out, first using our yellow pine joist, and then I will tell you at another time about the values to use for other kinds of timber, and also for different degrees of safety against failure," said the Boss, "If I can make you see the general method of figuring to be followed, then those other details will be easily understood. We will use a value of 1,000 pounds per square inch for p , since this represents about $1/10$ of the greatest bending strength of yellow pine and is considered to be safe design.

"The letter I stands for what is termed *moment*

points which will interest you, and either may be easily obtained at a small cost. If you look in the index of one of your hand books for the term *moment of inertia*, you will find, when you look up the page referred to, that different shapes of cross-section of beam have a different combination of letters given as the value of I . At another time I will write down for you all the common values of I , which you will need, and tell you how to use each one. The one we will use now in our problem is $1/12 bh^3$. This means that the value of I , to use in our formula, is obtained by multiplying the thickness of the joist in inches by the depth in inches cubed, and divide this result by 12."

To illustrate his point, the Boss wrote out the following:

$$I = \frac{\text{thickness} \times \text{depth} \times \text{depth} \times \text{depth}}{12}$$

"Now the quantity e is used to represent the distance, in inches, from the center of gravity of the cross-section of the joist to the top or bottom edge. Of course, in our joist, this will be one-half of the depth of the timber, since the cross-section is rectangular in shape. Fig. 2 will show you what is meant.

"The letter M stands for *bending moment*, and will be used in our problem as $1/8 Wl$. This means that the greatest bending effect caused by the loading carried by each joist, when the load is uniformly distributed along the entire length of the joist, as would be the case with the 16-inch strip of floor shown to be supported by the joist in Fig. 1, is equal to the total

load in pounds carried by one joist, multiplied by the length of the joist in inches, and divided by 8."

"Why is the length of the beam taken in inches?" asked one of the men. "Because," said the Boss, "we

must keep all the numbers in our formula, $\frac{pI}{e} = M$,

in the same kind of units. If we use the strength of our timber, p , in terms of pounds per square inch, our value of I in inches of thickness and depth, and our value of e in inches, it would only be reasonable to expect that the other side of our equality, or M , would also be given in pound and inch units."

"There is one thing, men," said the Boss, "do not think that the value of M is always $\frac{1}{8} Wl$ for all kinds of beams, for it is not. M has other values which depend upon the way in which the loading is distributed along the length of the joist, and also upon the manner in which the beam is placed on the supporting walls or posts. These points will all come out later, after you have mastered this problem."

"Filling in the value of M for our yellow pine joist, we get

$$M = \frac{800 \times (15 \times 12)}{8} = 18,000,$$

which is expressed as pounds of load multiplied by inches of length, or inch-pounds."

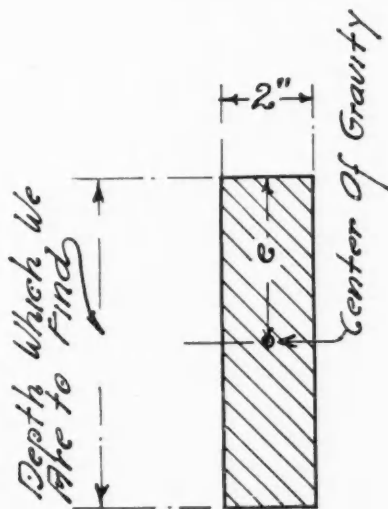


Fig. 2. Value of e —Distance from Center of Gravity to Top Edge

Starting in at a fresh place, the Boss began to collect the values of p , I , e , and M , and write them down in their proper places in the general formula. When he had finished, the result was as follows:

$$\frac{pI}{e} = M$$

$$(1000) \times \frac{(2 \times \text{depth} \times \text{depth} \times \text{depth})}{12} = 18,000$$

$$\frac{(\text{depth})}{2}$$

He then divided the 12 above the line by the 2

below the line, and cancelled out one of the words "depth." This left

$$(1000) \times \frac{(2 \times \text{depth} \times \text{depth})}{6} = 18,000$$

$$\text{or, } (\text{depth} \times \text{depth}) = \frac{6 \times 18,000}{2000} = 54$$

"Now," said the Boss, "what number of inches multiplied by itself will equal 54?" "Why, 8 multiplied by 8 is a little over that," said one of the men.

"Correct, and just the size that you can get in stock," replied the Boss. "So that gives us a 2-inch by 8-inch yellow pine joist as an answer to our problem. The other joists in this floor would be of the same size as the one just calculated, if the loading was the same at all parts of the floor, and all joists supported at the ends like the one which we have taken. This is not the end of the matter though, as we may want to use a ceiling on the under side of these joists, and it will not do to have the joists sag enough in the center so that the plaster below will crack. So you see, that while this 2-inch by 8-inch timber is strong enough to carry the load safely, it may not be stiff enough for use in this floor, and a deeper joist may have to be used to get this stiffness."

The noon hour had drawn to a close before the "calculating squad" realized it, and further discussion of beams was left until the next day. Although they were just beginning, each man felt that he had learned something new, and recognized that he was on the way to another view of his work.

As a parting shot, the Boss said: "If somebody asked you as to how much sag there would be in the center of that loaded joist we have just figured, what would you tell him? Think it over for tomorrow."

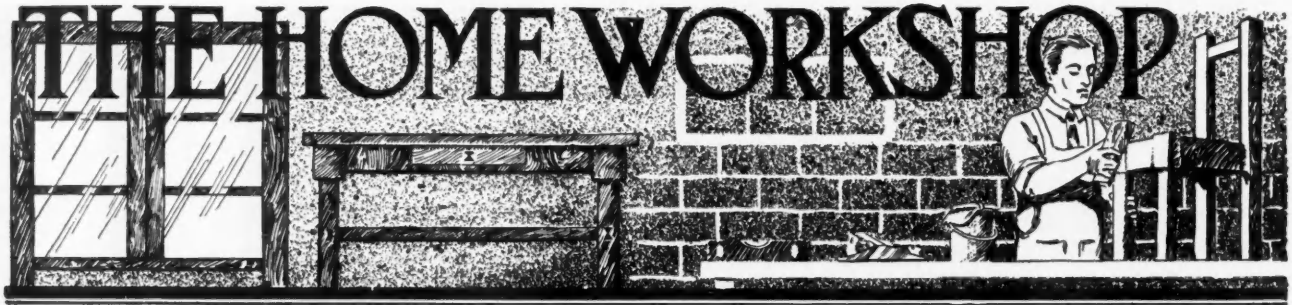


Carolina Architects Meet

Asheville, N. C.—The semi-annual session of the North Carolina Architectural Association was held at this city Friday and Saturday, July 19 and 20, and at this meeting the associations of South Carolina, Georgia and Virginia were represented. The visiting architects were royally entertained during their stay in Asheville and some of the old members of the order declared that the meeting was the most successful in the history of the organization.

Charlotte was unanimously chosen as the next meeting place and the following officers were elected: President, W. G. Rogers, of Charlotte; vice president, William H. Lord, of Asheville; secretary and treasurer, Franklin Gordon, of Charlotte. The officers, together with L. L. Hunter, of Charlotte, and Frank Thompson, of Raleigh, were elected members of the board of directors.

The principal speakers were Glenn Brown, of Washington City, the secretary of the American Institute of Architects, and Henry R. Dillon, of Chicago, who spoke on "Steam and Hot Water Heating."—C. H. Hites.



How to Make a Drafting Table

DETAILED DRAWINGS AND COMPLETE DIRECTIONS FOR MAKING CONVENIENT DRAWING TABLE CABINET SUITED ALIKE TO MANUAL TRAINING SHOP AND CONTRACTOR'S OFFICE

By Ira S. Griffith

IN the accompanying pictures is shown a table for drafting purposes which may be of interest to the home worker. The tables shown in the picture were built for and by the Oak Park (Ill.) High School.

The table is simple in design but serves its purpose admirably. The top slide provides just the right inclination for the drafting board, leaving the table top free for instruments and models. The six drawers provide a place for keeping instruments and other materials including boards with the drawing that may be in process of construction. The size of the drawers

material used was quarter-sawn red oak. White oak, at slightly increased cost, would make a better finishing wood, though the red oak looks very well.

These tables offer suggestions to the home worker. By changing the main dimensions he may make a table that will accommodate any size drafting sheets he may be accustomed to using. The drawers will provide ample storage space for tracings and blueprints. The following dimensions are for table with drawers of a size sufficient to accommodate a board 18 inches by 24 inches, leaving room at one end for the instruments.

STOCK BILL FOR DRAFTING TABLE.

Top, 1 piece, $\frac{7}{8}$ by $24\frac{1}{2}$ by $36\frac{1}{2}$ inches, S-2-S.
 Posts, 4 pieces, $1\frac{3}{4}$ by $1\frac{3}{4}$ by $40\frac{1}{2}$ inches, S-4-S.
 Side paneling—
 Rails, 2 pieces, $\frac{3}{4}$ by $3\frac{1}{4}$ by 20 inches, S-2-S.
 Rails, 2 pieces, $\frac{3}{4}$ by $2\frac{3}{4}$ by 20 inches, S-2-S.
 Munting, 2 pieces, $\frac{3}{4}$ by $3\frac{3}{4}$ by $26\frac{1}{2}$ inches, S-2-S.
 Panels, 4 pieces, $\frac{5}{16}$ by $8\frac{1}{2}$ by $25\frac{1}{2}$ inches, S-2-S.
 Back paneling—
 Rail, 1 piece, $\frac{3}{4}$ by $3\frac{1}{4}$ by 32 inches, S-2-S.
 Rail, 1 piece, $\frac{3}{4}$ by $2\frac{3}{4}$ by 32 inches, S-2-S.
 Munting, 2 pieces, $\frac{3}{4}$ by $2\frac{3}{4}$ by $26\frac{1}{2}$ inches, S-2-S.
 Panels, 3 pieces, $\frac{5}{16}$ by 9 by $25\frac{1}{2}$ inches, S-2-S.
 Facing, 1 piece, $\frac{3}{4}$ by $2\frac{3}{8}$ by $32\frac{1}{2}$ inches, S-2-S.
 Slide, 2 pieces, $\frac{3}{4}$ by $1\frac{3}{4}$ by 22 inches, S-2-S.
 2 pieces, $\frac{3}{4}$ by $1\frac{3}{4}$ by 33 inches, S-2-S.
 1 piece, $\frac{1}{2}$ by 16 by 28 inches, S-2-S.
 Drawer supports, 14 pieces, $\frac{7}{8}$ by $2\frac{1}{2}$ by 20 inches, S-2-S.
 14 pieces, $\frac{7}{8}$ by $2\frac{1}{2}$ by $32\frac{1}{2}$ inches, S-2-S.
 Drawer guides, 14 pieces, $\frac{3}{4}$ by $\frac{3}{4}$ by 20 inches, S-2-S.
 Drawer fronts, 6 pieces, $\frac{3}{4}$ by $4\frac{1}{4}$ by $30\frac{1}{2}$ inches, S-2-S.
 Drawer ends, 12 pieces, $\frac{1}{2}$ by $4\frac{1}{4}$ by 20 inches, S-2-S.
 Drawer backs, 6 pieces, $\frac{3}{8}$ by 4 by 30 inches, S-2-S.
 Drawer bottoms, 6 pieces, $\frac{3}{8}$ by 20 by 30 inches, S-2-S.

The drawer bottoms, backs and ends may be made of yellow poplar. In applying the finish the interior of the drawers may then be given several coats of shellac, the wood being allowed to remain natural in color. This will make a nice clean looking receptacle.

Begin work by squaring the four posts to length, removing the mill-marks from the four sides. After this has been done square up the rails and muntings to width and length and plow the edges as required for the paneling. Lay out and work the tenons thereon.

Set the posts upright in the positions they are to occupy relative to one another, faces turned in; then



Drafting Table and Case of Drawers

is such as to make it possible to place therein a board of good size. Paper for drafting purposes may be kept flat, thus avoiding the handling of papers that have been rolled.

Each drawer is provided with a combination lock so that materials in any drawer are accessible to their owner only. The six drawers are sufficient to care for all the students of the various classes of a day who may be assigned to that particular table.

Being raised from the floor, the tables are sanitary and avoid the possibility of dust catching places. The

mark roughly as with penciled circles the approximate locations of the mortises for the rails. Afterward lay the posts upon the bench top and locate the mortises accurately by measurement.

Prepare and frame the parts which make up the supporting frames for the drawers. Glue and clamp the end paneling of the tables. When the glue has set on these, fit the supporting frames to the posts. Frame the back paneling, then set this at the time the drawer frames are put in place.

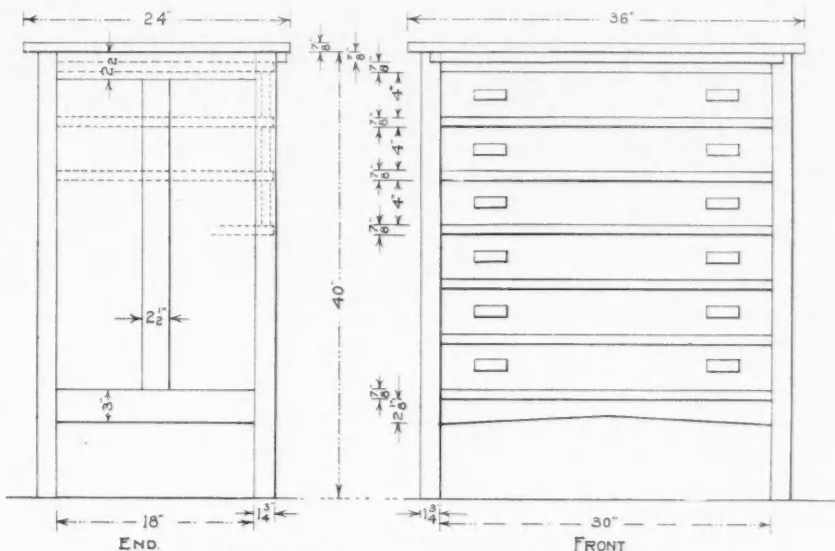
Square up the top of the table. Before this is attached make and fit the slide in place which is to support the board when drafting.

The drawers may now be constructed. The usual form of drawer construction is to be used. Fit these drawers, then thoroughly scrape and sandpaper all the parts of the table to prepare it for its finish.

For a finish that will stand wear, proceed as follows: Apply a stain of a color desired for the highlights. Sandpaper this lightly with number 00 paper, then apply a second coat, diluted by adding solvent equal in quantity to that of the stain in its original consistency. The object of this second application is to bring up the highlights still more strikingly. Allow this second coat to dry, as was done with the first, then sandpaper it lightly also.

Over this stain apply a thin coat of shellac. This shellac coat is to fill up the pores of the wood in the highlights and so prevent the stain of the filler coat, which is to be applied next, from discoloring the stain of the highlights. Being thin the shellac settles into the loose grain and does not in any way interfere with the filler coat. Sandpaper this shellac lightly

when it has hardened, then apply a coat of paste filler of a color somewhat darker in tone than that of the stain, so as to give contrast. Apply with a stiff bristled brush, rubbing both across and along the grain, so as to get the pores well filled. Leave a thin coating upon the



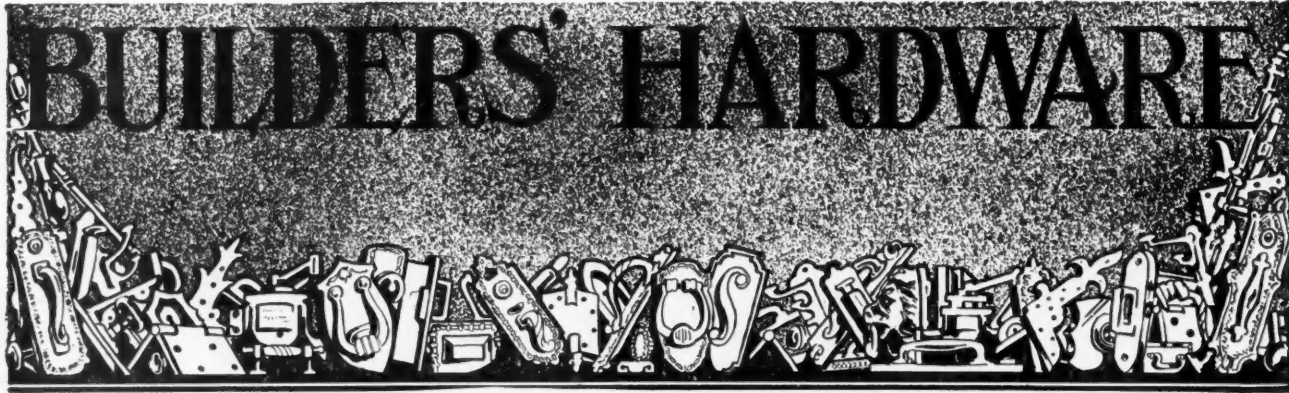
DRAFTING TABLE WITH DRAWERS

surface of the wood. After the filler has flatted, rub it off with excelsior or wood shavings, and afterward polish the surface with a cloth. Allow the filler twenty-four hours to harden, then apply a coat of shellac. Sandpaper the shellac with fine sandpaper, then apply several coats of some good rubbing varnish. Rub the first coats with fine steel wool shavings and the last or final coat with pulverized pumice stone and raw or crude oil.

Where one prefers, he may get a flat drying varnish. This will avoid the necessity for rubbing the various varnish coats, the varnish drying flat and without the usual high gloss so frequently found upon cheap un-rubbed finishes.



Drafting Tables in use at the Oak Park (Ill.) High School



Double Open-Out Doors

PROPER DETAILING AND HARDWARE FIXTURES FOR SCHOOL, THEATRE, OFFICE BUILDING AND PUBLIC MEETING HALL DOORS AS REQUIRED BY LAW

By Our Hardware Expert

THE hardware trimmer does not know where he is at when he has to supply hardware for a pair of open-out doors for an office building, a store building or warehouse building.

If the architect will show a detail like Number 19, he knows at once that each leaf of the pair of doors must be trimmed alike.

He knows that a dead lock is wanted on the active leaf, and if he is a wise fellow he will know that lever flush extension bolts must be furnished; it is also up to him to direct the carpenter to place these bolts on the edge of the standing leaf.

If these bolts be applied to the face of the door, a person locked up inside of the building can get out by drawing the bolts and pushing open both doors. Invariably, when this is done, the lock is broken. Owners and others in control of buildings of this kind do not want anyone who may be locked inside of the building to get out in this manner, as many thieves make it a practice of secreting themselves inside of the building and opening the doors as above stated.

Do not round the edge, make each door beveled as shown in detail, each of these doors is active; actual

liquid check and spring, neither door can be controlled in any other manner when bolts are drawn. This same detail for double doors is shown in detail Number 20.

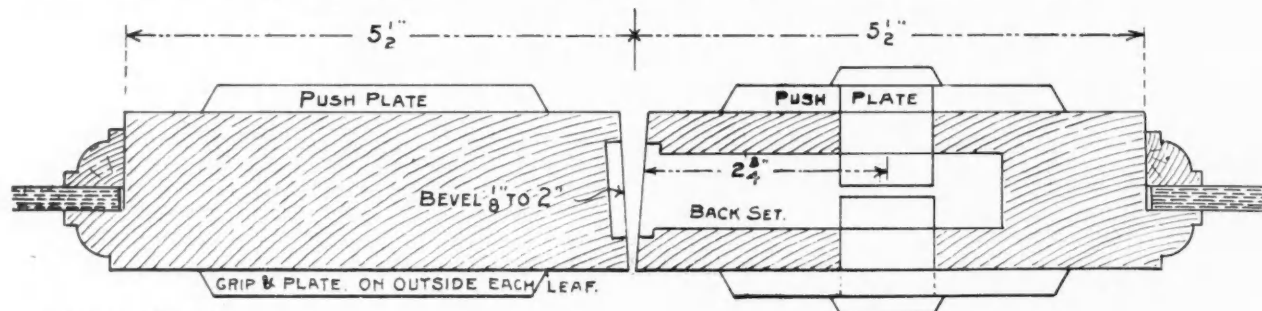
Usually there are laws or ordinances specifying the kind of hardware required for schools, churches, theatres, public meeting halls and loft buildings.

There have been so many horrors and so much loss of life from fire and panic, where many persons are congregated in the above mentioned buildings, that great care must be exercised by the architects, the carpenters, and the hardware trimmer, in making these double entrance doors proof against panic. If they are not properly designed and trimmed, they are fire traps.

All of the leading manufacturers of hardware have met the requirements by inventing the proper bolts and locks for these doors.

The detail Number 20 shows hardware in place. Each leaf is active. The flush extension bolts must be placed on the face of the door which does not contain the lock.

The face plate of the bolts must be at least 24 inches from the bottom of the door, the top bolt within easy



DETAIL No. 19.

DOUBLE DOORS OPEN OUT.

Detail No. 19. Double Doors to Open Out. Note that Edges are Beveled, not Rounded

practice has demonstrated that beveled doors will not clash. Rounded edge doors, especially in damp weather, when doors are swelled, will clash; this is not desirable.

When this detail is shown by the architect, the hardware trimmer knows that each door should have a

reaching distance from the floor.

The lock is shown with a latch bolt. This lock is known as the store door type of lock. The lock should have only one cylinder as shown in drawing. This is a fool-proof lock and is readily understood by the dullest witted janitor. The janitor inserts the

key in the cylinder, twists it one quarter turn to the left; this pulls back the latch bolt; the bolt is automatically held back and stays in this position during the time when it is desired that these doors be unlocked.

A liquid check and spring can be applied to the so-called standing leaf as well as to the active leaf, because the latch bolt does not stick out when lock is unlocked.

To lock up the building, the janitor inserts the key in the cylinder, twists it one-quarter turn to the right, the latch bolt jumps out and the door can be slammed shut, the latch bolt automatically becomes locked when the door is closed.

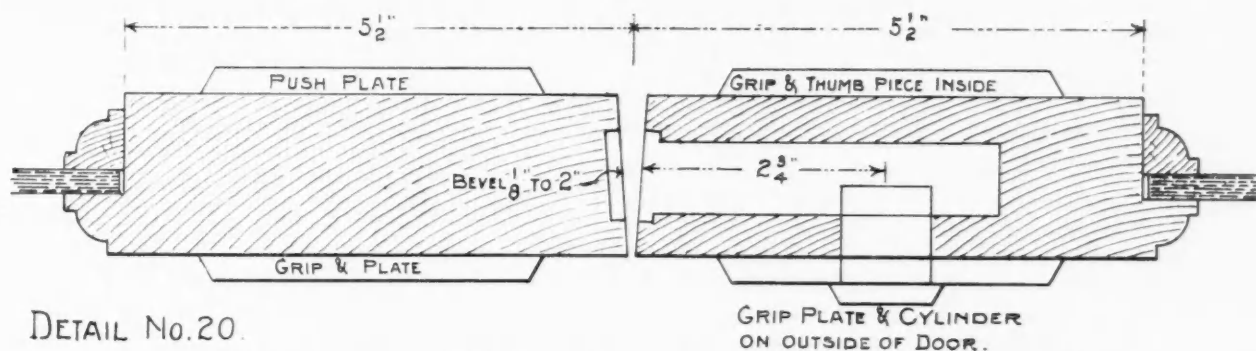
The latch bolt cannot be forced back by any tool.

After business hours in a loft building, or after school hours in a school building, this lock is required; it does not need the attendance of the janitor at the front doors to unlock and lock up for everyone who may wish to go out. The janitor can control these doors without his being present.

This type of lock is especially desirable for the above mentioned buildings, and fills the requirements of the ordinances passed for the saving of the lives of those who congregate in buildings of this kind and who are helpless in time of fire and panic.

This lock can be applied to single doors as well as double doors, entrance or exit doors.

The laws require that these entrance doors and exit doors open out.



DETAIL No. 20.

Detail No. 20. Double Doors to Open Out—for Schools, Churches, Theatres, and Loft Buildings

as it is locked as rigidly as though it were a dead bolt.

This lock is panic proof and fool proof, because when it is locked by the key against those who cannot enter the building, it does not lock up the building against those who wish to go out. Anyone at all times, inside the building can get out, by simply operating the thumb piece, which is on the inside grip and plate. There is no such thumb piece on the outside grip and plate, as it is not needed on the outside to pull back the latch bolt.

This lock is not desired for doors that open in.

There are many panic proof locks made to fill the requirements of the laws applying to buildings of this kind, which are not desirable, because they do not lock the building against the intrusion of the thief.

The above described lock combines all of the desirable features required by the laws, and also meets the requirement of the owners which is to effectively and automatically lock the building against the entrance of thieves and such like undesirables.

Cracked Plaster Ceilings

A REPORT OF SOME INTERESTING EXPERIMENTS IN PLASTERING—DANGER FROM USE OF LOAMY SAND

By V. Dorian

AMONG the defects of minor importance associated with the completion of a new building, it would be difficult to name any which cause more dissatisfaction and unpleasantness than unsightly cracks in plaster ceilings. These usually make their appearance when the building is ready for occupation, and continue to appear for a considerable time in the most provoking and defiant manner. Plasterers and their employers are anathematized by the architect and client, and in many cases the matter remains unsettled until the cracks have been cut out, refilled with a special material and the whole ceiling redecorated. This process, of course, entails considerable inconvenience to the occupant of the premises, as well as expense to those responsible for the work.

No Trouble with Gypsum Plaster

I had better here explain that I am not now considering the numerous patent plasters on the market which have been designed to supersede the old-fashioned lime and hair mortar. I readily admit that the use of these reduces the above defects to a minimum.

Bearing in mind, therefore, this important fact, I will confine my remarks to the ordinary lime and hair mortar, this being the material in general use throughout the country. Apart from the above defects it is generally satisfactory, being healthy, durable, and economical. Its use dates back to the oldest civilization, and it is, therefore, time-honored, and has withstood the test of time.

During a connection with the plastering trade ex-

tending over a period of sixteen years, I have been associated with many interesting experiments to find the cause and, perhaps, the remedy for cracked ceilings. In many cases considerable expense has been incurred by the contractors in order to assist the architect to solve the problem. The result of the most elaborate experiments impressed me as only deepening the mystery, for some of the ceilings on which most money was spent turned out the worst of all. To prove that enterprise and ingenuity were not lacking, I will give particulars of the process adopted in the principal cases.

But Unwashed Sand was Used

Experiment No. 1.—An old ceiling was removed, the joists, being perfectly sound, remaining. Lathed with best quality lath, joints broken every 2 feet, and butted. Hand-made mortar, consisting of lime, sand, and best quality hair for first coat, scratched to form key and allowed to stand until "white" dry. Afterwards floated carefully, and when semi-dry skimmed in usual way.

No. 2.—Joists, lathing, material, and first coat as before, but second coat put on when the first was changing color, and not quite "white" dry. Skimmed following day.

Experiments 3 and 4.—New joists and new building material as before, and the plasterers adopting methods 1 and 2.

No. 5.—Same as 3 and 4, excepting that the mortar passed through a mortar mill.

No. 6.—New joists, best lathing, and a bag of cement added to the mortar in one ceiling containing sixteen superficial yards.

In all these experiments the sand used, which is, of course, the principal material in regard to bulk, was ordinarily pit sand unwashed.

In every instance the ceilings cracked, the way of the joists, the way of the laths, and diagonally.

And now I will relate the most interesting case of all. This was not an experiment, but simply transpired in the ordinary course of business.

A few years ago I settled in a district where sand is not available. All building and plastering mortar consists of ashes and lime ground in a mortar mill. The ceiling mortar is in the proportion of about three of ashes to one of lime, that for walls about four or five to one. Plasterers in many districts would be surprised to learn that hair is practically an unknown quantity in these places. Experience has proved to me that it is not absolutely necessary, though I still believe it is somewhat desirable. I, of course, argued in favor of using it, but finally gave way before the arguments of the builders and plasterers belonging to the locality.

The result was as follows: Twelve houses were plastered as above, no hair being used. The laths were cheapest quality sawn, lapped at joints, and unbroken for the whole length of room. Joists were 8

by 2 inches. The plastering was let piecework. The ceilings, walls, and studded partitions were given one coat about $\frac{5}{8}$ -inch thick, rubbed up with float, and skimmed when quite firm, but not completely "white" dry. No plaster of paris was used, and the plasterers were allowed "free hand."

I examined these ceilings about six months after occupation, and found them practically free from cracks. I examined the key and found it firm and unbroken. In every house the ceilings and partitions were infinitely better than all those mentioned above, though these were carried out under strict supervision.

I am inclined to believe that the omission of hair will be felt at a later date. I left the houses with the impression that the key could not possibly stand the same strain as those where good, long hair is used, and I would not care to expose them to any severe test. Otherwise they appeared eminently satisfactory.

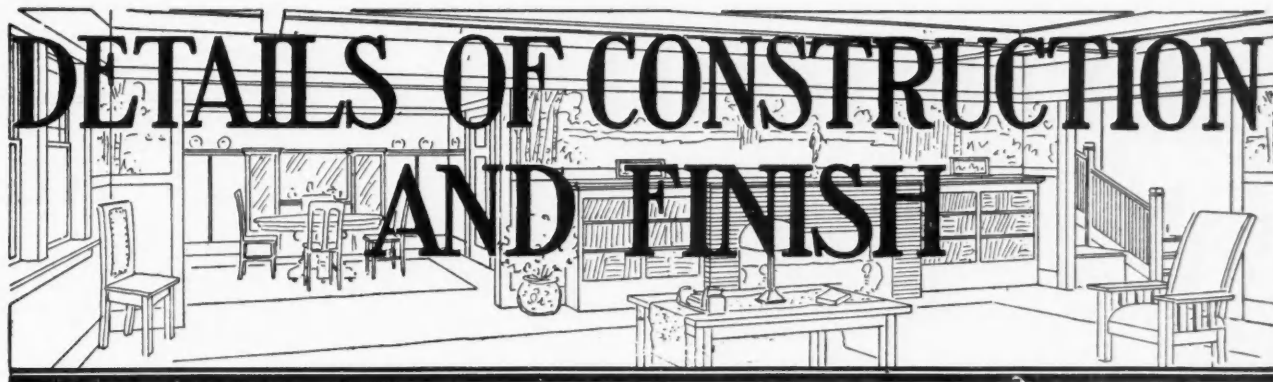
Conclusions

By this process of reasoning I arrive at the conclusion that cracked ceilings are chiefly due to the free use of loaming sand. Only in rare and isolated cases is it perfectly clean and all grit. I know the plasterers' intense dislike of sharp sand, and their passion for the kind as much like soil as possible, for in their own expressive phraseology, it "spreads like butter." Work can be carried out with greater ease and rapidity when the inferior kind is used. Not to seem unfair to them, I allow that unless plenty of lime is used plastering with sharp grit sand is most laborious, and a man must work very hard indeed to show good results. It must also be remembered that where clean grit sand is not easily procurable, the same can only be obtained at considerable cost; it must either be imported or local sand must be washed. This can only be done where a good price is paid for the work.

To obtain the best results at the cheapest price in districts where sand is costly, I would advocate the use of good, clean ashes in the proportion of two or three to one of lime, with clean, long hair added, after removing mortar from mill, and worked in with a rake. I have known cases where the hair has been thrown into the mill a few minutes before the grinding is completed, but it is obvious that it must be considerably broken by the grinding process, and this being so, the object for which it is used is thereby to some extent defeated. It is, however, a simple matter to learn the best way of mixing it; a few handfuls thrown into a pan will be a sufficient test.

Domestic ashes and flue dust are more objectionable than cheap sand, and should, therefore, never be used. Those supplied by railway companies, colliery companies, or other large works give excellent results.

With this material, as with all lime and hair mortar, it is essential that a good key should be allowed in all lathing. A case is mentioned above where the laths were lapped at joints, and though this is very common on cottages, it is not good work.



Tendency in Modern Porches

WHAT THE DEVELOPMENT OF THE PORCH HAS RESULTED IN AND TWO DETAILED PLATES OF MODEL PORCH WORK OF THE DAY

Detail Drawings By C. E. Schulze

At last, after many years of seeming neglect, the porch seems to be coming into its own. That is to say, it seems at the present time to be receiving the attention, in the designing and planning of residences, it justly merits; and which in years past it has not had bestowed upon it.

It might be judged that up to within a few years ago the porch was looked upon as a sort of necessary evil. It was planned and constructed to meet certain fixed conditions and to conform with the standard ideas of the times as to just what a porch should be, namely, a sort of finish to the front of the home which afforded shelter to the front door and which the family might use as a gathering place to spend the afternoons and evenings during the seasons of pleasant weather.

Though the development of the porch to its present state has been somewhat tardy, it is but a certain natural growth which of necessity had to come up through various stages.

The so well known, two story, Colonial porch of past times, while in every sense attractive, could not establish itself as entirely practical. The principal objection to it was that in all ordinary construction it darkened the rooms of the second story. Certainly a serious fault. From the two story Colonial idea was worked the single story porch, running the width of the front of the house; and for years most porches showed in their makeup, lines of the single story Colonial type.

Now, in the cities and suburbs, the general plan seems to be to have the front entrance consist of simply a small roofed entrance porch, inviting in its general plan, but with no expectation of using it for any other purpose than the mere entrance to the house.

The living porch should open off one of the family rooms and should have an exposure that will give plenty of air and sunlight. Such a living porch can be made to serve the purpose of a dining porch, one end of it being reserved for that purpose. However,

now, a large number of houses are planned with a special dining room porch opening off the interior dining room. A number of houses have these porches inclosed in glass and warmed with steam coils, so that the room can be used in winter if desired.

Another feature of the modern home to consider, is the sleeping porch, built on the second story opening off from one of the bedrooms or from an upper hall.

Two Detail Plates

In the two plates shown on the following pages are given details which can be put into practical use in the construction of any porch.

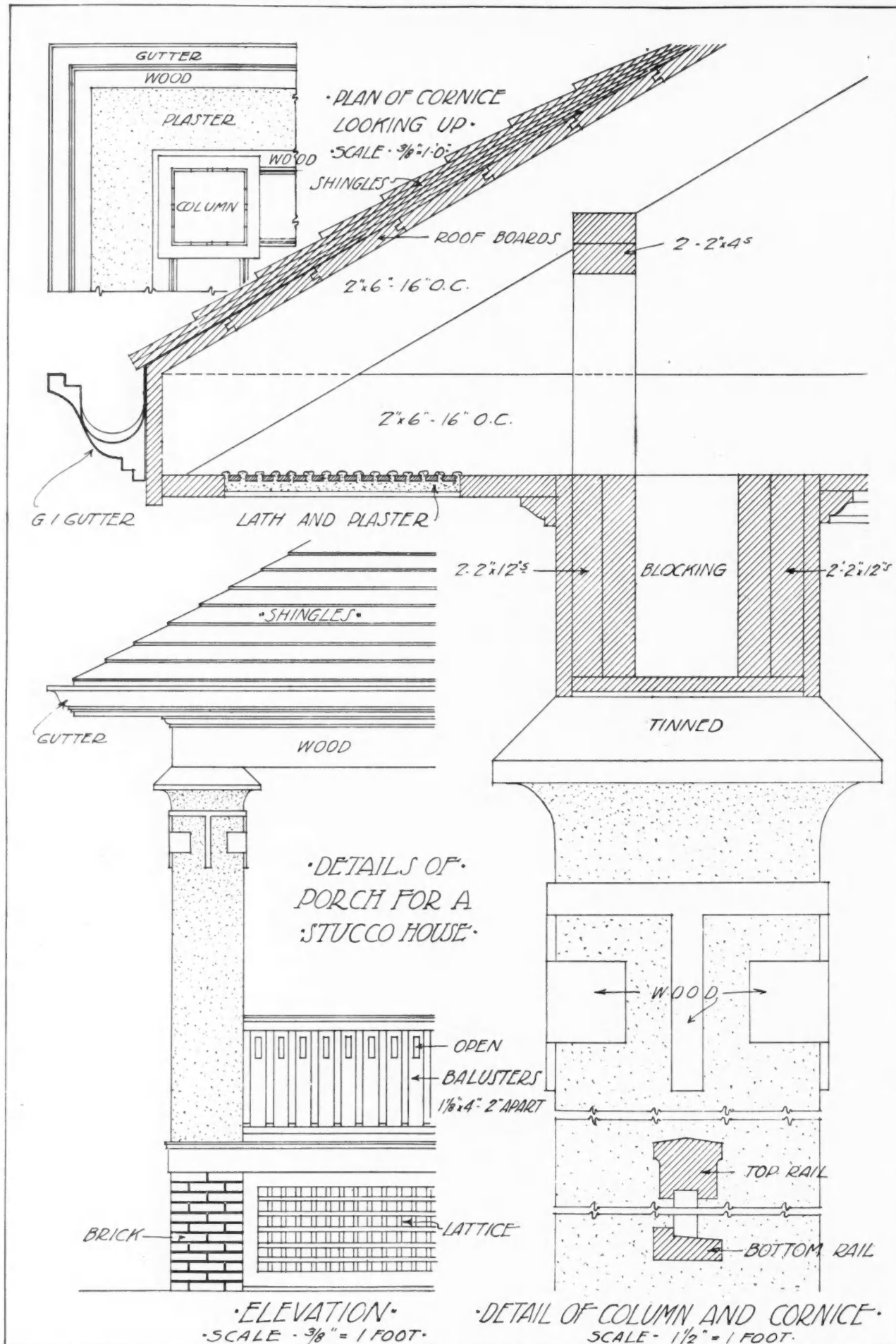
The first of these plates concerns the details of a porch for a stucco house. A feature of this design is the plaster finish under the cornice between gutter and column line. The column is stucco finish, rising from porch, below, it is brick. Particular note should be taken of the box beam girder, built up of four 2 by 12's, which supports the porch roof. In many instances the span between posts is so great that a very rigid beam or truss must be used. Many times iron truss rods are used for this purpose, being placed over wood blocking. This is apt to be expensive and short lived. A better and cheaper way is, very often, to use an I beam, as is done in the plate shown on page 61. These steel I beams can be had in practically any length, depth and weight wanted, to do the work required.

In the stucco house porch the roof is shingled; lattice work below porch and baluster design are good.

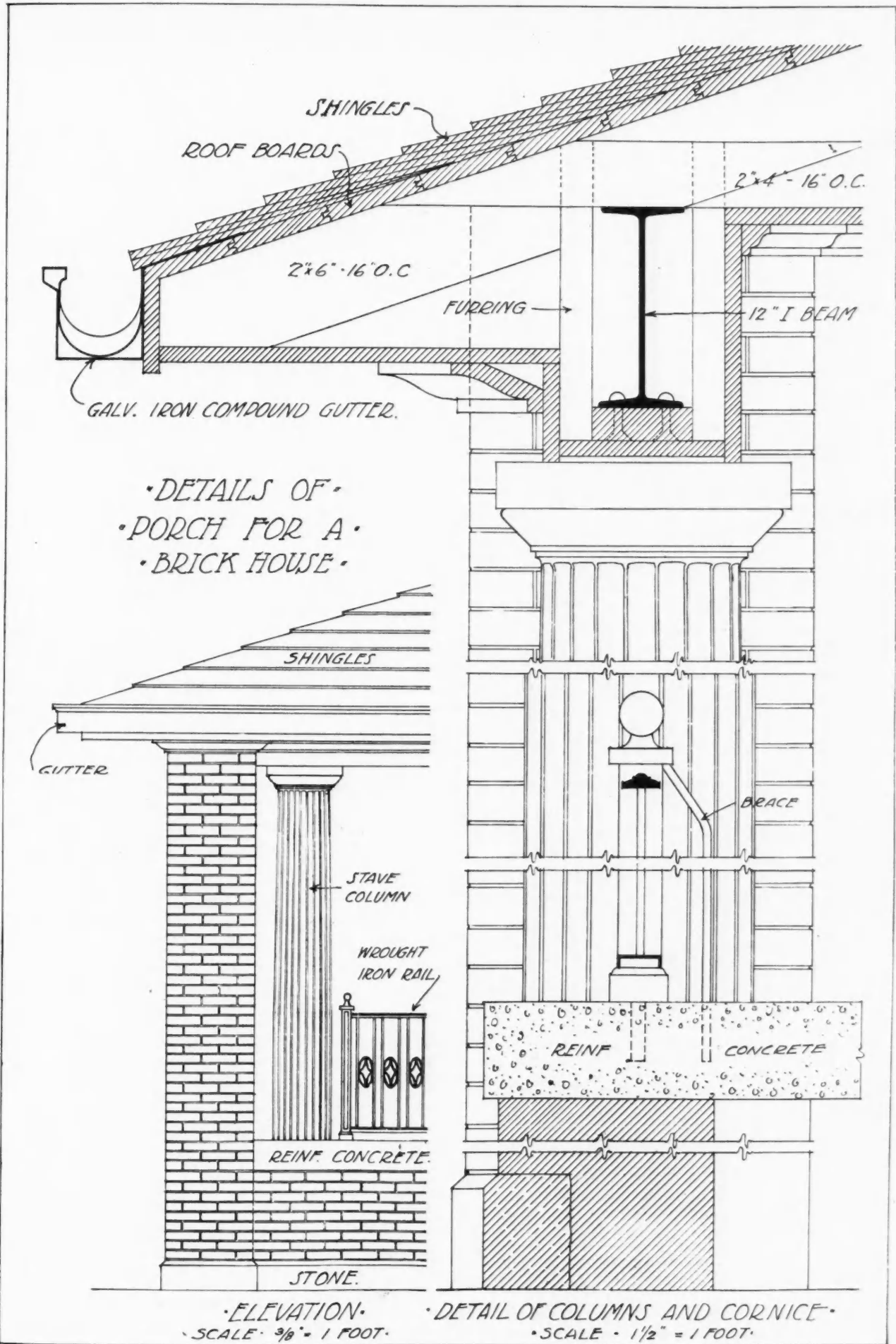
The second plate—that of a porch for a brick house—features a stave column standing just inside a brick column. This is a modified Colonial design; and will be liked because of its novelty. This porch foundation is of stone and brick with reinforced concrete porch floor.

Both of these plates are reproduced here to exact scale. They will prove useful to planners and builders.

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



DESIGN AND DETAILS OF MODERN STYLE STUCCO PORCH



COLONIAL PORCH WITH BOTH BRICK AND STAVE COLUMNS

Dimension Stuff

By J. Crow Taylor

A Putty Pointer

Proper glazing is an important item in doing work for discriminating folks, and to get it well done and insure it being in good shape when it reaches the job it is often well to have it done right in your own shop, or on the job. With rush orders, especially, there is often trouble because the work is handled before the putty has hardened. Putty, like cement, is a bit slow about hardening, and this fact is too often overlooked. Some who are awake to this matter make it a point to use a quick setting putty, and sometimes for the sake of quickness in the setting they sacrifice quality in the substance. Putty is made up of whiting and linseed oil, to which may be added certain coloring matter. Generally raw oil is used, but a pointer one putty maker gave is that by using boiled oil the putty will set in much shorter time than when mixed with raw oil.

Save the Nails

A lot of loose nails scattered around a job are signs of wastefulness that ought not to be. A few nails here and there are not so much in themselves, but they indicate careless habits that lead to careless waste in other things as well as nails. Begin right and make the men save the nails. In the first place, insist that every man on the job have a carpenter's apron, with two pockets for nails. This makes it easy to have two sizes at hand all the time, and when other sizes are needed, see that they are taken out in boxes or other receptacles and not thrown down in a loose pile here and there about the job. It only takes a little thoughtfulness to get at this matter right, and then you get the men trained into the right habit about nails it will result in less loss of time than to be sloppy about it and waste nails by throwing them around loose here and there.

Ladders

Good ladders are not only a pleasure and a convenience, but they are a profitable investment. There is enough time spent by some men making clumsy temporary ladders at every house job undertaken to buy a good set of ladders. And then think of the muscle-straining job of shifting those clumsy 2x4 ladders about a building. Make your own ladders if you want too, but make real ladders at your shop, and take time and pains about it, and then take them with you. It is very likely that after you make one or two you will conclude that it is cheaper and better to buy your ladders from some one who specializes in these things, just as the painter and the tinner. Good ladders are a good investment, and it is cheaper to have a surplus of them than it is to make clumsy makeshifts at each job.

Hammer Marks

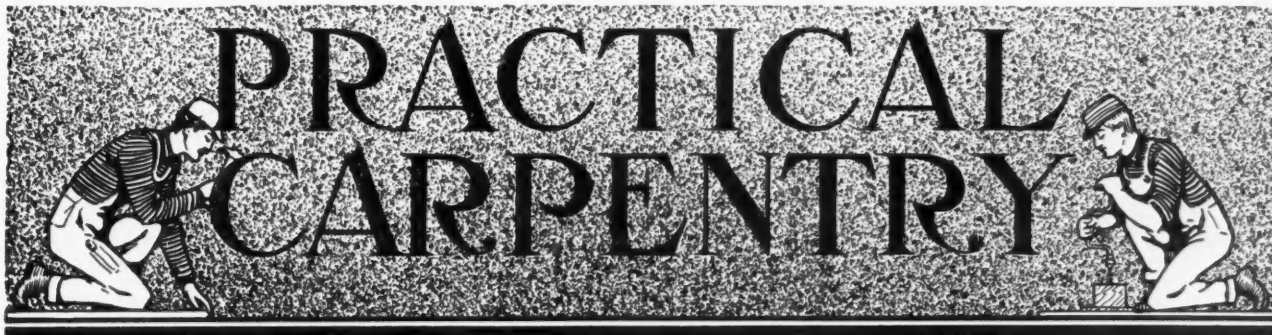
In modern carpentry it is not the chips so much as the hammer marks that tell of the workman—and the tools. Hammer marks are an abomination on good work, and there is but little excuse for many of them. A man that can not hit a nail with a hammer has no business doing high class work. And the man that can hit a nail has no call to mar the woodwork around it even when he drives it homeward. Good hammers are made oval on the face to save making unsightly marks on the wood, and with a good, properly oval faced hammer, a hammer mark on wood should be merely an occasional accident, and not a rule. A good way to reduce them to the accident stage is to require the man who makes a hammer mark to carefully sand it out. If that does not beget care in the matter, the man's place is as a saw and hatchet man on rough work only. He has no business at interior finish or outside casing and weather boarding. Hammer marks are a sign of rough work, under either paint or varnish, and a good way to cure the man that makes them is to make him rub them out awhile.

The Bargain Hand Saw

When you feel tempted to buy a hand saw simply because it's cheap and your hardware dealer is making a bargain sale of it, don't, unless it is your intention to give it to your boy or take it along for some laborer or rough-head to use. There is no bargain in that kind of a hand saw for a real workman—unless it happens to be one of those rare occasions when something really good is being sold at a bargain price, and you know it.

In the first place, no saw but the best is fit for a good carpenter to spend his time using, and there are a number of other reasons. One is that it takes just as much time and pains to set and file a saw that won't hold edge long as it does a good one, and this kind of time is worth enough money that you can soon waste enough of it on a saw poor in metal or temper to buy a good one, one that will hold edge and give service after you have put it in order. Another potent reason is that it takes a good and true saw to make proper fitting joints, and you simply can not afford to use any other kind if quality is any factor in your work.

So leave the bargain saws for the near-carpenter, and for the man who simply does a little tinkering around and can not appreciate a good tool, or, if you feel tempted to buy it, give it to the boy to practice with, or keep it to loan borrowing neighbors, but do not take it along for your own use.



Speeding Up

HOW TO DO FAST WORK (YET GOOD WORK) HANGING DOORS

By H. J. Blacklidge

THIS article is going to deal strictly with the hanging of doors. I venture to say that if any carpenter who has never paid any attention to the points I shall bring out, will try them conscientiously, he will find himself hanging at least one more door a day than he did before. All it requires is a little care and thought. Here is the whole thing in a nut shell—Eliminate unnecessary motions.

In the first place, fit your doors before casing them. It saves time in fitting, casing and hanging. Before the casing is on you can hold your door against the jamb and scribe it. For the casing you need not measure or gauge for the casing on the hinge side, as it will slip forward against the hinge and be exactly in place. And in hanging, you can use the butt gauge on the jamb.

It is taken for granted that the jambs are set straight and plumb. Saw the bottom horns off the door, plane one edge straight and place that edge against the jamb, having a chip or chisel under the door. Scribe top and other edge, take down and cut out the marks. Unless the scribing marks are cut out there will not be clearance enough. (If there is another man working near you have him scribe for you. Otherwise drive a nail in the corner of the ogee mould in such manner that you can hold the door with its help with one hand and scribe with the other.) Now as to the planing. ALWAYS have some kind of a clamp or rack to plane in. And HAVE IT CLOSE BY! Do not take any unnecessary steps. Have all (ALL) your tools within easy reach of the door after it is down where you are going to work on it.

After planing and cutting to the scribe marks tack a couple of scraps of thin stuff on for stops. Place the door in position with a chisel under and raise it so that it is just firm against the top of the jamb. Do not wedge it tight or you will have trouble later. With pocket knife mark "seven and eleven," eight and twelve or whatever other height you are using, from top and bottom respectively. Drop the door into the rack or clamp and grab a butt; knife point at top mark, turn the butt face down and slide it UP to the knife; then mark across the edge and you have a square mark

to work to. Mark other side of butt same way and you have saved the use of the square. Now slip down to the lower mark and square it the same way. Next mark the top and then the bottom of the jamb. You will see that this operation gives you the length and square at once instead of marking the length of the butts first and then going all over it again to square it.

Now take your butt gauge and mark first the width and then the depth of the mortise at the top of the door; next go to the bottom of the door, then to top of jamb, and bottom of it. You will find it easier and quicker to mark the top of jamb first and then slide down rather than the reverse. At least that is my experience and the experience of several others who have tried it. Right here comes in the beauty of hanging before casing. You can use your butt gauge ON THE JAMB as well as on the door.

Take your chisel and make the cuts the full width of mortise and the exact depth. This will take some practice, but it is worth it. In a very short time you will be able to strike just heavy enough to send the chisel home and no more. Sweep the chisel up and down the edge once or twice to remove those chips which project above the surface of the door. Then it will require surprisingly few strokes ACROSS grain to clean the mortise out slick and square. Chisel in the same rotation as you mark—in fact do all the different movement in as nearly the same manner as possible, which will help to increase the speed.

Next put the top half butt on the door, then the bottom half, and so on. Now take this advice! If you are a first class carpenter, a mechanic, go ahead and put all the screws in. But unless you are a first class workman and sure of your work, just put in one screw in each half butt. Then hang the door. Nine times out of ten it will touch some place, or be a little too close or too loose somewhere. Mark the place where it needs planing, take it down and put in the rest of the screws. Then plane and hang again and you will find that you have eliminated a lot of the "planing after your door is hung."

As I said before, eliminate all unnecessary motions;

make every single move count. In the words of the old song know "what you want when you want it," and get it—then use it.

An Easily Made Door Clamp

For a clamp spoken of above here is a quick and easy one. Take a lath and in the center nail two pieces of 2 by 6 about 6 inches long and $1\frac{3}{4}$ to 2 inches apart. At the ends of the lath and on the opposite side nail two inch pieces (a foot long or

more) at right angles to the lath. Turn over and drop the door between the 2 by 6, and the lath will spring down enough to grip the door firmly. Unless extra hard the door's own weight will hold it from slipping. But if it is hard a piece of 2 by 4 can be tacked to the floor in front of the door; or if a window is handy you can work into it. Or the clamp can have a couple of nails projecting through the bottom of it. This is objectionable, however, as it may slip and mar the floor.

How One Contracting Firm Makes the Motor-Cycle Pay

"IN a score of ways a day the motorcycle proves invaluable to the contractor—especially to the contractor who has a number of buildings under construction at the same time in the same city or cities not a great many miles apart," declares Arnold F. Meyer, of the Meyer Construction Company, Milwaukee. "We have used two motorcycles during the past two years and have just purchased another—so useful do we find the motorcycle in saving time when odds and ends are needed in a hurry."

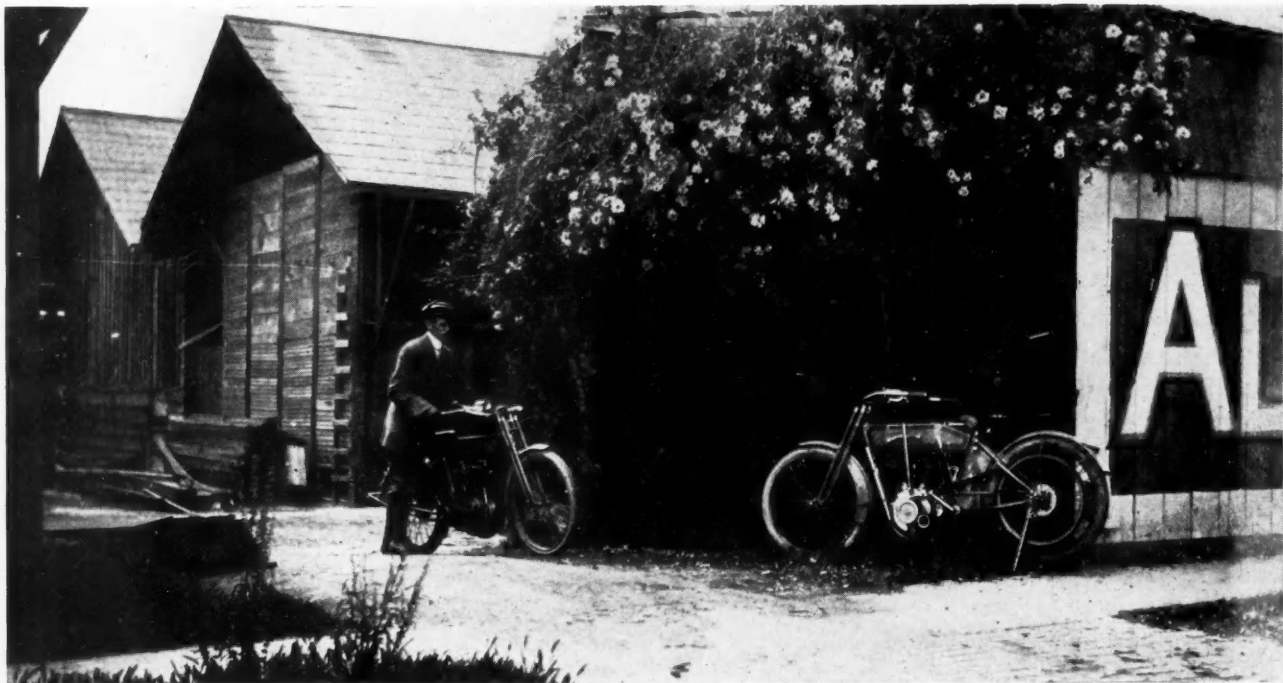
What do you mean by odds and ends?" Mr. Meyer was asked.

"That shearing machine, for example," he replied quickly. "A freight handler's strike caused delay in delivery of the shearing machine. We wanted it badly on a reinforced concrete job, where we have contracted to put up in two months and a half a building that will contain 90,000 square feet. The shearing machine was needed for cutting tie rods.

"Over the telephone we obtained no satisfaction from the railroad company. We were sure the consignment containing that badly needed machine had reached Milwaukee. But no one seemed to know exactly where the car had been set out. One of my men on a motorcycle visited four different railroad yards before he located the car containing the shearing machine. There the machine is now—on the job and thanks to the motorcycle.

"A few days ago it was a belt we needed without delay for our portable saw operated with a gasoline engine. Because we figure on using the saw for ripping all of our stuff for false work we would have been 'up against it' if there had been any great delay in obtaining a new belt. There can be but little encroachment on city streets when putting up new buildings. We figure on delivering lumber to the job only as fast as the sawyers and carpenters can handle it.

"All of our carpenters would have been held up an

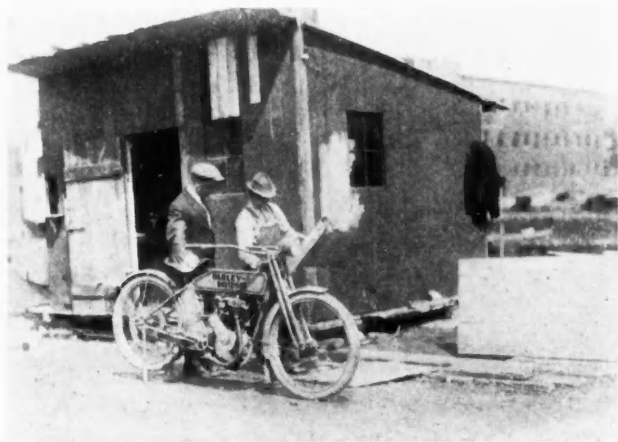


Lumber Salesman in Los Angeles, Calif., just Leaving Yard on Motor-Cycle

hour or two, perhaps, if we could not have obtained a belt quickly that day. Thanks to the speed and reliability of one of our motorcycles the needed belt was obtained quickly and there was no delay. Our saws were kept running and the big job was not held up for lack of a few feet of belting. With the motorcycle, but little time is required to get our circular saw sharpened at the nearest grindery. As a result we have our saws in first class condition at all times.

"Speaking of the breaking of a belt connecting a circular saw with the pulley shaft of the gasoline engine recalls to mind an instance last year on a big contract when the motorcycle made its usefulness appreciated. Instead of making an emergency run for a belt, the motorcycle was sent post-haste for some batteries for a gasoline engine used in running a saw.

"In supervising work and in using a large force of men to the best advantage on several jobs, the motorcycle proves its usefulness many times a day. With



Arnold F. Meyer of the Meyer Construction Co., Milwaukee,
Which Uses Three Motorcycles

the aid of a motorcycle I can keep close watch of the work on widely scattered jobs, and can rush in extra men when I find that any part of the work is lagging behind the rest of the work.

"Each of our motorcycles pays for itself many times in the course of a building season. Operated at a cost of from one-sixth to one-tenth of a cent per mile, the motorcycle furnishes the most economical of all known methods of travel on land—not even excepting walking, if you figure in shoe leather and the time of the walker.

"Motorcycles are comfortable as a result of the perfection of seat springs. My men who run errands on motorcycles feel fresher for other work when they return from a ride. I suppose we could get along without motorcycles, because we did prior to two years ago, but I would hate to think of attempting to get along without our motorcycles.

"Some days two of them will be kept running errands throughout the entire working day, the riders merely throwing the motor out of clutch while delivering messages and picking up the odds and ends familiar to all contractors."



LAZY men are just as useless as dead ones, and take up more room.

Bill's Way

Neighbor—"I s'pose your Bill's 'tittin the 'arp with the hangels now?"

Long-Suffering Widow—"Not 'im! 'Ittin the hangels wiv the 'arp's nearer 'is mark!"

Striped Paint

A paint manufacturer recently received the following letter: "Gentlemen:—Will you please send us some of your striped paint. We want just enough for one barber pole."—*Southern Textile Bulletin.*

Easler

A Chicago banker was dictating a letter to his stenographer.

"Tell Mr. Soandso," he ordered, "that I will meet him in Schenectady."

"How do you spell Schenectady?" asked the stenographer.

"Sc—, S-c-er-er-er—Tell him I'll meet him in Albany."

Not Quite Steady

A farmhand had worked in the field from dawn until darkness, doing the chores by lantern light. "I'm going to quit," he said to the farmer, at the end of the month. "You promised me a steady job."

"Well, haven't you got one?" was the astonished reply.

"No," said the man, "there are three or four hours every night that I don't have anything to do and fool away my time sleeping."

How Old was Ann?

Teacher (to dull boy in mathematics)—"You should be ashamed of yourself. Why, at your age George Washington was a surveyor."

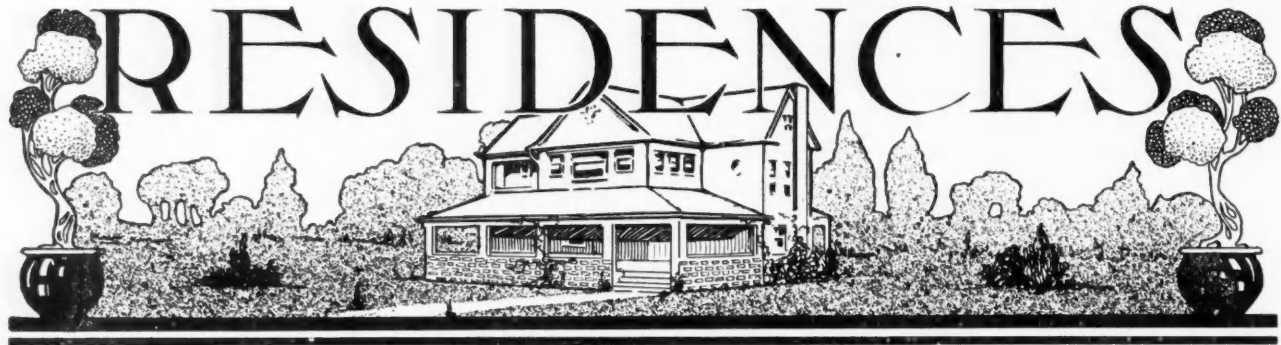
Pupil—"Yes, sure; and at your age he was President of the United States."

Casey's Picture

Casey decided to go into business; so he bought out a small livery stable, and had a painter make a sign for him showing him astride a mule. He had this sign placed in front of the stable, and was quite proud of it. His friend Finnigan happened along, and stood gazing at the sign.

"That's a good picture of me, ain't it?" asked Casey.

"Sure it looks something like you," said Finnigan, "but who the divil is the man on your back?"



Attractive Square House Design

PERSPECTIVE AND COMPLETE SET OF ARCHITECT'S DRAWINGS OF A PLEASING HOME RECENTLY CONSTRUCTED IN DOWNERS GROVE, ILL.

WITH the bungalow, bungalow house and bungalow cottage type of construction still flourishing, and seemingly more popular than ever, it is really refreshing to be able to note the building of a residence based somewhat more upon the time tried square type design.

This home, architect's perspective and detailed working drawings of which are shown this month, was but recently completed in Downers Grove, Ill., for Mr. R. J. Darnley. It is one of the best examples of the

square type of design and most certainly presents a very attractive appearance, both exteriorly and interiorly.

That the square type of design and construction does away with all useless corners and cumbersome angles cannot be denied. That it offers a type of home in which every particle of space can be practically utilized is a fact. These features are well worth considering, not only from the standpoint of convenience, but of economy as well; and a careful study of



Attractive Square Hip Roof House Designed for Mr. R. J. Darnley, Downers Grove, Ill.

the accompanying detailed plates will not be amiss.

A good sized porch extends across the width of the house. Entrance is had into reception room, from which living room opens to right. This living room is of good size. It has a bay window, also brick fire-place with built-in seats upon either side. A casied opening leads to dining room, which has built-in side-board in center of bay window. Good sized pantry,

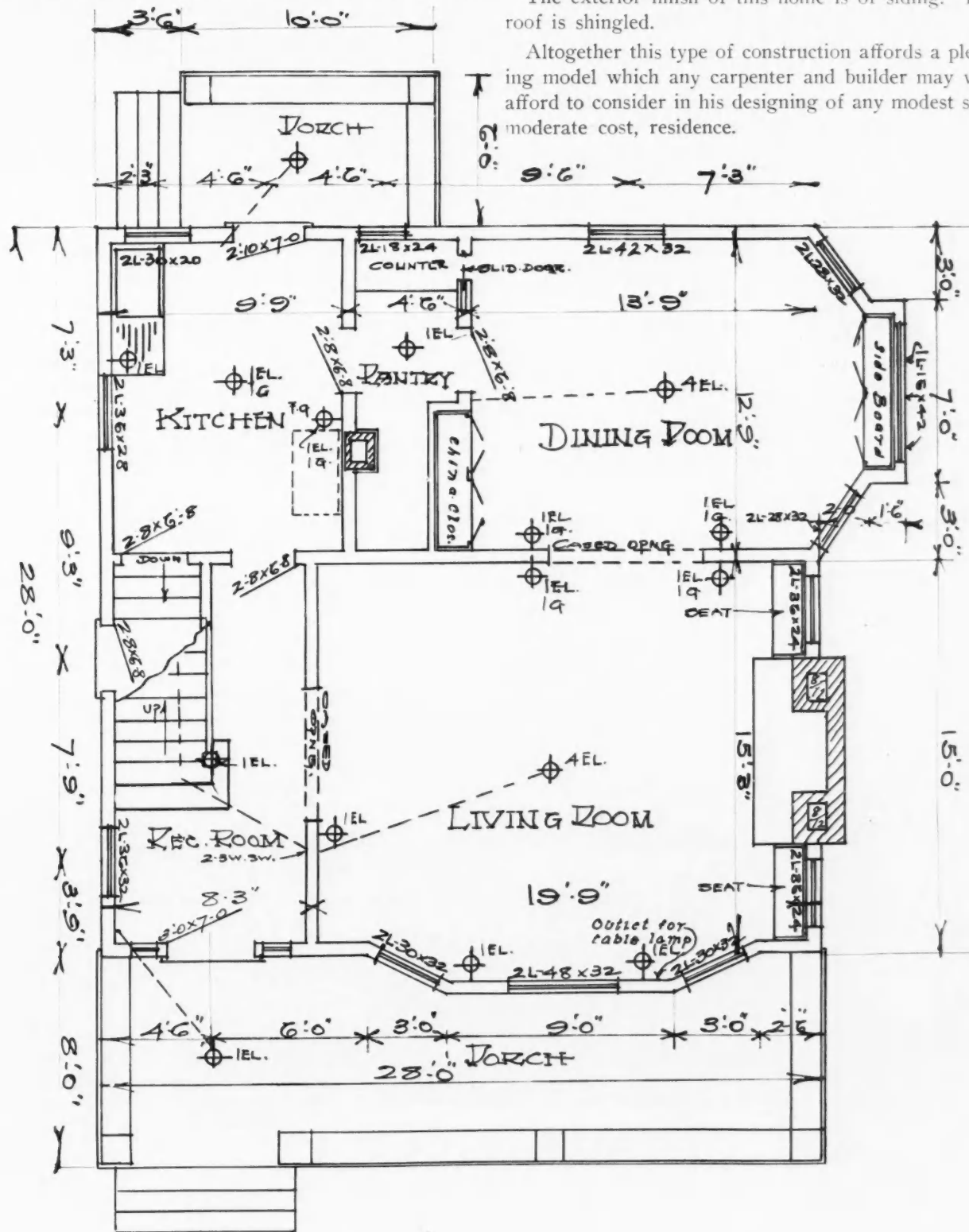
china closet, kitchen and back porch space is provided.

Upstairs we find a center hall from which entrance is had to three bedrooms, all of ample size, with good closet provision and well lighted. The bath—modern in every respect—is directly off the hall.

The basement provides for laundry and heating equipment, a fruit and vegetable room and a coal room.

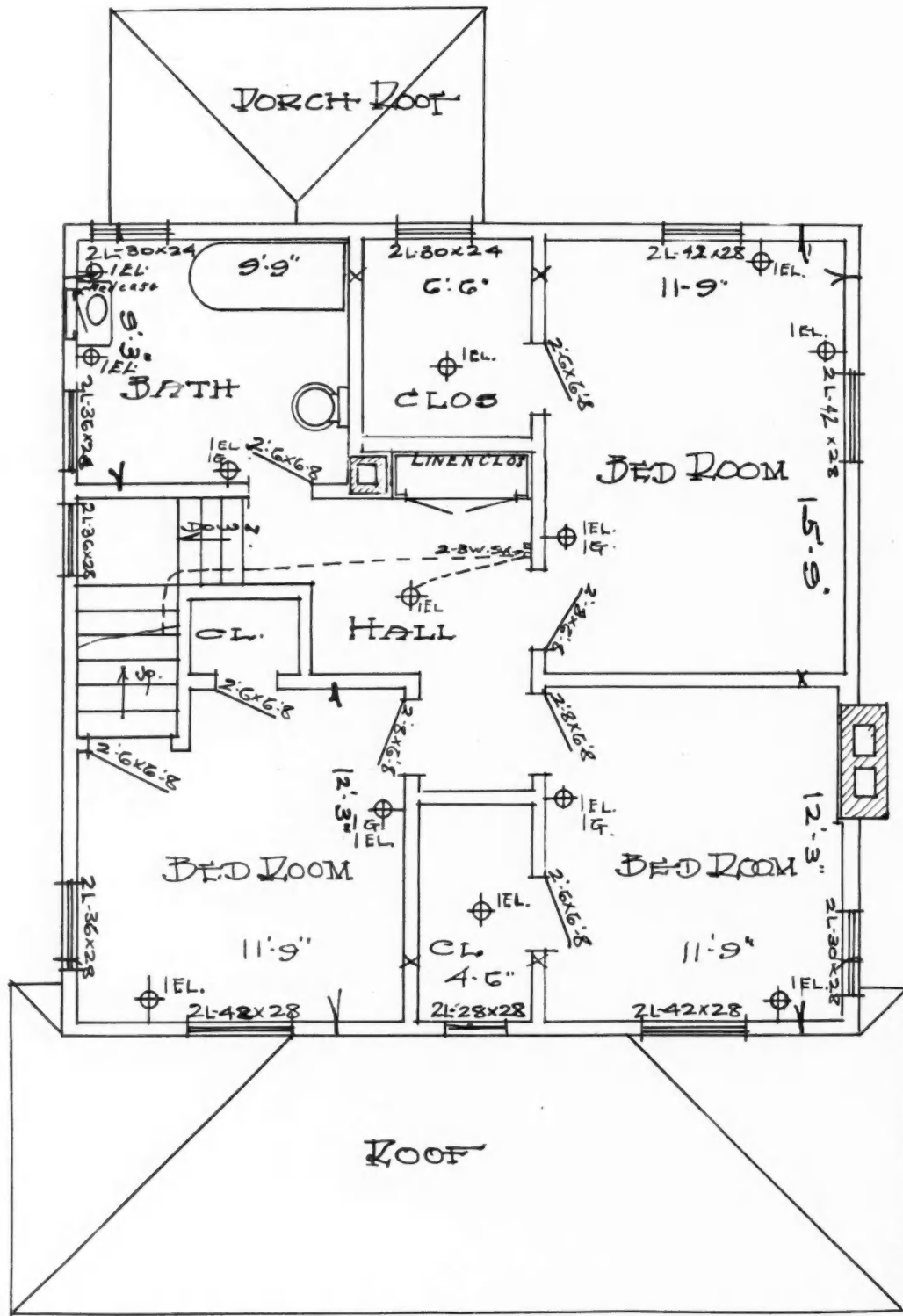
The exterior finish of this home is of siding. Hip roof is shingled.

Altogether this type of construction affords a pleasing model which any carpenter and builder may well afford to consider in his designing of any modest size, moderate cost, residence.



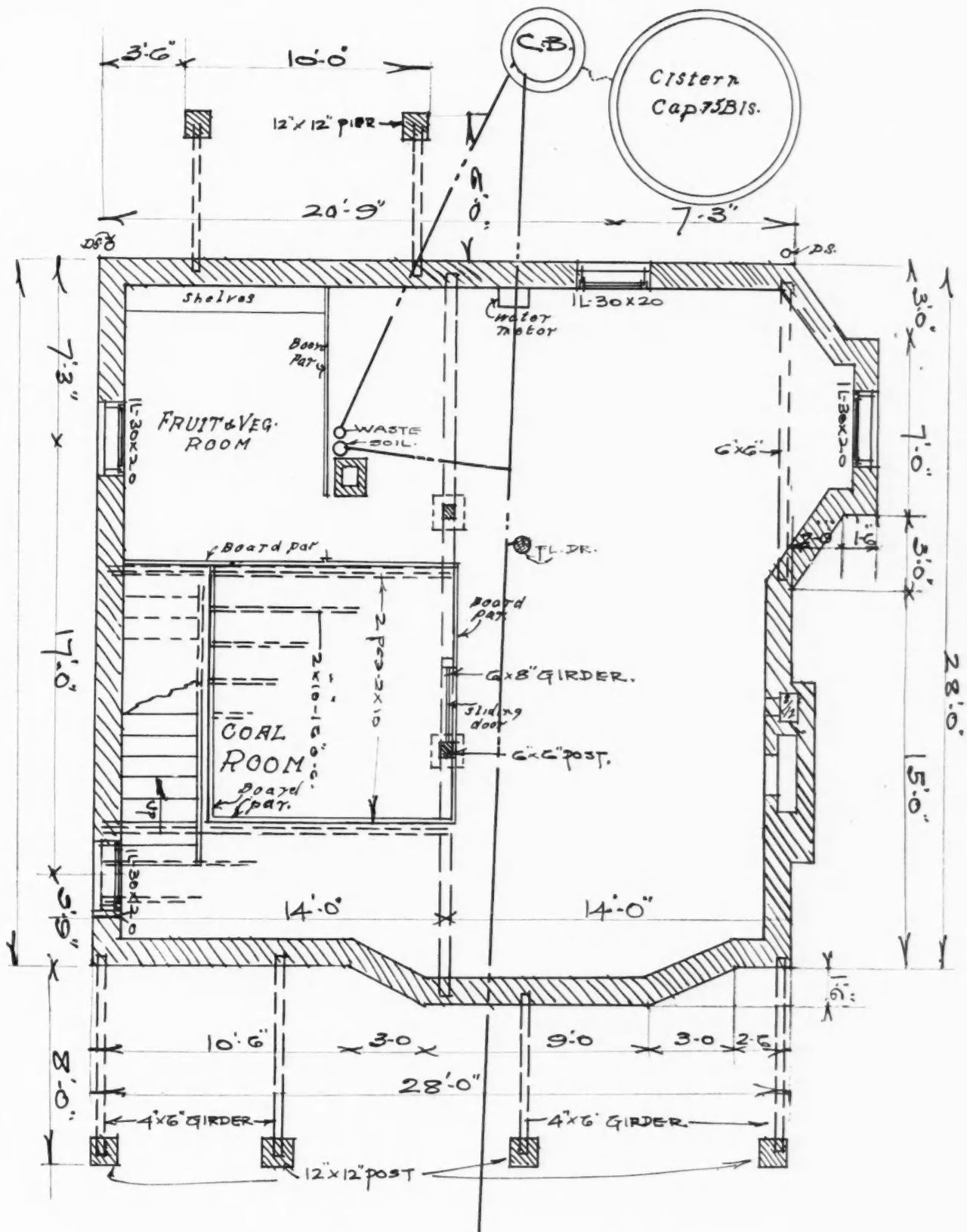
FIRST FLOOR PLAN

(House on Opposite Page)

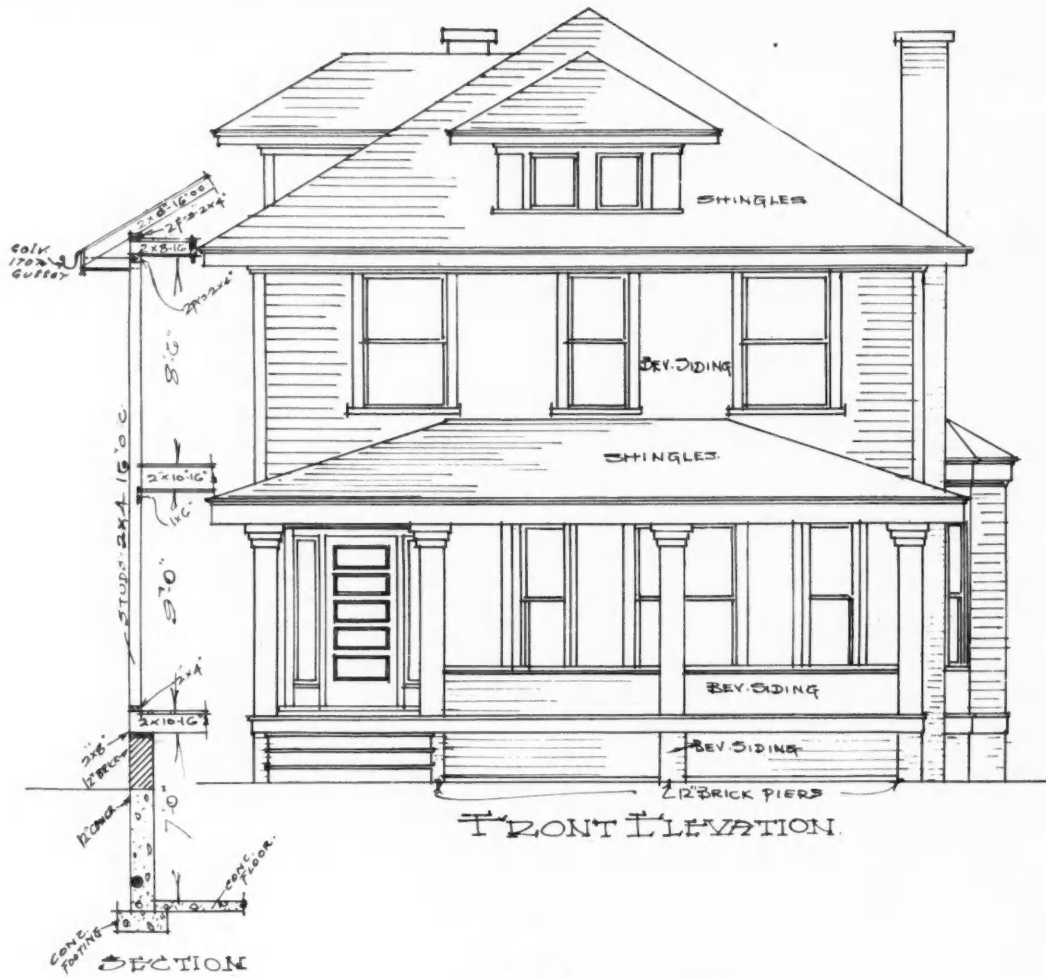


SECOND FLOOR PLAN

(House on Page 66)



BASEMENT AND FOUNDATION PLAN
(House on Page 66)



REAR ELEVATION

(House on Page 66)

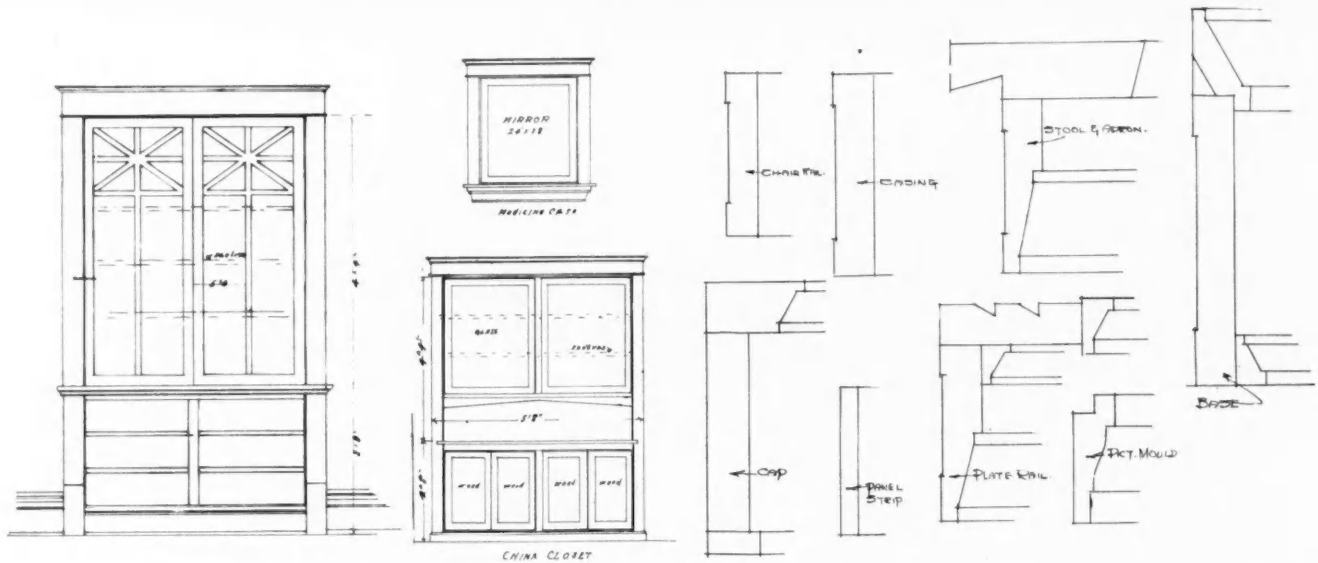


RIGHT SIDE ELEVATION



LEFT SIDE ELEVATION

(House on Page 66)



Details of Interior Finish—House Shown on Page 66

Things Worth Knowing About Linseed Oil

LINSEED oil is a drying oil; that is, an oil which will absorb oxygen from the atmosphere, and during this absorption become solidified into a rubber-like, water-proof film. The absorption of this oxygen produces a gain in the weight of the oil.

Linseed oil is pressed from flaxseed. The flax, in this case, is grown especially for crushing purposes.

To make the best oil, the flax is not cut until its seeds have commenced to ripen. This is the practice in India, where labor costs only a few pennies a day. There the flax is pulled and manipulated entirely by hand and the seed is very plump and rich in oil, because the juices have been enriched by the natural process of ripening. The India seed produces an oil which is highly prized by all those who must have linseed oil second to none; especially varnish makers, who consume enormous quantities. This method of harvesting flaxseed cannot be practiced in this country nor in South America or Russia, where great quantities are produced, as it would raise the price far beyond reason.

In America, flax is cut by machinery, exactly as is wheat. Now, if the farmer waited until the seed had started to ripen, much of it would shell out from the shaking of the harvesting machine and would be wasted. To prevent this, the seed is cut while in the "dough," as it is called, just previous to ripening. Although it becomes solid and ripens after cutting, it does not receive the juices which would have been obtained if left to ripen naturally. Indeed, much of it is cut so green that it produces a very inferior oil.

Much is heard about cold-pressed oil, but with the powerful hydraulic presses (the most common means of extracting the oil) it matters little whether the flax has been heated slightly (is hot pressed) or not, as to the resulting quality. Heated seed, however, will

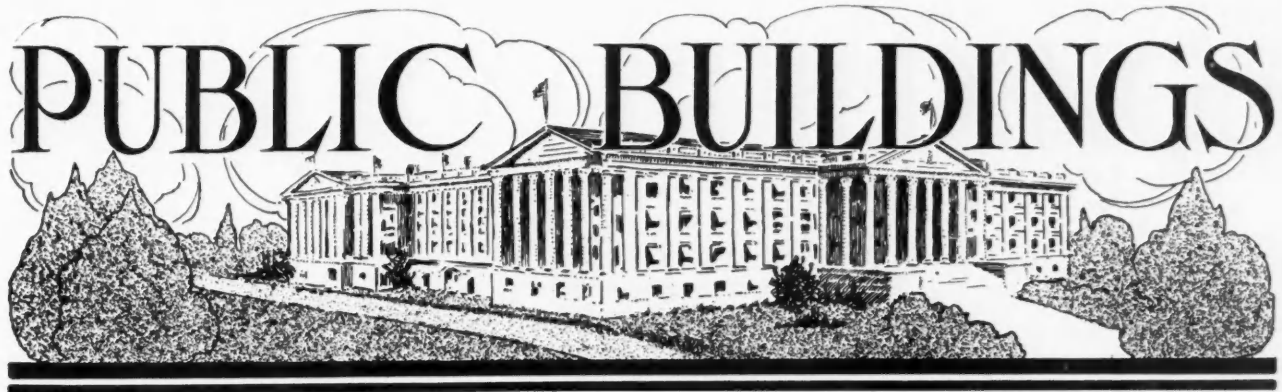
make a more highly colored oil, due to distegration of mucilaginous matter. It is doubtful whether this injures the binding qualities of the oil, as claimed by some, as much of this matter settles upon standing.

In varnish manufacture particularly, refined oil is necessary. Linseed oil contains some coloring matter which still remains after the oil has settled. Ordinary oil will impart a yellowish tint to certain light tones, especially to white pigments, particularly white lead and zinc white. This refining is usually done by agitating it together with sulphuric acid or alkali and filtering.

Linseed oil is best in its raw state for exterior painting and in fact, many painters use it for interior work. When raw, the oil is extremely elastic and will expand and contract with any kind of surface on which it is used; wood, brick, metal or stone. Raw oil is also very penetrating, save when the weather is very cold, when it will become viscid. The penetrating properties of raw oil enable it to reach down into the pores of all porous materials used in building, forming little root-like connections with the materials on which it is applied.

Boiled linseed oil is the name usually given to oil which has been heated to a temperature of at least 250 degrees Fahrenheit, with or without the addition of dryer. Boiled oil is not as elastic as raw oil and is little used for exterior work. For interior work, however, much is used as conditions are less severe. Then, too, the boiling causes the oil to dry much quicker, which is particularly desirable for interior work.

The possibilities of obtaining pure boiled linseed oil are very slight and much of it sold under this name is really raw oil, to which a cheap benzene dryer is added. This gives the oil the proper color and drying qualities of boiled oil. The adulteration, however, is detrimental to the durability of the oil.—Pratt & Lambert's *Varnish Talk*.

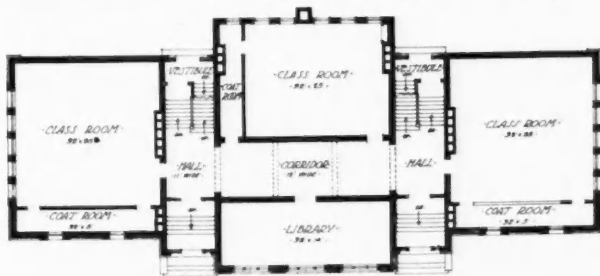


Design for Small High School

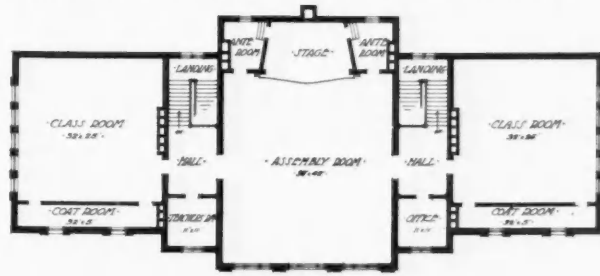
PERSPECTIVE AND FLOOR PLANS OF SCHOOL BUILDING FEATURING ASSEMBLY ROOM

THE assembly room affords the particularly interesting part of this small high school, which was designed by the widely known schoolhouse architect, G. W. Ashby, of Chicago. Placing this

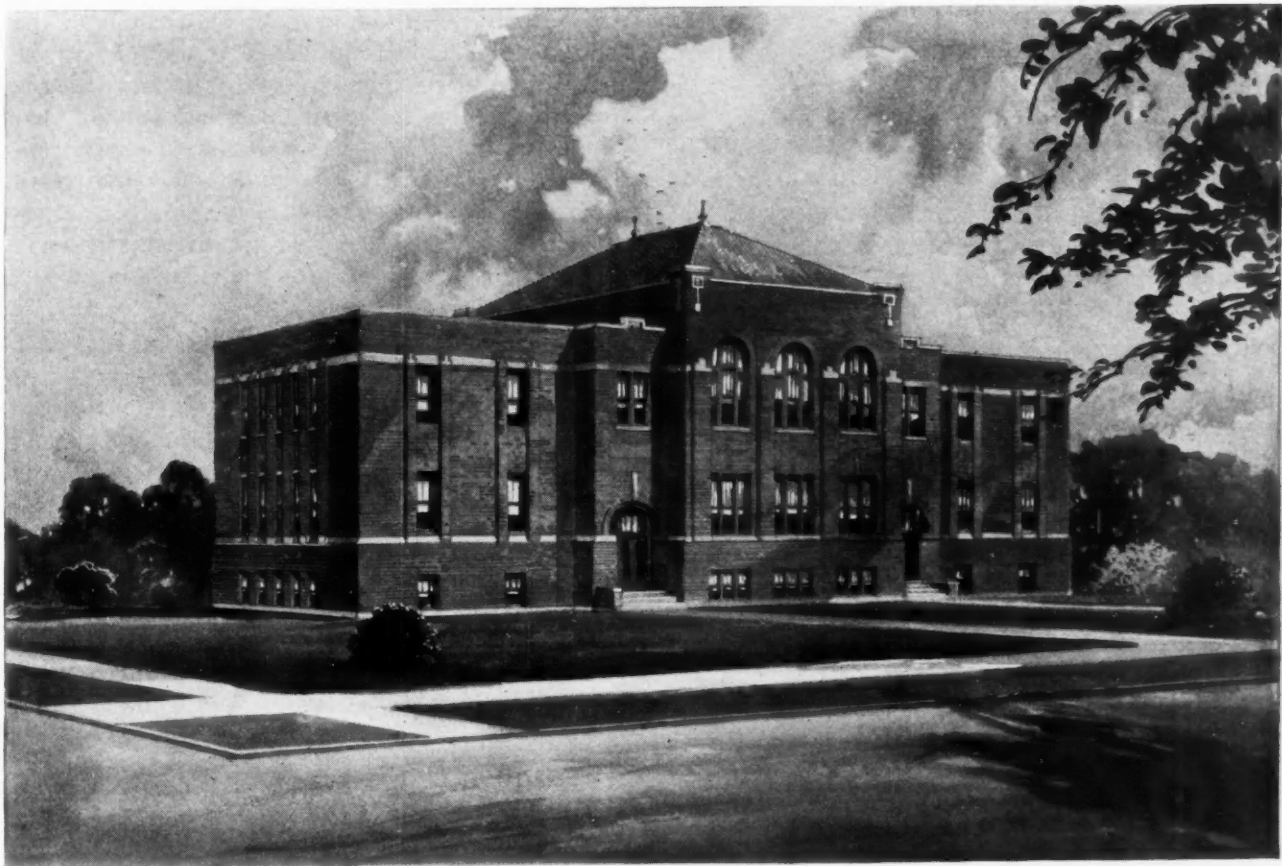
assembly room upon second floor results in not only high walls and ceiling for the room itself, insuring ample air space, but also makes it possible to add materially to the architectural effect of the exterior.



First Floor Plan



Second Floor Plan



High School Building of Striking Appearance and Modern Arrangement

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

HERE are some more snappy squibs for millmen and cabinet makers—just to keep my franchise good.

Inlaid Jig Saw Work. Many times I have seen fancy inlaying, such as flowers, scrolls, etc., done by the aid of a jig saw, by making the design on a light colored piece of wood, such as holly, boxwood, orange, etc., and then placing this piece on a piece of dark wood, such as hazel, walnut, rosewood, etc.



Inlaying by Means of Jig Saw

Nail the pieces together and, with a thin saw, cut through both of these and then take apart; drop scroll piece in corresponding piece, using glue with a pair of caul boards, having paper between to keep the glue from sticking to the caul boards.

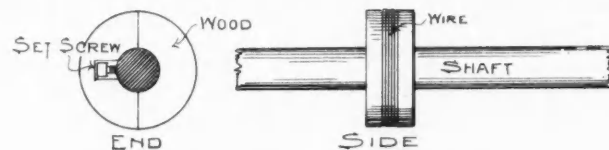
Many Kinds of Wood in Piano. Recently I had a job tearing apart a very old piano, the wood was to be used in making two dressing tables and I found the following kinds of wood: Spruce, maple, rosewood, ash, ebony, beech, white pine, holly and cherry.

About Old Saws. Here are some of the uses I have seen old cast off circular rip saws put to. I once saw one used on the top of a pole at a county fair, on a maul hitting strength testing machine. When the indicator went up to the 300 mark it hit the bell (saw). I once saw one used on a 7-foot 4 by 4, used to hang coats on in a lodge room. The 4 by 4 had four feet nailed on the base, similar to a family tree. I saw a fellow have a home-made velocipede on an ice pond and an old rip saw for a propeller. I saw a fellow use one for a waiter's tray one night at a reception held in a mill office. I saw an old rip saw used for a cover for a swill barrel, where dogs were in the habit of making night visits and usually upset the barrel. A plug driven in the center hole

formed the handle. The dogs changed their route. It had once been a wobble saw and made the dogs dizzy, particularly the setters, (saw teeth). I have seen the tool room men cut up old rip saws to make hard wood (hand) scrapers. I have seen molding plane bits made of them.

Something About Cypress. Now I am going to air my views on the use of cypress for exterior. In a general mill such as I am now engaged in, we have many repair and replace jobs in the spring when people are getting ready to open up their sea shore cottages. I have never seen a post or other lumber of cypress come to the shop, that was rotten. I am fully convinced that cypress is an everlasting wood. Many architects do not want it on account of the grain raising. This, to my mind, is a silly imagination. Cypress being a species of cedar, has the properties of longevity. It contains the gum that fortifies it against the ravages of atmospheric conditions. It grows in the swamps and when wet it is perfectly at home and when wet and dry alternately, it is at home twice. Take it from me, I will always recommend cypress as the everlasting wood. I have none for sale.

Set Screws on a Shaft are things that should have serious thought. I have seen a few accidents caused by them in my time. I have fired them out before now and sometimes when the boss would not stand for them being cut off, I have turned a disk with

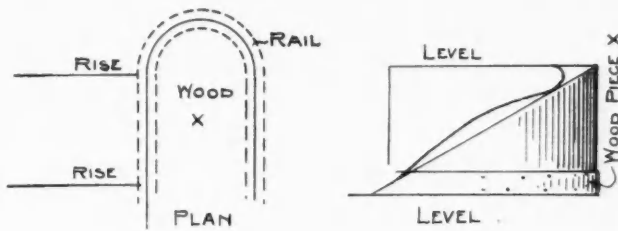


Protecting Set Screw on a Shaft

groove, then cut out a hole in the center large enough to slip over collar, cut out for set screw head and then cut it in halves, put it over the set screw and wire it and then go to it.

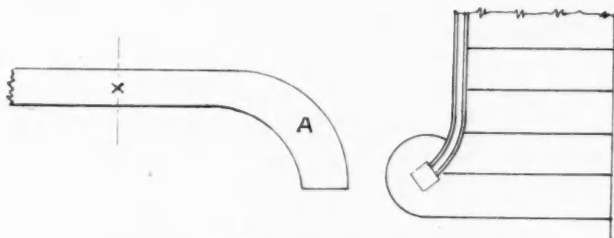
More About Stair Work. I am going to say more about stair work. I have never had any trouble in

getting out stairs the way I write the articles. It is true I have had some criticism about my methods, but nevertheless, I know what I am talking about, and if any of the "American Carpenter and Builder" readers refute my methods, I can't help it. I have had as much experience as any one of them. There are many ways to get out cylinders, wreaths, quarter turns, ramps, easements, etc. Some of the methods are so long winded and complicated, it would require an ordinary mechanic to take a course in some studio for years. One of the methods I use (one of them, mind you) is, I get the exact plan of the wreath or cylinder, and band saw a piece of



Simple Hand Rail Method

stuff this shape (center of proposed rail), then I lay off the rise and tread on a piece of Beaver, or stiff card board, then bend the card or Beaver board around the wood bottom. That gives me the height and plan of the required rail to fit my chunk to. This case applies to the spot where a flight runs up to an upper floor. This is a practical way of getting out "any" shape or twist in a stair rail. I have used it for years and anyone who says it is not right, is either anxious to be different or has sore feet.



Laying Out Twist Rail at Bottom of Stairs

I have also bent the bottom of a stair string, where a turnout was necessary, and before sawing out the triangles forming the rise and tread, I have laid my rough piece for the proposed rail on the upper edge of the string, marking the string slope on the bottom of it, then measuring either in or out for sides of rail, as the case would be. I have seen these turnout easements of hand rail made by laminating the material around a drum to the proper plan curve, then gluing and clamping to drum. I have also seen pieces of twist rail for the bottom of stairs where a turnout would be, laid out with the aid of a plumb. By taking a 2-inch piece and cutting it out the slope of the (rail on plan) level and nail the shank or straight end on the bench so that from

X hangs over edge of bench, then take the chunk of material that the rail is to be made of and put it under the bench piece A on the floor with one end against the leg of the bench, the same pitch or rake as the stairs, then take a level, using the plumb bulb, and put it against the top piece, plumb and make a dot with pencil on rail piece at foot of plumb rule. Keep this up by marking every inch or so until you have established a curved line on the rail piece, then trace a line through these. This gives the plan shape on the rake. This may seem to some of the stair men as crude, but I am only trying to show how many ways I have seen these feats done.

So much for the twisters,—come on with the knocker's club.

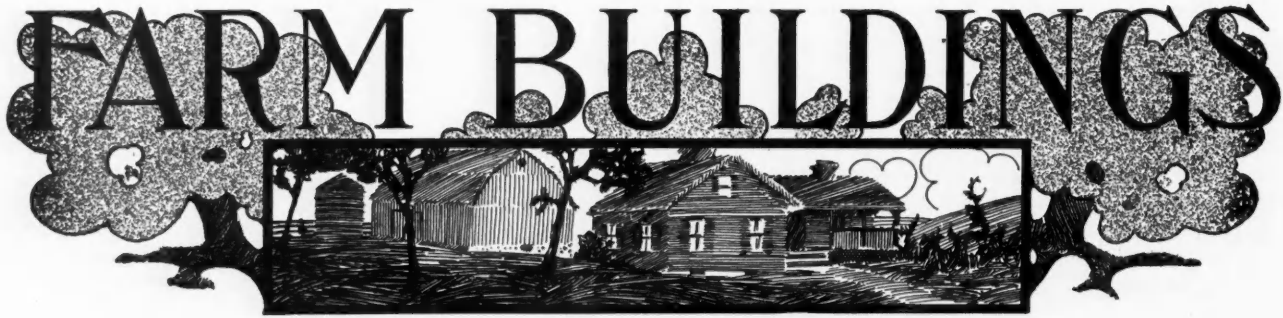


Skyscraper for Women Only

Plans are under way in New York City for what probably will be the first and certainly will be the largest office building in the world to be occupied exclusively by business women. Since the idea was first broached by the projectors of a business bureau for women the number of applications received for space have multiplied so greatly that serious consideration is now being given to the idea of securing the Madison Square Garden, the city's greatest amusement structure, to be remodeled for this purpose.

The garden occupies an entire block and is held at \$3,500,000, but the wealthy enthusiasts behind this newest woman's movement insist that they will have no difficulty in filling a building of this size, providing they can obtain the necessary financial backing for its erection or reconstruction. The new building will contain offices for women doctors, lawyers, real estate dealers, dressmakers, milliners, hairdressers, insurance agents, photographers, publishers, advertising agents and amusement managers, besides studios for women artists and musicians and headquarters for the hundreds of women's clubs and societies that flourish in different parts of the city. A novel proposal is to include a hall where those with new articles of interest to women can exhibit and demonstrate them. A restaurant, run and managed by women, will be a feature, and it is even said that an application for the shoe-shining privilege has been received from an enterprising young woman.

The only man who has thus far ventured to apply for admission is one, who, presumably in a spirit of levity has asked for a concession to collect the hairpins that may be dropped in the corridors and public rooms. Hotels, clubs and apartment houses exclusively for women already are familiar institutions in New York, and with the addition of this great new office building the women of the city engaged in commercial pursuits will be entirely independent of mere man.



Principles of Barn Building*

By Thomas F. Hunt

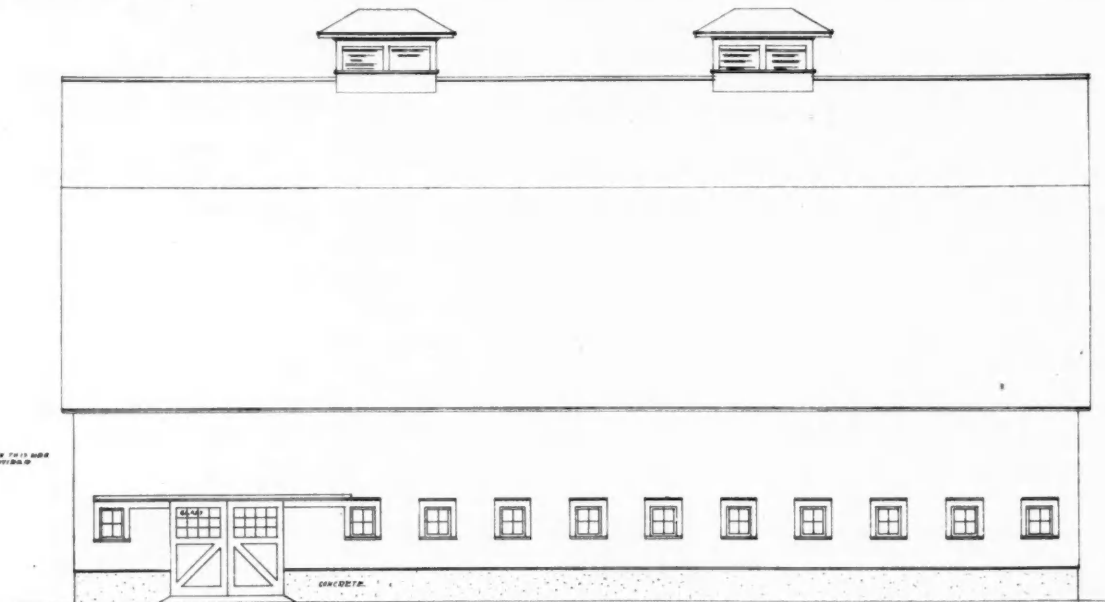
THE usual question asked by persons seeking advice about a barn is something like this: "I intend to build a barn 30 by 50, with a basement, and 18-foot posts above. In this I intend to provide for twenty cows and four horses, ten head of young cattle, hay, grain and tools for 100-acre farm. How can I best divide up the space?"

The question should rather be as follows: I have twenty cows, four horses, ten head of young cattle, hay, grain and tools for 100-acre farm, for which I must provide. What size, shape of building and manner of construction would you suggest?

In other words, the proper method is to determine

animals and for the convenience and safety of the attendants. Theoretically the ventilation depends rather more on the cubic feet of air furnished than on the cubic feet of space. Large space presents drafts, gives greater opportunity for exchange of air (which always takes place in barns), and gives more opportunity for wind ventilation. With good insulation and proper provision for the intake and outgo of air, greater regularity will be secured by small cubic space, because it is easier for the animals to warm the stable and thus keep a greater difference between the inside and outside air.

The floor space allotted to each horse may vary from



Front Elevation Modern Dairy Barn Designed for Mr. Ira Conger, Sac City, Iowa

one's requirements and then seek to build the most economical structure which will provide them. Architects sometimes cut up pieces of cardboard of proper scale, say one-fourth inch to the foot, representing each of the rooms required in a building, and these they shift about until the best arrangement of space has been determined.

The amount of space to be allotted to animals should be such as is required for the bodily comfort of the

*Portions of a pamphlet published by the College of Agriculture of Cornell University, Ithaca, N. Y. as part of their "Reading-Course for Farmers."

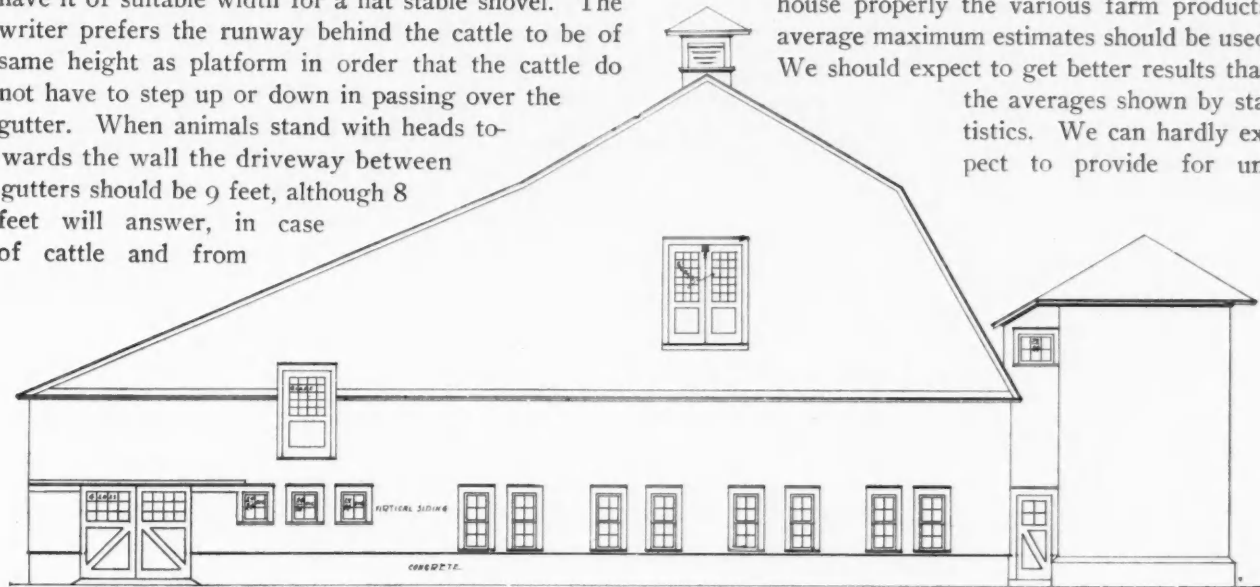
90 to 120 square feet. For horses, the standard length of stall from rear of manger to the drop is 6 feet, 6 inches. The width of manger from outside to outside may be 3 feet. In nature, horses eat from the ground. Mangers should not be too high nor too large. Three feet high next the stall is sufficient, and, if stall faces an alley, 4 feet high on the side next this alley. The width of stalls may vary from 5 to 6 feet.

Cattle may be housed with about one-half the space allotted to horses, or from 45 to 60 square feet. The standard length of platform for cows is 5 feet, which

may be varied slightly, depending on the method of tying and the size of the animals. The tendency is to get the platform too long. The width of cow stall or space may vary from 3 to 4 feet. The gutter should not be more than 8 inches deep at its deepest point, and may be 12 to 16 inches wide. It is desirable to have it of suitable width for a flat stable shovel. The writer prefers the runway behind the cattle to be of same height as platform in order that the cattle do not have to step up or down in passing over the gutter. When animals stand with heads towards the wall the driveway between gutters should be 9 feet, although 8 feet will answer, in case of cattle and from

Box stalls for horses may vary from 12 by 12 to 8 by 12. A box stall 8 by 12 is to be preferred to one 10 by 10. For cows, 8 by 8 is permissible, but 8 by 10 is better. Pens for swine may vary from 5 by 8 to 8 by 10. A pen that is 7 by 9 is generally satisfactory.

In making an estimate of the space required to house properly the various farm products, average maximum estimates should be used. We should expect to get better results than the averages shown by statistics. We can hardly expect to provide for un-



ALL WINDOWS ON THIS SIDE TO BE 2'-0" SQUARE UNLESS MARKED OTHERWISE

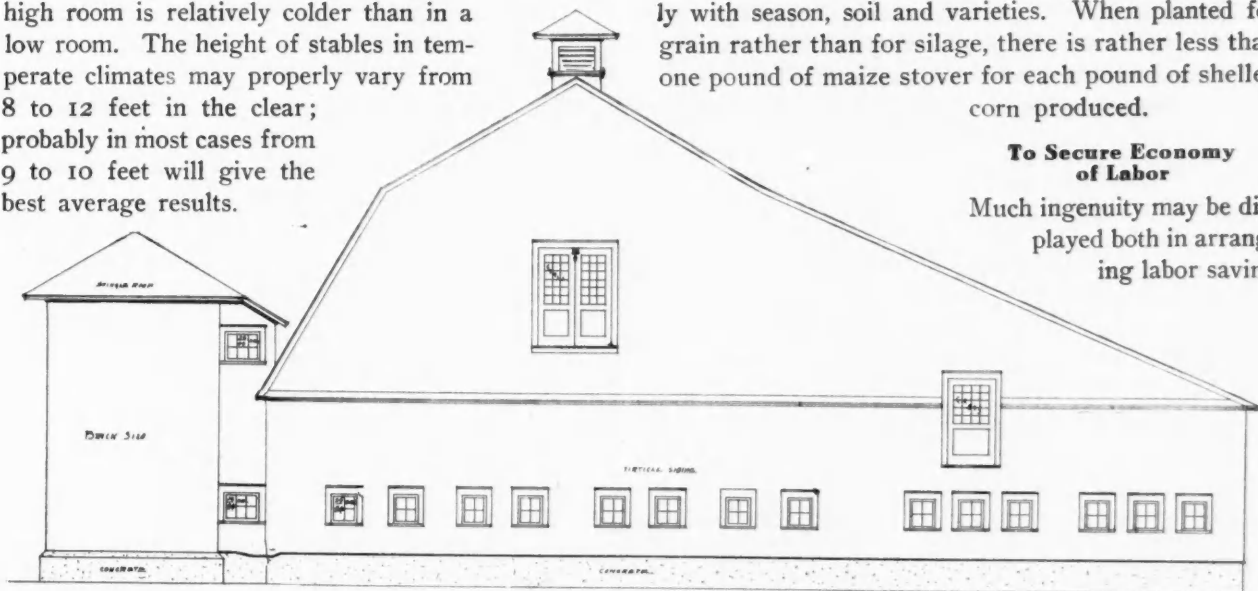
Right Side Elevation Modern Dairy Barn Designed for Mr. Ira Conger, Sac City, Iowa

12 to 15 feet in case of horses. The space between the feed manger and the wall should be from 5 to 6 feet. When cattle face toward the center the distance from gutter to wall should be 6 feet; with horses 8 feet. Like the amount of cubic space, the height will depend somewhat on climatic conditions. The higher the stable the more readily the air may pass through above the animals without causing draft. On the other hand, since the warm air passes to the top of the room, the position occupied by the animal in a high room is relatively colder than in a low room. The height of stables in temperate climates may properly vary from 8 to 12 feet in the clear; probably in most cases from 9 to 10 feet will give the best average results.

usual yields, but future developments and increased yields from improved methods should be considered. The following may be taken as a guide in estimating space: maize, 50 bushels per acre; wheat, 25 bushels; oats, 40 bushels; hay, 2 tons; silage, 12 tons per acre. A bushel of small grain occupies about 1.25 cubic feet; that of ear corn, 2.5 cubic feet; a ton of hay, 500 cubic feet; a ton of silage, about 60 cubic feet. For each pound of wheat or oats, two pounds may be allowed for straw, although these relations vary greatly with season, soil and varieties. When planted for grain rather than for silage, there is rather less than one pound of maize stover for each pound of shelled corn produced.

To Secure Economy of Labor

Much ingenuity may be displayed both in arranging labor saving



ALL WINDOWS ON THIS SIDE TO BE 1'-0" SQUARE UNLESS MARKED OTHERWISE

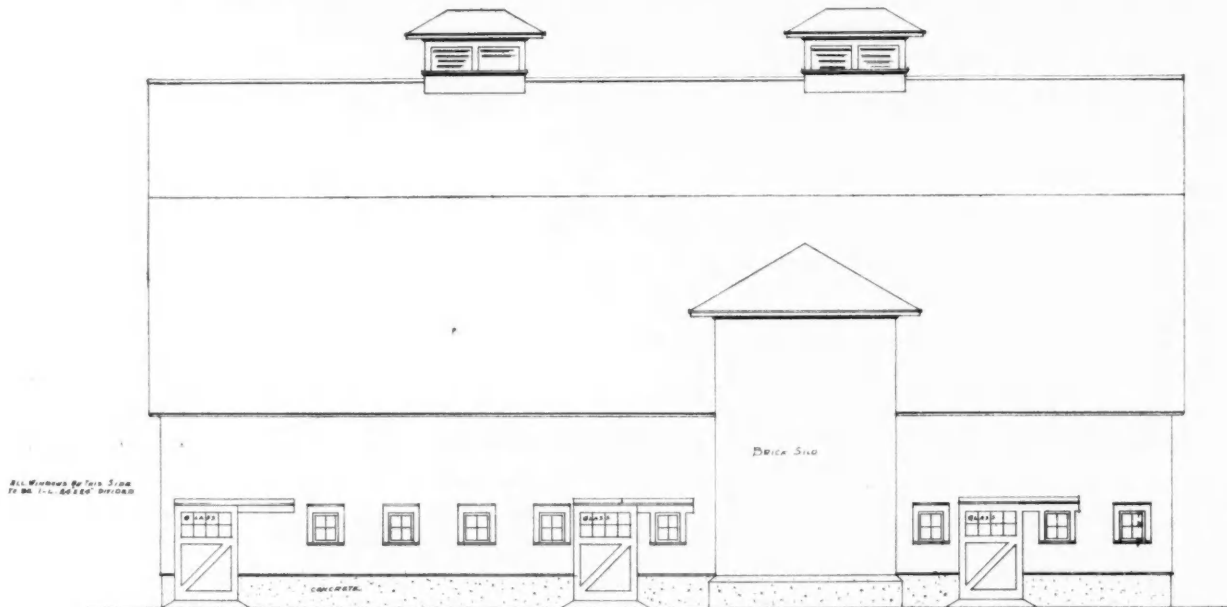
Left Side Elevation Modern Dairy Barn Designed for Mr. Ira Conger, Sac City, Iowa

devices and in so arranging the various rooms or buildings so as to make the least work.

There are two considerations which may materially affect the labor: (1) the compactness of the building or buildings; and (2) the extent to which the working parts of the barn are placed on a single floor.

If one studies attentively the different types of barns in different countries or different parts of the same

either south or east of the barn. This then brings the yards farthest from the house, the least subject to observation from the house, and, as the prevailing winds in the United States are from the south and west, it is the most sanitary condition so far as the farm dwelling is concerned. The next least objectionable position would be north of the dwelling, with the yards east of the barns. The ideal location for barns



Rear Elevation Modern Dairy Barn, Designed for Mr. Ira Conger, Sac City, Iowa

country, he must be struck by the similarity of type in the same neighborhood and the difference in type in different neighborhoods. To some extent this may be a matter of imitation, but, on the whole, it usually represents a more or less unconscious adaption to the climatic conditions and to the methods of farming.

In the New England States the barns are not only all connected but they are also usually connected with the dwelling. In Holland the connection is even more intimate. On the other hand, in the central and southern United States it is common to build a number of unattached outbuildings, while in England buildings are not only detached but are not infrequently distributed about the estate.

The factors entering into this problem are labor, temperature and ventilation. In many places the labor of caring for live-stock is only a small part of the total labor of the farm. In such cases, the arrangement of buildings so as to reduce the general farm labor, particularly in the busy season, will be a most important consideration. In mildly temperate climates when barns are built primarily to keep animals and objects dry, rather than for protection against great cold, large dependence must be placed on wind as a means of ventilation. In such cases the location and arrangement of the buildings is a matter of some importance.

The best situation for the barn is east or south of the dwelling. The barnyards are preferably situated

is east of dwelling with the yards on the south and east. In locating a barn, particular attention should be paid to the possibility of proper drainage, in order that both buildings and yards may be as dry as possible.

In the climate of northeastern United States, it is desirable that the yards and buildings should be protected from the winter winds, those from the northwest, perhaps, being the most objectionable. On the other hand, it should be borne in mind that the most difficult thing to obtain in farm buildings is ventilation, and that wind is our most effective agent in obtaining it. If a series of buildings are to be built they should be so arranged as not to interfere with the proper circulation of wind about these buildings. For this reason, the hollow square may be objectionable. While a row of buildings side by side would be less objectionable, a row placed end to end but not in a straight line would be least objectionable.

The introduction of the horse-fork and the hay-carries and the adoption of the silo have led to radical departures in form of buildings and method of construction. It is no longer necessary to drive into the barn to unload hay, although it may be desirable when the custom of putting grain in barn before threshing still prevails. Expense in construction may be saved in some instances by having the hay mows rest on the ground. Long, narrow, high mows save labor and economize space. It is much easier to mow away in a space 30 by 80 feet than in one 40 by 60.

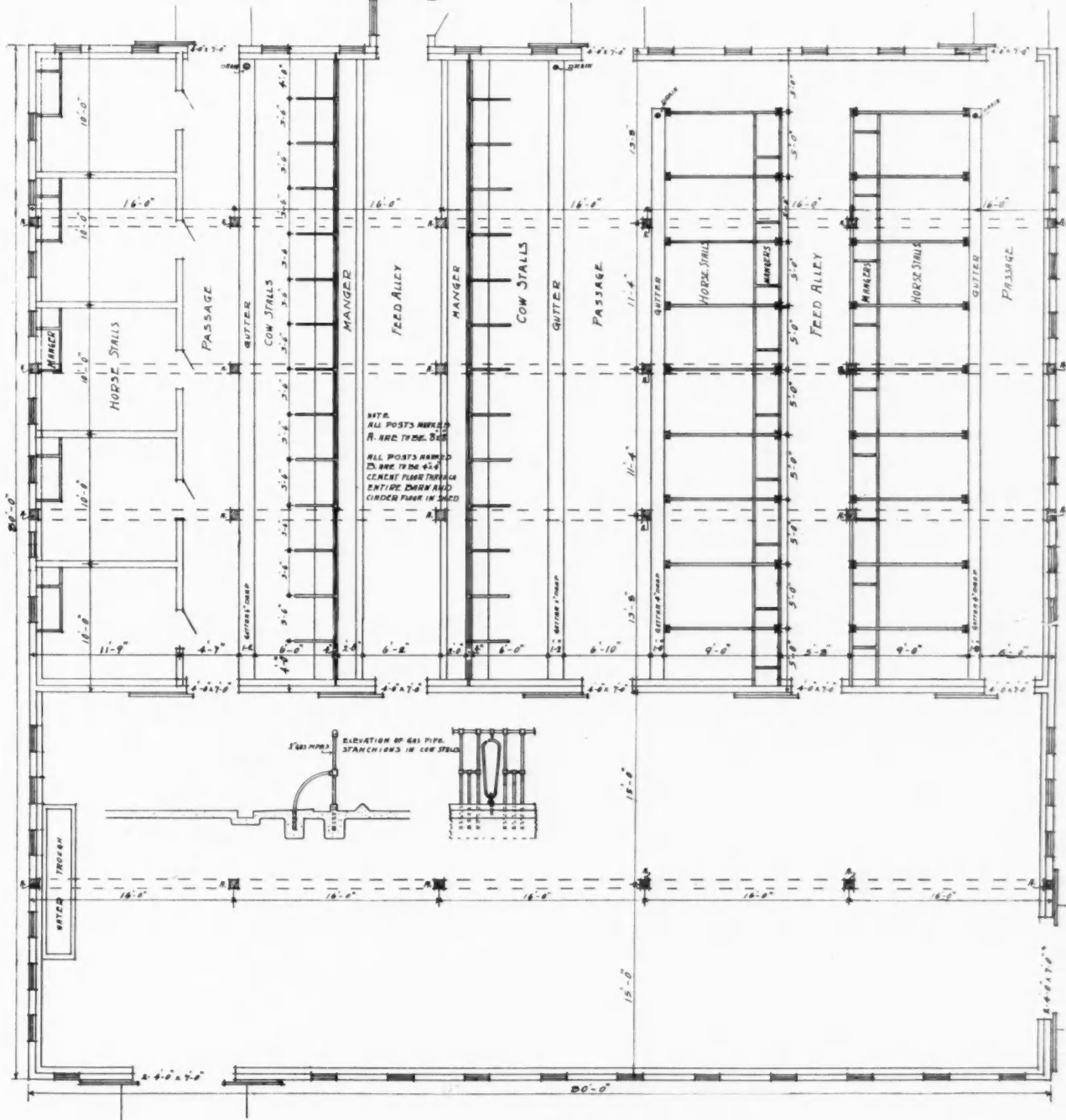
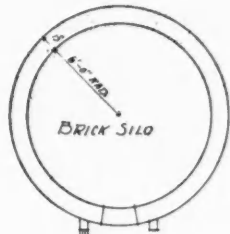
This difference in form will save one man in the mow.

To Secure Economy of Construction, Strength and Durability

These items involve the choice of materials. The materials used may be wood, stone, brick, concrete, or iron. The relative cost of material will depend on the locality, and their economical use will depend somewhat on the price of labor. Choice of material will also depend on the strength needed and durabil-

ity desired. It is sometimes wise economy to build for greater durability not only because of the greater period of service but because of less expenditure required for maintenance. On the other hand, there may come a point in the cost of construction when the interest on the increased investment will more than pay for maintenance.

Stone has long been used for basement work and when available is in many respects the best for such purpose. Objection is often found to basement walls because of the condensation of moisture on them. This is because the inner surface is cooled by conduction and because the stone is a good conductor of heat. The room within stone walls is less likely, however,



Ground Floor Plan Modern Dairy Barn, Designed for Mr. Ira Conger, Sac City, Iowa

to be cooled by an actual change of air than in the ordinary wooden construction, particularly when it is warm above ground so that the room contains relatively warm moist air with relatively cold surface walls. This condensation of moisture on the walls is not in itself harmful but rather beneficial as abstracting moisture from the air. Moist walls, however, are a symptom or indication of an improper condition of the air of the room.

When timber and labor were cheap, barns were built with heavy frames, dependence being placed on the direct support of the post. Such barns are thoroughly strong and rigid, but are now found expensive on account of the price of lumber and labor, and on account of the posts the space can not always be so conveniently or economically arranged. This has led to the construction of so-called plank barns.

Two principles have been taken advantage of in the construction of plank barns:

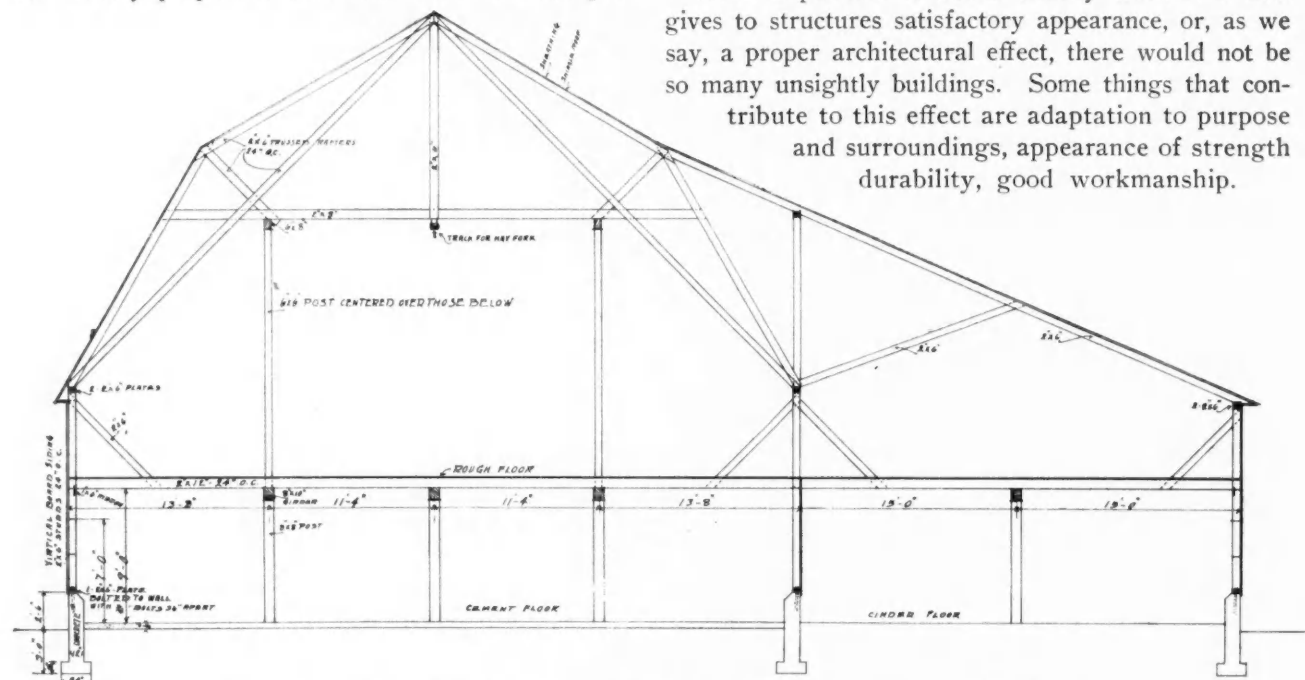
(1) That the carrying strength of two beams are not directly proportional to their width but are pro-

elsewhere. The principle on which the truss is based may be illustrated by stating that if the ends of three lath are united into a triangle by the use of a single nail at each angle, the structure will be entirely rigid, but that if ends of four lath are united into a square by use of a single nail at each angle the structure has no rigidity. Persons are often at a loss to know whether they have a true truss. The answer to the query is whether they have three sides of a triangle properly fastened together.

In building plank barns, the width of the material makes it possible to use nails in fastening the ends in place of mortise and tenon, which were necessary with square timbers. This very much reduces the amount of labor and requires somewhat less skilled labor. In building plank barns, two difficulties have sometimes arisen: the nailing has not been sufficient to stand the pull; and sufficient provision has not been made for lateral pressure.

Appearance

Were it possible to define exactly what it is that gives to structures satisfactory appearance, or, as we say, a proper architectural effect, there would not be so many unsightly buildings. Some things that contribute to this effect are adaptation to purpose and surroundings, appearance of strength durability, good workmanship.



Section Showing Framing Modern Dairy Barn Designed for Mr. Ira Conger, Sac City, Iowa

portional to the square of their depths. The carrying strength of a 4 by 4 is to a 2 by 8 as 20 is to 66. Great additional carrying strength for the amount of material used is therefore secured by using plank on edge rather than square timber. It will be observed, however, that the lateral strength of the material is lessened, and therefore not so able to withstand any lateral thrusts as when square timbers are used. For this reason plank barns, in the construction of which this fact has been overlooked, have been known to suffer from wind pressure and sometimes from the interior pressure of hay or other forage.

(2) In the construction of plank barns greater use has been made of the truss than in older barns, in doing away with interior posts and in securing strength

Certain colors and combination of colors are more pleasing than others. Some colors, such as shades of yellow, attract attention and serve to make a building prominent, while other colors, such as olive or olive-green, make a building less prominent. Choice of color should depend on the surroundings. A white building in an exposed place is unattractive, while if subdued by being surrounded by trees and shrubbery it is attractive. To those who do not care to worry about colors, outbuildings may safely be painted red with white trimmings. There is no better paint than pure boiled linseed oil and pure white lead. Venetian red is a good pigment because it is a cheap pigment that will hold to its color. One difficulty of olive and green colors is that it is difficult without high expense to obtain green pigments that will not fade.



Hand Mixing of Concrete

A CONSIDERATION OF THE PROCESS WHERE MACHINE MIXING IS NOT FEASIBLE

By Sanford E. Thompson

ALTHOUGH upon all extensive operations concrete is now mixed by a machine, hand mixing is necessary, and may be even economical under certain conditions: (1) where the quantity of concrete is so small as to prohibit the expense of purchasing or renting a mixer; (2) where concrete is laid in so thin a layer or at so many different places that the cost of the frequent moving of a mixer counterbalances the saving otherwise realized; and (3) in beginning large jobs before the machinery has arrived or where the work is slow at the start. The cost by hand mixing, therefore, should be estimated not only when it is obviously the only method to use, but also to determine whether hand work may not be the cheaper.

Notwithstanding that comparative tests have usually shown machinery-mixed concrete to be the stronger, with careful superintendence, hand mixing will give first-class results. Concrete of wet consistency, soft enough to flow sluggishly, such as is used in building construction, is less easily worked by hand than a mixture of stiffer plastic consistency.

The cost of mixing by hand varies with local conditions, but when, as is usually the case on any particular job, the local characteristics are known, it is possible to estimate the cost very closely instead of making it a matter of mere guess. To be sure, the experienced engineer or contractor may guess quite accurately; but almost anyone will fall down once in a while and make a mistake which may amount to a large percentage of the cost, enough to make a difference between profit and loss, when conditions are different from those with which he is familiar. With the proper data at hand it is just as easy and takes no more time to estimate accurately than to study the problem carefully enough to hazard a guess which will include all of the variables.

The strength of hand-mixed concrete is but little affected by the system employed in mixing the materials, provided they are turned in a proper manner and a sufficient number of times to incorporate them thoroughly. Some engineers prefer to make the cement and sand into a mortar, while others do not add the water until the final turning. Excellent work is produced by both methods, but the latter is slightly

more economical, because shoveling the mortar on to the stone involves more labor than handling the dry mixed cement and sand. For example, comparative tests show that it costs less to mix the cement and sand dry, shovel the mixture on to the stone, and turn three times than to make a mortar, shovel it on to the stone, and turn only twice. Still other methods are sometimes employed, so that they all may be summarized as follows:

(1.) Cement and sand mixed dry and shoveled onto the stone or gravel, leveled off, and wet as the mass is turned.

(2.) Cement and sand mixed dry, and the stone or gravel dumped on top of it, leveled off, and wet as the mass is turned.

(3.) Cement and sand mixed with water into a mortar which is shoveled on to the gravel or stone, and the mass turned with shovels.

(4.) Cement and sand mixed with water into a mortar, the gravel or stone spread on top of it, and the mass turned with shovels.

(5.) Gravel or stone, sand and cement, spread in successive layers, mixed slightly and shoveled into a circle or crater, water poured into the center, and the mass mixed with shovels and hoes.

The last method is applicable only where a small amount of concrete is to be mixed on the ground with no mixing platform or motor box.

Mixing of the sand and cement must be done just before they are needed. If mixed more than half an hour in advance, the natural moisture, which all sands contain, will make the cement set and cake.



A Wood Turner's Pet. I once worked in a stair shop in Jersey City; the owner lived up-stairs and had his stable in the rear of the shop. He had bantam chickens; one Mr. Bantam used to perch on the tail stock of the lathe while I would be turning balusters, the chips would cover him up but he would still hold his post (not the one I was turning). The Boss thought it very clever of him. I would now and then, when boss was not there, give him a shower of tobacco juice that would make him look like a stucco gargoyle. Believe it?

WM C. JASBURY.

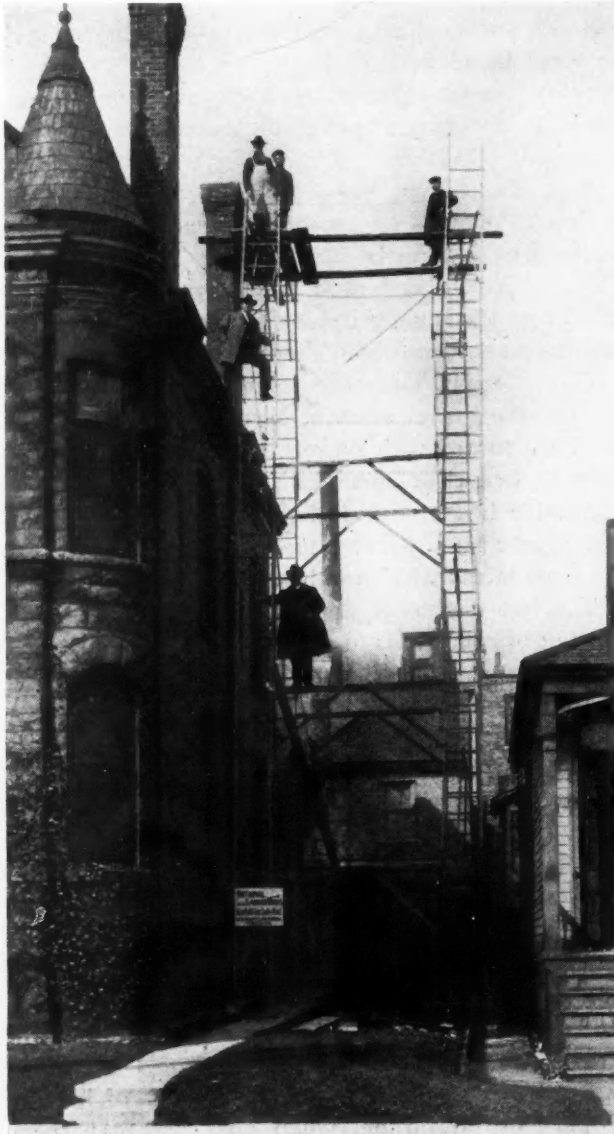
The Editors Drawer

*New things
worth while*

Ladder Scaffolding Now Being Used

What should be of general interest to workers making use of scaffolding at any time is the ladder scaffolding now being used in a great deal of the building and decorating work done in Chicago and vicinity.

This ladder scaffolding is claimed by those who have used it to be far superior to anything ever before used or built for use in that line.



CHIMNEY REPAIR—A TICKLISH JOB EASILY DONE
Ladder Scaffolding 44 Feet High Erected in 40 Minutes by Three Men. Carried Over One Ton of Bricks and Mortar on One Side

This scaffolding, as reference to the accompanying illustration will show, is entirely constructed of ladders. It is convenient for the workmen to get up and down at any point desired, and it is absolutely safe.

Being light, it does not sway while the men are working on it; it does not obstruct the light and it can be easily and quickly put up or taken down.

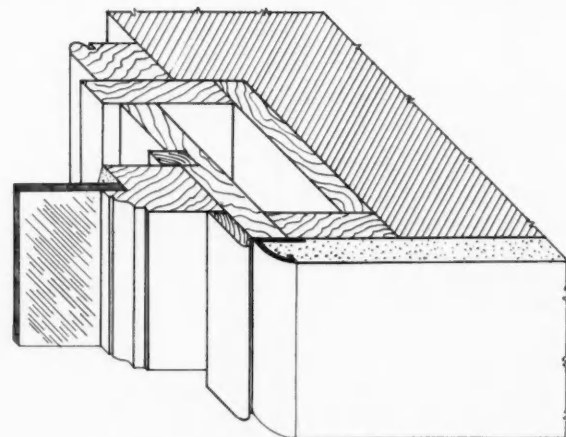
This ladder scaffolding can be used in any exterior or interior work to a height of over 600 feet. No nails, saw or hammer are necessary in constructing any part of the scaffolding. Any and all kinds of work can be done without trestles or jacks.

The ease of construction and handling, and the absolute safety it affords the workmen, should make this ladder scaffolding appeal to all men ever required to make use of scaffolding for any purpose.

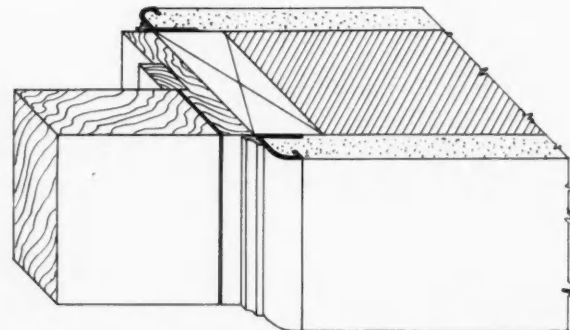
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Pressed Metal Sanitary Trim

The enthusiasm for non-dust-catching interior finish continues. First we had the slab door, a hardwood veneer door all in one panel without projecting mouldings of any kind; non-dust catching, therefore sanitary. Now there has been developed a sanitary trim which does away entirely with interior casings around doors and windows, at the same time itself making a neat, durable finish. This has been given the name "Hol-don Sanitary Trim." The accompanying drawings show how it is applied; and the photograph gives an idea of the neat appearance of this finish in actual construction.



APPLIED TO WINDOWS



APPLIED TO DOORS

Sections Through Window and Door Frames Showing Application of "Hol-don Sanitary Trim"

We are informed that architects and builders are taking very kindly to this material for school houses, hospitals and public buildings of all kinds. For instance, the Nebraska State Architect has adopted it for the new buildings in process of erection by that state. And Messrs. Link & Haire, of Butte, Mont., have utilized it in the new hospital building at Missoula.

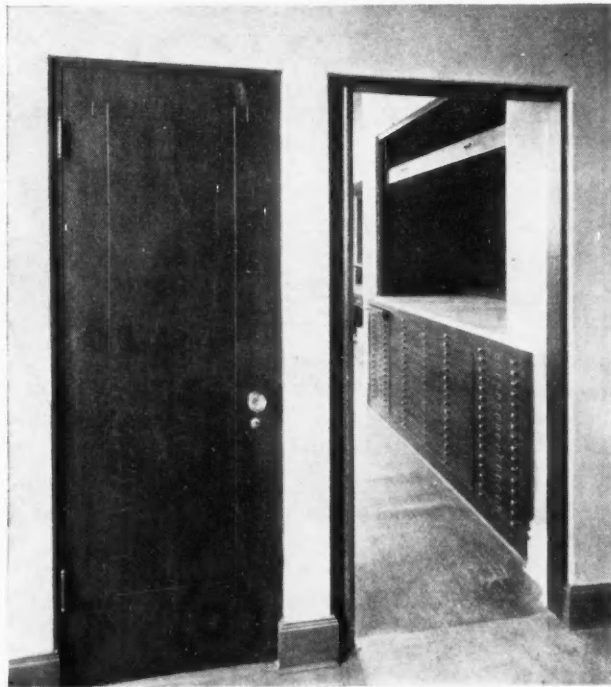


Photo of Finish Work Where "Hol-don" Pressed Metal Trim is Used

It seems certain that the popularity and use of this sanitary trim is bound to grow rapidly as it becomes better known among builders.



Novel Construction of Furnace Trunk Line

Something decidedly new and novel in the construction and operation of a furnace has just been perfected by three men quite prominent in the furnace world—Messrs. William J. Owens, George A. Glover, and A. E. Huff.

Their method of installing furnace trunk line has been under test in various sections of the east and—so far as has been observed—operating very successfully.

This new element in the construction of the furnace trunk line is based upon a plan to take care of the capacity of the casings, and as each drive of pipe is taken off, the main line is decreased that much. In this way it is figured that an impetus is given to the warm air which will force it to the rooms.

All carpenters and builders will immediately note that this is the same idea as followed in the installation of hot water and steam systems. The inventors see no reason why it will not prove entirely efficient in its use with warm air.

New features effecting construction, such as the one noted here, are well deserving of the serious thought of every man at all familiar with the particular line of work involved.

It would be well if the heating experts among the trade would delve into this trunk line idea, broached here, and let us have an opinion concerning it.

Active discussion through our columns, by our readers, concerning various new ideas is well worth while. It promotes

general knowledge throughout the field and is always interesting and timely.

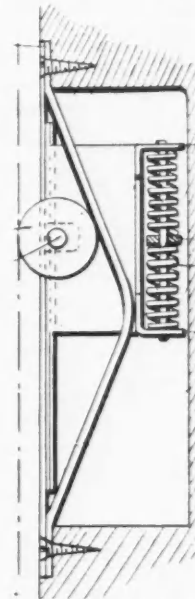


Carpenter Invents Automatic Sash Holder and Lock

In many sections of the country the great majority of windows have no weights and cords, and the bottom sash is the only one that slides up and down, the upper one being held up by the window strips. An automatic sash holder and lock especially designed for this kind of a window has been invented by Irving L. Dempsey, a carpenter and contractor of Galena, Md. It has been pronounced O. K. by the carpenters who have examined it and seen it work.

The accompanying illustration shows a longitudinal vertical section through a portion of the window sash frame, showing this sash holder and lock applied. The locking roller is mounted in such a way that it can be shifted into a projected position and so held that it cannot rotate in one direction, but is free to rotate in the other. Through this simple operation the window sash is held or locked in any desired position.

We understand that the inventor is negotiating with leading manufacturers of hardware specialties to market this very interesting device.

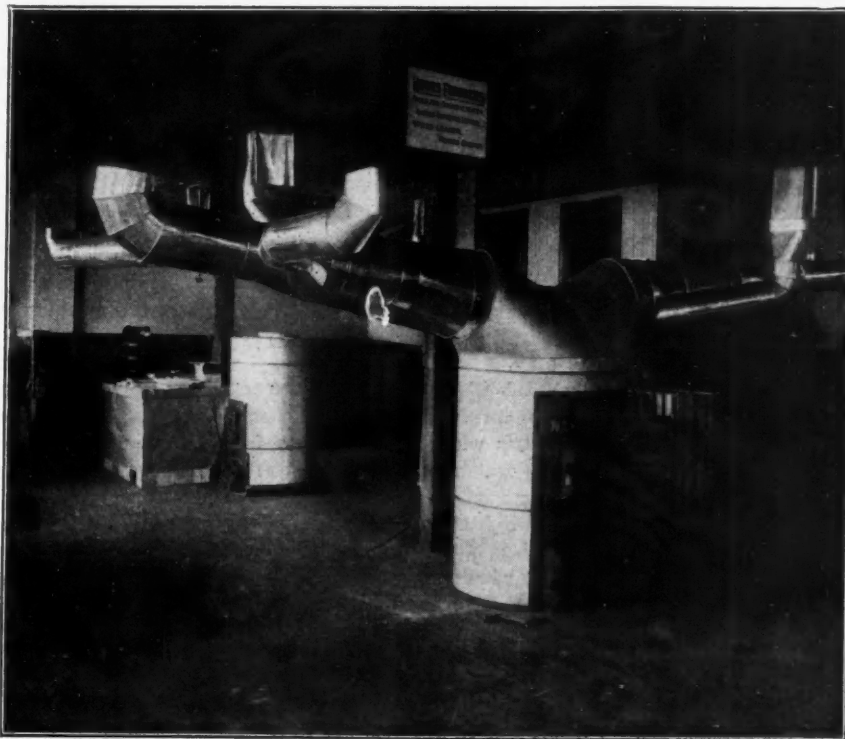


Vertical Section Through Window Sash Showing Holder in Place



Fireproof Paint

Mix together 4 lbs. asbestos powder, 1 lb. aluminate of soda, and 1 lb. lime. Stir in 3 quarts silicate of soda. Tint the mixture with any desired coloring (mineral preferred); then reduce with water to the proper consistency for application.



Warm Air Piping is Diminished in Size as Risers are Taken Off—Is This an Advantage?

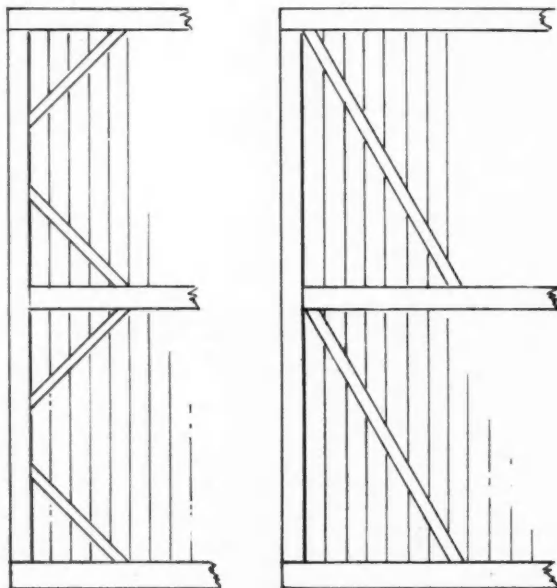


Our Readers are Requested and Urged to Make Free Use of These Columns for the Discussion of all Questions of Interest to Carpenters and Builders

Will the Readers Come to the Rescue?

To the Editor: Cambridge, Mass.
Various books show bracing for outside walls of wooden houses arranged, as shown in sketch A, the braces being 3 by 4 or 4 by 4. This was formerly the custom in Massachusetts, but as far as I have noticed, has not been in use here for some twenty years, but 2 by 4 or 3 by 4 braces of the kind shown in Sketch B are used by simply nailing at top and bottom.

I would like to ask the readers if the style shown in Sketch A is now used anywhere in the United States or Canada, and, if so, how the ends are fastened to the sills, girts and plates.



A B
Ways of Bracing Outside Walls

I would also like to ask whether it is worth while to tenon any studs on account of the labor involved, the possible chance for rotting of sills at the mortises when as a matter of fact the nailed studs seem to give a still house. I would like to see a discussion from the readers on these matters published in the AMERICAN CARPENTER AND BUILDER.

I am preparing a large number of tables for strength of wooden beams and am in doubt whether to take the nominal sizes or to take the sizes $\frac{1}{4}$ or $\frac{1}{2}$ inch less than the nominal as given by some of the lumber manufacturers' associations. In this market the lumber is usually less than the nominal size, but not always, for I have seen spruce and hard pine on the same job, some of which would be more and some less than the nominal size. I would like to ask how the sizes run in other sections of the country. CHARLES W. KILLANE.

Ownership of Old Material

To the Editor: Lanark, Ill.
I desire your opinion according to the general rule of contracting on a point which enters a present contract. An addition is put against a brick building and it is necessary for the contractor to brick up several old windows half way and furnish new frames and sash for upper half. Is the contractor entitled to the old frames and sash?
In a general way for contract work, is the contractor entitled to old material where new replaces same?

C. E. SWORD.

Answer: It is not customary for a contractor to have title to old material replaced, unless such right has been granted him by the terms of the contract or agreement.

In estimating on a repair job the contractor will figure the cost of new material and the cost of putting it in place and will also add a certain percentage for tearing out the old work. In large operations involving the wrecking of old buildings, the razing is usually done by special wrecking contractors. Very often the value of the old materials is more than enough to pay for the clearing of the site.

EDITOR.



Friendly Criticism from Tennessee

To the Editor: Reliance, Tenn.
You ask for comments on the prize letters of the July issue of your valuable paper. My education is too limited to undertake to comment, so I will only try to tell some things that I noticed as I read the number through.

All emphasize the old and time proved saying, "Honesty is the best policy," and that the man who hustles is the one who gets the business. Sure it is, and who deserves success more than the hustling honest man.

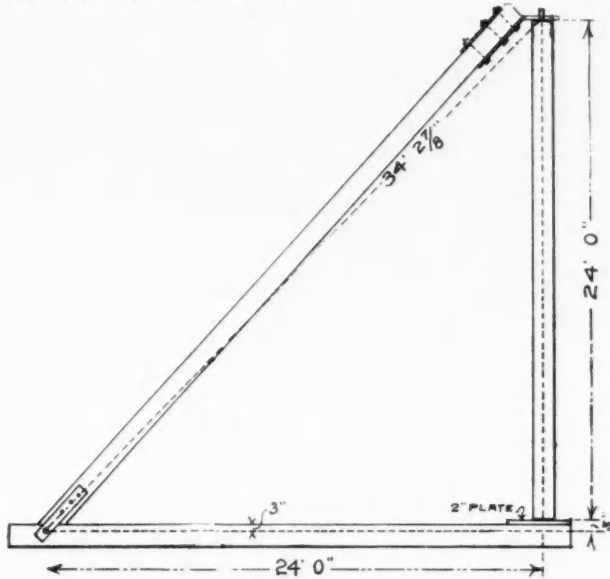
It would seem that Edith Stowe has discovered the place where everything, even labor, is as cheap as could be desired. The writer has been guilty of doing all the work, such as is described and illustrated, and I wonder why it is that writers all tell such distorted yarns after visiting the East Tennessee mountains. I never knew a roof of that kind to last two generations. Those rib poles of unprotected sap timber would soon rot.

THE AMERICAN CARPENTER AND BUILDER is fine, but you must be careful and not take everything you see in it for granted, for some things get out of proportion. Take, for instance, the estimating department in the July issue. We backwoods people in the mountains are not able to make more than four yards of concrete out of one barrel of cement and one of sand. The more sand the more bulk with us. It seems to me there is too much time being wasted on that shingle yarn. It is too absurd. No one ever nailed on shingles that fast. Long live the AMERICAN CARPENTER AND BUILDER.

CHESLEY PRESSWOOD.

A Derrick Problem

To the Editor: Alpena, Mich.
 I would like to see this problem solved. I recently built a derrick; the bottom plate takes 2 inches higher for the mast, which will make it 24 feet 2 inches high, and the holes in the bottom parts are 3 inches down from top. I took centers and according to the square made it out 34 feet 1 inch, the



Derrick Showing Dimensions

length required for the hypotenuse. But when I set it up, it threw the mast 3 inches out of plumb. Now, will you or some brother chip show me what the correct length is?

S. SCHEMANSKI

Answer: According to square root, the correct length is 34 feet 2 7/8 inches.

EDITOR.

“Bevel” is Right

To the Editor: Oshkosh, Wis.
 In the answer given by Mr. A. W. Woods, in the July number, to A. C. Wagner’s request for proportion for gambrel roof, he uses the word “bevel square.” It happens that just at the present time this term bevel square is under discussion. Catalogues list Squares, T-Squares, Miter Squares, and Combination Squares. Cannot find mention of a Bevel Square, or a Round Square. It is a habit with most users of a *Bevel*

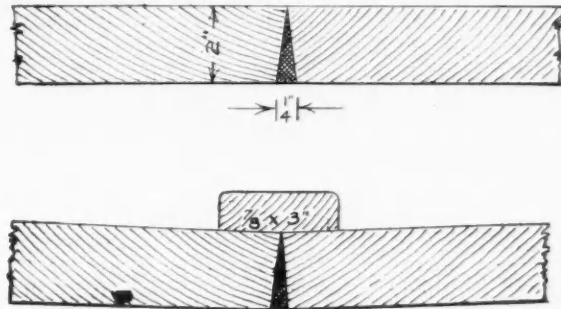
to speak of it as a Bevel Square. With an apology to Mr. A. W. Woods, I think Bevel is correct, but would like your opinion.

A. J. Carpenter, of New London, Conn., “wants to know how they do it.” I would like to reply to him and say that when they lay eight and ten thousand shingles a day, I don’t think they measure them up at all, they just lay them on a wagon.
 ALBERT E. NALDRETT.

Boat Calking Question

To the Editor: Carlisle, Iowa.
 I am herewith sending my plan of calking a boat for the benefit of Walter J. Eachus, who asked for information in the June number.

Am also sending another method that does not need calk-



LEAK PROOF BOTTOM.

ing, except tack all joints with over-all cloth, saturated with white lead, which should be put in while the boat is being put together.

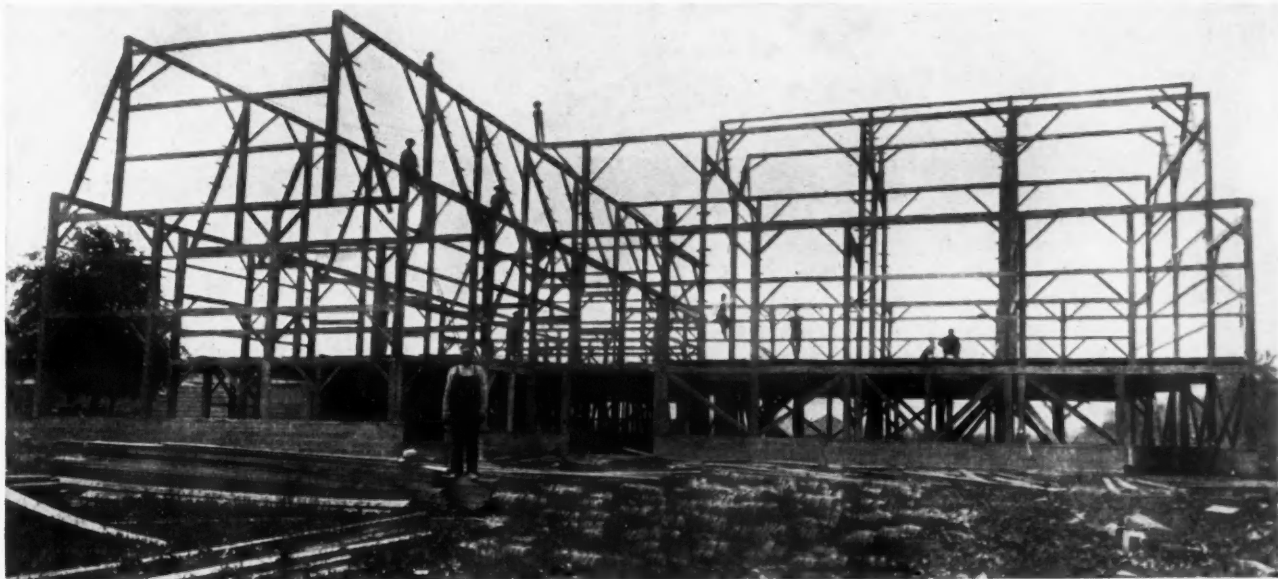
J. A. UTTERSON,
 Contractor and Builder.

Ohio’s Largest Barn

To the Editor: St. Stephens, Ohio.
 This is a photograph of one of Ohio’s largest barns; the size is, main barn 40 by 102 feet and straw barn 62 by 81 feet. There is a basement under the whole barn. The height of this barn is 53 feet and 10 inches.

That is myself with the square in the foreground of the picture. I am working at this barn at present and when it is completed I will send you another photo. I am a subscriber to AMERICAN CARPENTER AND BUILDER and think that it is the most useful paper that I get.

JOHN S. HAHN,
 General Carpenter, Contractor and Builder.



John S. Hahl of St. Stephens, O., and One of his Big Barn Jobs

A Bunch of Questions

To the Editor:

Morristown, N. J.

I like the paper very much and am always glad when it comes. Now, I want to ask some questions:

1st—Will you sometime tell how you lay out stairs and what rule you go by to have good head room, and what is the best width for stairs in main hall?

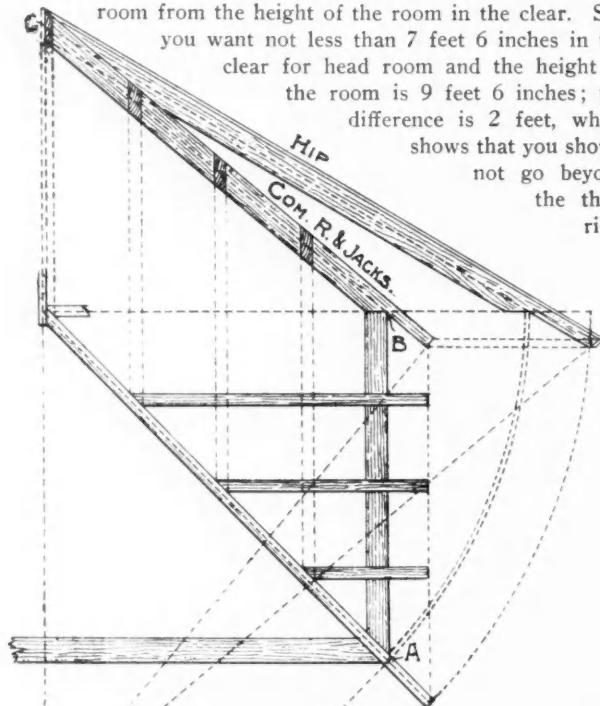
2nd—What do you think is the right height for locks on doors? I think 38 inches is right.

3rd—I would like information relative to getting length of hip or valley and jack rafters. Will you make a plan of a roof and put the figures there and the cuts across the back so it will be plain? I always show my paper to others and I want to let them see how you frame a roof.

FRANK P. MILLS.

Answer: 1st—Proper head room is a thing too often just guessed at in laying out the frame work of the building—only to cause trouble later on. The remedy is simple. Lay out the run of the stairs on the floor; then subtract the desired head

room from the height of the room in the clear. Say you want not less than 7 feet 6 inches in the clear for head room and the height of the room is 9 feet 6 inches; the difference is 2 feet, which shows that you should not go beyond the third riser



Plan and Elevation of Roof Rafters

for the header above. Head room should always be higher than the room doors because the slant of the stair necessarily takes up some of the space and besides if it does clear the head of an ordinary height person, it looks close and is very unhandy about moving furniture up and down the stairway. Better allow (for the common dwelling house) not less than 7 feet 6 inches or 8 feet. In fact, it is a good idea in planning a house to lay off the stair first, giving ample room for same and then lay off the desired room for the hall or other room. As to the proper width, that depends on what kind of a house it is, but for the ordinary run of dwellings, they should be from 3 feet 6 inches to 4 feet in the clear.

2nd—The height that locks should be set depends a good deal on the kind of a door, the arrangement of the panels, etc. It is not a good idea to set the lock so as to cut off a whole tennon; and yet it cannot always be avoided in cutting away at least a part of it. We believe a lock set at 3 feet to the

center of the knob is about the proper height for the common run of doors.

3rd—This question we have answered many times through these columns, both with and without the use of the steel square; and as to which is the best way to illustrate furnishes a question in which there is a wide divergence. This is from the fact that all cannot agree or see things alike; and perhaps it is just as well, for difference in opinion is the life of the subject.

We do not claim for the accompanying illustration that it is the best, but that it is good in that it is self-explanatory, and especially so to those who are not well up in reading complicated diagrams. The lower part of the diagram shows the plan of the rafters, while the upper part shows them in elevation. Remember that a jack rafter is a part of a common rafter and its cuts are the same as those of the common rafter with the addition of the cut across the back commonly called side cut. Here they are, common rafter and jacks all shown in a single illustration, one piled on top of the other in their regular order. Now we will pass on to the hip; its run covers one-half the width of the span just the same as does the run of the common rafter but it must do it at an angle as here shown; and consequently its run must have a gain over that of the common rafter and in this case the gain is 5 inches to the foot and that is the reason 17 and the rise per foot run of the common rafter will give the seat and plumb cuts of the hip or valley.

The side cuts bother a great many and then again it is quite the common thing to see a carpenter lay off the plumb cut for the jack and then take a block, cut from the rafter, and place it alongside of the plumb line and scribe; then carry these lines across the back and cut diagonally across. This will give the correct angle for either hip or jack; but few realize why. It gives a correct result for which they are accustomed to building and they are satisfied to let it go at that; but just throw the corner out of the square and their block system has got them effectually blocked and then they will have to sit up and take notes, as the saying goes, and start out on a new line.

The reason of this is that with the run of the hip for the square corner being at 45 degrees from the adjoining plates there is an equal force and the part that should be taken to answer for any shaped corner is equal the runs of the rafters in the square cornered building. Now, for a general rule that will apply to any shaped corner, if the distance from the corner along the plate to the seat of the common rafter, as A to B and the length of the common rafter as B-C taken on the steel square will always give the side cut of the jack for any shaped corner, the side on which the latter is taken will give the required angle. For the side cut of the unbacked hip, take the distance of a line thrown at right angles from its run, to a point in line with the ridge pieces as A-D; and the length of the hip and the side of the square on which the latter is taken will give the required angle.

A. W. Woods.



Wants to Build a Boat

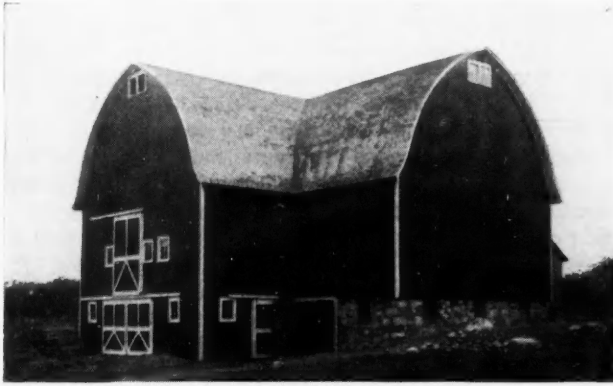
To the Editor:

Portis, Kans.

It seems as though I could not get along without your valuable paper. It has been a great benefit to me—especially the correspondence part I think is grand.

I would like for some one to give me some information on building a boat, say perhaps 10 feet long and straight on the back. How wide ought it to be and how deep? What size lumber, etc.? I want to make a sort of a skeleton or frame work and then tin it, bottom and sides. Will be glad to get some information on this.

OLE M. JOHNSON.



Two Views of Completed T-Gothic Roof Barn Previously Discussed in These Columns

Striking Looking Barn

To the Editor: Highland, Mich.
Here are pictures of the T-shaped Gothic roofed barn, about the framing of which there have been two or three articles in the *AMERICAN CARPENTER AND BUILDER*. The barn belongs to F. A. Le Baron, of Rose township, Michigan, who is much pleased with it.

I wouldn't panel barn doors for myself; but when the owner wants 'em paneled we try to suit him.

ALBERT GONNE.



What the Cyclone Did

To the Editor: Regina, Sask.
I find the *AMERICAN CARPENTER AND BUILDER* a very instructive book. I am enclosing \$2.50 for another year's subscription, also a photo of the buildings that were destroyed in the cyclone on June 30th.

I should also like to see, through the *AMERICAN CARPENTER AND BUILDER*, some interior fittings for church, store and bank.

M. LAVERICK.

A Large Order—But a Good One

Volunteers Wanted

To the Editor: Cosby, Mo.

Enclosed you will find the amount due you for one year's subscription for the *AMERICAN CARPENTER AND BUILDER*. Your journal is certainly a grand help to all engaged in the building trade. I enjoy every article pertaining to the trade, but don't care much for carpet problems and things along that line; but have no objections to them if other brothers enjoy them.

What I would like to see taken up by some one of your staff or some able mechanic is to *How Build a House*.

Now, let me explain. Here in my locality all the residences are being erected on cement foundations; the carpenter is expected to build the forms of lumber; then workmen are employed to mix and fill the forms with cement, sand and crushed rock. Now we are ready to begin with a two-story house of seven, eight or nine rooms, and three to four carpenters to do the work.

We will suppose the writer begins with his first month's issue by giving what he considers to be the best method of preparing the forms and putting in foundation.



Results of Regina, Sask., Cyclone Witnessed by Our Subscriber

The next issue he could place the sills and floor joist, giving his idea of the best kind of sill to use.

Next he could cut and raise studding, explaining how he goes about it to make the best time, and also how he proceeds to plumb building to get best results. And then proceed to complete the job from month to month, laying out openings, laying sheathing, cutting and raising rafters, putting on cornice and roof, making window and door frames, and how to proceed to set window and door frames to get best results. Putting on siding.

In fact, to complete the house from foundation to putting on the last piece of interior finish, the above could be carried on from month to month and would be very instructive to those who are good workmen, but who don't know just how to proceed with a building to make the best time and get best results.

H. M. THOMAS.



To Develop the Curve for the Corner

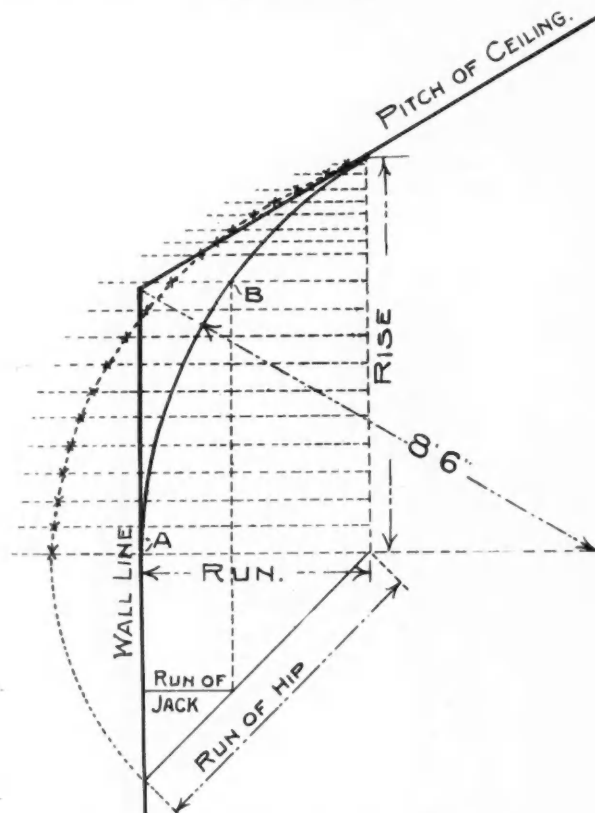
To the Editor:

Lewistown, Mont.

We are building a church here which is to be of brick. The radius on the sides is to be 8 feet 6 inches and we are in a dispute as to the radius of the hip and valleys. I would consider it a special favor if you will explain this, also the side cuts of the jacks and their lengths.

C. MAYER.

Answer: From the above and the Piper Construction Company's sketch enclosed, we take it that a curve is wanted at the ceiling. Assuming that the corners are square, the intersecting rib at the corner would rest in the same position as a hip or valley and therefore the treatment for developing is the same. Now, in the case of the square cornered room, the



Method of Getting Curves for Hips and Valleys

run of the curve for the corner has a gain of 5/12 over that for the curve used on the side wall, which is struck for a common center; but the corresponding curve for the corner cannot be struck from a common center because it is part of an ellipse and must be developed in another way. To do this,

it should be laid off full size as follows:

Lay off the side curve full size as shown in the illustration, then lay off any number of lines parallel with its run, letting same extend past the curve as shown. Now, measure the parallel lines from the rise to the curve and for each foot of their length, measure 5 inches; and for each inch over, measure 5/12 inch beyond the curve and check. After all lines have been thus measured, run an off-hand line through the checks and the proper curve will be developed. The calculation of fractions may be avoided by making a miter rule as follows:

Take a strip of wood 17 inches long and divide it into 12 parts, which will present inches. Now, this rule represents the gain of the run from the corner curve over that for the side curve. So by measuring from the plumb or rise line to the curve with a standard rule and then by measuring the same amount again on the same line with the miter rule will give the point for the intersection of the proper curve for the corner.

As to the length and side cut of jacks, the first may be found as shown in the illustration, as from A to B. To obtain the cut (if for a square corner) lay off two plumb lines the distance apart that the stock is thick, carry these lines to the other side and cut diagonally across the back right or left as the case may be.

A little study of this diagram will make the subject clear.

A. W. WOODS.

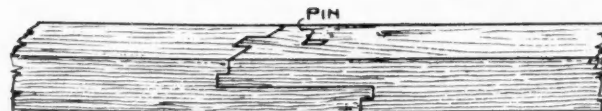


A Substantial Splice

To the Editor:

Purling, N. Y.

Enclosed you will find a little sketch of a splice which I have used with good results. I have never seen anything



Novel Splice Joint

like it and think I can say, without question, that I am the originator.

LYSANDER LENNON,

Contractor and Builder.



Question for Bin Builders

To the Editor.

Passaic, N. J.

Will you kindly let me know through the next issue of your magazine how to construct a bin for a car load of oats? I have never built a bin of this kind, but intend to build one in the near future. I would be pleased to hear from you or from some of your subscribers just about what size this bin should be in order to contain a car load of oats weighing about 60,000 pounds.

How should same be constructed in order to keep the oats for a period of six to nine months or a year, if necessary?

PETER BOON.

Answer: You ask what should be the size of this bin in order to contain about 60,000 pounds of oats. The space occupied by 60,000 pounds of oats will be about 2,500 cubic feet. This size would mean that the bin would be completely filled with oats at all parts, even the corners. Since this would probably be commercially impossible, your bin would have to be considerably larger than the 2,500 cubic feet in order that it might be filled easily. The dimensions, of course, would depend upon the shape which you decided to use; that is, whether cylindrical in shape or otherwise.

As to the best method of construction for strength, ventilation, etc., we would like to hear from some of the brothers who have had experience in this line.

EDITOR.

A Kitchen Cabinet

To the Editor:

Chicago, Ill.

The trend of the planning of the modern kitchen has been to do away entirely with the pantry and substitute for it the kitchen cabinet. The accompanying drawing shows a unique detail which can be used in a small kitchen where room is the most important feature. There are very few kitchens in modern houses which do not have at least one wall which is unbroken either by doorways or windows. This presents an ideal place for the kitchen cabinet.

Now, in the modern kitchen gas has taken the place of the old coal stove, so that meals can be prepared on short notice, lessening the work of the housewife. The kitchen cabinet steps into the foreground by shortening the work still more.

Referring to the accompanying diagram, you will find that little or nothing has been left out. It shows a flour bin at the

average woman to reach, and nothing farther away than one step, and when you figure out the number of steps taken from the stove to the sink, then into the pantry, then back to the table, you can readily realize the saving of time and work which can be effected by this kitchen cabinet.

RAY ASHBY.

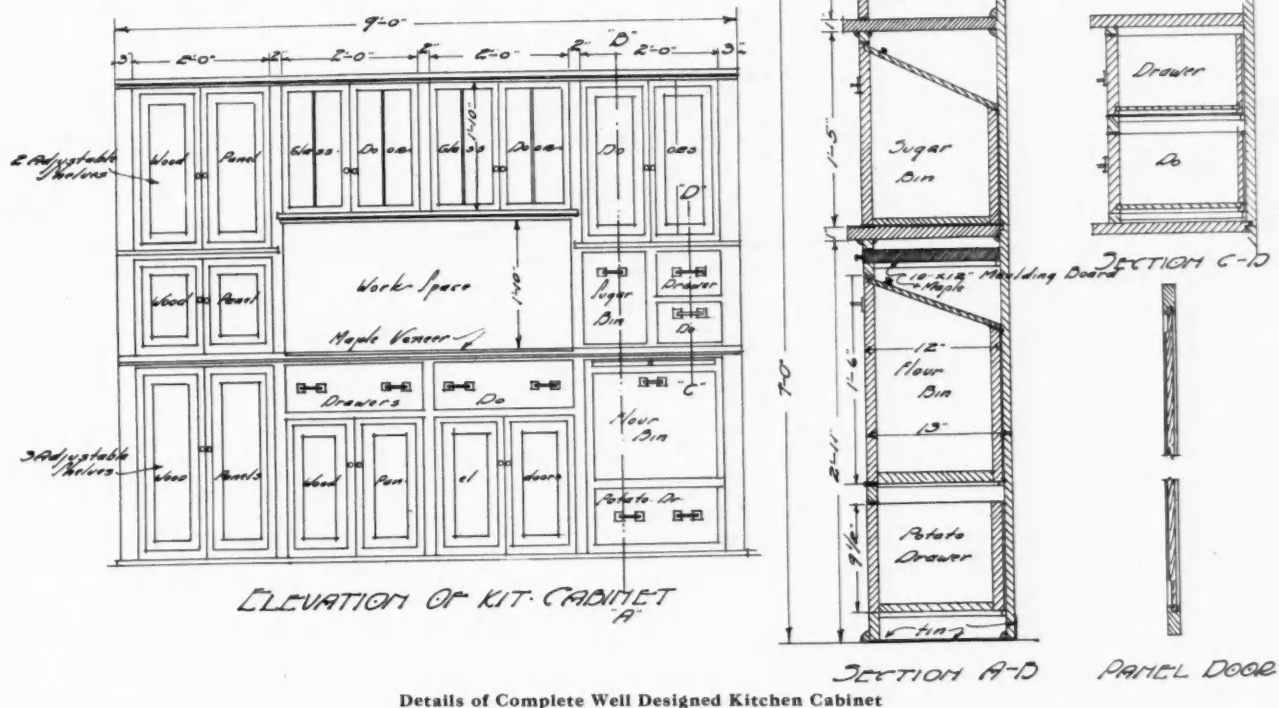


How to Make Blue Prints

To the Editor:

Brockton, Mass.

I am a constant reader of the AMERICAN CARPENTER AND BUILDER, and am always anxious to receive my next copy. I



Details of Complete Well Designed Kitchen Cabinet

right-hand side and a large potato drawer below. Above is the sugar bin and drawers which can be fitted up to contain spices, coffee, tea, or whatever the housewife wants to put in them. At each side of the center are large compartments with swinging doors. In the center the panels are made of glass, which permits a pleasing display of china or crockery.

The floor of the work space is of maple because of its ability to take a clean white surface and will not show knife scratches as easily as a softer wood.

Below the work space are two drawers for kitchen linen. Below are two large compartments for heavy kitchenware, such as kettles, skillets, and other bulky and cumbersome kitchen utensils. At the side are three cabinets which can be used for anything that seems to suit the convenience of the housewife. A moulding board is slipped in directly above the flour bin.

This cabinet is very well designed, since, in case the space is limited, the compartments at the left side can be done entirely away with, or the compartments can be made smaller.

Another idea which is to be taken into consideration is the tin placed at the bottom of the cabinet and run up in back about four or five inches. This is an absolute protection against mice and rats, which are of the opinion that a kitchen cabinet is built especially for them.

In this kitchen cabinet there is nothing too high for the

would like to know if you will give me complete details on how to blue print.

EMERY LALIBERTI.

Answer: Blue printing is a very simple process. The blue print paper comes in rolls and can be had at any drawing supply store or stationery store. It may not be carried in stock, but they can easily order it for you. The important thing in handling blue print paper is to keep it from the light. There are closely covered tin tubes made on purpose to hold the roll of blue print paper to keep it dry and in absolute darkness.

In order to blue print your drawing must be on transparent material, either tracing cloth or tracing paper. Cut off a piece of the blue print paper the same size as the drawing, working as quickly as possible, and in a shaded part of the room, so that the strong light cannot get to the blue print paper. Put away your roll of blue print paper at once. Don't let it stay out of its case any longer than is absolutely necessary.

Place the drawing (on tracing cloth or paper) right side up on top of the piece of blue print paper you just cut. Place the two together in a printing frame, making sure that the drawing is pressed down tight to the blue print paper. They should be absolutely tight together. Next put the printing frame out where the sun can shine directly upon it. In about four minutes the very light greenish gray of the unused blue

print paper will have turned to a deeper bronze green. Take in the frame, open it and take out the blue print paper and immerse it at once in cold water. A washing of half a minute will clear up all the lines, then all you have to do is take out the blue print from the water and hang it up to dry.

EDITOR.



Some Valuable Tables

To the Editor: Hastings, Minn.

The July number of your valuable paper has reached me, and has been read with the usual interest.

I consider your paper a very good instructor. No matter what training a man has had, he can always pick up new ideas through the correspondence columns of your paper.

I am sure the articles on "What Every Architect and Builder Should Know About Strength of Materials and the Design of Safe Construction" will be a great drawing card for those who have not had the opportunity to secure a technical training, that all builders should have.

Your article on buying building material economically and careful estimating is very good, but I cannot agree with those "Mortar Formulas." The writer says that one barrel of sand and one barrel of cement will make 4.17 cubic yards of mortar, providing that the sand has 38 per cent voids. I presume that the writer had in mind a 1 to 1 mixture, or equal amounts of sand and cement. Therefore we will take one barrel of sand or 3.75 cu. ft. and one barrel of cement of equal volume; figuring 38 per cent voids in 3.75 cu. ft. of sand equals 1.42 cu. ft., therefore it requires 1.42 cu. ft. of cement to fill the voids in the sand without increasing the aggregate; 3.75 cu. ft. cement less 1.42 cu. ft. = 2.33; 3.75 cu. ft. sand + 2.33 cu. ft. cement = 6.08 cu. ft. total aggregate, instead of 4.17 cu. yds., as stated by the writer.

If the space in your paper will permit, I wish to give the readers formulas that I use in estimating on mortar. While they are founded on actual work the tables are not intended to furnish more than fairly close approximations, as there are so many uncertainties about mortar and masonry that very accurate estimates cannot be made.

TABLE I
Proportion of Mortar in Masonry

Kind of Masonry	Per Cent of Mortar	
	Minimum	Maximum
Brickwork, Course, 1/2 inch to 3/4 inch joints.....	35	40
Brickwork, Ordinary, 1/2 inch to 3/4 inch joints.....	25	30
Brickwork, Pressed, 1/2 inch joints.....	10	15
Ashlar Courses 12 inches to 20 inches high, joints 1/2 inch to 3/4 inch.....	7	8
Ashlar Courses 20 inches to 32 inches high, joints 1/2 inch to 3/4 inch.....	5	6
Rubble, Course, not dressed.....	33	40
Rubble, Roughly Dressed.....	25	30
Rubble, Well Dressed, Coursed.....	15	20
Concrete, Clean Stone, without Gravel or Screenings.....	50	55

TABLE II.
Quantities of Materials per Cubic Yard Cement Mortar.

Proportions		Materials		
Cement	Sand	Barrels Portland	Cement (Packed) Western	Sand Cubic Yard
1	0	7.1	6.4	.0
1	1	4.2	3.7	.6
1	2	2.8	2.6	.8
1	3	2.0	1.8	.9
1	4	1.7	1.5	.95
1	5	1.3	1.1	.97
1	6	1.2	1.0	.98

Example.—How many bbls. Portland cement and cu. yds. of sand will be required for laying 100 cu. yds. of rubble masonry in 1-to-3 cement mortar? By the first table, it is seen that the minimum percentage of mortar in coarse rubble is .33; hence, for each cubic yard of masonry 1/3 cu. yd. of mortar is required.

According to the second table, a 1-to-3 mortar requires per cu. yd. 2 bbls. of cement and .9 cu. yd. sand; or 1 cu. yd. of rubble masonry requires 2/3 bbl. cement and .3 cu. yd. of sand; and for 100 cu. yd. the quantities are 67 bbls. cement and 33 cu. yd. of sand. If brick work is figured by the 1,000 brick, the quantities of cement and sand obtained by aid of these tables should be multiplied by 2 1/2, 2, or 1 3/4, according to whether brick work is coarse, ordinary or pressed. The last given figures are the number of cu. yds. which 1,000 standard size brick will lay.

F. F. ENGLS.



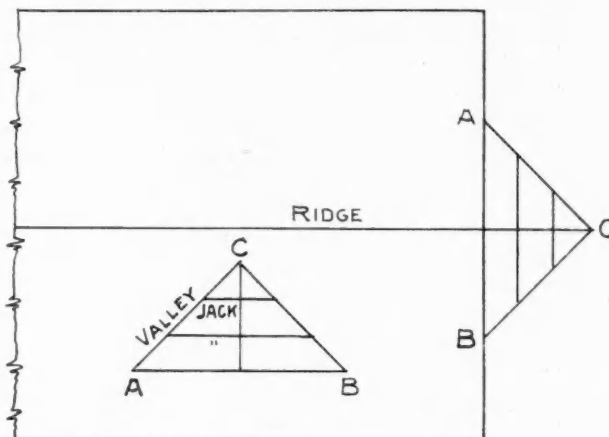
A Hood Roof Question

To the Editor: Kensal, N. Dak.

Would like to have your expert lay out and explain fully the cut on a 2 by 6 inch for framing the extension of a barn roof at top where the hay carrier stops—called the hood. I have tried several ways, but cannot get at it right. Describe for a barn, say 36 feet wide, with a gambrel roof, 60 and 30 degrees.

GUNNAR BERG.

Answer: We have answered this question a number of times, using different ways of illustration, but there is nothing about it at all that need puzzle any carpenter if he would just stop and think a minute or two. In fact, he may have the same thing (under a different position) in the roof, which he has already framed and thought nothing of it, but when it



came to projecting the same thing out in the air, it looked different, but the principle remains the same.

For instance, there is a gable dormer on the roof, as shown at A-B-C framed in with valleys. Now, suppose we lift it out bodily and stick it on the end of the roof, as shown; we would have the hood complete, wouldn't we? The only difference is that the side cuts at A and B would be reversed. NOTE the hood rafter lies in the same plane as the valley, and for that reason it can be treated as such, but in the case of the hood rafter, the cuts are the same at both ends, only reversed. That is, the plumb and side cut of the valley to fit against the ridge piece will answer for the cut at either end of the hood before it is backed. If not backed, the roof boards would only catch the outer edge of the hood rafter. In this way, the sides of the hood rafter will be plumb, which we think makes a much better looking job than where the back of the hood is set in plane with the common rafters of the main roof. Of course, when set this way it avoids backing, but it throws the side of the hood rafter out of plumb; and as we said before does not make a finished looking job.

A. W. WOODS.

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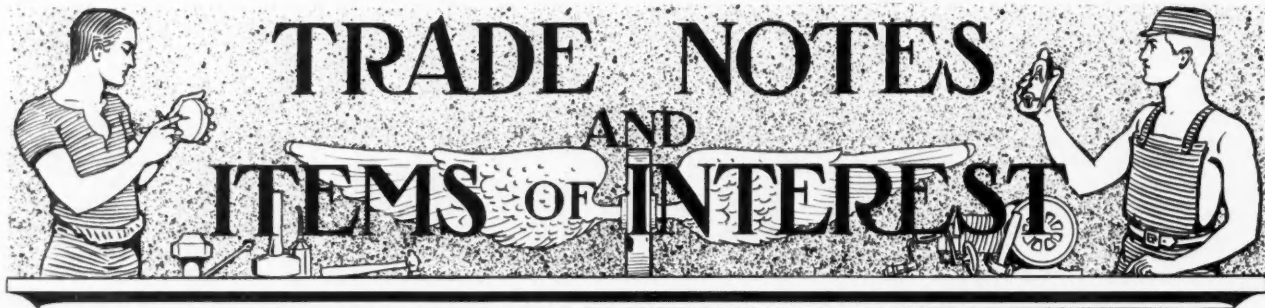
Town.....

State.....

Occupation.....

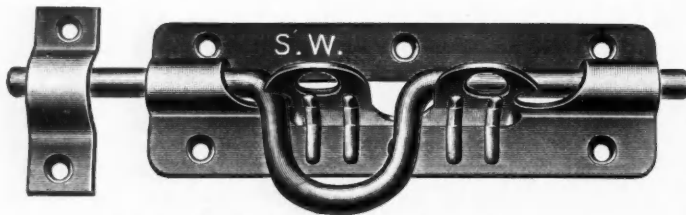
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Stanley Works New 1070 "Dickey" Bolt

equally useful on the outside or inside of a door, on the right hand or left hand side, at the top or bottom. On the outside a padlock is used to lock the bolt, by passing the lock bar through the loop of the bolt and the hole in the plate.

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These bolts are made of best quality wrought steel. The design is simple but very strong, the plate reinforced by corrugations. Japanned, plain steel and Sherardized finishes can be furnished.

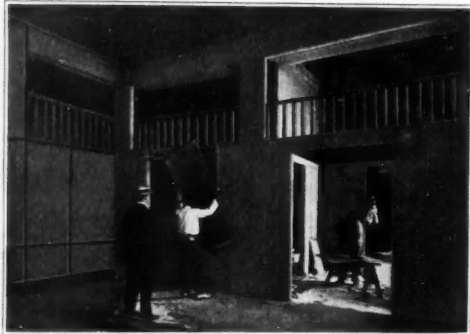
The simplicity of the "Dickey" bolt, its many uses and unique characteristics, are bound to make it a favorite with carpenters and builders.



Sheet and Tin Plate Reference Booklet

One of the most interesting booklets we have ever received comes in from the American Sheet & Tin Plate Company of Pittsburgh, Pa.

This vest pocket size booklet, in addition to detailing in the most complete manner the many products of the company, contains much general information concerning the use of galvanized sheets and tin plate, such as tables giving standard weights and gauges of sheeting and plates, weights per square, capacities, notes upon the construction of a metal



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	Cap and Base 10 in. Square		Cap and Base 12 in. Square		Cap and Base 14 in. Square	
Length	Approximate Weight	Capacity	Approximate Weight	Capacity	Approximate Weight	Capacity
6 Feet	135 Pounds	38,400	222 Pounds	71,800	288 Pounds	90,500
6 Feet 6 inches	145 "	37,000	239 "	69,800	310 "	90,500
7 Feet	155 "	35,600	256 "	69,200	332 "	90,500
7 Feet 6 inches.	165 "	34,200	273 "	67,600	354 "	90,500
8 Feet	175 "	32,900	290 "	65,500	376 "	90,500
8 Feet 6 inches.	185 "	31,500	307 "	64,500	398 "	90,500
9 Feet	195 "	30,300	324 "	62,900	420 "	90,500
9 Feet 6 inches.	205 "	29,000	341 "	61,300	444 "	89,100
10 Feet	215 "	27,800	358 "	59,700	466 "	87,400
10 Feet 6 inches.	225 "	26,600	375 "	58,100	488 "	85,700
11 Feet	235 "	25,500	392 "	56,500	510 "	84,200
11 Feet 6 inches.	245 "	24,400	409 "	54,900	532 "	82,500
12 Feet	255 "	23,300	426 "	53,400	554 "	81,000

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OTHER CAST IRON SPECIALS WILL FOLLOW

When Writing Advertisers Please Mention the American Carpenter and Builder.



You Can Get a Hand Saw for 75c

OR

You Can Get One for \$2.50

Take your choice. The one is only a Hand Saw. The other is a Simonds Hand Saw.

Now, there is the difference. One is an unknown brand, made to sell. The "Simonds" is the known brand, made to establish and keep a reputation for quality goods.

The buyer of the cheap saw takes all the risk. The buyer of the Simonds \$2.50 Saw takes none of the risk. Every Simonds Saw is fully warranted and any defects whatever, which by possible chance should get by our inspection, are covered by a guarantee which enables the Carpenter to take the Saw back to any Simonds Saw Dealer and get his money refunded.

One of the latest and in fact the most finished article in the line of Hand Saws that has been put out is the Simonds Blue Ribbon Hand Saw, made of Simonds Steel, highly polished, accurately ground, and carefully tapered. A blade that will stand continual use for years; will hold its cutting edge. The handle is highly polished apple-wood, and it is an article of beauty as well as usefulness.

This saw, 26-inch length, sells for \$2.50. It is new. It has not yet been placed in many of the Dealers' stores. The chances are that your Dealer does not yet carry this Saw, but, if you would like to see one, have him get it for you. You may be sure you need not take the Saw unless absolutely satisfactory.

Simonds Manufacturing Company

Fitchburg, Mass.	Chicago, Ill.	Montreal, Que.
New York City	New Orleans, La.	Seattle, Wash.
Portland, Ore.	San Francisco, Cal.	London, Eng.
Vancouver, B. C.	Lockport, N. Y.	St. John, N. B.

roof, measuring directions, snow and wind loads, wind pressures, slating, masonry notes, information on brick and concrete work, plastering, lumber measuring, roof painting, fusibility of metals and much other construction and metal explanatory tables and matter.

For full particulars concerning this reference book, also the products of their manufacture, address the American Sheet & Tin Plate Company, Frick Building, Pittsburgh, Pa.



The Sayre Hatchets

L. A. Sayre & Son of Newark N. J., manufacturers of the Sayre lathing hatchet, also the Sayre shingling hatchet with positive gauge, write that the demand for these hatchets, "continues heavy and that all who are using them are highly pleased with the work they can do with them."

This concern make a complete line of lathing hatchets in various pattern heads and points. Their shingling hatchets are equipped with the positive gauge which insures very fast, straight line, shingling work.

Complete particulars concerning these hatchets and the other equipment tools of their manufacturing may be had by addressing L. A. Sayre & Son, 8 Oliver street, Newark, N. J.

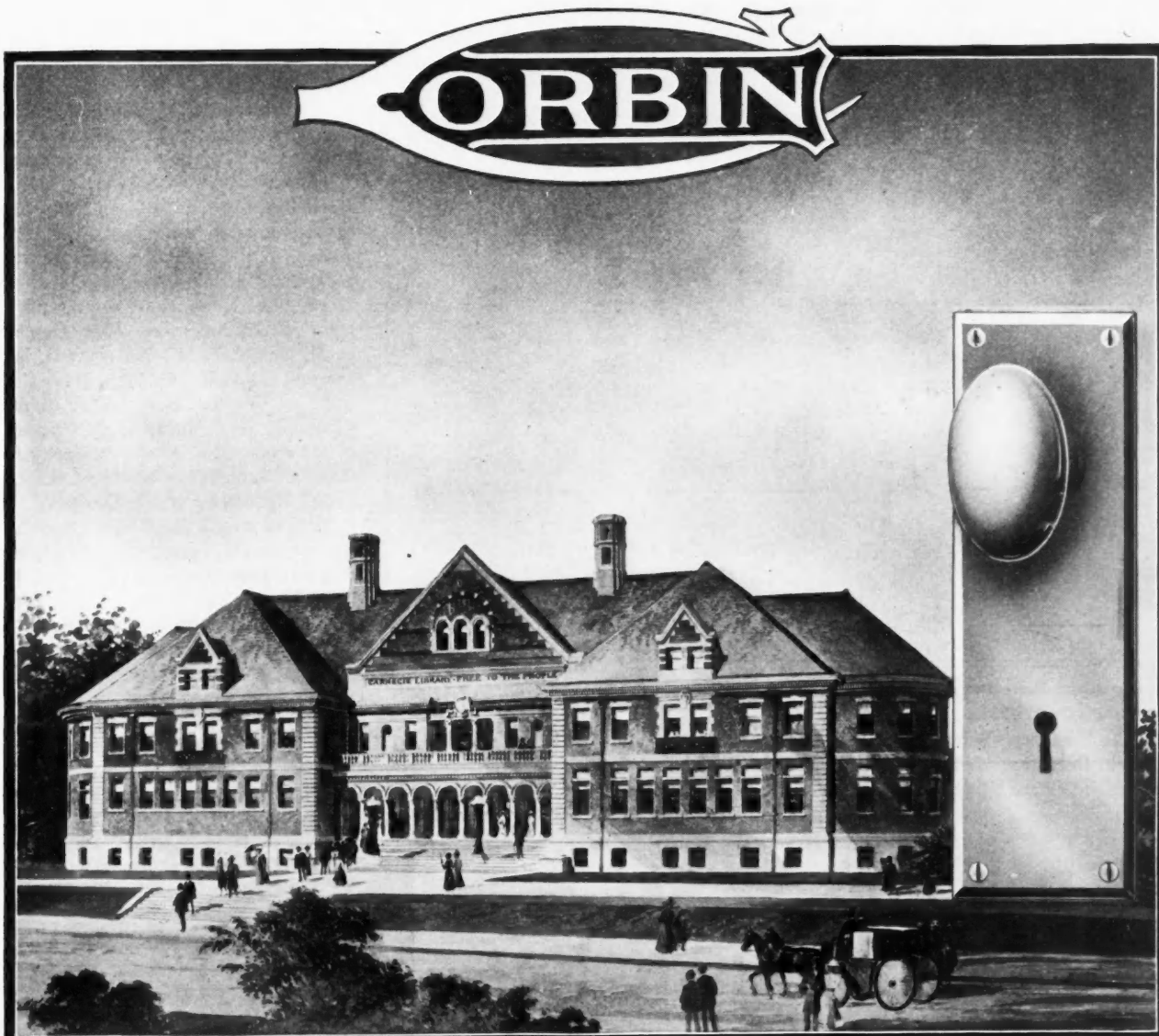


The Rose Window

The rose window, perhaps the most beautiful and characteristic feature of medieval architecture, is again coming into its own. Lovers of Gothic architecture are having it placed in the churches, cathedrals and stately edifices in many parts of Europe and this country. where for centuries it has been spurned. Circular in shape with mullions and traceries generally radiating from the center, and filled with stained glass, the window finds its name from the fancied resemblance it has to the rose. Its origin (according to the thirteenth volume of the Catholic Encyclopedia) is to be found in the Roman oculus. During the Romanesque period of oculus became a window, and from about the middle of the twelfth century its dimensions began to increase with the development of Gothic architecture. By the middle of the thirteenth century it had attained the greatest possible size—the entire width of the nave. Its splendor continued in France until the misfortunes of the later fourteenth and fifteenth centuries prevented the construction of large churches. The most beautiful examples of rose windows are to be found in the Ile De France and the adjoining provinces, Picardy and Champagne. The earliest important examples are the west rose of the Cathedral of Nantes (c. 1200); the west rose of Notre Dame of Paris (c. 1220), the most beautiful of all, and those of Leon and Chartres. In all these cases the rose was put under a circular arch. The next important step was to put it under a pointed arch, as was done in the beautiful rose windows of the Cathedral of Rheims (1230), as well in the transepts as in the later roses of the facade. Thereupon the rose was inscribed in square, with pierced spandrils as in the transepts of Notre Dame of Paris (1257). The last step was to place the rose in a tier of lower windows, in which case it become the center of a vast window composition covering the whole end of the transepts as in Rouen Cathedral.

In England the use of the rose window was usually confined to the transepts, although roses of great span constructed in Byland Abbey, and in the east front of Old St. Paul's London. In Germany it was more frequently used as well in the Romanesque as in the Gothic period. A fine example is in the facade of the Cathedral of Strassburg. In Italy it was particularly used by the Lombard architects, as in San Reno, Verona, and in the cathedrals of Siena and Orvieto. These great roses were always filled with stained glasses of great beauty, adding not a little to the picturesque effect of the interior of the cathedral.

When Writing Advertisers Please Mention the American Carpenter and Builder.



Corbin Cast Hardware

of sizes and proportions to please the eye and of an appearance that indicates quality is used upon the Carnegie Library at Duquesne, Pa. It is giving daily testimony, in the service it is rendering, of the architect's good judgment in selecting it.

P. & F. CORBIN

Division

The American Hardware Corporation

NEW BRITAIN, CONNECTICUT

P. & F. Corbin of New York

P. & F. Corbin of Chicago

P. & F. Corbin Division, Philadelphia

When Writing Advertisers Please Mention the American Carpenter and Builder.

Pittsburgh to Have Cement Show

On account of its central location in a large and important field for the use of Portland cement, the city of Pittsburgh, Pa., has been selected as the place to hold a national Cement Show late in the present year, along lines similar to those of the great Chicago and New York shows.



Exposition Hall, Duquesne Way, Pittsburgh, Pa. Where the First Pittsburgh Cement Show will be held, December 12-18, 1912

The Pittsburgh Show will be held in Exposition Hall, Pittsburgh, December 12-18, 1912—just a month in advance of the Chicago Cement Show of January 16-23, 1913. It will be under the combined auspices of the Cement Products Exhibition

Company, of Chicago, and the National Association of Cement Users, the latter body holding its eighth annual convention at the same time. The occasion will undoubtedly be marked by a great gathering of cement men, manufacturers of concreting machinery and accessories, dealers in building materials in general, and in fact all classes interested in cement and concrete constructional work and equipment in general.

Hundreds of architects, contractors, engineers, and dealers gather at these meetings. It is estimated that there will be over 250 exhibitors at the Pittsburgh Show. The National Association of Cement Users has over 2,000 members. R. L. Humphrey, of Philadelphia, is its president; and E. M. Hagar is president of the Cement Products Exhibition Company. Mr. Hagar is also president of the Association of American Portland Cement Manufacturers and of the Universal Portland Cement Company.

All indications point to the continued success of the Cement Shows. A number of innovations in the Cement Show arrangement, equipment and decorations are promised. The personnel of the management remains the same. J. P. Beck is general manager. F. E. Guy, traffic manager, will again assist exhibitors in their transportation prob-

lems; and M. E. Gordon has been selected as installation manager.

Carpenters and builders have an ever increasing amount of concrete work to do. They should attend this show.

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.

¶ Every Contractor and Builder—whether you have done, are doing or intend doing any paneling work—should know about our Built-Up-Veneers. Write us now for particulars—let us tell you all about them and the many effects you can produce through their use.

¶ Just a line to us will bring you some mighty interesting information about Built-Up-Veneers.



The F. Eggers Veneer Seating Co., TWO RIVERS, WISCONSIN

When Writing Advertisers Please Mention the American Carpenter and Builder.

The "ABC" of BEAVER BOARD Construction

The eighth 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 VIII

Beaver Board for Window Trims

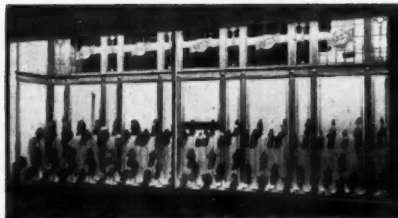
THE carpenter or builder who fails to introduce the merchants of his town to the possibilities of Beaver Board for Window Trims is overlooking a fertile source of business.

Merchants are constantly changing their window settings and consequently are on the lookout for some material that is economical, yet attractive.

Beaver Board is instantly recognized by them as the ideal material. It is not only economical and attractive, but it is wonderfully adaptable as well. Its pebbled surface lends itself to a large number of beautiful finishes and its light weight and strength recommend it for all manner of backgrounds, panels, set pieces, etc. for window trim work.

Somebody is going to get this business. Why don't you get it and hold it with Beaver Board?

**This series began in the January issue. If you haven't seen the earlier chapters, write us and we'll send them to you.*



Beaver Board used as back-ground in show-window of Leon's Store, Chicago, Ill.



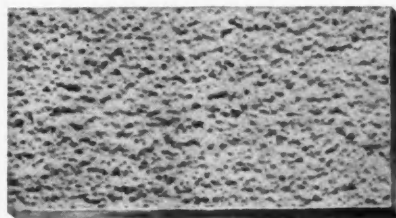
The Leader Store, at Parsons, Kansas, uses Beaver Board extensively in their show-windows.



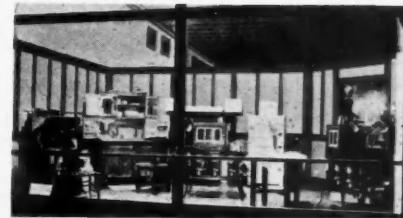
This display-window of Weed Brothers, Buffalo, shows how attractively Beaver Board lends itself to design and decoration.

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.

BEAVER BOARD PURE-WOOD-FIBRE Walls & Ceilings



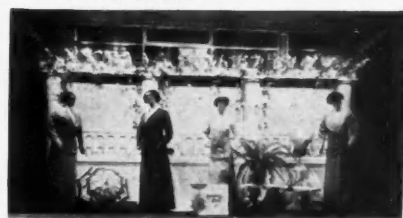
Above is a photograph of a portion of a BEAVER BOARD panel showing its pebbled surface which lends itself so admirably to an endless number of attractive finishes and designs.



Margeson Brothers, Portsmouth, N. H., show in this window a miniature Beaver Board room furnished with their furniture.



The furniture display of D. Storey of Ottawa, Canada, is rendered doubly effective because of the realistic Beaver Board back-ground.



The window of Foster, Ross & Co., Auburn, N. Y., presents an attractive example of Beaver Board used in set pieces.

THE BEAVER COMPANIES

Address all correspondence

UNITED STATES 438 Beaver Road, Buffalo, N. Y.
CANADA 378 Wall Street, Beaverdale, Ottawa, Canada
GREAT BRITAIN 4 Southampton Row, London, W. C.

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.

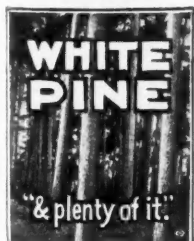
(We do not sell it as an association)

NORTHERN PINE MANUFACTURERS ASS'N.

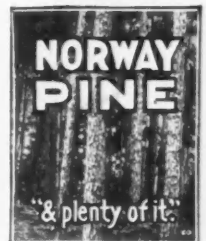
1119 Lumber Exchange - Minneapolis, Minn.

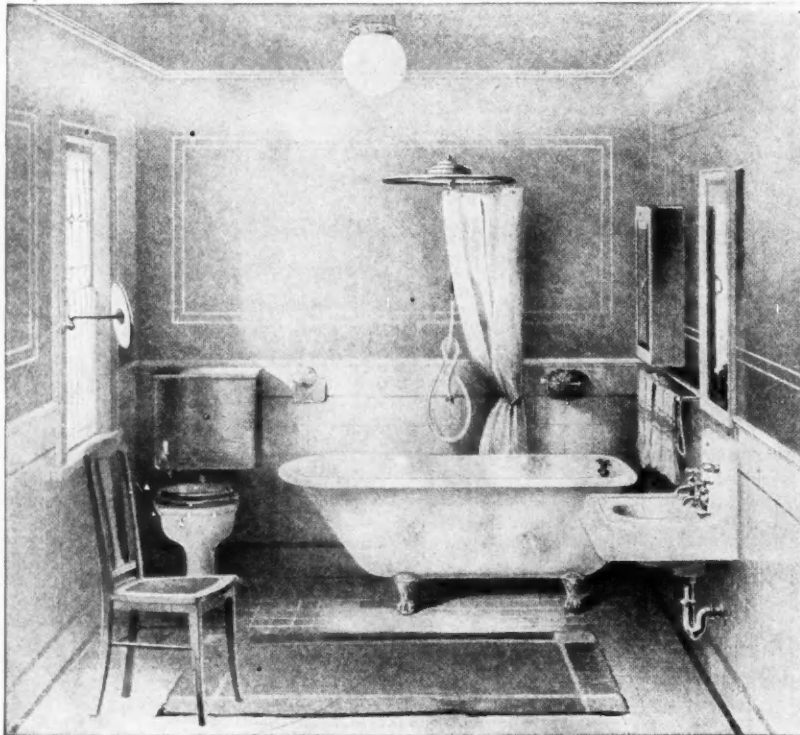
When Writing Advertisers Please Mention the American Carpenter and Builder,

"GOOD NEWS"



"GOOD NEWS"





A Popular Bath Room Outfit Manufactured and Sold by the Chelsea Mfg. & Supply Co.

made of the highest grade white vitreous china ware. The tank is made of thoroughly seasoned oak, highly polished, lined with copper, and with sufficient capacity of water to cause a positive double flush. The seat and cover are of oak, highly polished, attached to the bowl by heavy nickel-plated hinges. The tank and bowl are connected by a 2-inch nickel-plated adjustable slip offset.

The lavatory is 24 inches long, 18 inches wide, has a 10-inch high back, a deep apron and a 11 by 14-inch bowl. It is coated with the best quality of white porcelain enamel, baked on, and giving an exceptionally smooth surface, which is easy to keep clean. The slab is square in design and has a D shape bowl. The slab apron, back and bowl are all cast in one piece. It is fastened to the wall by concealed wall hangers. Fitted with nickel-plated low down compression faucets with china indexed hangers marked hot and cold. Nickel-plated supply pipes and nickel-plated trap to floor or wall as desired.

The Chelsea company issue a very attractive and complete catalog which illustrates and details their full line. A copy will be mailed to any AMERICAN CARPENTER AND BUILDER reader addressing the Chelsea Manufacturing & Supply Company, Dept. F, No. 135 West 24th street, New York City.

plated combination fuller double bath and faucet with nickel-plated shampoo attachment and nickel-plated jewel cup, nickel-plated supply pipes to floor, with flange.

Dept. F, No. 135 West 24th street, New York City.

The closet is of the low down pattern syphon jet,

The more conveniently blue-prints are kept, the more likely they are to be consulted every time they should be.



Residence of C. B. Manville, Pleasantville, N. Y.; Betts & Hosmer, Milwaukee, Wis., Architects.

Four of the Many Representative Residences Roofed with



Residence of L. Dagameons, Ridgewood, N. J. Ridgewood Development and Const. Co., Bldrs.

J-M Transite Asbestos Shingles

The Standard of Shingle Roof Construction

All-Mineral
Everlasting
Fire-Proof
Weather-Proof

WRITE NEAREST BRANCH FOR BOOKLET

H. W. JOHNS-MANVILLE CO.

Albany Chicago Detroit Louisville
New York San Francisco Baltimore
Cincinnati Indianapolis Milwaukee
Omaha Seattle Boston Cleveland
Kansas City Minneapolis Philadelphia
St. Louis Buffalo Dallas Los Angeles
New Orleans Pittsburgh Syracuse
For Canada—THE CANADIAN
H. W. JOHNS-MANVILLE CO.,
LIMITED.

Toronto Montreal Winnipeg
Vancouver



Residence of G. U. Tompers, Brooklyn, N. Y.



Residence of G. W. Conklin, Huntington, L. I.

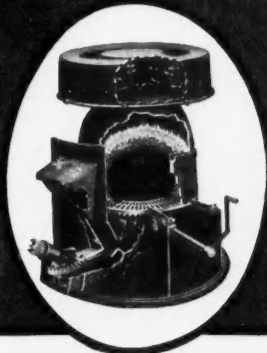
When Writing Advertisers Please Mention the American Carpenter and Builder.

Plan for an Underfeed NOW

GET READY TO

Cut Your Coal Bills

$\frac{1}{2}$ TO $\frac{2}{3}$



To Contractors and Builders

SEND us your building plans and we will furnish free engineering plans and advice as to actual cost of installation of an Underfeed. It will pay you to recommend the Underfeed. Millions who read national publications are seeing the following money-saving advice:

"In these days of summer heat be wise. Prepare for the chill of an early winter by installing an **Underfeed** Furnace or Boiler. Plan to reduce your heating expense next winter. Act now. Don't wait for the fall rush. The Underfeed positively cuts coal bills $\frac{1}{2}$ to $\frac{2}{3}$. It has done it for thousands the past ten years, never failing to produce adequate, **clean, even** heat in the very coldest weather. Let us prove it." You, Mr. Builder, will add to your own reputation by specifying

THE PECK **Williamson** Underfeed FURNACES BOILERS

Underfeed systems are adapted for *all* buildings—large and small—Homes, Apartments, Churches, Stores, Theaters, Armories and Halls.

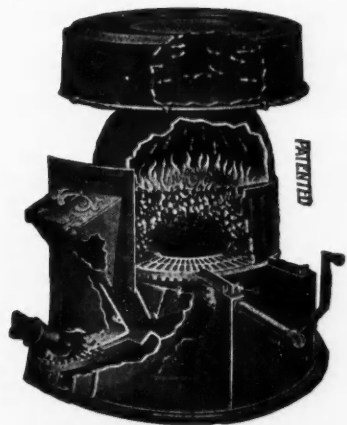
W. N. Chandler, University City, St. Louis, Mo., writes: "Three years ago I installed an Underfeed. My fuel bills ranged, previous to that time, between \$105 and \$120 a season. After the first season's use—1909-10—I was greatly surprised to find my bills reduced to \$48. The following year—1910-11—they were \$44, and this year with our extreme severe winter, \$56. I have no trouble whatever in heating my house to any desired degree."

Underfeed Boilers produce results as satisfactory as Underfeed Furnaces.

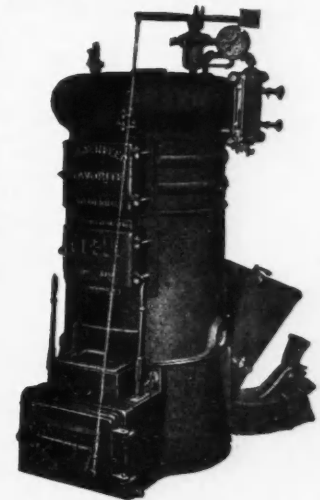
Howard Weiss, Seigfried, Pa., 1st Vice President Pennsylvania Ass'n of Postmasters, wrote April 19, 1912: "Last winter my two Underfeed Boilers saved me \$122 in coal cost."

The Underfeed is easily regulated and requires little attention. Fire is on top and in direct contact with the most effective radiating surfaces. Even heat results—no blanketing of fire with fresh coal as in ordinary furnaces. No alternating chill and heat. Always steady, *even* heat.

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



This illustration shows the Underfeed Boiler



The Underfeed soon pays for itself and then keeps on saving for its owner practically for a lifetime. Think what this saving means to you—coal bills reduced $\frac{1}{2}$ to $\frac{2}{3}$ every winter. In the Underfeed, cheap slack soft coal and pea and buckwheat sizes of hard and soft coal yield *more* heat, *cleaner* heat and more *even* heat than high priced coal in other heaters.

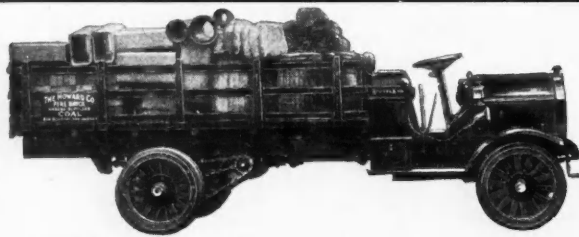
Smoke and gases, wasted in other heaters, pass up through the fire in the Underfeed, are consumed, producing more heat. This means perfect combustion—no gases or smoke, no soot, no clinkers and but few ashes.

Every Contractor and Builder should send for the Underfeed Furnace Booklet or Boiler Catalog and fac-simile letters of appreciation from Underfeed users—all FREE.

THE PECK-WILLIAMSON CO.,

436 W Fifth Ave. - - CINCINNATI

When Writing Advertisers Please Mention the American Carpenter and Builder.



This Truck Saved \$1,546.12 in a Single Year

The purchase price of this four-ton truck owned and operated by the Howard Company of New Haven, Conn., plus interest, depreciation, overhauling, fuel and driver's salary for one year amounted to \$5,921.88.

It replaced three double trucking teams. The cost of the horses, wagons, and harness, plus interest, maintenance and drivers' salaries for one year amounted to \$7,648.00. A balance in favor of the truck of \$1,546.12—the first year.

KISSELKAR TRUCKS

1500 lbs.—1—2—3—4—5 Tons

A KesselKar Truck is your logical selection because it is the truck of surest economy and slowest depreciation. It is strong, simple and silent. It carries 50% overload, without harm. It consumes the least fuel. It rides easiest.

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.

Your copy of the new catalog is ready. Send for it.

KISSEL MOTOR CAR CO.
546 Kessel Ave., Hartford, Wis.

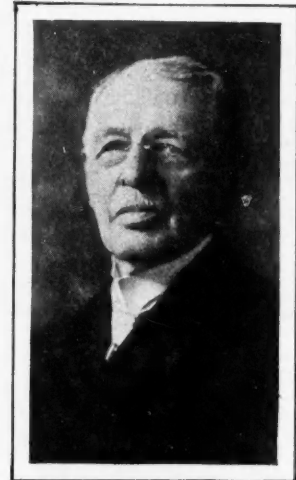
Branches in
New York Chicago Los Angeles St. Paul
St. Louis Milwaukee Boston Kansas City
Minneapolis Dallas

KesselKar Service Stations
and Agencies at over 200 leading
points throughout United States

Fifty Years in the Varnish Making Business

GROWTH AND DEVELOPMENT OF GLIDDEN
VARNISH COMPANY—FOUNDER IN 80th
YEAR STILL ACTIVE HEAD

The building of a great business and a great business organization from a very small beginning must always be of interest to all engaged in commercial enterprises, for the life of a man is too short to teach him all that he needs to know if he must depend for his instruction upon his own individual experience alone. Many large commercial enterprises, when viewed from a distance or regarded hurriedly, may seem to be the result of good fortune, and a happy though inexplicable faculty of accumulation that would seem to favor some and avoid others with as apparent little regard for human endeavor and determination as the winds of the air or the tides of the sea.



F. H. Glidden, in his 80th Year,
Founder and Active Head
of the Company

Such is never the case. Back of every success there is energy, and back of that energy is trained ability and the potential force of determination.

There is an eloquence not taught in books, an eloquence found only in men who are better than their word, greater than their promises and whose statements are more than verified by facts. It is the eloquence of deeds. The Glidden Varnish Company is a striking example of the eloquence of deeds.

Business Founded 50 Years Ago

F. H. Glidden, president of the Glidden Varnish Company, Cleveland, Ohio, started the varnish business fifty years ago, making and selling varnishes on a very small scale at a time when the varnish industry was in its infancy as compared to the volume which it has reached at the present day. The original concern was Glidden, Brackett & Co. This was succeeded many years ago by the Glidden & Joy Varnish Company, and later by the Glidden Varnish Company, as at present.

Mr. Glidden, now in his eightieth year, is the active head of the large industry that he founded and built, and his four sons occupy important places in the organization. F. A. Glidden is vice-president; F. K. Glidden, secretary; W. J. Glidden, treasurer, and J. F. Glidden, secretary of the executive committee and manager of the department of advanced finishes, though in no case has any member of the Glidden family been appointed to an official position in the organization until he had demonstrated his ability and his value to the organization as a whole.

Harmony and Co-operation the Slogan

The keynote of the success of the company is co-operation. The company maintains a number of different departments, each being governed as distinct from the business as a whole, though there is close co-operation and absolute harmony among all the departments. At a recent meeting called for the benefit of the department managers and their assistants, the president of the company addressed them on the subject of "Co-operation," remarking that that day was the fifty-seventh anniversary of his marriage and that a good example of co-operation was the fact that in all those years he had never had a difference with his wife that was not made amicable by the policy of co-operation in a long and happy life together. He suggested Harmony and Co-operation as

When Writing Advertisers Please Mention the American Carpenter and Builder.

It's GOOD Business for You to Know GOOD Varnish

EVERY good carpenter and builder can make himself a better one, if he knows "what's what" in varnish.

"NATURAL WOODS AND HOW TO FINISH THEM"

THIS free book can be yours for the asking. It tells you how best results can be obtained in finishing your handiwork.

With this book and our free consultation service, you can help every customer get the utmost satisfaction from every job you turn out.

You may never do a drop's worth of actual finishing yourself. You may never have a brush in your hand—

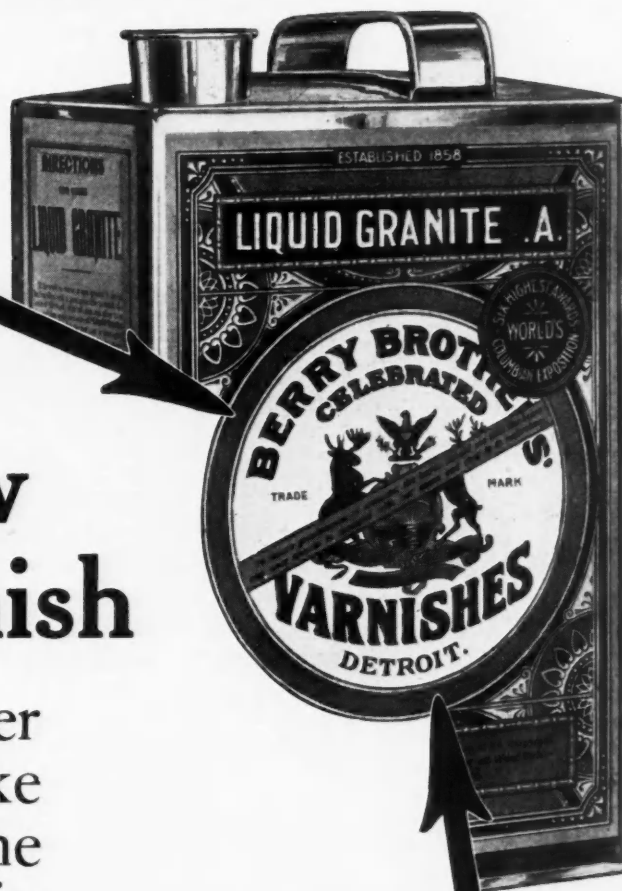
But you ought to know good varnish—and help your customers get it. The one sure way to know good varnish is by the Berry Brothers' trade-mark label.

BERRY BROTHERS, Limited

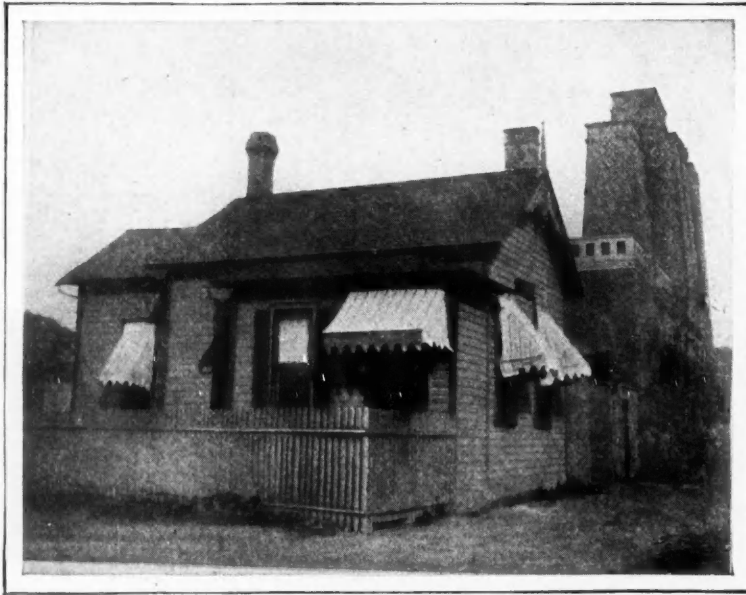
Established 1858

FACTORIES: Detroit, Mich., and Walkerville, Ont.
BRANCHES: New York, Boston, Philadelphia, Baltimore, Chicago, Cincinnati, St. Louis, San Francisco

When Writing Advertisers Please Mention the American Carpenter and Builder.



BERRY BROTHERS VARNISHES



First Plant of Glidden Varnish Company. Office in Front. Factory in the Rear

pany. At the Glidden offices they tell a story, the truth of which they vouch for, to the effect that while riding in a sleeper from St. Louis to Cleveland about twelve years ago F. A. Glidden thought of the word Jap-a-lac as a synonym of Japanese lacquer, and that then the possibilities of developing an immense field for colored varnishes came to him. Up to that time colored varnishes had been made in only a small way, but as a result of the thought, the new child named Jap-a-lac, and deriving its name from Japanese Lacquer, was born at the Glidden plant a short time later, and from the first it was found to fill a large and ever-growing field of usefulness.

The Glidden Company has always appreciated the value of advertising and at that time established itself as a pioneer of varnish publicity on a large scale. Since the introduction of Jap-a-lac the company has spent over one million five hundred thousand dollars in advertising, with the result that Jap-a-lac has become a familiar household word. Its annual advertising appropriation reaches hundreds of thousands of dollars. The company has paid as much as eighteen thousand dollars for one advertisement. Additions have

the slogan of the company.

Another fundamental business principle of the company is to produce the highest standard of quality possible in all products so that the name Glidden, whether on a can of Jap-a-lac, varnishes, stains, concrete finishes or waterproofing materials, shall always be associated with the highest grade materials.

been made to Jap-a-lac from time to time so that to-day it is made in twenty-one colors and clear.

Some years ago the Glidden company introduced its Green Label line of varnishes, and the business in these varnishes has grown very fast, so that they are now found in almost every city, town and hamlet in the United States and Canada. The Green Label varnishes now include over fifty varnishes designed for almost every purpose. The company claims to have been the first to realize the value of Chinese wood oil,

Origin of the Name Jap-a-lac

The name of Jap-a-lac is inseparable with that of the com-

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.

Run this adv. in Carpenters & Builders' papers just as it stands - they'll appreciate it even better than the general public - G.E.W. (Note below)


WHO SAID ALL THIS ABOUT CYPRESS?

(Here's a part of the good things they said:)


"CYPRESS is put to almost every use as an interior trim for houses.natural color or stained.contains little resin.thus affords a GOOD SURFACE FOR PAINT, WHICH IT HOLDS WELL.popular.for kitchens, where it is subjected to dampness and heat.shrinks, swells or warps but little.For the parts of houses exposed to the weather it serves equally well. AS SIDING IT PRACTICALLY WEARS OUT BEFORE IT DECAYS.made into porch columns it retains its shape, holds paint, and has sufficient strength.It is placed as cornice, gutters, blinds.and railing, and is much used for Porch Floors and steps. Much CYPRESS lumber is employed in the construction of SILOS. The FARMER puts the wood to many uses.ITS LASTING PROPERTIES FIT IT WELL for curbs. Resistance to decay fits it for stable floors and timbers near the ground, as well as for.gates, and especially for fence posts.one of the best available woods for picket fences, because it shows paint well and holds it for many years, but lasts a long time without it.widely used for this purpose.in regions remote from its range. It is PRE-EMINENTLY FITTED for (greenhouse construction).where it is called upon to resist dampness, excessive heat, and all the elements that hasten decay.sash, frames, benches, boxes, and practically all else.the builder needs.Agricultural implement manufacturers make seed boxes of it, wagon makers.for beds.carriage builders and automobile makers work it into panels for fine bodies. Its slight tendency to warp has caused its employment for incubators.freight-car siding.many builders of gasoline launches are said to be using Cypress exclusively for hull planking.makes handsome church pews.Telephone boxes and switchboards of CYPRESS are coming into use.spools.beehives;seine floats;tables.curtain poles;patterns;shelving and counter tops;shims;tool boxes. CYPRESS has been substituted for white oak for wine barrels.The same.freedom from taste is claimed for it by pump makers, who recommend it for that reason," (etc.)

(Here's who said it—) a reprint from:

U. S. GOVT. REP., Bulletin 95, June 30, 1911, pp. 44-46.



WHEN YOU BUILD (palace, cottage or pasture fence) Why not "Stop Depreciation Before it Begins - Use CYPRESS At First!"



WHEN "FIXING UP" (big new porch or little back steps) "Why Replace Rotten Wood with Wood that Will Rot?" (Use CYPRESS, of course.)

WRITE TODAY for VOLUME ONE of the CYPRESS POCKET LIBRARY, with Full Text of OFFICIAL GOVT. REPT. - Also Full List of 34 Other Volumes. (FREE on request.)

Let our "ALL ROUND HELPS DEPARTMENT" help YOU. Our entire resources are at your service with Reliable Counsel

SOUTHERN CYPRESS MANUFACTURERS' ASSOCIATION
12 6 HIBERNIA BANK BUILDING, NEW ORLEANS, LA.

INSIST ON CYPRESS AT YOUR LOCAL DEALER'S. IF HE HASN'T IT, LET US KNOW IMMEDIATELY.

The best Carpenters are more and more favoring Cypress because it is easy to work, easy on edged tools and is such a luster that owners are pleased, and that's a good thing for the reputation of the builder who put him wise - G.E.W.

When Writing Advertisers Please Mention the American Carpenter and Builder.



Booth constructed of Ideal Wall Board, used by W. B. Brown & Co., Bluffton, Ind., for wood chandelier exhibit at Chicago household show.

Beautiful Panel Effects WORKED OUT WITH Ideal Wall Board

One of the modern building materials that every contractor and carpenter should know about is Ideal Wall Board.

For that reason, we ask you to write us for a sample, so that you can see how durable and well made it is; and for the illustrated booklet, so that you can see the charming effects that can be achieved with it.

The interior decorating tendency of today is away from the commonplace plaster and towards paneling.

No other material is so well adapted to paneling and other attractive effects as Ideal Wall Board.

The man who gets it in his house will be satisfied—yes, he'll be delighted with it—depend upon that.

He'll like it for its beauty, its durability, and its cost—which latter is less than that of lath and plaster.

So post yourself on Ideal Wall Board. Find out what it is and why it is being so widely used by writing for a sample and the booklet.

THE
Roberts Manufacturing Company
100 Railroad St., Marion, Ind.

which is now generally regarded as an important ingredient in the manufacture of varnishes, its special function being to give them durability and life.

Plant Covers 17 Acres

The first Glidden plant was in a modest little building on Woodland avenue, Cleveland. It was enlarged from time to time until there was no room on the site for further growth. Then the site of the present plant was secured at West Madison avenue and the Lake Shore Railroad tracks. The present plant was completed on this site three years ago. It covers seventeen acres and includes twenty-five buildings, from one to four stories in height, which are large brick and concrete fireproof structures, and a handsome three-story administration building of brick. Most of the buildings



Administration Building, Glidden Varnish Co.

are connected by subways through which material in process of manufacture is conveyed from one building to another by means of pipes.

The company has three hundred employees in the plant, the manufacturing department being in charge of C. F. Hackathorn, the general superintendent, who has been with the concern for twenty-five years, the Paint Grinding Department being in charge of Superintendent, S. C. Schorndorfer.

The Different Departments

The company maintains a printing department under the direction of Karl H. Osthoff. Here all the printing of the company, including elaborate color work and advertising novelties, is done by a force of seventy employees.

A testing department is maintained at a cost of ten thousand dollars a year, and it is in this department that a large amount of experimental work is carried on. The chemical laboratory is in charge of C. R. Bragdon, chief chemist.

The business of the company is divided into the following departments: Industrial, C. F. Brigham, manager; Jap-a-lac, Julian O. Knox, manager; Architectural, E. R. Smead, manager; Advanced Finishes, J. E. Glidden, manager; Foreign, C. C. Chopp, manager; Advertising Department, Frank P. Foster, Jr., manager.

Each department manager has an assistant manager, and the company has a very large selling organization covering almost all of the civilized portion of the globe. The New York branch takes charge of New York territory and all of the eastern and southeastern coast, the central west being in charge of the Cleveland office and the Chicago office. The managers of the New York branch are C. I. Phillips and Oscar Durland; the managers of the Chicago branch are S. F. Brigham and F. B. Stage.

The company also has a factory in Toronto, Canada, which is in charge of F. E. Lyman. An office in London, England,

When Writing Advertisers Please Mention the American Carpenter and Builder.

2,000 Carloads of Lumber Ready to Ship NOW

Send Us Your Bill for Our Estimate. Get Our Saw Mill Figures Before You Buy Lumber.



This Price List Quotes Delivered Prices to Your Station.

Special Bargain Lot of STAR A STAR RED CEDAR

SHINGLES

40c Per Bundle \$1.50 Per Thousand

This Bargain Fully Explained in Shingle Circular Which Is Sent With Our WHOLESALE LUMBER PRICE LIST.

SPECIAL OFFER to CONTRACTORS and BUILDERS

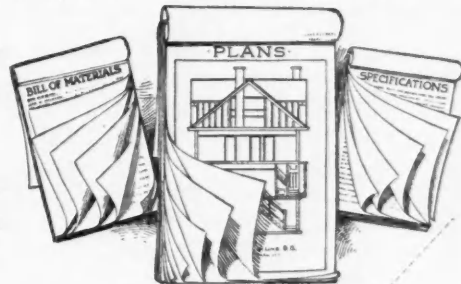
To convince every contractor and builder that we can save him \$100.00 on the average house bill of lumber, we offer to give away entirely **free with every request for our Wholesale Lumber Price List** a complete set of building plans, typewritten specifications and an itemized bill of materials for any house illustrated and described in our Book of Modern Homes. All you have to do is to fill in and mail us the coupon printed below. Upon receipt of this coupon we will promptly mail you our Wholesale Lumber Price List, quoting delivered prices on lumber laid down at your station. We will also send you, free and postpaid, our Book of Modern Homes, from which you can make your selection of a house. When you write and tell us which one of our Modern Homes you are interested in we will mail you, without one penny of expense to you, the complete plans, specifications and bill of materials, worth from \$75.00 to \$150.00.

This is an opportunity no contractor, carpenter or builder can afford to overlook. You should have our Wholesale Lumber Price List to keep yourself posted on the very lowest saw mill prices. You should also have in your possession at all times a good reliable set of building plans for the type of house most in demand in your vicinity. Here is your chance to get them free of charge.



➔ This Book Shows Over 100 Designs of Up to Date Houses.

➔ These Plans, Specifications and Bill of Materials Are Yours for the Coupon.



Mail Us the Coupon and We Will Send You Free:

1. OUR WHOLESALE LUMBER PRICE LIST (Delivered Prices)
2. OUR BEAUTIFUL BOOK OF MODERN HOMES
3. COMPLETE BUILDING PLANS for any one of our houses

Build- ing Plans Coupon.

Sears, Roebuck and Co., Chicago, Ill.

Wide awake practical contractors and carpenters are saving lots of money by purchasing lumber and other building material from us. In signed letters they tell us that we save them from \$100.00 to \$150.00 and more on the average house bill. **Send us your bill of lumber and mill work and let us make you a bid, freight included, to your station. Our estimators will figure it for you free of charge.** You will lose good money this season if you do not take advantage of our offer and write at once for our Wholesale Lumber Price List and Book of Modern Homes. Do not forget the coupon. We will keep this coupon on file until you have selected the house for which you require the plans. No plans will be sent out without this coupon. Fill it in now. Clip it and mail it to us at once.

Gentlemen:—Please send me free and postpaid a copy of your new Wholesale Lumber Price List and Book of Modern Homes as per your offer in the American Carpenter and Builder. This coupon entitles me to a free set of plans.

Name _____

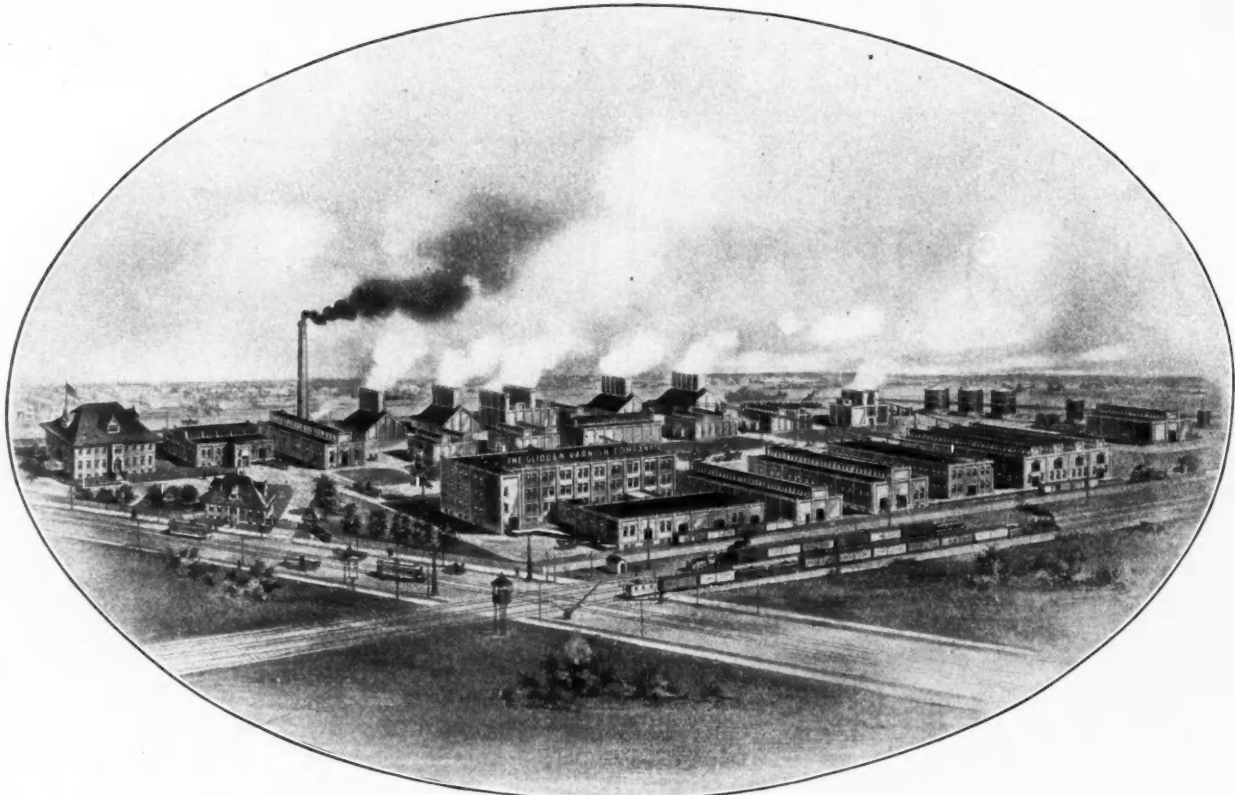
Postoffice _____

R. F. D. No. _____ State _____

P. O. Box No. _____ Street and No. _____

Sears, Roebuck and Co. Chicago, Illinois

When Writing Advertisers Please Mention the American Carpenter and Builder.



Glidden Varnish Company's Plant at Cleveland, Ohio, Including 25 Buildings and Covering 17 Acres

covers Europe, Asia and the British possessions, and there are salesmen in South America, Central America, Africa and China. The company is proud of its selling organization,

which includes among the salesmen several who have been in its employ over thirty years. The company is always pleased to show its customers through the plant.

Exposure — dampness — rain, itself,
has no effect on

NEPONSET WATERPROOF Building Papers

Tell your customers about NEPONSET and have the walls protected as long as the house stands. The extra cost is hardly more than the price of a ton of coal and NEPONSET Papers will save more than this each winter.



Residence, A. C. Maguire, Winnetka, Ill. Spencer & Powers, Architects.
NEPONSET Red Waterproof Building Paper Used.

Don't forget the names — NEPONSET Red and NEPONSET Black.

We also make Coted — a waterproof paper which costs only a trifle more than rosin sized. Is absolutely waterproof and very easy to apply. You can save time and money on the job.



Branch Offices:
New York
Washington, D. C.
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F. W. Bird & Son, East Walpole, Mass.

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.

MORGAN'S Complete Compendium FOR Architects, Contractors, Dealers "MILLWORK HANDBOOK"

CONTAINS in compact, comprehensive form, information necessary in building a house—how to plan, estimate and make up orders for materials with the utmost economy of time, labor and materials, which are money.

Answers all questions pertaining to the building trade clearly, in plain, every-day language. If you want to know the size of boiler necessary to heat any size building the book will tell you how to find out. If you want to know the weight per cubic foot of various kinds of lumber, brick, clay, mortar or stone, ask the book. If you want to know how much lath is required to cover a given space you will find the answer in "Millwork Handbook." It will tell you the number of bricks required to build any size chimney. With the aid of this book you can easily determine the amount of paint required to cover any given area. Contains tables of weights and measures used in estimating materials for buildings. In fact, there is nothing you want to know about building a house that the book will not tell you.

It is furnished free to architects, contractors and dealers. Write for a copy today.

MORGAN GUARANTEED PERFECT HARDWOOD DOORS

are known throughout the length and breadth of America as the best. They are specified by every architect and contractor who takes pride in his work and recommended by dealers who are careful of their reputation.

Morgan Sash & Door Company

Department B 7

Blue Island Avenue and Wood Street

CHICAGO, U. S. A.

MORGAN COMPANY
Manufacturers
Oshkosh . . . Wisconsin

Eastern Trade Supplied by
MORGAN MILLWORK COMPANY
Baltimore, Maryland



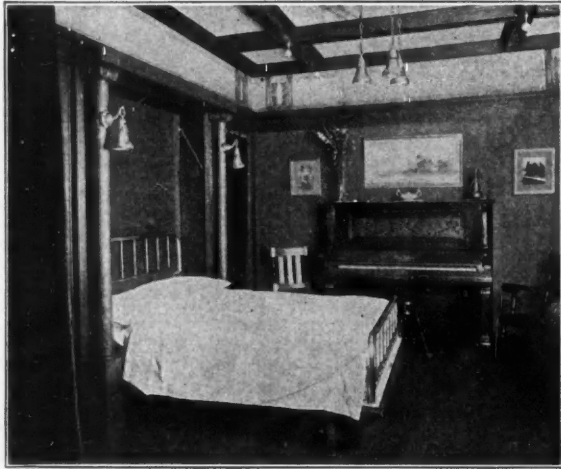
*Architects: Descriptive details of
Morgan Doors may be found in
Sweet's Index, pages 910 and 911.*



When Writing Advertisers Please Mention the American Carpenter and Builder,

**How to Utilize Every Inch of Space to
the Greatest Advantage**

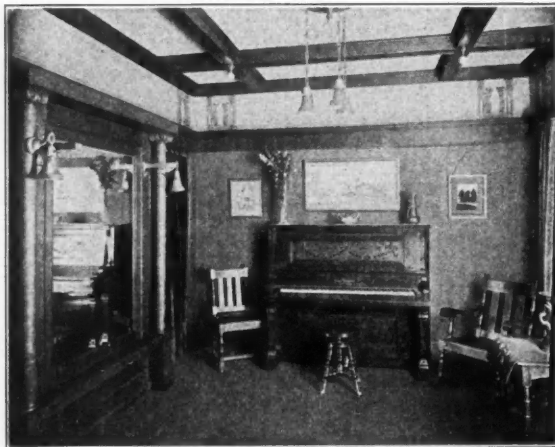
PERFECT WALL BEDS Solve the Space Question



Space utilization means increased area for the builder, consequently increased income. It means that the owner can provide a more attractive and convenient home for tenants with greater profits to him.

Three Rooms Equal to Five

Require less furnishing and are made more attractive by the richly finished console or side board which conceals the bed.



Ample ventilation is provided—More sanitary than the old style bed, for the reason that the space beneath can be kept clean without the laborious moving of the bed.

Prospective tenants will appreciate builders efforts to give them the best.

Builders:— Investigate before building. Let us plan for you how to utilize every inch.

PERFECT WALL BED CO.

430-2 S. Wabash Ave.

CHICAGO, ILL.

A Book About Lightning Rods

The Nebraska Lightning Rod Company of Omaha, Neb., manufacturers of pure copper cable lightning rods, fixtures and ornaments, send us their latest catalog which details their line fully and also contains considerable interesting information concerning lightning, its pranks and disastrous results usually following its striking.

This catalog explains in a simple manner how buildings, homes, barns, churches, chimneys, etc., may be fully protected from lightning striking.

The Nebraska Lightning Rod Company have been manufacturing lightning rod cable and equipment for over twenty years. Their fixtures fully comply with the most rigid requirements of the insurance companies.

To any AMERICAN CARPENTER AND BUILDER reader a copy of this catalog will be sent, together with such other information as will fully describe their line.

For this address the Nebraska Lightning Rod Company at 205 North 17th street, Omaha, Neb.

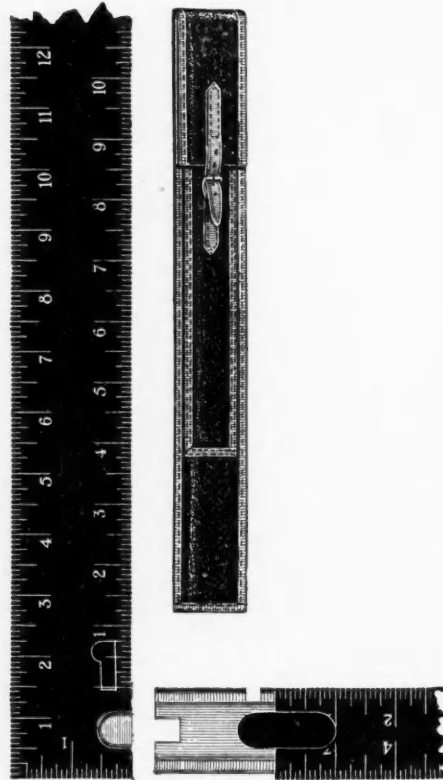


Nicholls' Take-Down Square

What should be of great interest to every man engaged in building work is the Nicholls Manufacturing Company's new take-down square, also their rafter framing square and rule.

This company have long been manufacturers of this style of equipment. Their squares are widely used, and known among all carpenters and builders.

Their new take-down square contains a thumb lock. There



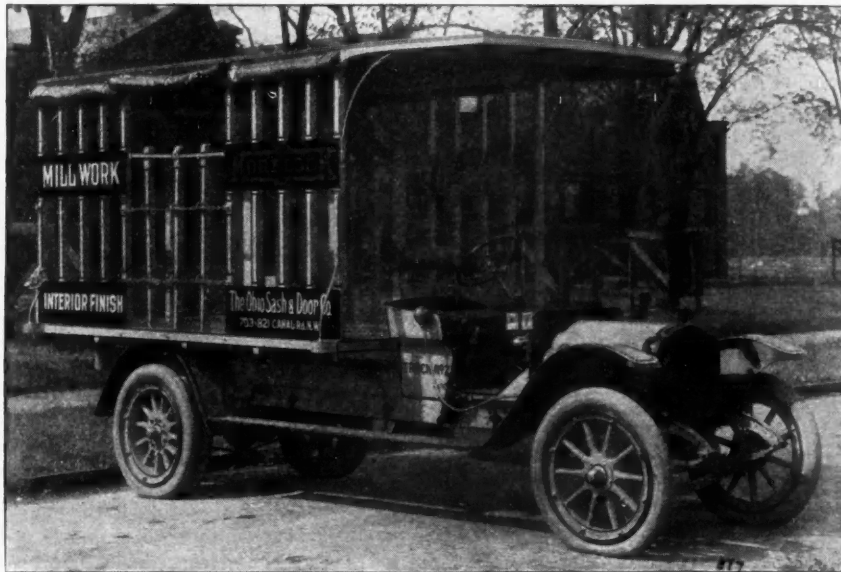
Nicholls' Take-Down Square and Case

is no key necessary. The main feature of the take-down square (shown here), is that it will always stay true. It is so constructed that the tongue is held down into beveled bearings by a spring and these bearings are made so as to take up the constant wear which comes in taking square apart and putting it together thereby producing constant accuracy.

When Writing Advertisers Please Mention the American Carpenter and Builder.



WHITE MOTOR TRUCKS



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

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

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

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

The White  Company

CLEVELAND

MANUFACTURERS OF GASOLINE MOTOR CARS, TRUCKS AND TAXICABS

When Writing Advertisers Please Mention the American Carpenter and Builder.

	23	22	21	20	19	18	17	16	15				
LENGTH	OF COMMON	RAFTER	PER FOOT	RUN	21	63	20	80	19	20			
"	OF HIP OR	VALLEY	RAFTER	PER FOOT	RUN	24	75	24	04	23	34		
DIFFERENCE	IN LENGTH	OF JACKS	16 INCHES	CENTERS	2	4 7/8	2	3 3/4	2	2 3/4	2	1 5/8	
FIGURES	GIVING	SIDE CUT	OF JACKS	VALLEY	RAFTERS	10	18	8	14	9	15	10	16
"	"	"	OF HIP OR	IN VALLEY	OR HIP	11	16	7	10	8	11	6	8
"	"	CUT OF	SHEATHING			18	10	14	8	15	9	16	10
	22	21	20	19	18	17	16	15	14	13			

Nicholls Rafter Framing Square

The following is an explanation of the famous Nicholls rafter framing rule. This rule is put on their regular framing squares. The outside inch figures indicate the rise of your roof in inches to the foot. Look under the figure indicating the rise of your roof and you will find the lengths per foot run and cuts of rafters for your roof. The first two lines give you the length of the common, hip or valley rafter per foot run. Now that you know the length for one foot run it is very easy to get the full length of your rafter; simply multiply by the entire run of your rafter or half the width of your building. The third and fourth lines give you the exact length of your first jack and the difference in the lengths of each additional jack spaced 16 or 24-inch centers. Cuts are obtained by placing square on stock to be cut, using first figures for body, second figures for tongue and marking on outside of tongue.

In addition to the manufacturing of squares the Nicholls company are makers of a saw-tooth roller marking and mortise gauge, and various other working tools for carpenters and builders.

This gauge runs true with edge of board, regardless of knots or cross-grain wood. Also, the line made by this wheel is easily seen, as the marks are like punch marks and

reflect the light from all sides.

For complete particulars concerning their squares and other articles of manufacture write the Nicholls Manufacturing Company of Ottumwa, Iowa, for their catalog, also their little booklet, "directions for using the Nicholls rafter framing square."



Motor Trucks "Make Good" in Many Lines

The exact advantages of the motor truck over horses in any particular case is not a question that can be easily determined from the experience of others. This is so far the reason that no two business organizations have to meet precisely, or even approximately, the same haulage problems.

Facilities for loading, length of hauls, number of stops, daily tonnage carried, nature of the streets and highways traversed, climatic conditions—all these are questions which go directly to the economical phase of the proposition. And there are others.

Firms engaged in a certain business find that investigation of motor haulage in their own line leaves them stranded in further doubt. They learn that where certain conditions may be materially like theirs, there are special elements in each case to which it is difficult to find a parallel.






**Every Room
in Your House**

And
This
is the
Label



Will be handsomer, cleaner and easier to keep in order if the walls are treated with

Johnston's DULL KOTE PAINT

It possesses all the beauty and softness of kalsomine or the finest imported wall paper combined with a tile-like hardness and durability. Walls treated with Dull Kote can be scrubbed with soap and water without impairing their original freshness and beauty.

The large number of colors in which Dull Kote is prepared make it possible for you to produce color combinations of pleasing variety suited to the furnishings and decorative scheme of every room.

Dull Kote wears for years without doing over. It is the most economical wall covering known to the modern decorator and the most satisfactory from the housekeeper's point of view.

All colors in stock. Wholesale and retail. A handsome book, "The Problem of the Wall," free on request.

THE R. F. JOHNSTON PAINT CO.
CINCINNATI, OHIO

When Writing Advertisers Please Mention the American Carpenter and Builder.



2250

Carpenters Have Become

434 Contractors	431 Draftsmen	296 Foremen	111 Managers	418 Proprietors
293 Architects	160 Superintendents	37 Inventors	70 Pres. and Other Professions	

Through I. C. S. Training

Two Thousand Two Hundred Fifty Carpenters have voluntarily written to us that the International Correspondence Schools opened to them the door to increased pay, promotion and prosperity in new positions and occupations. But this is not all: 1,616 more letters came from other men who, from other or no occupations, have become carpenters, architects, and contractors through I. C. S. training. This is the very best evidence of results accomplished by I. C. S. students.

These men are making their spare time increase their wages, build homes, and win independence. If you are not one of them, you are neglecting a great opportunity—neglecting your duty to yourself and those dependent upon you.

The I. C. S. have taken thousands upon thousands of men and fitted them for larger and better-paying positions. What we have done for others, we can do for you. I. C. S. Courses are adapted to meet your particular need, for by a Course you can rise to a larger and more prosperous career.

Mark and mail the coupon. It will bring to you, without cost or obligation, full information about the promotion you wish to secure.

Send the Coupon NOW

International Correspondence Schools

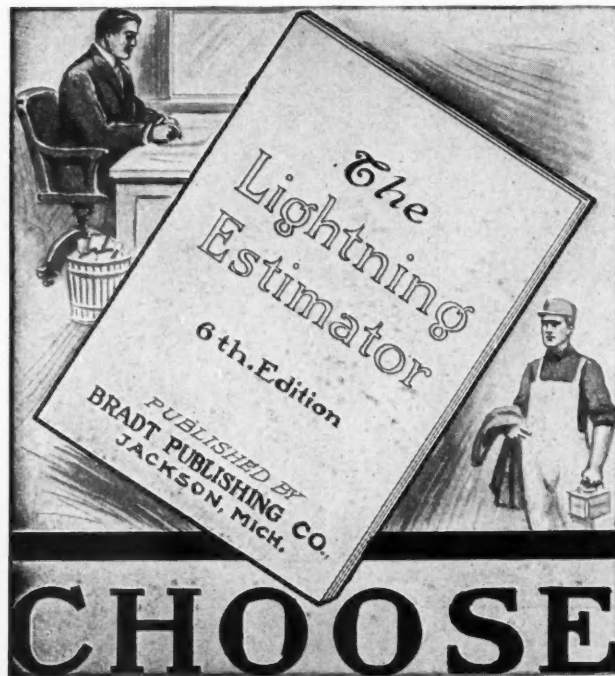
Box 910, SCRANTON, PA.

Please explain, without further obligation on my part, how I can qualify for a larger salary and advancement to the position, trade, or profession before which I have marked X.

Architect Arch'l Draftsman Contract'g & Build. Building Inspector Structural Engineer Structural Draftsman Plum. & Heat. Con. Supt. of Plumbing Foreman Steam Fit. Plumbing Inspector Heat. & Vent. Eng.	Estimating Clerk Civil Engineer Surveying Mining Engineering Mechanical Engineer Mechanical Drafts. Stationary Engineer Electrical Engineer Electric Lighting Electric Railways Concrete Construct'n	Automobile Running Foreman Machinist Sh.-Met. Pat. Drafts. Textile Manufact'g Bookkeeper Stenographer Advertising Man Window Trimming Commerci'l Illustrat'g Civil Service Exams. Chemist
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Name _____
 Street and No. _____
 City _____ State _____
 Present Occupation _____

When Writing Advertisers Please Mention the American Carpenter and Builder.



IT'S up to you to be the man at the top instead of the man with the dinner pail.

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

The LIGHTNING ESTIMATOR

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

The New Sixth Edition of the LIGHTNING ESTIMATOR

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

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

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

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

BRADT PUBLISHING CO.

1260 Michigan Avenue

JACKSON, MICH.

In the files of the Kissel Motor Car Company are experience letters from users of KisselKar trucks in seventy-five or more lines of trade. That each individual experience is different is the most marked impression that these letters leave.

Statistics—comparative data—mazes of figures that illustrate when analyzed nothing more than individual cases, have been fulsomely published in truck discussions and it is not surprising that one bewildered truck prospect writes to the Kissel Company: "Tell me how your truck has met haulage questions that might arise in any business. That is the point I want to settle in my mind first."

There are several such cases in the Kissel files, knowledge of which is valuable as throwing light upon the power, performance, endurance and reliability of trucks as compared with horses.

The experience of Alexander H. Revell & Co., of Chicago, during the excessive blizzard of February 26, 1912, a day when horses were unable to travel to any extent, was merely the experience that would have come to any owner of as good a truck service. Revell & Co. used four KisselKar trucks on that day, covering a total of 124 miles and making 95 deliveries.

Last March, during a week of incessant rain, with roads in such condition as to almost preclude horse haulage, the New Jersey Flour Company, of Passaic, N. J., operated a four-ton KisselKar truck 290 miles, all in country traffic, delivering 984 barrels of flour. This concern writes: "We consider this a greater amount of business delivered than would be possible with four teams of horses."

The Weideman Brewing Company, of New Haven, Conn., report a similar experience, mentioning specifically a trip from New Haven to Bridgeport, a distance of thirty-six miles, when the mud was so deep that the truck sank in nearly to the sprockets, yet went through without any mechanical trouble whatever. The truck carried a full four-ton load.

The Plumb & Nelson Company, of Manitowoc, Wis., state that they were able through the use of their motor truck to fill a big emergency telegraph order, which had to make a certain train, whereas with horses there would have been insufficient time.

The Kansas City Transfer Company, of Kansas City, Mo., hitched a three-ton KisselKar truck to a trailer on which was a 37,000 pound boiler, and a haul of a mile and a quarter of this huge bulk was made in forty minutes. Sometime previously it had taken twelve horses ten hours to do this identical thing.

These are merely straws indicating the duty that can be expected of a motor truck if required.

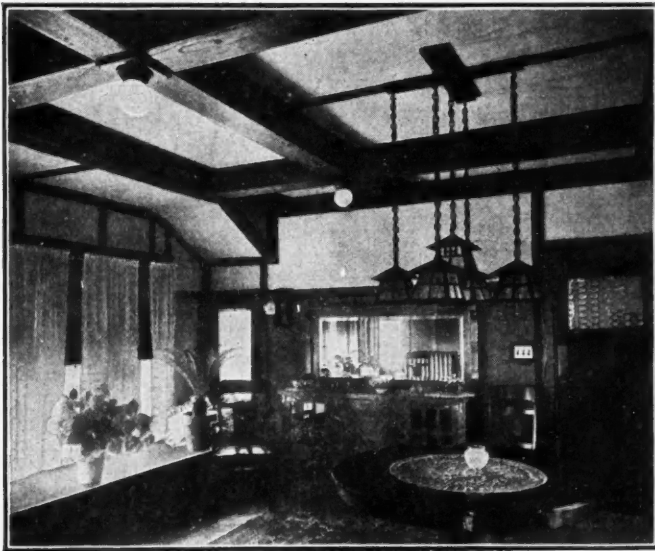
One owner engaged in a business that does not involve much delivering, writes that he is able to make a profit by undertaking the drayage of neighboring merchants similarly situated.

That motor trucks, under nearly all normal circumstances, are less expensive to operate and care for than horses is a fact made stronger by investigating the exceptional instances where they do not seem to be so. In such cases it is invariably found that extrinsic conditions are at fault.

The study of the motor truck from the standpoint of economy—or actual money saving—should be supplemented by a thorough consideration of its value from the standpoint of service and advertising.

As to service—which means more than anything else, quick and prompt deliveries—Mr. A. E. Holmes, superintendent of the Revell store, in Chicago, says: "In our business we must be up-to-date and our customers demand the best we can give them, both in goods and service. Even if motor trucks were more expensive—which they are not—we would never go back to horses."

When Writing Advertisers Please Mention the American Carpenter and Builder.



YOU can do away entirely with the muss and dirt of lathing and plastering—You can cut out all the delay in waiting for plaster to dry—And you can have better, more durable walls and ceilings if you use

UTILITY WALL BOARD

Also—you save money—you save time and labor—and you get a much more satisfactory job—

Utility Wall Board is a tough fibre board—thoroughly moisture proof—It is put on right over the studding—or over old plaster if you wish—It will not warp or crack—It is fire resisting and as durable as the house itself.

Utility Wall Board is made in all lengths and in any width up to four feet—It is very easy to put on and is immediately ready for papering or decorating in any way desired.

We want to send a free sample to every carpenter and builder and house owner in the country—Write for yours

THE HEPPE'S COMPANY 4503 Fillmore Street **Chicago, 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—and how little the cost is for La Plant outfit compared with the profit to be made in moving houses instead of wrecking them.

LA PLANT TOOL CO.

1100 E. Nevada St.

Marshalltown, Iowa

When Writing Advertisers Please Mention the American Carpenter and Builder.

Why the Underfeed Cuts Coal Bills

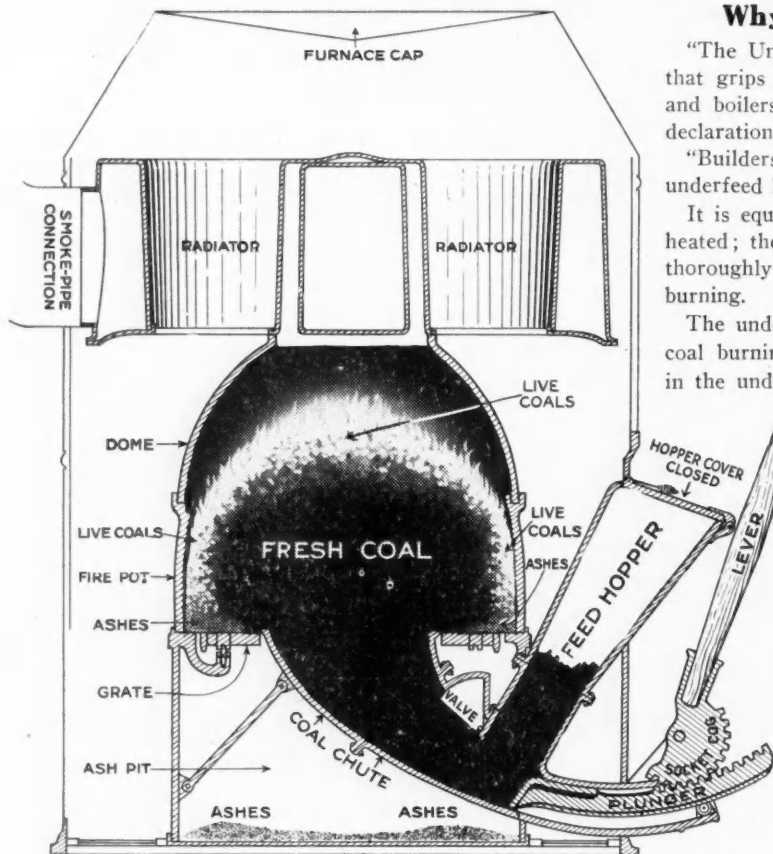
"The Underfeed Cuts Coal Bills 1/2 to 2/3," is an assertion that grips hard. When Peck-Williamson underfeed furnaces and boilers came into the heating field years ago with this declaration, they won immediate favor.

"Builders add to their own reputation by recommending underfeed heaters," is another slogan familiar to our readers.

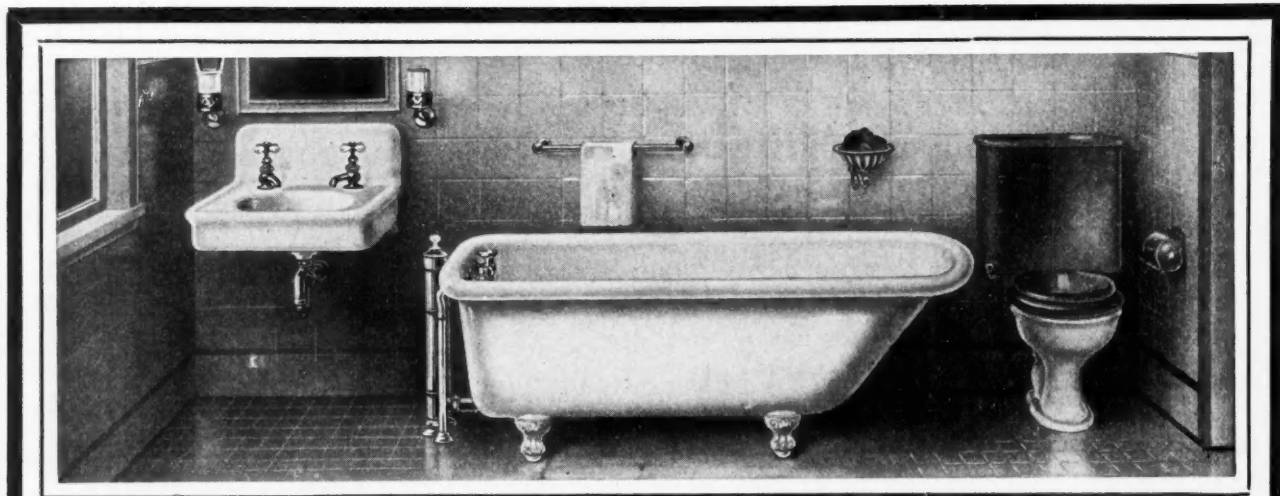
It is equally important that a house be well built and well heated; therefore, every architect and builder should become thoroughly familiar with the underfeed principle of coal burning.

The underfeed completely reverses the old-time method of coal burning. Instead of throwing coal on top of the fire, in the underfeed it is "pumped" up into the fire pot, underneath the fire. The fire burns on top and sides of cone-shaped mass of coal. Smoke and gases—heat units which are said to be wasted in other heaters—pass up through the fire, are consumed and make more heat. The result claimed is perfect combustion—no smoke, no soot, no clinkers and but few ashes.

On account of the underfeed system of coal burning, the cheaper grades of soft slack coal and pea and buckwheat sizes of hard and soft coal are preferred. In the underfeed, so it is claimed, these cheaper grades of coal yield as much clean, even heat as highest grade coal in top feed heaters. While this cheaper coal would smother fire in ordinary furnaces and boilers, it burns beautifully in the underfeed, forming a cone of coal which cokes, burning with a surface of almost incandescent brightness.



Sectional View of Underfeed Furnace Showing Method of Underfeed Coal Feeding and Burning



The rent agent calls attention to the Wolf 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 Wolf Plumbing, makes it easy for the architects to use Wolf specifications.

L. WOLFF MANUFACTURING COMPANY

MANUFACTURERS OF
PLUMBING GOODS EXCLUSIVELY

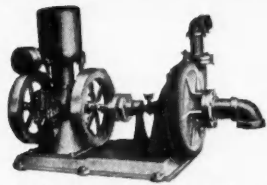
The Only Complete Line Made by Any One Firm

General Offices
601-627 W. Lake St., Chicago
Trenton, N. J.

Showrooms
111 N. Dearborn St., Chicago
Denver, Colo.

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

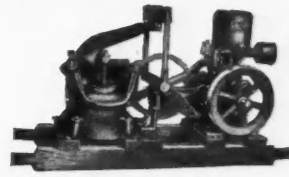
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Novo Engine and Centrifugal Pump Direct-Connected

"The Engine for Every Purpose"

NOVO ENGINE



Novo Contractor's Trench Pump Outfit

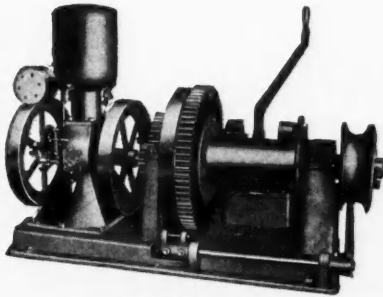
Every Contractor Will Find a Novo Outfit Exactly Suited to His Needs

For hoisting, drilling, rock crushing, saw rigs, running shop machinery and all power work within range of their capacity—1 to 10 H. P.—Novo Engines are unsurpassed.

The Novo Hoisting Rig occupies a minimum of space. It is light but made for hard service. The gears are strong, bearings are wide, and every part is built for the work it must do.

Novo Engines are the lightest engines for power developed. Simple, compact, entirely self-contained, they provide the contractor with an ideal power plant.

**NO TANK
NO FAN
NO FREEZING
TROUBLE**



Novo Hoisting Rig

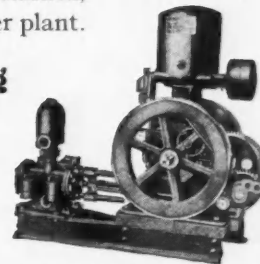
Send for Novo Equipment Catalog

and get the details of the Novo Engine and Outfits.

Novo Engine Co.

Clarence E. Bement, Sec'y and Gen'l Mgr.

236 Willow St., LANSING, MICH.



Novo Engine Direct-Connected to pump

SEATTLE

Buy Your Lumber Direct!

From the Big Fir Tree Country

CHICAGO

Seven transcontinental railroads distribute the products of our mills direct from our own forests to builders everywhere. You need no longer pay tribute to five middlemen in buying

LUMBER, SASH, DOORS, MILLWORK, PAINT, HARDWARE

Save these profits for YOURSELF! We sell to YOU DIRECT!
 You are building to make money. **Get on the profit side at the start** by buying your material direct from the man who owns the resources and save all middlemen's commissions for YOURSELF.

We manufacture our own lumber from our own timber—logged over our own road, cut in our own mill, and shipped direct to you. This means that we have broken away from the old lumber selling monopoly and that our reputation as one of the big lumber companies of the country is behind every statement we make and every piece of material you buy from us.

We **guarantee** better goods than you can get from your local dealer and **SAVE YOU 25% to 50%**. By loading a full house bill into one car we can make you a big saving on freight, A SAVING THAT BELONGS TO YOU.

Send for our big lumber and building material list, or better still, send in your bill for estimates and get a price **DELIVERED FREIGHT PAID** to your station.

Cut this coupon and mail today

"FIR WILL LAST YOU LONGER"

Hewitt-Lea-Funk Co

HIGH IN QUALITY
LOW IN PRICE
FIRST IN SHIPMENT

623 First Ave Seattle, Wash.

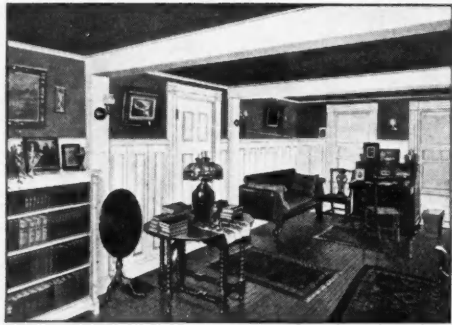
Coupon

Hewitt-Lea-Funk Co. 623 First Ave., Seattle.

I enclose stamps for lumber list quoting price laid down at my station.

Name _____
 Address _____
 Occupation _____

When Writing Advertisers Please Mention the American Carpenter and Builder.



Vitralite

The Long-Life
WHITE ENAMEL

THE modern revival of old colonial decoration is met with Vitralite, *The Long-Life White Enamel*. Its porcelain-like whiteness is never marred by a yellowish tinge — its surface remains smooth, unbroken — without check or crack.

Of like quality is "61" Floor Varnish. There is gratification to client and credit to builder in the service of its wear.

Samples, Both Liquid and on Wood Sent Without Charge

Our Architectural Service is most complete and always at your command. Please feel free at all times to avail yourself of this co-operation.

Pratt & Lambert Specifications, 1912 Sweet's Index, pages 1668-1669 will assist you in the specification of interior finishes.

Pratt & Lambert-Inc.
110 Tonawanda St., Buffalo, N. Y.

"61" FLOOR VARNISH

PRATT & LAMBERT VARNISHES
AMERICAN FACTORIES: NEW YORK, BUFFALO, CHICAGO, BOSTON, CANADA
ESTABLISHED 63 YEARS
FOREIGN FACTORIES: LONDON, PARIS, HAMBURG

The cut on page 116, giving a sectional view of the underfeed furnace, clearly illustrates the method of underfeed coal feeding and coal burning. Fresh coal which has been pumped up through the coal chute by the action of an easily operated lever, is surfaced on the top and sides with fire. The fire and heat, therefore, comes in direct contact with the most effective radiating surfaces of the furnace—firepot and dome. The underfeed method insures even heat instead of the alternating chill and over-heat which is characteristic of the old method of "blanketing" the fire with fresh coal every time you fire up. Underfeed heating systems are adapted for all buildings—large or small—homes, apartments, churches, halls, stores, theatres or armories.

To all architects and builders who forward their building plans the Peck-Williamson Company will gladly send without cost engineering plans and advice as to the actual cost of installation of an underfeed.

One of the greatest factors in the overwhelming underfeed success is found in the cheerful truth that the underfeed soon pays for itself and then for a lifetime keeps on saving for the owner.

The furnace booklet, "From Overfed to Underfeed" or the "Underfeed Boiler Catalog," can be secured free by writing to the Peck-Williamson Company, 436 West Fifth avenue, Cincinnati, Ohio.



Adamat Flooring

A composition rubber matting which is being manufactured by the Flintkote Manufacturing Company, New York City, is finding large demands in every classification of building, from the hospital, school and home to the loft and office building.

This material is sold under the trade name of Adamat Flooring. It is composed of a felt mat base with a gum surfacing on both sides, making both sides useable as a walking surface. It has no odor; is water proof and acid proof; is an insulator; and it is not corrugated, hence is absolutely sanitary and has the advantage of a non-slipping surface without being corrugated. It will not harden or oxidize.

This material can be had up to 90 feet in length, which makes it particularly adaptable for halls, aisles or runways.

Complete details concerning Adamat Flooring may be had from the Flintkote Manufacturing Company, 66 Beaver Street, New York City, New York.



Smith and Hemenway's Green Book

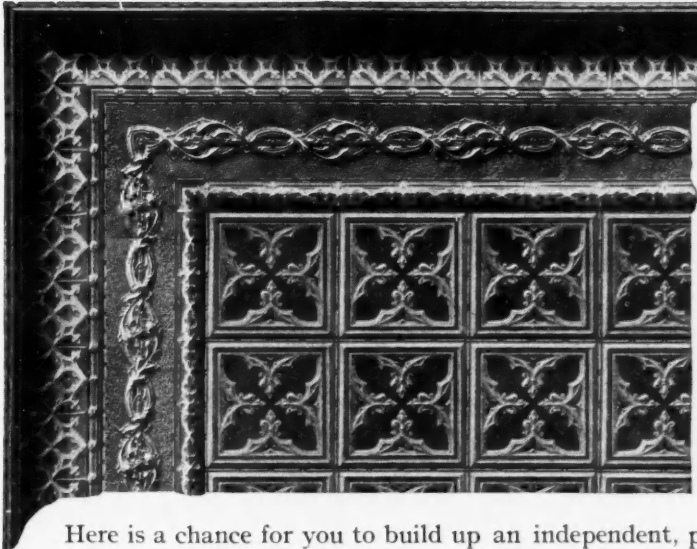
A most complete tool and hardware specialty catalog is that issued by the Smith & Hemenway Company of New York City, which they call their "Green Book," and which features their "Red Devil" line.

This "Green Book" is put out in loose leaf form, with a good, substantial, heavy cover, insuring protection of pages. Additional pages are issued from time to time and forwarded to all catalog holders. In this manner the "Green Book" is kept always up-to-date.

Smith & Hemenway Company are large manufacturers of tools and like equipment. Their "Red Devil" line is widely known. Described and shown in the "Green Book" now are a full line of nail pullers, chain drills, post drills, fence tools, pliers of every type and for every purpose, wrenches, screw drivers, awls, tinners' snips, saws and saw blades, mitre boxes, water motors, glass cutters, wall scrapers, tool sets, try-squares, etc., etc.

A copy of the "Green Book" may be had by writing the Smith & Hemenway Company, 150 Chambers street, New York city.

When Writing Advertisers Please Mention the American Carpenter and Builder.



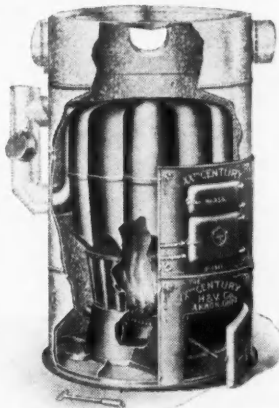
Edwards Metal Ceilings and Walls

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



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

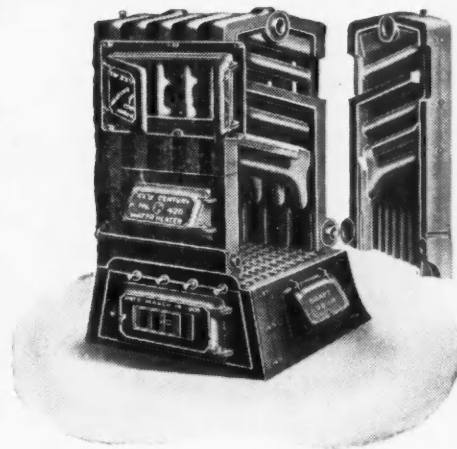
XXth Century Hard or Soft Coal

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.

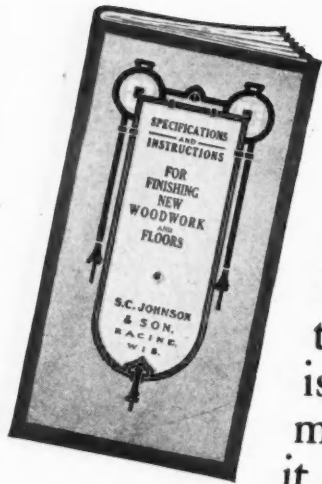


The XXth Century Heating and Ventilating Co.

Akron, Ohio

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Will You Read This Book If We Send It Free?



THIS book is the work of expert authorities. It gives instructions how to obtain best results; shows how much material is needed for certain work; lists shades best adapted for different woods; quotes prices on the best wood finishes. It is brimful of information that brings success to every reader. Be sure to get a copy. It is the result of 30 years' expensive experiments and tests. The reason why we give it free is because it tells about

Johnson's Wood Finishes

We want every contractor and builder to know all about our wood finishing materials and try them at our expense, so with the booklet we give you generous samples of Johnson's Wood Dye and Flat Wood Finish.

**Over \$200,000 Worth of Experience Is
Behind This Book—Ask For Your Copy**

We have been manufacturing Wood Finishes for over 25 years and know just what contractors and builders need. Our book and samples will bring you the information you want. Get them today.

S. C. Johnson & Son,

*"The Wood Finishing
Authorities"*

Racine, Wisconsin

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. Architects, Contractors, Painters and Home Owners are enthusiastic over the results obtained and the big saving made possible with them.



Johnson's Wood Dye

is made in 15 popular shades as follows:

- No. 126 Light Oak
- No. 123 Dark Oak
- No. 125 Mission Oak
- No. 140 Early English
- No. 110 Bog Oak

- No. 128 Light Mahogany
- No. 129 Dark Mahogany
- No. 130 Weathered Oak
- No. 131 Brown Weathered Oak
- No. 132 Green Weathered Oak

- No. 121 Moss Green
- No. 122 Forest Green
- No. 172 Flemish Oak
- No. 178 Brown Flemish Oak
- No. 120 Fumed Oak

Gallons \$3.00—Half-Gallons \$1.50

Test samples on any work you have in hand. Note how quickly Johnson's Wood Dye dries, so that dust and dirt have no chance to settle in the finish. Observe how it penetrates and brings out all the beauty of the grain without raising it in the slightest degree. In addition to this, the fastness of color, ease of application and practical economy will also appeal to you.

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 No. A. C. B. 8 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.

Please send me
free samples of
Johnson's Flat Wood
Finish and Wood Dye
Shade No. Also
Instruction Book A.C.B.8

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

"The Wood Finishing Authorities"

My Dealer's Name is.....
 His Address.....
 My Name.....
 Address

When Writing Advertisers Please Mention the American Carpenter and Builder.

Steel Forms for Hollow Walls

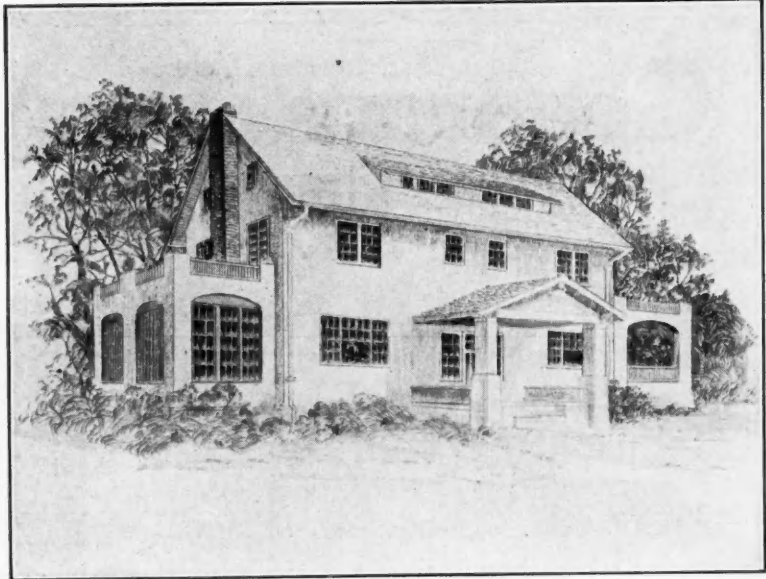
We present in this number a very fine example of the popular hollow-wall type of concrete construction, in which the forms employed are those of the Van Guilder Hollow-Wall System.

The beautiful and substantial residence illustrated is being built at Smithtown, L. I., in the Oyster Bay district of Long Island Sound, as the future home of its owner, Mr. F. J. Wagner. The house has a red tile roof and a refined, rich stucco exterior finish.

This residence was erected by Joseph Mulvey, contractor and builder, of 295 North avenue, New Rochelle, N. Y. The dimensions of the body of the house are 46 feet by 24 feet 6 inches. There are three large porches—one in front 14 feet by 8 feet 8 inches, and one at each end 26 feet 5 inches by 11 feet. One end porch is arranged for a sun room, and the other has a dining porch. The entire outside walls, including porches and porch piers were constructed with the Van Guilder Hollow-Wall Machines.

The double walls, with a continuous air space between them, were built in courses around the building, each course being $9\frac{1}{2}$ inches high. This method produces literally one house within another, the walls of which do not touch each other at any point, and are absolutely damp and frost-proof. These two walls are tied together securely with galvanized iron ties, and are thoroughly steel reinforced horizontally.

The piers, instead of being built one course above the other, are formed in the machines on a floor, and when hard, are set in place. Mr. Mulvey says that this is quickly and cheaply done. These piers are hollow so that the sun parlor is as im-



F. J. Wagner Residence at Smithtown, on Long Island Sound Built by The Van Guilder Hollow-Wall Process. Joseph Mulvey, Contractor

pervious to dampness and frost as the main part of the house. A Kent Precision Mixer supplied concrete for two sets of Van Guilder machines, and is reported to be very satisfactory.

Mr. Mulvey is a carpenter and builder of wide experience and high repute. He has made a close study of concrete construction. He decided last fall to try the Van Guilder Hollow-Wall System. He had signed contracts with Mr. Lorillard Wise, architect, of 254 Huguenot street, and Edward N. Buel, of Halcyon Park, New Rochelle, N. Y., to build each of them hollow-tile houses; but on the merits of the Van Guilder Sys-

BE CERTAIN THE PLASTER YOU USE COMES IN THESE SACKS



These plasters—our Climax Wood Mortar and Hercules Wall Plaster—are a positive guarantee to you of better plastering jobs at less cost and more profit.

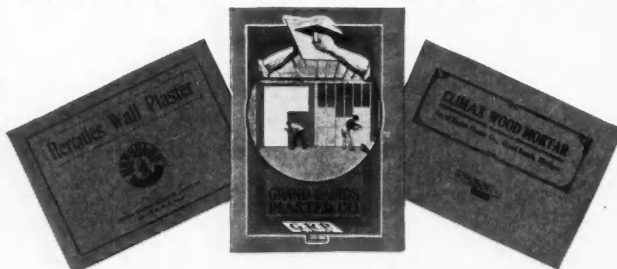
These plasters will stand up under the most severe service. There will be no repair work needed upon any jobs our Climax Wood Mortar or Hercules Wall Plaster are used upon.

Climax Wood Mortar and Hercules Wall Plaster are Hard Wall Plasters. They are far superior to any heavy cracky lime mortar plasters made.

With these Hard Wall Plasters you will do a job once and only once. No re-fixing of any sort. They cost you much less in the long run because they save you time, labor and money on every job.

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.



Better get in touch with us today. Let us know your address so that we may mail your set of books to you without delay. With them we will send you the name of your nearest dealer handling G. R. (Grand Rapids) Plasters. He will have a complete stock of them so you will be able to get and use our plasters immediately.

GRAND RAPIDS PLASTER COMPANY
GRAND RAPIDS MICHIGAN

Hercules Wall Plaster

is a gypsum rock hair fiber plaster—we do not sand at the factory. It makes a wall that is dense, durable, hard, tough and economical. It is absolutely fire-proof. It dries quickly after applying. It spreads better and with less waste than any other wall plaster. We use only high grade hair in its manufacture and it contains no chemicals, acids or vegetable matter.

We Will Send You These Books—FREE

Be sure you get your set now. They are mighty interesting and instructive booklets upon Hard Wall Plastering. They will explain to you just exactly what Hard Wall Plastering is and the many advantages Hard Wall Plasters have over the heavy, cracky, lime mortar plasters.

These books are sent absolutely FREE to you and there is no obligation on your part in asking for them. They will explain to you in detail our Climax Wood Mortar—Hercules Wall Plaster—Superior Wood Fiber Plaster—Gypsum Wall Plaster and Sackett Plaster Board. With these books we will send you our room measurement booklet—from it you can tell at a glance the number of square yards in a room.



“Remember the
TRADE MARK”

GRAND RAPIDS
PLASTER COMPANY
GRAND RAPIDS MICHIGAN

N. B. We solicit inquiries from Michigan, Ohio, Indiana, Illinois, Wisconsin, Kentucky, Tennessee, West Virginia, and Pittsburgh district, Pa., only. Freight rates will not permit shipment to other territory.

When Writing Advertisers Please Mention the American Carpenter and Builder.

Read These Two Valuable Letters About CORTRIGHT Metal Shingles!



Corydon, Ky., Aug. 6, 1907.
Gentlemen:—I take pleasure in sending you photograph of my residence, roofed with Cortright Victoria Shingles.
The residence of my father has been covered with your Metal Slates for over fifteen years, and has always given the greatest possible satisfaction.
The Livesey Memorial Christian Church is also roofed with Cortright Metal Slates, also two residences on the next block, which have been very satisfactory.
Yours very truly,
HARBERT L. KING.

This is the sort of satisfaction that will build up your business, if you will handle

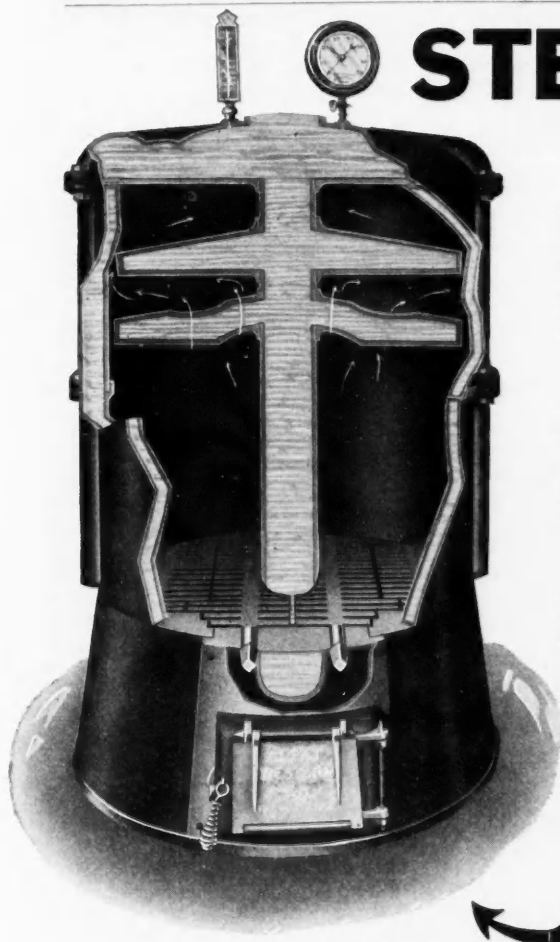
CORTRIGHT METAL SHINGLES

because you will always be recommended by satisfied customers, and attractive durable roofs.

It will pay you to investigate our special Contractors' and Builders' proposition. Write us before you forget.

Corydon, Ky., Feb. 16, 1912.
Gentlemen:—
Replying to your inquiry relative to your Metal Shingles, with which I roofed my residence in 1906, will say that this roofing has given complete satisfaction, which is as strong a recommendation as I can give.
I expect to build again within the next few months, and rest assured the architect will be instructed to specify "Cortright" roofing.
Yours very truly,
HARBERT L. KING.

CORTRIGHT METAL ROOFING CO. :: :: Philadelphia & Chicago



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.

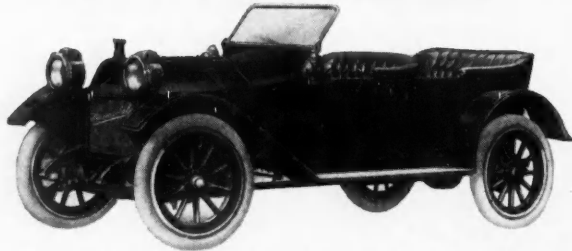
Contractors and Builders

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

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Hupmobile



Hupmobile Long-Stroke "32" Touring Car, \$900.

F. O. B. Detroit, including equipment of windshield, gas lamps and generator, oil lamps, tools and horn. Three speeds forward and reverse; sliding gears. Four cylinder motor, 3½-inch bore and 5½-inch stroke. Bosch magneto, 106-inch wheel-base. 30x3½-inch tires. Color, Standard blue. Roadster, \$900.

The man, the machine and the material—this new plant gets the best out of each

The same machinery that is used in the fine new Hupmobile plant is also used in those plants producing cars of the highest prices.

The skilled mechanics engaged in the construction of the Hupmobile are paid the same high rate prevailing in plants producing the costliest cars.

The splendid shop organization has been developed to the same high state of efficiency and held practically intact from the inception of the company—under the engineering leadership of E. A. Nelson, the same man who has been responsible for the success of every previous model.

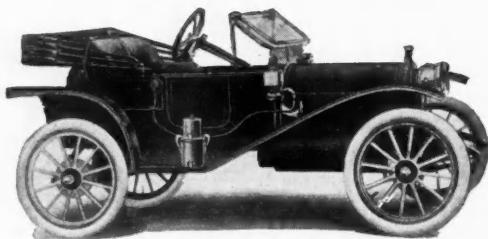
The materials which enter into every essential Hupmobile operation are precisely as fine—precisely the same, in fact—as those used in cars of the largest and most expensive build.

Differences in size and differences in excess luxury, of course;—differences in engineering ideals, in scrupulous workmanship, in trustworthy materials—emphatically no.

We believe the Hupmobile to be, in its class, the best car in the world.

Hupp Motor Car Company, 1255 Milwaukee Ave., Detroit

Canadian Factory, Windsor, Ontario



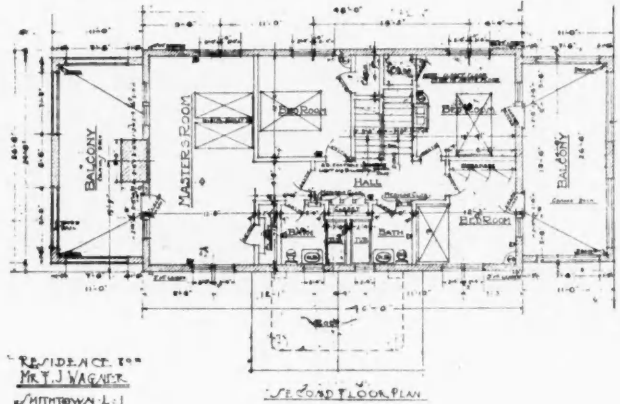
Standard 20 H. P. Runabout, \$750.

F. O. B. Detroit, with same power plant that took the world-touring car around the world—4 cylinders, 20 H. P., sliding gears, Bosch magneto. Equipped with top, windshield, gas lamps and generator, oil lamps, tools and horn. Roadster, 110-inch wheel base, \$850.

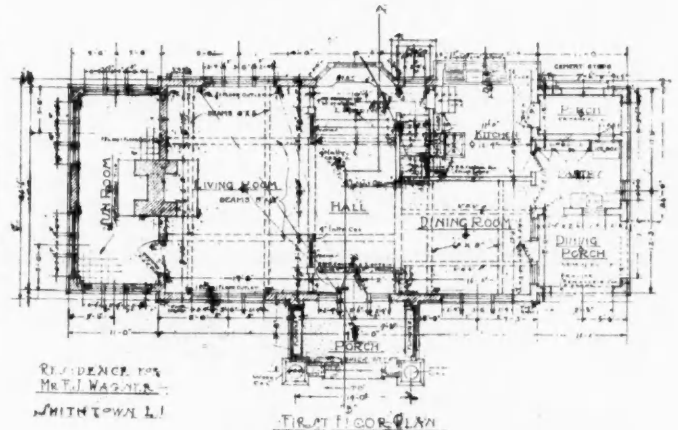
When Writing Advertisers Please Mention the American Carpenter and Builder.

tem being explained to them, they both changed their plans to double concrete walls, prices to be the same as their tile contracts called for.

The results were so entirely satisfactory to the owners, and the houses made such a solid, refined appearance, that other contracts came along with little effort, and Mr. Mulvey at



Second-Floor Plan



First-Floor Plan

Floor-Plans of Hollow-Wall Concrete Residence Built for J. F. Wagner, Smithtown, Long Island, under the Van Guilder System

once found himself placed in a new and profitable field of construction. Satisfied by experience as to the economy and excellence of the Van Guilder System, he is specializing on it with great success, putting it into a high class of residences.

Information regarding this method of construction may be obtained of the Van Guilder Hollow Wall Company, 720 Chamber of Commerce Building, Rochester, N. Y.



Hustlers for Roofing Business

The Patent Roofing Company of Chicago are now offering builders four guaranteed roofings, any one of which they claim will give absolute service for fifteen years.

Their four roofings include a 3½ ply Oriental red slate surfaced; a 3-ply asphalt felt; a 3½-ply flint surfaced asphalt felt and a 3½-ply Oriental gray and slate surfaced.

These roofings can be laid over old shingles without in any way affecting their efficiency. They are fire resisting and are not affected by gases. Only the highest grade asphalts and wool felts are used in their making.

The Patent Roofing Company have a unique mailing card showing samples of their roofings which they will mail to all interested. Address them, Patent Roofing Company, 1225 West Van Buren street, Chicago, Ill.

Granite

TRADE MARK

ROOFING



SIX INCH SOLID LAP

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

MAJESTIC

FOUNDATION

COAL CHUTE



Protects the building just where most needed—above the opening.

The heavy steel hopper catches all the coal.



When not in use, the hopper lies in the bottom of the chute body. The door locks automatically either open or closed. Strictly burglar-proof. With 1/4-inch wire glass or steel panel in door.

Write for circular and address of nearest dealer.

MAJESTIC FURNACE CO.
 995 to 1001 Sixth Avenue Huntington, Indiana

Save 50%

on 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 108 Sq. Ft.
 Free from tar
 Made from long woolen felt saturated and coated with pure asphalt.

Fancy Flooring

Quarter Sawed White Oak to cover 1 sq. ft. 12c

CHICAGO MILLWORK SUPPLY CO.
 623 S. Dearborn St. Chicago

Fill in This Coupon Now DATE
 Mail It To Us

Chicago Millwork Supply Co.,
 623 S. Dearborn St., 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.

The "Fire Proof Wall Board"

A particularly interesting feature of Bestwall, the wall board being manufactured by the Bestwall Manufacturing Company of Chicago, is that it is made of rock gypsum, a mineral substance which is a positive fire resistant as well as a non-expanding, non-contracting material.

This latter point in the manufacture of Bestwall permits

is to give a texture to the surface and relieve the flat effect of painting on a smooth plaster. Both of these results can be obtained in Bestwall.

That Bestwall may be considered entirely fireproof, rather than simply fire resistant is claimed by its manufacturers after the remarkably severe test it was recently subjected to. This was a fire test of 1,700 degrees Fahrenheit for thirty minutes.



New Plant of the Bestwall Mfg. Co., Chicago—A Model of Fireproof Factory Construction

of wall paper being applied directly on the surface the same as on a plastered wall. After nailing Bestwall to the studing, the joints should be smoothed over with a crack filler. This gives a finished surface that is immediately ready for any kind of decoration. A washable paint may be used and it will procure results that resemble work done with oil on canvas, such as is used in general practice in high-class residence work. There are two reasons for putting canvas on a plastered wall and painting with oil. The first reason is to obviate the cracks in the surface of the plaster. The second

This Bestwall is a certain sound-deadener, also a non-conductor of heat and cold. It does not warp and any kind of decorating material and effect may be used with it. It is being manufactured in two widths.

Bestwall is made of a rock gypsum composition with a surface of heavy fiber paper on either side. In its composition wood fiber and certain other strengthening materials are used. Bestwall is nailed direct to the studing and it can be nailed close to the edge, like wood, without splitting it. The Bestwall company have recently moved into their mod-

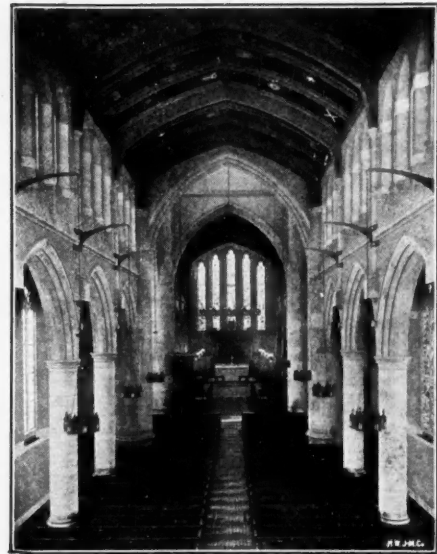
Architectural Acoustics

Scientific research, during the past few years, has brought about a notable change in the status of architectural acoustics, a subject hitherto little understood and consequently largely neglected. New and scientific methods have led to a more thorough comprehension of the laws of acoustics and their dependence on size, shape and structural materials of any building.

Realizing the importance of this new science and the necessity of applying it in such a way as not to conflict with architectural considerations, we established over a year ago a department for the development of a proper technique for the work, whereby we might place our services at the disposal of the architectural and engineering professions. We have sought out and associated with ourselves trained scientists, capable of giving expert advice on the proper methods of acoustical correction, and we expect, by continual research and practice, to remain in the forefront of the development of this important combination of art and science.

During the past year we have executed many contracts with unflinching success, a photograph of one of the largest being shown above.

We solicit correspondence on the subject and are glad to give preliminary recommendations without charge.



St. Paul's Cathedral, Detroit, Mich. Showing J-M Acoustical Treatment. Cram, Goodhue & Ferguson, Architects

H. W. JOHNS-MANVILLE Co.

Manufacturers of Asbestos and Magnesia Products

ASBESTOS

Asbestos Roofings, Packings, Electrical Supplies, Etc.

Albany
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New York
Omaha
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San Francisco
Seattle
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Winnipeg, Man.

Vancouver, B. C.

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

(1691)

When Writing Advertisers Please Mention the American Carpenter and Builder.



DECO-VENEER

is a real wood—not an imitation—mounted on DECO boards.

DECO is made from the best foreign and domestic timbers. Panels come in white or finished. Furnished with caps, base and strips ready for immediate installation. There is no mill or cabinet work necessary. DECO saves time and money.

DECO is adaptable for window backs, wainscots, door panels, bank or bar fixtures, general paneling and interior decorating work, etc., etc.

We want a live Contractor, Carpenter or Building Agent in every town. DECO is moderate in cost and sells easily. You can make money through handling DECO.

Write for our descriptive matter, samples, prices, agency terms and other information. Drop us a line NOW.

Deco Manufacturing Company

INDIANAPOLIS

::

INDIANA



Complete High Grade Bathroom Outfit \$35

These handsome high-grade Plumbing Fixtures are furnished complete, guaranteed, and sold direct, saving you all dealer's profits. The Bath Tub and Lavatory are White Porcelain Enameled over gray cast iron. The Closet is Vitreous China with Oak Seat and Copper Lined Tank.

Complete Pneumatic Water Supply System for Your Home, \$40

Black Steel Tank, 145 gallon capacity, 2 1/2 inch Brass Lined, Double Action, Combination Air and Water Pump, including all Pipe, Fittings, Valves, Gauges, etc.

Heating Plants, \$95

You can save from 30 to 60 per cent on a modern Steam or Hot Water Heating System. Heating Plants complete for modern homes from \$95 up. By following our simple plans and instructions, you can install your own material and eliminate the expense of Plumbers and Steamfitters.

DO NOT WAIT—but write to-day— for our new beautiful FREE catalogue, which gives full description and prices of Plumbing, Heating and Water-Supply Systems. **NOW IS THE TIME.**

Chelsea Manufacturing and Supply Co.

No. 135 West 24th St., NEW YORK Dept. F

Schacht

The Truck That You Are Ready for Today—and Why

MODERN conditions make *time* as important to *cost* as the price of *material* and *labor*. Overhead expense is *greatly reduced* when *more work* is done in the *same time*. And it is the Schacht Auto Truck that is doing so much to *cut down* overhead expenses for contractors, carpenters and builders everywhere.

For quick trips anywhere, to haul light or heavy loads, no car can equal the Schacht. Dependable and strong—you can be sure of it getting there and back, regardless of road or weather conditions. Speedy, safe and simple, you can depend on it to the minute.

The Schacht 1 to 4 ton Power Truck has a speed

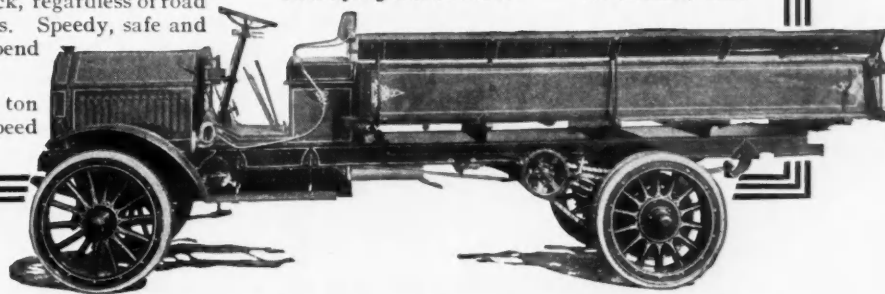
of 10 to 18 miles per hour, a 40-50 H. P. Motor that furnishes ample power for any hill. The loading space measures 11 ft. 5 inches long—plenty of room for any ordinary 4 ton load.

Investigate all the facts by writing at once for illustrated Booklet. It is free. It tells just what you want to know about the Schacht. Address

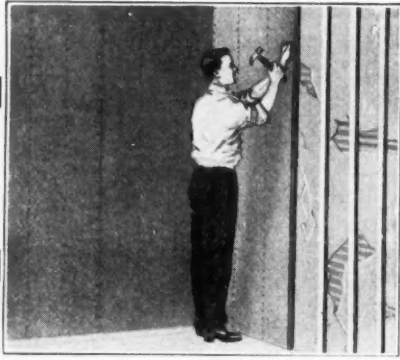
Schacht Motor Car Co.

2846 Spring Grove Avenue

CINCINNATI, OHIO



When Writing Advertisers Please Mention the American Carpenter and Builder.



This Modern Wall Lining Makes Good Under Severest Tests

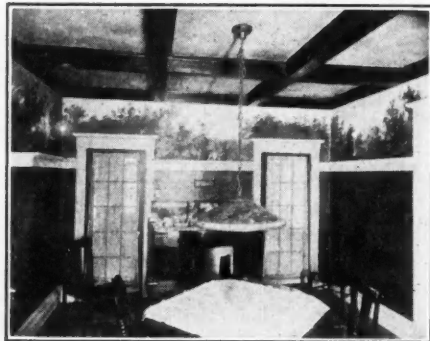
BY every test, Compo-Board has proven itself the most satisfactory wall-lining. It has stood the test of time for periods of ten to twelve years in hundreds of homes. It resisted earthquake shocks in California, which crumbled plaster walls. It kept the bitter cold of log cabins in Alaska. Furniture manufacturers using it in their products found that it will not warp. In apartment houses it has stood rough usage, the knocks of furniture and the kicks of children without injury—without peeling or crumbling. It has made thousands of homes everywhere, better places in which to live.

Our booklet and sample will explain why every user of Compo-Board, including the U. S. government, well known Universities, big hotels and apartment house owners, home owners, contractors and builders prefer it to any other wall lining. There are money making hints in this book for you. Just send your address on a postal.

Northwestern Compo-Board Co.
5777 Lyndale Ave., No. Minneapolis, Minn.



Everyone in the Building Business



**From Architect to Carpenter and Home Owner
Should Know About**

PLASTERGON

Write today to the Service Department of the Plastergon Wall Board Company, Tonawanda, New York, and they will tell you why PLASTERGON IS THE ONLY GUARANTEED WALL BOARD ON THE MARKET.

The moisture proof and fire retarding qualities of Plastergon are unequalled by any other board, for Plastergon is the only chemically treated pulp board manufactured. It resists heat and cold; is vermin proof and makes a perfect sound retarder.

Let us send you a sample and some convincing facts: Write today and be agreeably surprised with a Wall Board that does "stand up."

PLASTERGON WALL BOARD COMPANY
Department A Tonawanda, N. Y.

When Writing Advertisers Please Mention the American Carpenter and Builder.

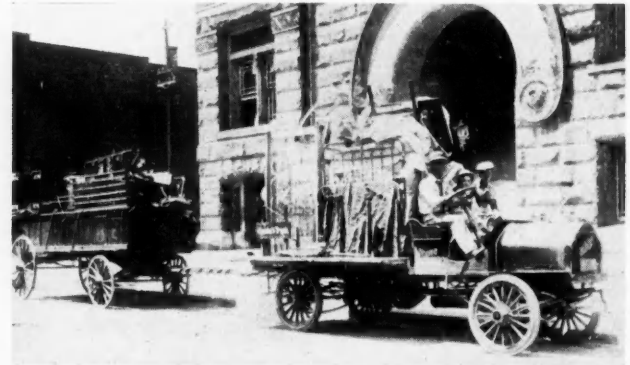
ern, new, concrete factory which is illustrated here. This factory is located in the southwestern part of Chicago and affords them every manufacturing and shipping facility. The company are prepared to fill orders of any volume upon short notice.

Interesting booklets, samples and full details of Bestwall may be obtained by any AMERICAN CARPENTER AND BUILDER reader through addressing the Bestwall Manufacturing Company, First National Bank Building, Chicago, Ill.



McIntyre Truck in Heavy Service

The accompanying photograph shows the McIntyre one-ton truck belonging to Mr. Herman, of Bluffton, Ind., operating



McIntyre 1-Ton Truck with Trailer

with trailer in moving heavy furniture load from Bluffton to Huntington, a distance of about twenty miles.

The McIntyre trucks are daily proving their general adaptability. These trucks are made in capacities of from 600 pounds to 3 tons. They operate simply and economically.

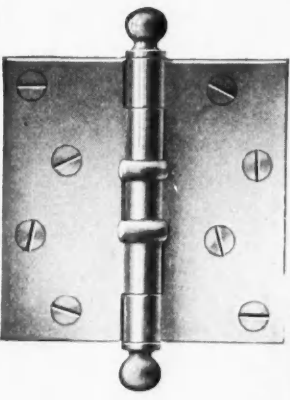
Full descriptive matter concerning the McIntyre trucks and their details of manufacture may be had by writing the W. H. McIntyre Company at Auburn, Ind., for catalog matter.



Good Roads Congress Biggest Yet

The first campaign meeting of Governor Wilson of New Jersey and President Taft is to take place at Atlantic City at the American Road Congress between September 30 and October 5. The respective candidates of the democratic and republican parties have both consented to address the American Road Congress and while the addresses of the two men will be non-political there is great interest in the manner in which they will greet each other. It is not probable that they will have another chance in the course of the campaign to appear upon the same platform. Both candidates are looking forward to the truce that will prevail at the big road congress.

The American Road Congress marks the combination of the conventions of the American Association for Highway Improvement, the American Automobile Association, and the National Association of Road Machinery and Material Manufacturers. It will be the first time that every faction engaged in the road movement has combined in one general Congress. More than a half hundred state, county and local associations which are affiliated with the American Association for Highway Improvement will be represented at the Congress and automobile tours to Atlantic City from all sections of the country are being arranged by the American Automobile Association. Eighty thousand square feet of space have been set aside for the exhibits, nearly one-half of which has already been engaged by leading manufacturers.




Perfectly Hung Doors
which swing smoothly without **Creaking or Binding** are obtained by using


Stanley's Ball Bearing Hinges

Friction eliminated. Oiling unnecessary. The Non-Rising Pins will not work up from the joint. Made of Wrought Steel or Bronze and handsomely finished.

Ask your dealer or write for Circular "A"

THE STANLEY WORKS
New Britain, Conn.

New York  MARK Chicago



The Ball Bearing Washer with dust proof brass cap.



Residence of J. W. Rinehart, Youngstown, Ohio. Roofed with Asbestos "Century" Shingles by Dalzell Bros., Roofing Contractors, on the specification of W. R. Leeworthy, Architect and Builder—both of Youngstown. Reproduced from an Artist's drawing.

Asbestos "Century" Shingles
"The Roof that Outlives the Building"

For residences, churches and similar buildings, the **French or diagonal method** is a favorite way of applying Asbestos "Century" Shingles.

It makes a light-weight roof, and inexpensive since fewer shingles are needed. Each shingle is flexibly anchored to the shingles below by a copper storm nail clinched through the tip. The roof is so strong that it holds up of itself when the roof frame is weakened or destroyed by fire.

Write us for trade prices and terms on Asbestos "Century" Shingles—and Booklet "Everlasting 1912."

Keasbey & Mattison Company, Factors
Ambler, Pennsylvania
Branch Offices in Principal Cities of the United States

KEWANEE Fire-Box Boilers

Have set a high standard for themselves and for all others, for a quarter of a century.



Their unbroken record of Success is easily accounted for by

- The invariably high skilled labor employed,
- The high quality of Mild Steel used,
- The high combustion chamber so essential to a perfect combustion and economy of fuel,
- The long life of the boiler,
- The slight expense for repairs,
- The low water-line,
- The low head room required,
- The fact of being in a single piece,
- The ease of installation,
- The impossibility to crack right when you need it the most.

There is no investment which will produce the dividends that a **KEWANEE** boiler will.

There is no equal for Apartment Buildings, Schools, Theatres, Hotels, Hospitals and Manufacturing Buildings

KEWANEE BOILER COMPANY
KEWANEE, ILLINOIS

Makes also the only KEWANEE Garbage Burning Water Heaters

Chicago Salt Lake City New York Los Angeles St. Louis Toronto, Canada Kansas City

When Writing Advertisers Please Mention the American Carpenter and Builder.

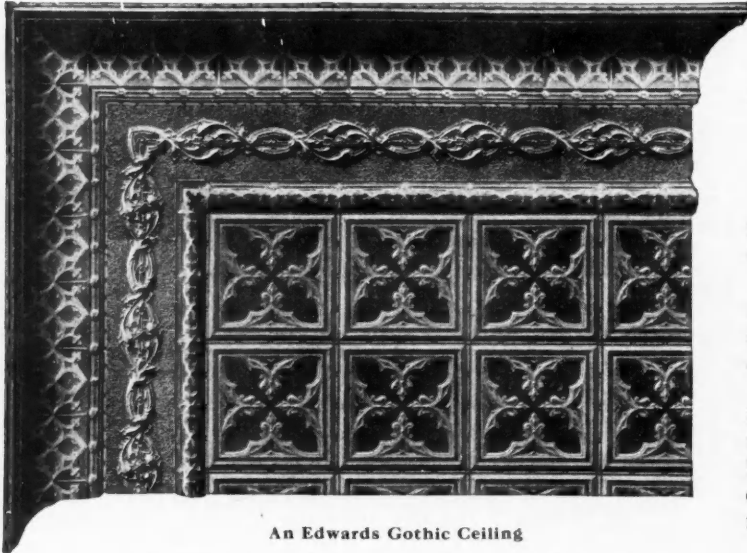
Edwards Metal Ceilings and Walls

This illustration is of the Edwards Manufacturing Company's Gothic ceiling design No. 1968.

The Edwards company are large manufacturers of sheet metal building material and quite prominent among their line is ceiling and wall work. They are at the present time offering carpenters, contractors and builders an attractive

growing in general favor and use. The Edwards people have devoted much time and money to the perfection of this class of their metal work and they are in a position to offer numerous attractive designs and patterns from which selection can be made.

This company issue a large catalog covering their metal ceiling and wall work fully, also illustrating many designs, etc., etc. A copy of this, together with their special agency proposition, will be mailed to any AMERICAN CARPENTER AND BUILDER reader upon request. Address the Edwards Manufacturing Company, 401 Eggleston avenue, Cincinnati, Ohio.



An Edwards Gothic Ceiling

agency proposition which includes not only the selling of Edwards metal products, but the erecting work in connection with same, affording in many cases an opportunity for double profit.

There is no question but that metal ceilings and walls are

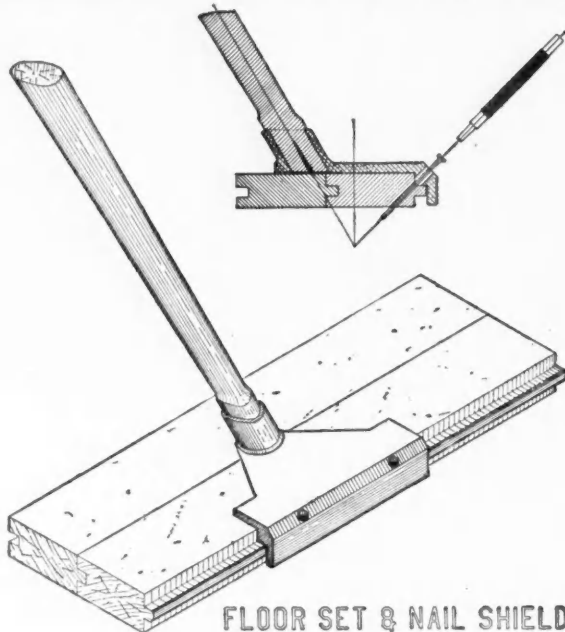
New Oak Flooring Booklet

From the Oak Flooring Bureau of Detroit, Mich., has been received a copy of their second edition, Oak Flooring booklet.

This booklet is prepared in a very artistic and attractive manner and contains some mighty interesting and valuable information that should interest every architect, contractor and carpenter.

It tells all that is worth knowing about oak flooring grades and the use of the different grades; how to arrive at the amount of oak flooring required; handling, laying, scraping, finishing and the general care of oak flooring; besides considerable other oak flooring information of value.

Any architect, contractor, carpenter or builder can procure a copy of this booklet by writing the Oak Flooring Bureau, 822 Hammond Building, Detroit, Mich. This is only a part of the valuable information service that the Oak Flooring Bureau is now supplying. Whenever you want to know anything about oak flooring write to them.



FLOOR SET & NAIL SHIELD

Carpenters Contractors

How are you laying your finished flooring; This way or the old way? Dont you know you can lay one fourth more flooring with a floor set and nail shield? No chance to make a miss hit and mash the edges of the flooring while you are driving the joints up tight or while you are driving the nail. Greatest carpenters tool ever invented. Nothing similar to it. Saves time and trouble and enables you to do perfect work.

Made in two sizes for $\frac{3}{8}$ " and $\frac{7}{8}$ " flooring. Entire weight 20 ounces. Width of shield 6". Made of best forged steel. 14" wood handle. 4" nail set.

Sold only direct to you. Order one now. You will be delighted with the way it works. One of each given free for an order for 10 in one shipment. Price, for one of each size, \$4.00, Singly, \$2.25. Sent prepaid.

W. T. WELLMAN & COMPANY

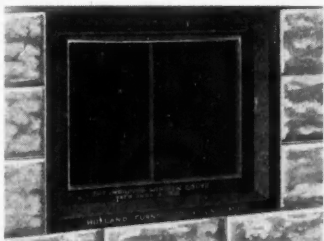
Manufacturers and Distributors

Offices: R. A. LONG BLDG.

KANSAS CITY, MO.

"It saves time and trouble and enables you to do perfect work"

When Writing Advertisers Please Mention the American Carpenter and Builder.



Closed—A Real Window

is absolutely burglar proof. It can only be opened from the inside. It is a real window, combination hopper, coal chute.

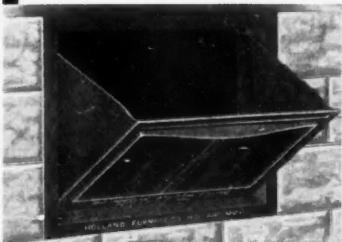
CLOSED—it is an ornamental, attractive, basement window.

OPENED—it is a practical chute.

A heavy steel sheet covers and protects the glass when chute is in use.

Two sizes—18 and 24 ins. wide by 22½ ins. deep.

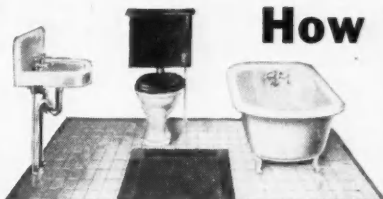
Contractors and Builders—Send for our Window-Chute Booklet.



Open—A Perfect Chute

THE WINDOW— CHUTE

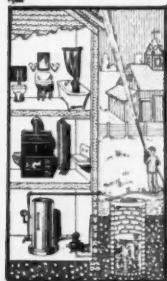
**HOLLAND FURNACE
COMPANY**
HOLLAND, MICH.



How To Install Running Water In Your Home

Save all cost of skilled labor. New method.

My big, new book tells you how to install your own water system or modern heating plant. Under this practical Gibbons method you can do it yourself. Plans furnished free. Immense saving on all materials. Before you build, before you make improvements **send for my great book.** It is post-paid free to you.



Gibbons' New Method

My method for saving the cost of skilled labor is a revelation even to the most experienced contractors and builders. Get this free book and see for yourself. My astonishing low prices will prove to you that my method is a **blessing to every builder** and home owner.

HEATING PLANTS

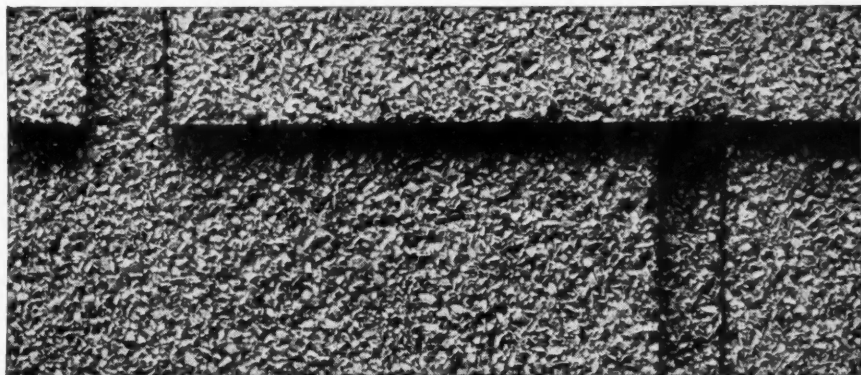
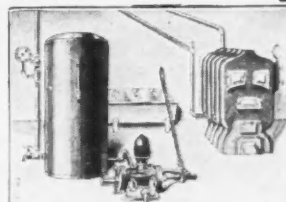
Steam or Hot Water. You can easily install one of my modern heating plants from the **complete simplified plans** and instructions furnished to you free. The saving is enormous. My **rock bottom price** is open to everybody on this great offer.

Save on all Material

Every home, even the smallest cottage can now have running water and a heating plant. My book explains how you can afford these comforts and luxuries. My prices and my practical saving will astound you.

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, Dept. 241 T, Dayton, Ohio**



This Cut Shows the surface of Flex-A-Tile Shingles—Beautiful, Convenient, Durable.

Deep red, greenish gray and brown—Rich beautiful colorings—and all simply the natural slate and granite—No dye—Nothing that can either fade or wash off—

FLEX-A-TILE ASPHALT SHINGLES

are made of solid asphalt, into the surface of which chipped slate or granite is rolled until it becomes an actual part of the shingle—The result is a beautiful stone-like appearance and a wonderfully artistic and durable roof—

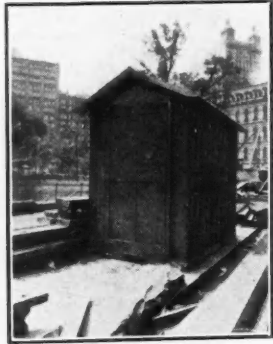
Flex-A-Tile Asphalt Shingles are 8 by 12½ inches in size—It only requires 424 of them to cover a hundred square feet—They are easily and quickly laid—are low in cost and will last as long as the house stands—They are also fire resisting.

We want to send you a sample free—Send us your name

THE HEPPE'S COMPANY 1010 45th Avenue Chicago, Illinois

When Writing Advertisers Please Mention the American Carpenter and Builder.

Contractors and Builders!



If you are busy?
This will interest you.
You know what it means to have contract jobs finished on TIME.
You also know what it means when you cannot.
At the same time orders continue to come in and you are unable to take care of them.
Your client wants a GARAGE, a Summer Cottage, a Storage House or a Small Building for one of the many different purposes.

You want to accommodate him, in return for his past favors and in anticipation of future business.

WHY NOT INVESTIGATE THE PRUDENTIAL PORTABLE FIREPROOF BUILDINGS?

They are constructed of No. 24 Galvanized Steel—the materials and workmanship, A-1.

They are shipped complete in every detail, knocked-down and crated, ready for erection on the site.

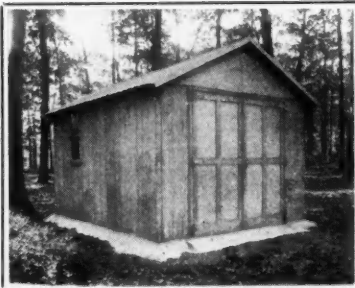
You send us the order, we allow you Dealer's Commission.

You charge additional fee for erection.

An easy and quick way for turning cash.

Write today for catalog and full particulars for the sale of the

PRUDENTIAL PORTABLE FIREPROOF BUILDINGS
(Patented)



The C. D. PRUDEN COMPANY, Sole Manufacturers
Station C. BALTIMORE, MD., U. S. A.

Get the Right Idea Regarding Pruden System

Portable Fireproof Construction

If you've put Pruden Buildings in the temporary class, you're wronging both you and us. Although portable—easily put up or taken down—they are, when erected, as **strong, durable** and **handsome** as masonry. Cost far less. Appear to advantage amid richest surroundings.

In no other way can you make such

Large, Quick Profits

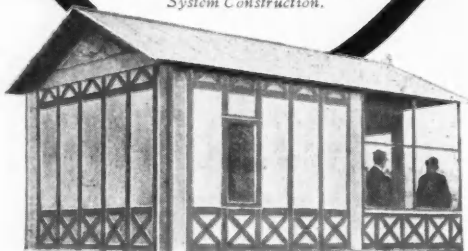
as in the erection of Pruden System Buildings. Come complete in metal units, which interlock and support each other. You set up in short time. Prompt shipment of all orders from stock. Pruden System construction is well known through our advertising. Big demand. Write today for catalog.

Special prices to contractors, etc.

Metal Shelter Company

9-90 W. Water St., St. Paul, Minn.

Patentees and Sole Mfrs. of Pruden System Construction.



When Writing Advertisers Please Mention the American Carpenter and Builder.

Cyclone Proof Construction

The following letter, received by the Canadian branch of the Trussed Concrete Steel Company, after the recent storm in Regina, presents a *new* advantage of reinforced concrete construction:

"Regina, Sask., July 2nd, 1912.

"The recent cyclone in Regina has shown up very plainly the advantages of Kahn System buildings, especially in the case of the Regina College, which was practically in the heart of the storm. The partitions of this building were entirely removed, but the reinforced concrete skeleton remained exactly in place. The representative of Brown and Vallance, Montreal, has written to his head office explaining this. He is particularly impressed with the fact that the Kahn System has given them a building which, in addition to being fire-proof, is absolutely cyclone-proof.

"Respectfully yours,

(Sgd.) "R. E. W. HAGARTY."



Selling Method in Line With the Times

A romance of industry is the history of the Hewitt-Lea-Funck Company, of Seattle, newly organized to include the sons of the founders of the business, which is the latest and largest organization to adopt the policy of selling direct to the consumer that is arousing the frightened indignation of the traditional retailers.

Confronted, as the young men express it, by prices to the consumer increasing despite improved transportation facilities, by a growing tendency among farmers to buy direct of producers and by high-handed methods of profit-loving retailers, these young men decided, after a deep study of the problem, that direct distribution was the solution.

Thirty years ago the names Hewitt, Lea and Funck were well known in the lumber fields of Minnesota, Wisconsin and the Mississippi Valley. They made good lumber, these three elders of the present group, and sold it in the good old-fashioned way to the wholesaler, who then sent it along down the line to the user, the jobber, the traveling man, the commission-man and the retailer, all taking a profit along the route.

These elders achieved a reputation with the old methods.

In the meantime they kept an eye on the future and bought as fast as they could tracts in Washington, Oregon, Idaho, California and British Columbia, where were the finest fir and cedar in the world, little valued then because there were no railroads to take it away.

The railroads came, and the young men, trained in every department of the business, entered the firm.

These young men were insurgents in business. As they studied the difficulties before them they did not feel that just because they were a big company they were shut off from direct communication with the consumer.

They had billions of feet of standing timber. They hauled their own logs on their own rails with their own locomotive to their own mills.

But from their headquarters in Seattle they were accessible to seven transcontinental railroads.

So they decided that they were not prohibited from ignoring the wholesaler and his retinue of profit-takers by selling direct to the farmer and the builder.

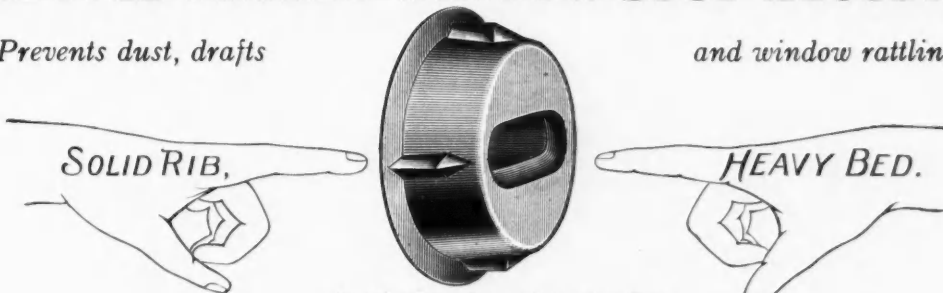
After carefully working out their plan they announced it. At once a renewed roar went up from the retailers through their organs. The name of the Hewitt-Lea-Funck Company was published as the head of list of six Northwestern concerns from whom the antiquated retailer needed "protection."

The slogan adopted by the Hewitt-Lea-Funck Company for its new method is "High in quality; low in price; first in shipment."

THE IVES PATENT WINDOW STOP ADJUSTER

Prevents dust, drafts

and window rattling



Send for Sample and Catalogue Free

1 piece of metal, will not cup, bend or turn in tightening screw.

THE H. B. IVES CO., Sole Mfrs. New Haven, Conn. U. S. A.

The Largest Line of Levels Made IN PLAIN BRASS BOUND AND ALUMINUM ANYTHING MADE TO YOUR 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

SAND'S Plumbs and Levels

The new model aluminum levels now offered for sale to all carpenters and builders as the handiest and most useful levels ever made. They are **STRONG, LIGHT AND DURABLE** and will give better satisfaction than any other level made. The spirit glasses are covered by plate glass, same as in our famous wood levels, of which there are over 75,000 in daily use, making those parts dust, dirt and water proof. The only levels so designed. Remember our specialty is levels—nothing else. Established for 17 years. Nothing to get out of order. Always correct. For sale by all good hardware dealers. If not, write us and get our catalog today.

J. SAND & SONS

1023-25 Rivard St. Detroit, Mich.

MADE BY MEN WHO HAD 25 YEARS' EXPERIENCE IN THE BUILDING LINE



Drills 10 Times Faster Than by Hand!
 800 to 2,000 blows per minute

Phillips' Spring Hammer

For Drilling Holes in Stone, Concrete, Brick, Tile, Conduit, Etc.

Absolutely indispensable for general contractors and mechanics. Eliminates the strain and drudgery of drilling by hand and does the work in one minute that ordinarily requires ten times as long by manual methods.

Strikes 800 to 2,000 powerful hammer blows per minute. All you do is turn the crank. The spring does the work. Makes round and straight hole $\frac{3}{8}$ inch to $1\frac{1}{2}$ inches in diameter. Perfectly true to size. Made with extensions for ceiling and floor drilling. Strong and simple in construction. Nothing to get out of order. Compact, easily transported.

Sold at a price that will enable every mechanic to have one in his kit.

WRITE FOR BULLETIN C AND PRICE LIST

ORR & LOCKETT
 Established 1872 **L HARDWARE CO.**

12-20 W. Randolph Street
 CHICAGO, ILL.

When Writing Advertisers Please Mention the American Carpenter and Builder.

Sand Aluminum Levels

J. Sand & Sons of Detroit, manufacturers of the famous Sand plumbs and levels are calling the attention of the carpenters and builders to a new improved line of these goods—namely, Sand's new model aluminum levels.



Sand's New Model Aluminum Level

The point is made concerning these that they are strong, light and durable. They are made in 24-inch, 30-inch, 42-inch and 45-inch sizes and represent the best in plumb and level construction. All the glasses in the new aluminum levels are put in the same way as in their famous wood levels, being covered with heavy lenses, making these important parts dust, dirt and moisture proof. The company say that time and test have proved their way to be the



No. 2. Plumb and Level

right way. All the spirit glasses are wired, not merely scratched or painted on the surface of the glass. They cannot move nor be jarred out of correct position; they are so made that you can instantly see the position of the bubbles.

The company's No. 2 levels here illustrated is one of the four styles that are made up for builders especially, in 6-foot length. It meets the demand for door and window jamb work that heretofore had not been supplied until J. Sand & Sons came out with them some three years ago. The many sales of these levels are very gratifying to the company, since

they show that a long-felt want is filled.

The short wood levels are made in different sizes and styles to suit everybody. They are made both plain and fully brass bound.

All the wood used is very old and selected. Besides it is left in the factory from six months to a year before being made into finished stock which insures against any change in form.

Sand's plumbs and levels are sold by all good hardware dealers. If your dealer cannot supply you a catalog containing the full line will be gladly sent on request. Address J. Sand & Sons, 1023-25 Rivard St., Detroit, Mich. They will also make special levels to order.



Deco-Veneer is a Real Wood

Possibly it is not generally known that the widely used Deco-Veneer is a real wood and not simply an imitation.

Deco-Veneer is made from the best of natural wood veneer, mounted on pulp board (or deco board). This Deco-Veneer is now being manufactured by the Deco Manufacturing Company of Indianapolis, Ind.

Deco-Veneer is being used extensively. It can be used wherever ply veneer can be used. It is easily installed—wears well and will not buckle or twist.

Deco-Veneer is particularly adapted for interior decorating, show window decorations, window backgrounds and general decorative effects.

It is being manufactured in many paneling forms and in many various woods. Full particulars, samples, etc., can be had by addressing the Deco Manufacturing Company, of Indianapolis, Ind.

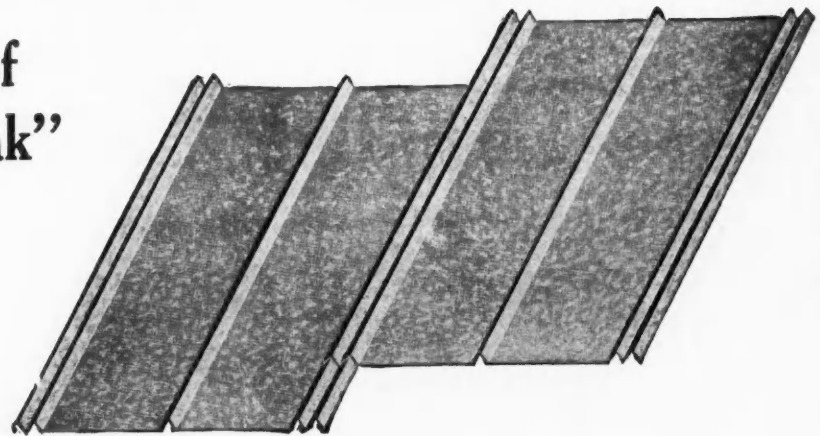
Justright Galvanized Roofing

**“That Simple Roof
That Don't Leak”**

Absolutely Weather Proof

No Wood Strips Required

No Special Tools Required



This wonderful roof will give **satisfaction**. It can be applied by anyone who can apply V Crimp or Corrugated Roofing. Agents wanted in unoccupied territory.

If your dealer does not handle this roofing, write

The Moeschl-Edwards Corrugating Co.

8th Street

COVINGTON, KY.

Manufacturers Sheet Metal Building Material—Interior—Exterior

When Writing Advertisers Please Mention the American Carpenter and Builder.

For Any Job—Bores Swift and True Through Hardest Wood—The IRWIN

BUY the Auger Bit used by all Master Craftsmen. Never tears or clogs the softest wood. Takes knots—never swerves, bends or breaks where twist and shank meet, as in ordinary bits.

IRWIN Bits are lathe-turned by hand to the thousandth of an inch; heads and cutters sharpened by hand filing—polished from tip to shank. Made in one piece of extra high grade crucible, auger-bit steel, "headed" and formed in the rough—put through 50 distinct handlings, tempered by a secret process that none of our imitators have mastered.

When you buy a bit, look close, be absolutely certain you're getting the genuine, guaranteed IRWIN. The only solid-center-stem bit made in all styles and sizes for every use. If your dealer hasn't the IRWIN in stock, write us.

IRWIN AUGER BIT COMPANY
Largest in The World
Station H-18 WILMINGTON, OHIO



Be sure this identical brand is on the bit you buy

"The Handiest Tool in The Tool Box"

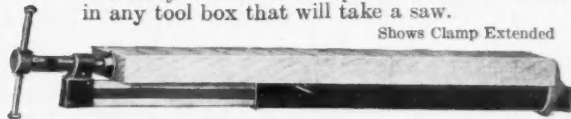


This Cut Shows use as Short Clamp

HERE is the sensation of the year. A new tool that has already become a necessity with thousands of carpenters and builders who have long felt the awkwardness, the clumsiness, the slowness, the weakness and the inconvenience of the old style clamp.

COBB EXTENSION CLAMP

The Cobb Extension Clamp is made entirely of pressed steel; has a closed limit of 1 1/2" and extends to 38" and 50" according to size. It is light, neat, strong, compact, rigid and indestructible. Can't possibly slip or mar, has flat bottom to prevent falling over. Weighs no more than a clumsy all wood clamp and can be carried in any tool box that will take a saw.



Shows Clamp Extended

Does Anything Any Other Clamp Will Do Does Many Things No Other Clamp Can Do

Order a pair direct from this advertisement with the privilege of returning them and getting your money back if you are not pleased.

- No. 3, size closed 23 1/2"—clamp limit 1 1/2" to 38". \$4.25.
Price per pair (2 clamps)
- No. 4, size closed 29 1/2"—clamp limit 1 1/2" to 50". \$5.00.
Price per pair (2 clamps)

ROOT-JAMES & COMPANY, Ltd.
Dept. 1. MOLINE, ILLINOIS

The Handiest Machine in the Shop--30 DAYS' FREE TRIAL

The new Luther Tool Grinder is a workshop in itself. Extra attachments convert it into 17 different machines, such as turning lathe, force feed drill, jig and circle saws, forge, etc. The low price of these attachments enables you to get a full workshop equipment at a tremendous saving of what it would cost you to buy separate machines to do the same work.

Dimo-Grit wheels cut steel as emery does copper

Wheels of the new artificial diamond abrasive, Dimo-Grit, peel steel away in tiny shavings instead of wearing it away like emery wheels or grindstones. No need of cooling with water, no danger of drawing temper. Carborundum wheels also furnished. Grinding wheels make 4000 revolutions per minute—takes but a few minutes to do grinding that would take an hour any other way. Tool rests and patent attachments give perfect bevel to twist drills, chisels and other tools.

Luther Shop Tool Grinder Foot and Engine Power

All steel and iron—bevel gear shaft drive in dust-proof housings—dust-proof bearings—mechanically perfected and runs easy as a sewing machine. We will send complete shop outfit consisting of grinder and 14 sharpening attachments and accessories, for 30 days free trial—no money needed, no red tape, write today.

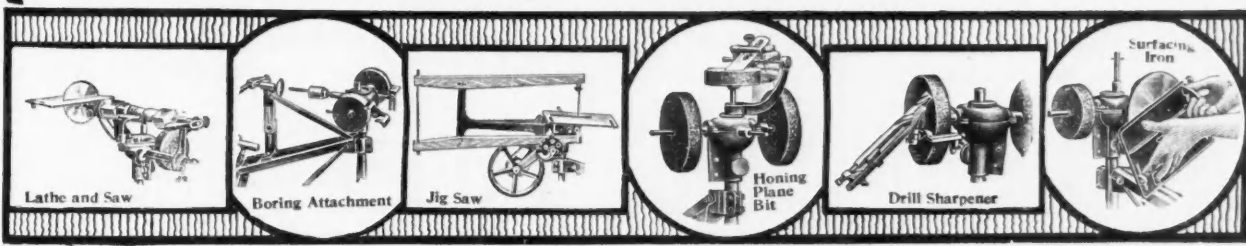
WRITE FOR 30 DAY FREE TRIAL OFFER

Send us your name so we can send 40 page free book from which you can select an outfit for 30 days free trial. Book also contains the story of artificial diamond abrasives as it appeared in McClure's Magazine. Write today.

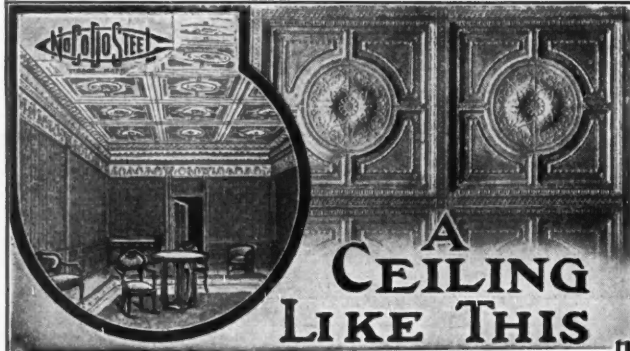
Luther Grinder Mfg. Co. 1105 Michigan St. Milwaukee



14 Machines in one, including wheels and attachments for all shop grinding, gumming saws, sharpening chisels, plane bits, etc.



When Writing Advertisers Please Mention the American Carpenter and Builder.



is for a large, high room, but we have others for smaller rooms.

Ceilings in *Stamped Steel* for Public or Commercial buildings. Ceilings of modern refined designs for private residences. Tilings in *Steel*, for Bathrooms and Kitchens.

Half the labor of erecting a metal ceiling is strictly Carpenters' work, that is, the scaffolding and furring. Once started, they can finish it as well or better than anyone else. Secure our agency and push them.

Catalogue on request

Northrop, Coburn & Dodge Co.

No. 29 Cherry St.

NEW YORK

UNION METAL COLUMNS

Union Metal Columns
follow the classic designs of ancient Greece and Rome.

In the substitution of steel for wood not an atom of charm or beauty is lost—but a new element of value is added.

Union Metal Columns are indestructible—used in Porch, or Pergola, they will outlast the structure in which they are incorporated.

Specified by the most eminent architects and designers of America, these columns have earned an enviable repute even among those who deprecate the slightest departure from ancient forms.

The catalogue which we will be glad to send you upon request, illustrates the artistic use to which Union Metal Columns have been applied in beautiful homes and buildings throughout the country. We have a special proposition for Builders and Carpenters. Write to-day.

The Union Metal Manufacturing Co.
1403 Maple Avenue
CANTON, OHIO

Building Exchange Secretaries to Meet

Word comes from Mr. Chas. A. Bowen, secretary of The Builders' and Traders' Exchange of Detroit, Mich., that in that city on the 10th, 11th and 12th of September there will be a meeting of Exchange secretaries.

This meeting is not to be a junket in any sense of the word, but to be a serious conference, on the order of a round table where those in attendance can get personally acquainted and discussions had concerning the Exchange work in the various localities and each one have a part in it.

Several matters of importance will be discussed, papers read, and general reports called for, that each secretary and his Exchange may profit thereby.

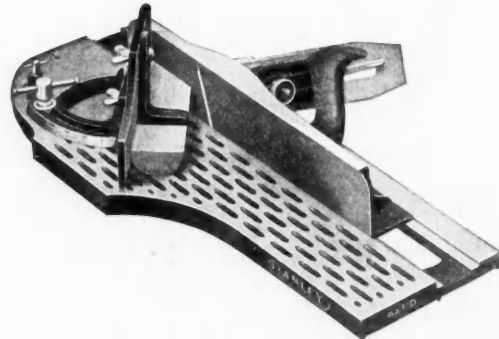
Of special interest is the fact that Mr. W. H. Sayward, who now is and for many years has been the secretary of the Exchange at Boston, Mass., and who is therefore considered the dean of Builders' Exchange secretaries, will be one of the principal speakers at this meeting.

For any particular details concerning this meeting full information can be had by addressing the secretary, Builders' and Traders' Exchange, Penobscot Building, Detroit, Mich.



The Stanley Shoot Board and Plane

This combination of plane and shoot board (sometimes called a "Jack Board"), which is being manufactured by the Stanley Rule & Level Company, is a very important tool for



Stanley Shoot Board and Plane

all woodworkers. The nicety of adjustment, the accuracy with which all parts are made, and the general solid construction, make it particularly valuable for pattern makers, cabinet makers, and picture framers.

The board is made of special iron, is of ribbed construction, and has an adjustable runway, accurately machined for the plane.

The swivel is indexed at forty-five and ninety degrees for planing a mitre or square, but can be securely locked by means of a clamping screw at any angle desired, between zero and ninety degrees, the quadrant being graduated between these points.

The swivel is also fitted with a sliding back that can be adjusted close to the plane, thus supporting the work to the edge and preventing it from splintering. It is further provided with a sliding back clamp, which is designed to hold any shaped work in position to be planed.

The plane is especially constructed for the board, and has rosewood handle and knob.

The cutter is fitted with the regular "Bailey" adjustment for depth of cut, and also has a lateral adjustment, so that a cut giving any ordinary draft to a pattern can be made, and, being set on a skew, will make a very smooth, clean cut.

A circular describing this plane and shoot board in detail can be had from the Stanley Rule & Level Company, New Britain, Conn.

When Writing Advertisers Please Mention the American Carpenter and Builder.

YOU ARE INTERESTED IN THIS TEST CONTRACTORS and BUILDERS

You Use Good Material. Why Not Use Durable Nails?

Toncan Metal nails are sold under a positive 25-year guarantee against disintegration and corrosion. They are the **cheapest non-corrosive nails** on the market. They will last about three times as long as ordinary nails (when exposed to the weather), and about twice as long as galvanized nails. Unequalled for shingles, tin and slate roofing, porch and fence work, etc., or for any purpose requiring outside nails.

Send for price-list and free sample.

IGOE BROS., 61-71 Metropolitan Av., Brooklyn, N. Y.

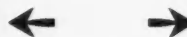
This Nail Made of



NO LOSS Under Test



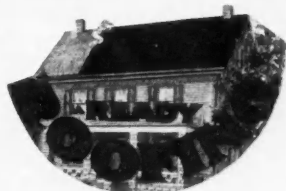
These Parts Tested Alike



Specifications American Society Testing Materials



THIS is a Regular STEEL Wire Nail Nearly Destroyed



We Are the "Price-Makers" on Ready Roofing

The Patent Roofing Co., helps dealers to take roofing orders away from catalog houses. Dealers make 25% to 30% profit and sell at same prices as mail order houses—when buying from us. We have matched up the best selling brands of the largest catalog houses. Note our prices.

HERE'S THE PROOF

15-Year Guaranteed Roofing	"Best of All" Asphalt Roofing		"Flint Surfaced" Asphalt Roofing		"Oriental" Slate Surfaced Roofing		
	Our Price	M.O. Price	Our Price	M.O. Price	Our Price	M.O. Price	
3 1/2-ply, 60 lb.	\$1.35	\$1.80	3 1/2-ply, 80 lb.	\$1.35	\$1.70	80 lb. to square	\$1.60
3-ply, 55 lb.	1.28	1.45	2 1/2-ply, 70 lb.	1.20	1.45	Red or Gray Color	\$2.25
2 1/2-ply, 50 lb.	1.20	1.50					

All prices f. o. b. cars Chicago, or Kansas City, or Pittsburg, or Cincinnati, or Atlanta, Ga. Terms net cash with order. Every dealer should send today for our complete line of samples and special inside prices on other brands not mentioned above. We do not sell catalog houses nor consumers. We protect the dealers.

Reference: American Bank, Chicago

All of our 3 and 3 1/2-ply roofing guaranteed 15 years—2 1/2-ply, 10 years. Quality of our roofings known the world over as the best. **WRITE TODAY. PATENT ROOFING CO., 1225 Van Buren Street, CHICAGO** We Do Not Sell Mail Order Houses.

ROCK WALL BOARD

For **Walls, Ceilings, Partitions**

"Rock" stands for firmness and durability. In using ROCK WALL BOARD you are getting a material of *quality* and *durability*. It has a splendid surface for decorating and can be finished in the most artistic manner. Possibly you have an attic or room you would like partitioned off; this is the best material for the purpose.

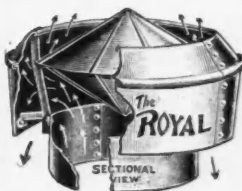
ROCK WALL BOARD is the modern material for remodeling or partitioning every room in any kind of a building. It is easily applied, sanitary and economical.

ROCK WALL BOARD is made in panels 32 and 48 inches wide by 6, 7, 8, 9 and 10 feet long.

Write us for further information, samples and "Rock Wall Board" booklet beautifully illustrated.

Rockford Paper Box Board Co.

Department W - Rockford, Ill.



Good Ventilation

In buildings nowadays is as important a matter as good heating and lighting

ROYAL VENTILATORS

offer not only the *best* but the *cheapest* means for the withdrawal of foul air, steam, gases, vapors, odors, etc. from all buildings. When used on Barns, Stables, Warehouses, etc. they will prevent spontaneous combustion, condensation and frosting.

They are absolutely storm proof, will operate day and night, rain or shine—no cost for operation or repairs.

Made in all sizes and a variety of types for every requirement.

Write for 80 Page Free Catalog, showing ROYAL Ventilators in successful use on a large variety of buildings.



Royal Ventilator Company 417 Locust St., Philadelphia

Cabot's Iron and Steel Protective Paint

Samuel Cabot, Incorporated, manufacturing chemists of Boston, Mass., have recently placed upon the open market three products they have been for a number of years manufacturing solely for their own use upon their tanks, piping and other iron and steel work.

These products include Cabot's damp-proofing, Cabot's black waterproofing and Cabot's protective paint.

For over a third of a century Samuel Cabot, Incorporated, have been manufacturing chemists, making a specialty of distilling coal tar and refining its products. During all of this time they have been manufacturing these paints and using them in their own work.

Cabot's protective paint is produced under a scientific operation that requires special chemical knowledge and an elaborate distilling plant to carry out. Only the proper tars are used in its making, they are properly distilled and the proper solvents added. Then the whole is put through a thorough clarifying process. This Cabot protective plant is non-porous, non-conducting and chemically inert. It covers the surface of the metal completely and permits no moisture to penetrate. It is not affected by either high or low pressure, electric currents and it will not be acted upon by acids, or set up any chemical action of its own. It is intended particularly for use upon steel buildings, bridges, trolley poles, iron fences, tanks, towers, fire escapes, metal roofs, iron piping, etc., etc.

The Cabot damp-proofing forms a perfect and permanent bond between the concrete or brick wall to which it is applied and the interior plaster which is applied over it. It forms a moisture proof sheet or dam that prevents the penetration of dampness through to the plaster. These two things are accomplished by making a compound which penetrates deeply into the pores of the concrete or brick wall, and yet leaves the surface in an adhesive, "tacky" condition, so that

when the plaster is laid over it the damp-proofing is sucked deeply into its pores by the strong capillary attraction created by the drying out of the plaster.

Cabot's black waterproofing is especially adapted to the waterproofing of foundations, basement and other walls above or below grade.

This product is not intended to be plastered over. It penetrates the pores and seals them effectively and when thoroughly applied it will resist a very considerable hydraulic pressure. Two coats are generally used. The entire surface when covered with a solid coat of the waterproofing will sustain an actual water pressure of nearly twenty pounds per inch.

Explanatory circulars detailing these Cabot products in every particular can be obtained by AMERICAN CARPENTER AND BUILDER readers by addressing Samuel Cabot, Incorporated, Boston, Mass.

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.

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

THE "TINNER'S TERNE"

For Better Business

To obtain best results—specify and insist upon having

COPPER BEARING Open Hearth Roofing Tin

Manufactured exclusively by this Company

Write for full information and quotations on MF and other high-grade Terne Plates, Continuous Roofing Tin, Apollo Galvanized Sheets, Black Sheets, Formed Roofing and Siding Products, Metal Lath, Etc. Every builder should have our new Pocket Reference Book.

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.

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

A section of the Roof Garden where "High Standard" paints and other Lowe Brothers products are exposed to the sun, rain, snow, dirt and smoke for years. The panels are then preserved as a guide to attaining highest efficiency in all Lowe Brothers products.



This is the way

Lowe Brothers
High Standard
Liquid Paint



is tested. There is no guesswork in the making or buying of any High Standard product. Every one must satisfactorily withstand the severe tests described above, before it is offered for sale.

MELOTONE—the modern High Standard interior coating, is the most beautiful of all flat wall finishes. It is washable, sanitary and durable.

When you specify any "High Standard" product you can know that your work will show up to best advantage.

WRITE FOR FREE CATALOGUE, booklets and sample color cards of High Standard products. There's a Lowe Brothers Paint, Varnish, Enamel or Stain for every purpose.



The Lowe Brothers Company

457 E. Third St. DAYTON, OHIO

Boston New York Chicago Kansas City

Lowe Brothers, Limited, Toronto, Canada

We Want Agents for Exclusive Territory

on this profitable line—that will dove-tail nicely with any brand of the building trades. The field is unlimited and we allow a good percentage.

It is easy to sell Montross Metal Shingles for they are the best and cheapest roofing money can buy. Storm, lightning and fire-proof; suitable for all buildings; easily laid—no soldering. Patent side-lock allows for contraction and expansion.

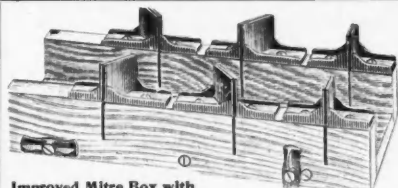
Write at once for catalogue, testimonials and details of our proposition.

MONTROSS METAL SHINGLE COMPANY

Second and Erie Streets

Camden, N. J.

MONTROSS METAL SHINGLES



Improved Mitre Box with Square Cut Guides

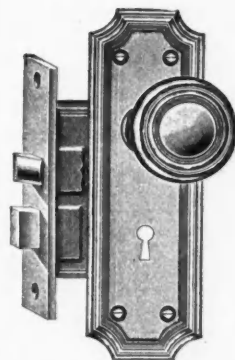
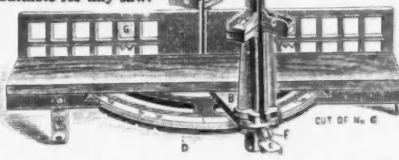
OLMSTED'S Mitre Boxes

The irons in these mitre boxes are made sufficiently high and broad to make a good bearing upon the saw blade. Perfect work assured. Suitable for any ordinary cross-cut saw or back saw. Made in seven styles and sizes.

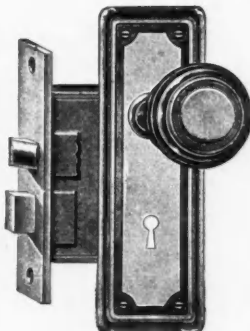
Our Adjustable Mitre Box is the Lowest Priced and Best on the market. Send for catalog and price list.

L. H. OLMSTED'S SON, Terrace Ave., Hasbrouck Heights, N. J.

Adjustable to any angle. Suitable for any saw.



Lock Set No. 44



Lock Set No. 38

THE T. B. RAYL CO., Detroit, Mich., with 37 years experience in Builders Hardware, offer their facilities to building contractors who want good goods, low prices and quick service. Send in your plans and specifications for estimates. Samples furnished. The two lock sets illustrated are in old brass or copper at 40c set, or real bronze at 85c set. Write us for other prices.

T. B. RAYL CO.

112-114-116 Woodward Ave., DETROIT, MICH.

When Writing Advertisers Please Mention the American Carpenter and Builder.



Largest Apartment Building in the World, "THE BELNORD," New York. Oak Flooring Used.

OAK FLOORING

Increases the Renting and Selling Values and Attracts a Better Class of Tenants

Builders and owners will find it a clinching argument to say "It's floored with OAK FLOORING." It is the biggest single feature to look for in any house or apartment building. It imparts an air of refinement and elegance. It is the modern flooring.

OAK FLOORING 3/4 inch thickness by 1 1/2 inch or 2 inch faces can be laid over old floors in old homes or over cheap sub-floors at a very low cost. It is cheaper than carpets or pine flooring. When laid it has all the appearance of heavy flooring.

There is a solid satisfaction and lasting pleasure in the substantial and dignified appearance of OAK FLOORING.

Contractors and carpenters find it very profitable to lay 3/4 inch stock over old floors in old homes during dull periods. A little canvassing is all that is necessary to secure jobs. A carpenter or handy man can lay OAK FLOORING successfully.

For durability, OAK is the best. OAK FLOORING laid thirty years ago, after very hard use, is still in good condition.

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THE OAK FLOORING BUREAU, 890 Hammond Bldg., DETROIT, MICH.

Electric Weld

Combination Boiler and Gas Water HEATER

Offers among other advantages the following:

- A size for every service.
- Economy of space.
- Widest choice as to location of fixture.
- Range or Furnace connections provided.
- No special Meters or Service Lines required.
- Low cost of installation.
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SATISFACTION GUARANTEED.

John Wood Mfg. Co.
Conshohocken, Pa.

Branches throughout the Country



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

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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.

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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.

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No. 9155 Lock of et Dull Brass Finish Per Set 50c

Contractors for Tile and Marble Work

For interior and exterior purposes in public and private buildings.

Send your plans and receive promptly our estimate and designs.

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

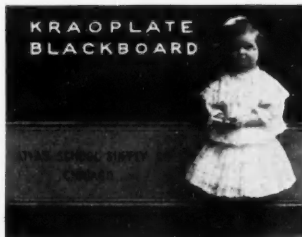
Heitland Grate & Mantel Co. 121 1/2 N. Fifth St. Quincy, Ill.

When Writing Advertisers Please Mention the American Carpenter and Builder.

This is a cross section of a
Winthrop Asphalt Shingle

Note the taper—thickness and weight all on the exposed butt where it is needed. Made of solid asphalt—with a chipped slate surface—wonderfully handsome, absolutely weather proof and as durable as the house itself. Uniform size—easy to lay.

We Want to Send a Free Sample to Every Carpenter and Builder
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WINTHROP ASPHALT SHINGLE CO., 8 61st Street, CHICAGO, ILL.



KRAOPLATE

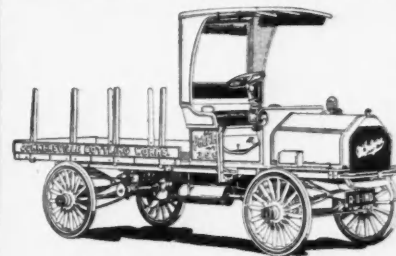
Will last a lifetime under ordinary school room usage.

**The BEST Composition
 Blackboard Manufactured**

Easily Erected—Most Economical—Absolutely Guaranteed

Write for free sample and prices

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 1022 Van Buren Street :: Chicago, Ill.



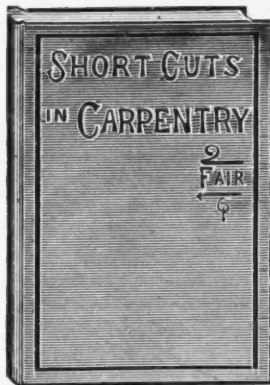
McIntyre STEEL TRUCKS

Will save you money--
 By Keeping Material on the Job.
 By Reducing Running Time to the Work.
 By Enabling You to Oversee More Work.
 By Giving You Reputation for Prompt Service.

**ALL THIS AT
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It's cheaper to feed gasoline to a McIntyre than oats to a horse.
 TRUCK CAPACITIES 600 LBS. TO 3 TONS. CHASSIS' PRICES \$600 to \$3,000.
 Learn how to add to your profits and convenience by sending for catalogue AC to 14301 W-7th St., Auburn, Ind.

W. H. MCINTYRE COMPANY
 Vehicle building since 1869. We also build pleasure cars.



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SHORT CUTS IN CARPENTRY

A Collection of New and Improved Methods
 of Laying Out and Erecting Carpenters' Work

By ALBERT FAIR

TO LAY OUT and erect carpenters' work accurately and quickly is an accomplishment desired by all progressive carpenters. In this book, not only the simple rules for the short cut are given, but also the "reason why," so that the carpenter can apply his knowledge to many problems besides those given in this book.

The book contains 90 large (5 x 7-inch) pages, illustrated by 75 engravings in the text and a large folding plate, finely printed on ivory-finish paper and handsomely bound in green art canvas. You run no risk in ordering this book as we will cheerfully refund your money if you are not pleased

PRICE ONLY 50 CENTS POSTPAID

This useful, practical and unique instruction book contains remarks about the carpenter and his work; the difference between carpenters and joiners. Description of the various carpenter and joiners' work about a house illustrated with a large folding plate giving the names of the various parts of doors, windows, trim, etc. (This chart alone is worth the price of the book.) The practical use of geometry in laying out carpenters' work explained in a different way so the reader will know "why." How to obtain various miters, both for straight and curved work. How to make a miter box. Descriptions of different kinds of moldings. Bending moldings around circles and the art of kerfing explained simply and accurately, telling why it is done and how to do it. Rake mouldings and how to lay them out fully explained, and several short-cut ways of doing it. How to find the corner brackets for coves. The use of the steel square in finding various pitches, degrees, miter cuts for polygons, etc. Use of the 2-foot rule in describing various figures when no other tool is at hand. The selection and use of glue. Hints on saving time when working on hardwood. The art of blind nailing. Setting door jambs, fitting and hanging doors. Fitting windows. How to cut pockets in window frames. Remarks on framing. Short cuts in placing siding. Siding a circular tower. Shingles required to cover a given roof area. Laying out octagon shingles. Quick method in finding bevel of shingles for gable. Framing a floor with short timbers. Building up a beam. Laying floors. Laying wood carpet. Constructing dishd floors. The art of veneering on a small scale. Hints on inlaying. Roof framing explained on a new principle whereby you know the reason why the square is used and how to use it for different forms of roofs. How to find the sizes and cuts of braces. Bevels for hoppers. Making wheat bins. Quick method of beveling fence posts. Shaping a flag pole. Quick method of obtaining the bevel of tank staves. Making and placing well curbs, etc., etc.

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ASHBY'S
Designs of Schools and Libraries

display a composition of utility, durability and good, pure architecture without any "gingerbread."

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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.

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SPECIFY THE JAHANT DOWN DRAFT FURNACE

Ordinary "stock" furnaces are not satisfactory. The only reliable way is to have the furnace and heat distributing system specially designed and include it in the regular plans as an integral part of the building construction.



Send us rough sketches and specifications of the building to be erected. We will quote you on a built-to-order Jahant Furnace with complete installation equipment. Our draftsman will furnish without cost, blue prints and specifications to be submitted with your plans.

You take no risk. We issue a Legal Binding 360 Day Bond that guarantees the delivery of plenty of heat wherever heat is needed, at a minimum cost for fuel. We furnish full directions for installing, prepay freight charges and make prompt deliveries.

Our Catalog explains the proposition in detail and tells why it is worth your while to specify the Jahant.

The Jahant Heating Co., 85 Mill Street, Akron, O.

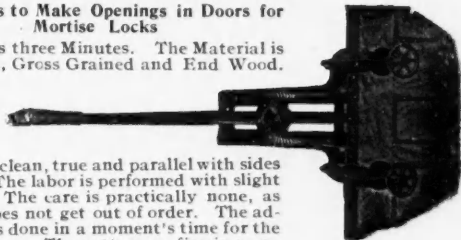
WE SEND BLUE PRINT PLANS-FREE

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, Gross 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 1/2 inch to 1 1/4 inches thick. Thin doors are handled as easily as thick doors.

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



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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.

Taylor Portable Steel Derrick

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

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

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

JOHN L. TAYLOR, Manufacturer
Taylor Portable Steel Derricks
Phone Monroe 3066 1034 W. Lake St., Chicago



Before Buying New Bits you should get a good look at the new

Russell Jennings Precision Bit



Its turned shank is gripped more securely than any bit you ever saw; it positively can't pull out; it gives such a long bearing in the brace chuck that you can't detect a sign of "wobble."

The extension lip and screw point are Russell Jennings standard. You know what that means. Remember the TURNED SHANK.



Let us send you our new up-to-the-minute bulletin on Carpenters' Bits.

Russell Jennings Mfg. Co.

CHESTER, CONN.

21-58

THE COAST LINE TO MACKINAC

DETROIT CLEVELAND BUFFALO NIAGARA FALLS

TOLEDO PT. HURON GODERICH ALPENA STIGNACE

THE CHARMS OF SUMMER SEAS

Spend your vacation on the Great Lakes the most economical and enjoyable outing in America.

Daily service is operated between Detroit and Cleveland, Detroit and Buffalo; four trips weekly between Toledo, Detroit, Mackinac Island and way ports; daily service between Toledo, Cleveland and Put-in-Bay.

A Cleveland to Mackinac special steamer will be operated two trips weekly from June 15th to September 10th, stopping only at Detroit every trip and Goderich, Ont., every other trip. - Special Day Trips Between Detroit and Cleveland, During July and August. - Railroad Tickets Available on Steamers.

Send 2 cent stamp for Illustrated Pamphlet and Great Lakes Map.
Address: L. G. Lewis, G. P. A., Detroit, Mich.
Philip H. McMillan, Pres. A. A. Schantz, Gen'l Mgr.
Detroit & Cleveland Navigation Company

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TRADE **SIMPLEX** MARK
Reg. U. S. Pat. Office

THE LIFE OF A ROOF DEPENDS ON THE NAIL



Roofing nails are for paper, not metal, hence a large head is required. The Simplex has a head surface four times that of a so-called large headed nail. Head surface is what holds down roofing. Insist that the roofing comes to you with Simplex Nails. They are time savers as well as having head surface. Made with 1 inch and 1 3/8 inch lengths of stem, and both plain and galvanized. Shipped in cans in prepared roofing—store stock in 100 lb. kegs. Sold by dealers and jobbers.

Made by H. B. SHERMAN MFG. CO., Battle Creek, Michigan



A 1912 PRODUCTION

BLACK, 75 Cents. NICKEL, \$1.00.

Will be pleased to mail you a sample of this tool on receipt of the above price, provided your dealer does not carry them.

OTIS A SMITH ROCKFALL, CONN.

CARPENTERS and JOINERS

JUST A WORD!
ABOUT THIS NEW "COMPLETE" SAW SET

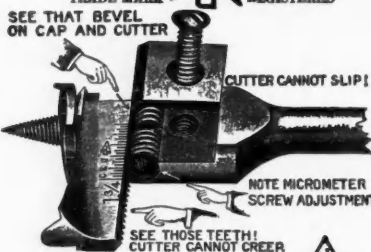
Every practical, common sense feature is embodied in this tool. A few of which are:
Adjustable side gauge which brings the point of each tooth under the anvil. Top Clamp Screw when adjusted, regulates the amount of set. The setting or wearing surfaces are made of Tool Steel and carefully hardened. Front Screw holds down Saw, allowing free use of left hand. Compact, Attractive and Low in Price.

C. E. JENNINGS' ARROW HEAD EXPANSIVE BITS

Stearns' Patent April 1, 1884. Jennings-McElney Patent December 19, 1905, and A. B. Jennings' Patent March 1, 1910

After once setting the cutter for any given sized hole, the mechanic can bore Any Number of Holes and Every hole will be the Same Size.

By means of the micrometer screw the cutter can be instantly adjusted to one thousandth of an inch.



PRICE INCLUDING TWO CUTTERS AS FOLLOWS:

No. 11 3/4 Bit (Large) with Nos. 3 and 4 Cutters, cutting from 3/4 to 1 3/4 and from 1 3/4 to 2 inches \$2.00 each

No. 12 3/4 Bit (Small) with Nos. 1 and 2 Cutters, cutting from 3/8 to 1 3/4 and from 1 3/4 to 1 7/8 inches 1.75 each

Our No. 1 Bit will take the place of 25 Auger Bits Costing \$35.00.

When you cannot procure from your local Hardware Dealer, we will mail, prepaid, on receipt of P. O. order, for above price.

These Bits are put up in a neat waterproof canvas Scabbard with extra pocket for cutters.

Special Information regarding our C. E. Jennings' Arrow Head Expansive Bits. The cutters are graduated in 32nds of an inch. By moving the cutter 1-32 in. the diameter of the hole is increased 1-16 inch; or one-half turn of the micrometer adjusting screw will move the cutter 1-32 in., and increase the size of the hole 1-16 in. The gauge mark on the cap indicates to the mechanic where to set the cutter. To bore a perfectly smooth hole, remove the bit as soon as the screw point pricks through; insert the screw point into this prick-mark from the opposite side from which the hole was started and bore until the hole is finished.

C. E. JENNINGS & CO., Sole Manufacturers 42 MURRAY STREET, NEW YORK

1810 THE JAMES SWAN COMPANY 1912

SEYMOUR, CONN.

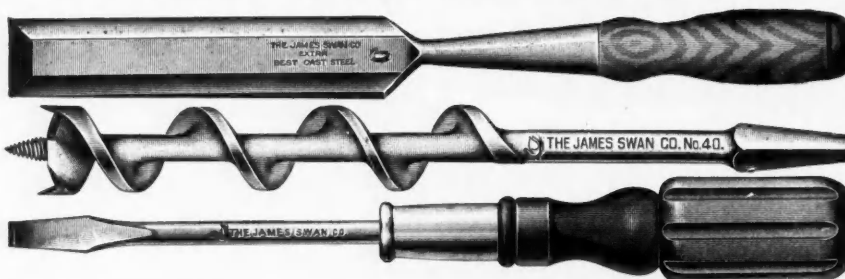
Manufacturers of

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

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Inquiries Solicited



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DISSTON



The Brand that stands for Highest Efficiency. Has maintained its Prestige for Seventy-two years

**SAWS
TOOLS
and
FILES**

HENRY DISSTON & SONS

Incorporated

**Keystone Saw, Tool, Steel and File Works
PHILADELPHIA, PA.**

**IMPORTANT
Contractors and Builders**

Why not sell our **Pure Copper Cable Conductors** and **Rod** the buildings that you contract for and build. We have hundreds of Contractors and Builders making money in this line, there is money in it for the dealer.

Write us for prices, terms, etc.

NEBRASKA LIGHTNING ROD CO., Inc.,

Manufacturers and Wholesalers

Pure Copper Cable Lightning Rods, Fixtures and Ornaments

205 North 17th Street, Omaha, Nebraska

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.

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

**Get Our FREE Catalog
MILLWORK**



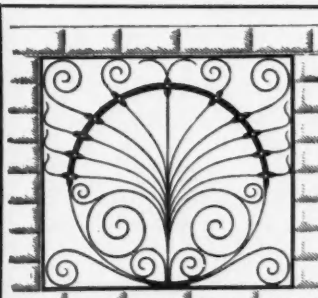
**AT MANUFACTURERS
WHOLESALE PRICES**

This book describes thousands of bargains ready for immediate shipment. Windows 55c, Doors 54c, Grilles 55c foot, Building Paper 60c roll, Roofing Paper 98c roll, etc. All our material is carefully crated and we guarantee it to reach your station in good condition. At the prices we quote you cannot afford to be without this catalog. A postal will bring it to you. Write for it today.

UNITED STATES SASH & DOOR CO.

Dept. G. **1448 W. 21st St. CHICAGO, ILL.**

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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**

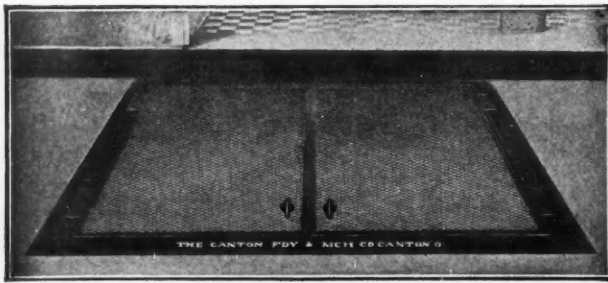
we will send you catalog that is attractive enough

to go in any man's library. Do you want it?

DOW WIRE & IRON WORKS

Incorporated
Louisville, Kentucky

SIDEWALK DOORS THAT ARE FLUSH, FIRM AND NEAT



Are a credit to any building and an everlasting advertisement to the Contractor who installs them.

OUR SOLID IRON AND STEEL DOORS

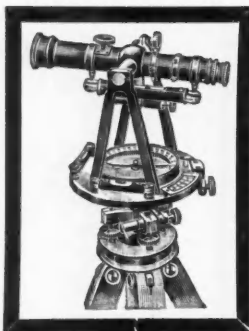
ARE ALWAYS FLUSH, FIRM AND NEAT—No obstructions to stomp your toes. Locked and unlocked from either side. When open, passers-by are protected. Have water-drain to carry water to the curb. Illuminated doors also furnished.

WE ALSO MANUFACTURE

Coal Hole Rings and Covers, Coal Chutes, Cast Iron Conductor Connections, Area Gratings, House Movers Jacks, Cast Iron Columns, Auto Turntable etc.

Write today for Booklet "B-1" illustrating and describing above and many other builders accessories of interest to you.

Made in 45 Sizes
THE CANTON FOUNDRY & MACHINE CO., Canton, Ohio



Why Carry A Heavy Transit?

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

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

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

SHULTZ WINDOW BARS FOR STORE FRONTS

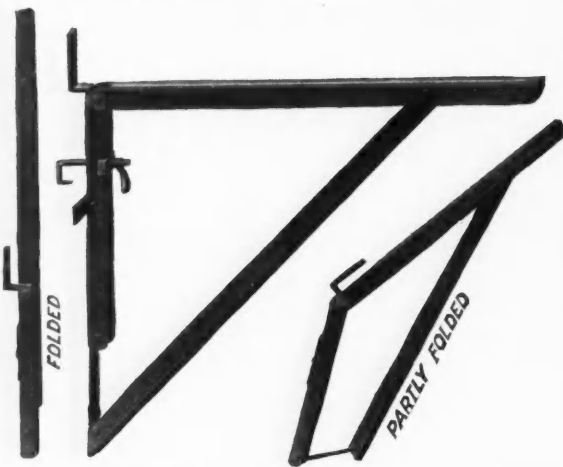
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SHULTZ ALL-STEEL BURGLAR PROOF COAL CHUTES

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.



Our Steel Folding Builders Brackets mean economy to the builder.

ECONOMY in time and labor, erecting, taking down and moving.

ECONOMY in material saved.

ECONOMY in storage space.

They are strong, convenient and absolutely safe. The sway brace prevents any side motion and the hook with tail screw gives additional security when fastened to the studding. They save their cost on one job in time, labor and material. Get prices from your dealer at once. If he is not posted, send us his name.

RICHARDS-WILCOX MFG. CO., Aurora, Ill.
Door Hangers and Hardware Specialties.

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.

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Galvanized Iron Cut Nails

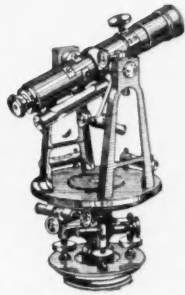


For shingling, slating, boat and wharf building, fencing, sheathing and all exterior work use **Anchor Brand Iron Cut Galvanized Nails** as they will outlast the best of wood under all climatic and weather conditions.

Write for Prices.

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

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

Special Attention to Contractors and Cement Workers

ANTI-STICK. A coating for forms of all kinds used with poured concrete to prevent sticking, and give a smooth surface. No oils or grease. Preserves forms.

ENAMEL. A coating for forms where used with the damp process.

ANTI-DAMP. The liquid water and damp proofing.

ELEPHANT TREAD. Concrete floor finish.

We are not experimenting. Used the world over. Always reliable. Write us.

The Anti-Stick Co.----Westerville, Ohio

Why Waste Time and Money



when you can save both by using a **WHITE'S IMPROVED LEVEL**. This instrument is inexpensive and efficient, and is made to meet all the requirements of the General Contractor. Full particulars and catalogue sent on request.

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



**"Hey You!
Don't You Know
Any Better
Than That?"**

Of course, he doesn't or he wouldn't be where he is—he wouldn't be doing manual labor at small pay and stand for being bullied around by the boss. Men who do stand for this sort of thing neglected their opportunities—they didn't realize that they needed something beside brawn to get ahead in the world. **Brains** count for more than brawn, and **training plus brains** will place you in a position where **you** will be boss instead of bossed, where **you** can do the ordering and the other man the work, where **you will get the money** for what you know, not for what you do.

**How you can get the
training you need**

The **American School of Correspondence** was established fifteen years ago for the benefit of ambitious men everywhere. The **American School** makes it possible to obtain an education without leaving home or giving up work. The **American School** brings a college course and special training in to you right in your own home, no matter where you live. It will train you in any branch of Engineering, Business and Law or prepare you for entrance into any resident college.

Write us now, while the subject of self-betterment is uppermost in your mind. Tell us how far you went in the public schools, what you are doing now and what you would like to be. We'll give your case special attention—help you decide on the best course. Check the coupon and mail it now, before you forget it.

American School of Correspondence
CHICAGO, U. S. A.

----- This is Your Opportunity

Check the course you want
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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., 8-12

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|Electrical Engineer |Accountant |
|Elec. Light & Power Supt. |Cost Accountant |
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|Steam Engineer |Business Manager |
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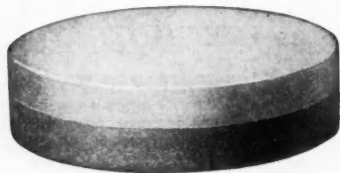
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**Pack a Carborundum Niagara
Grinder in Your Kit—
Have it on the Job—
You'll Find it Al-
most as Ne-
cessary as
a Saw**

A Carborundum Niagara Grinder is the handiest little tool you ever had for keeping your edge tools in prime shape. It is strong, durable, compact—smooth running—practically noiseless—mechanically perfect.

One big feature of these machines is that they are fitted with Carborundum Grinding Wheels—the quickest, coolest cutting wheels known. They cut free and clean, leaving the tool with a perfect edge—no filing or glazing. A Carborundum Grinder with a Carborundum Wheel should be in every carpenter's outfit—it will lighten many a day's work. Make your sharpening outfit complete by getting one of the Carborundum Round Combination Bench Stones.



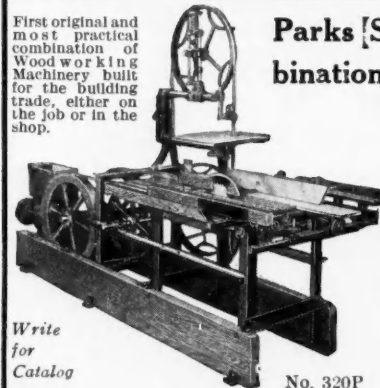
Carborundum Niagara Grinder No. 2, equipped with 5-inch Carborundum Wheel, complete, \$4.00
Carborundum Round Combination Bench Stone, No. 107, each, \$1.00
Carborundum Pocket Stones, No. 149, each, .15

From your hardware dealer or direct.

**The Carborundum
Company**
NIAGARA FALLS, NEW YORK



First original and most practical combination of Wood working Machinery built for the building trade, either on the job or in the shop.



**Parks [Single] and Com-
bination Woodworking
Outfits**

Machines are made in large quantities, which enable us to sell at lowest prices and to make immediate shipment.

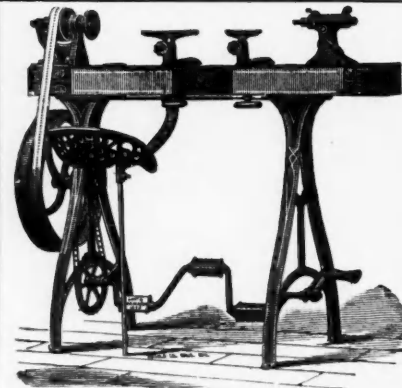
Strong substantial bases enabling you to use any make of Engine or Motor.

**PARKS Ball-Bearing
Machine Co.**

Write for Catalog

No. 320P

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



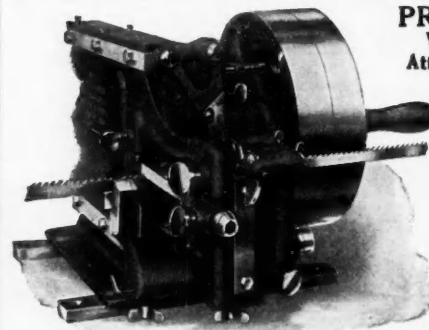
**COMPLETE
OUTFIT**

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.



PRICE \$50.00
Without Setting
Attachment \$25.00

The cut herewith represents the only Automatic Band Saw Filer, Setter and Jointer on the market that will accurately Set, File and Joint a Band Saw during one and the same operation. No personal attention required after the Saw is placed in the machine. Six Minutes does the Complete Job. Guaranteed satisfactory in every respect. Sent on 30 days' free trial. If not satisfactory, return at our expense. Manufactured by the

FOLEY MFG. CO., 1230-32 E. 3rd St., Cleveland, O.
Manufacturers of all kinds of Saw and Machine Knife Fitting Tools.

PATENTS

Secured in the United States and foreign countries. **TRADE-MARKS** registered. Investigations, opinions and advice in regard to patentability and infringement.

WATSON & BOYDEN
Patent Law and Soliciting 918 F St. N. W.
WASHINGTON, D. C

When Writing Advertisers Please Mention the American Carpenter and Builder.

Saving in Hauling Cost Is not the Only Advantage in Motor Truck Operation

Operated under proper conditions a motor truck will undoubtedly accomplish a great saving over horse hauling.

Other truck advantages fully as important are:---

- Advertising value to a business of up-to-date motor truck equipment.
- The ability to go with trucks where horse drawn vehicles cannot go.
- Better service by quicker deliveries.
- Extension of business radius.
- Avoidance of congestion in shipping departments.

All of these latter advantages and many others mean increased business profits that cannot be measured by the saving in delivery costs.

The maximum of all advantages is attained in a strong dependable properly designed truck—
THE SPEEDWELL 2 ton, 4 ton and 6 ton—
backed by adequate SERVICE—SPEEDWELL
FACTORY AND DEALER SERVICE.

LITERATURE UPON REQUEST

THE SPEEDWELL MOTOR CAR COMPANY

610 Essex Avenue

DAYTON,

OHIO

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.

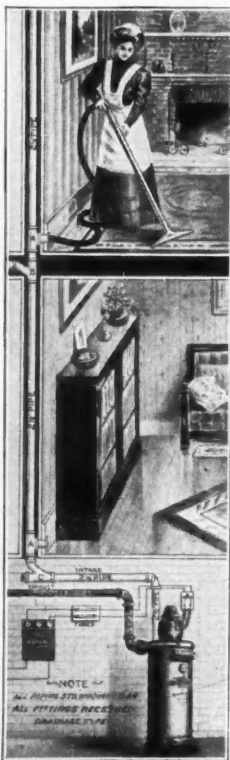
- 5—Nothing to wear out or make trouble.
- 6—Perfect lubrication.
- 7—Noiseless running.
- 8—Labor-saving tools.
- 9—Minimum floor space required.

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



Wire Window Guards



Counter Railings
Elevator Enclosures
Tubular Hand Rails
Brass and Bronze Work

The Cincinnati Mfg. Co. Cincinnati, O.

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.

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.

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

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Mr. Contractor and Builder
Why not equip the home or other building you are erecting with

Davis Acetylene Lighting?

You can greatly increase your income by selling and installing Davis Acetylene Lighting Systems for new buildings and during dull seasons for buildings already erected. No previous experience required and we help you get started.

Write us for cost of equipping a building and for our terms to salesmen.

Architects desire to recommend the best and we, therefore, invite them to carefully investigate what we have to offer.

Davis Acetylene Company
90 Crawford St., Elkhart, Ind

This Tool Will "Pry" Into Anything

It has the strength and leverage for safely opening packing cases, taking up floors, removing scaffolding and other like jobs that carpenters, plumbers and electricians come up against every day. Sizes 14 and 23 inches. Drop

forged from special formula steel.

"BONNER" Pry Bars

are about the handiest things a mechanic or electrician can keep in his kit. They are the only tools that will do fast housewrecking and save lumber. The only Pry Bar that will pull a nail as high as a man can reach. Dealers make money handling Bonner Pry Bars.

C. E. BONNER MFG. CO., Champaign, Ill.


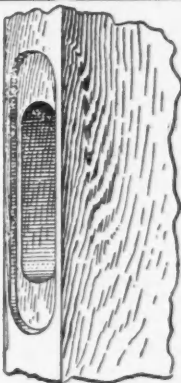


UNIVERSAL LOCK MORTISER

In use in all large cities. No builder should be without one

Will cut lock mortises, including setting in of face plate, in any desired size, in hard, soft or cross-grained wood of every description, in from 3 to 6 minutes. No boring or chiseling required. Every machine guaranteed. Makes a perfect job. Easily operated. Agents wanted where not represented. Testimonials and descriptive booklets furnished on application to

UNIVERSAL LOCK MORTISER CO.
GEO. O. ROGERS, Sales Manager
3400 ALLIQUIPPA STREET PITTSBURGH, PA.

Showing lock mortise cut, including face plate setting

GET YOUR SHARE OF WIRE AND IRON WORK IN YOUR LOCALITY

You Can Do It Through Our Catalog



IRON FENCING

Here is your opportunity to build up a substantial, growing, profit-making business for yourself without any stock. You simply act as our local agent in connection with your regular building work. We will send you our complete catalogs illustrating and describing our Wire and Iron Work in detail. You sell direct from our catalogs.

We can make anything in Wire and Iron Work you can possibly have a demand or sale for. When special work is wanted you send us the particulars and we will furnish you with detailed estimates. Just a few of the lines we manufacture include—

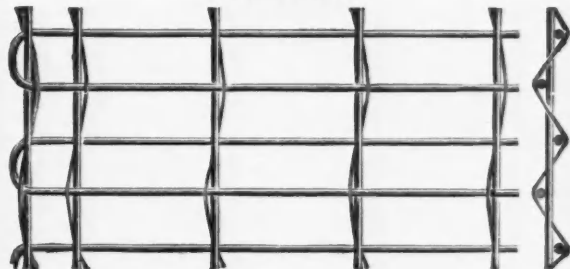
Fire Escapes	Stairways	Fencing
Folding Gates	Window Guards	Stable Fittings
Partition and	Shutters	Jail Cells
Balcony Railings	Porticos	Vault Doors, etc., etc.

Drop Us a Line for Our Catalog

E. T. BARNUM, Wire and Iron Work
DETROIT, MICH.

WIRE LATHING

(GREENING'S)
PATENT TRUSSED STEEL WIRE LATHING



ELIMINATES ONE-HALF OF INSTALLATION COST, owing to its Truss formation, which makes it possible to staple or nail it directly to studs or joists without furring.

It will take sharp corners without cutting, and has a sustaining power of three and one-half times greater than square mesh lathing of equal weight. IT EMBEDS ITSELF COMPLETELY in the mortar and is thus secured from the corrosive action of the atmosphere, and WILL NOT RUST.

Another feature of this Wire Lathing is the fact that rust will not attack the smooth round wires, as it does the thin cut edges of the metal fabric. Walls or ceilings plastered on this lathing will never crack or drop off, the key being so firm.

Send for our Booklet No. 6 AA on Wire Lathing for further information.

We are also manufacturers of GRIMM'S CORRUGATED GALVANIZED WIRE LATHING.

BUFFALO WIRE WORKS CO.
(Formerly Scheeler's Sons)
BUFFALO, N. Y.
NEW YORK OFFICE: 30 Church Street

When Writing Advertisers Please Mention the American Carpenter and Builder.



One Man Can Do All Of Your Sidewalk and Floor Finishing and Save You Money

With our long handled finishing tools one man can do the work of a whole gang in finishing cement sidewalks and floors. This means a saving of labor—also more profit on every job. Worth looking into isn't it?

Our long handled finishing tools—Trowels—Jointers—Edgers—Floats—effect a big saving in any concrete sidewalk or floor work. Workman operates them standing up—no sore backs and sore knees. He can cover ten times as much space and the work he does is uniformly far better than any of the "old time way" work.

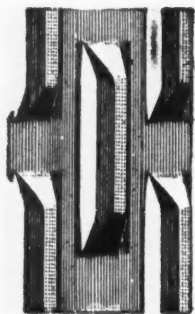
Our long handled trowel operates by a "push and pull" movement. Anyone can operate it. No expert finisher needed. All work can be done from one side of the sidewalk. Blade of trowel tilts automatically—preventing any digging into mortar. It is not necessary to use a float or darby before starting troweling and there is no waiting for top to set.

Trowel blades are made of saw blade steel. They give thorough and long wear. All castings are malleable—insuring against any breaking. Entire trowel is absolutely rust-proof. Our Jointers, Edgers, and Floats operate easily, speedily and perfectly. All are as equally well made as our trowels.

You Can Use Our Tools for 10 Days—FREE

We will send you separate tool, or a complete set, to any responsible contractor and builder on a 10 days FREE TRIAL. No money in advance. Use our tools for 10 days and see for yourself if they are not actually a great deal better than we claim. Then send us the money or send them back. We will send you a catalogue, and other descriptive matter about our tools, if you'll but ask us to. Mail a postal today and let us show you the positive value of these tools in your work.

TWENTIETH CENTURY MANUFACTURING CO., 1620 Lowe Street, Chicago Heights, Ill.



Easily Erected
A Great
Plaster Saver

WHEN
YOU
NEED

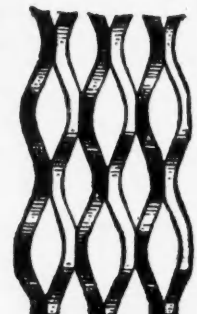
METAL LATH

("Sykes Trough") Either Sheet or Expanded and Want the Best ("Expanded Cup")
Manufactured

Made in all gauges from all kinds of sheets,
"Anti-Rust" "Painted" "Galvanized."

Address

Sykes Metal Lath and Roofing Company
NILES, OHIO



The Best for
Stucco or Cement
No furring
strips required

1853



1912

Fine Beveled Edge
Shank and Socket

Chisels



Butt Chisels

Plain and Beveled Edges

Send for illustrated Catalog

Buck Brothers, Millbury, Mass.

INTRODUCTORY TRIAL OFFER

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



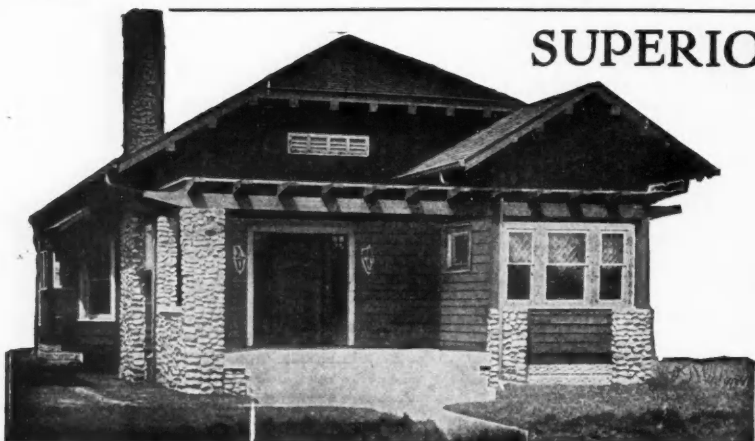
As this paper guarantees we will do as our advertisement says, you know the plane must be O. K. ALL WE ASK is to have you TRY the SELF-SETTING PLANE on your own bench, in your own way, with or against the grain, on the WORST cross-grained eaty, knurley, knotty, hard or soft wood you can find, THAT IS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



SUPERIOR SHINGLE STAIN

Represents quality both in color and durability. We use only the very best elastic and preserving oils, thoroughly mixed by the latest improved machinery.

COVERING CAPACITY

One gallon will cover 150 square feet when applied with a brush. Dipping requires 2 gallons for 1000 shingles.

GUARANTEE

Superior shingle stain is sold under our absolute guarantee never to crack, scale, peel or flake off as paint does, and to retain its color as well or better than any stain on the market. 50c per gal. in bbl. and 1/2 bbl.

Freight Charges Allowed on all Shipments

Write Dept. S. for color card.

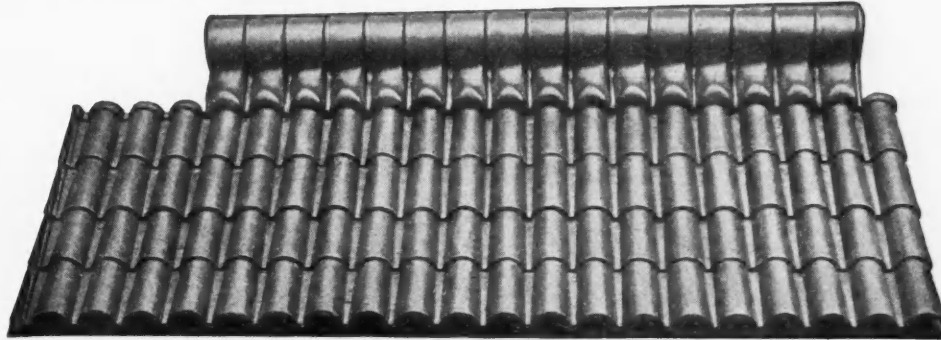
NORTHWESTERN MFG. CO.,
135 1/2 So. Illinois St. INDIANAPOLIS, IND.

When Writing Advertisers Please Mention the American Carpenter and Builder.

Mullins Metal Tile Roofing

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

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



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

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

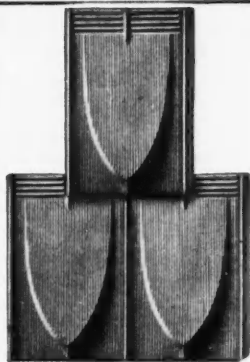
only the finest materials. Every artisan in our employ is a masterhand. Our prices are attractive, our services prompt. Glad to submit quick estimates on special jobs.

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

The W. H. Mullins Co.

214 Franklin St.

SALEM, O.



Style "B"—Showing Method of Laying

PLACE YOURSELF ABOVE YOUR COMPETITOR

AND SELL **"TITELOCK"** THE BEST

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

Write for Samples and Prices

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

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

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

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

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

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

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

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

In ordering parts always make sketch, to avoid delay.

Hargrave's New Adjustable **SPECIAL** Clamp.



Hargrave's Perfection **SPECIAL** Clamp.



Hargrave's Joiners' **SPECIAL** Clamp.



Write for circular Dept. H.

THE CINCINNATI TOOL CO.,

CINCINNATI, O., U. S. A.

When Writing Advertisers Please Mention the American Carpenter and Builder.

THE L. & I. J. WHITE COMPANY
Buffalo, N. Y.

Please send me particulars of your proposition for Carpenters and Builders.

Name.....

Address.....

Occupation.....

The Greatest Opportunity of 1912

¶ We want one Carpenter or Builder in every community in the country to demonstrate and take orders for our celebrated High Grade Tools on a liberal commission. Sign and mail the coupon today.

¶ We have been making Quality Tools for 75 years, and our goods are known all over the world, for their excellence of material, temper and finish. To use them is to save money. Every article guaranteed.

*“This is the brand
By which we stand”*

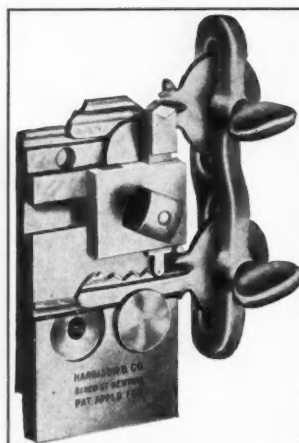


¶ This Trade Mark on a tool means both **insurance** and **assurance**—insurance against tool troubles, and assurance of the most tool satisfaction. Use the coupon and receive interesting information.

The L. & I. J. White Company
Edge Tools and Machine Knives

Main Office and Works **BUFFALO, N. Y.**

Branch Offices:
CHICAGO NEW YORK NEW ORLEANS
SAN FRANCISCO



About One Key A Minute

One of our customers writes “We made 65 keys in one hour and sixteen minutes.”

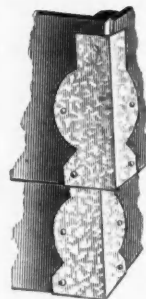
Our “M. I. P.” Key Filing Machine makes perfect duplicate pin tumbler keys. Cannot possibly injure the master key and should pay for itself in a day.

The price is \$3.00 for the machine complete with two filing guides and our new model clamp attachment, delivered by mail free.

Send for illustrated circular fully describing this remarkable little labor saving device.

HARRISON & CO.
87 New Street, NEW YORK CITY

MORE PROFIT FOR YOU



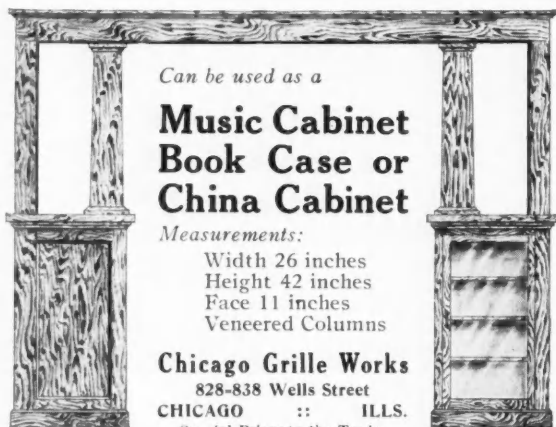
You can now give your customer the popular mitre-corner effect without the slow careful work of cutting and fitting bevels. USE METAL BUILDING CORNERS.

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.



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.

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.

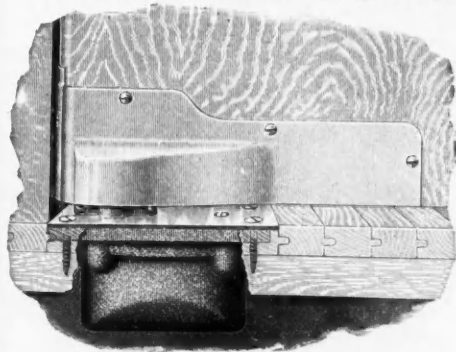
You can find a big demand for our work in your locality—and you'll build up an independent business for yourself. Give just a small portion of your time to this and you'll profit by it.

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

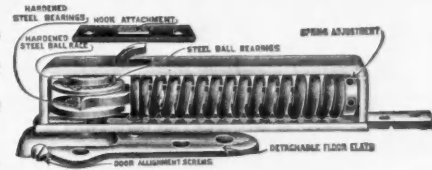
When Writing Advertisers Please Mention the American Carpenter and Builder.

STANDARD DOUBLE ACTING SPRING FLOOR HINGES



CHECKING.

*It is a door check and hinge combined.
It automatically closes the door without a slam.
It prevents children from being knocked down.
It prevents injury to hands if caught when door is closing.
It stops door exactly at center.
It holds door open automatically when desired.
It renders the action of door absolutely noiseless.
It will outwear three of the spring hinges now in common use.*

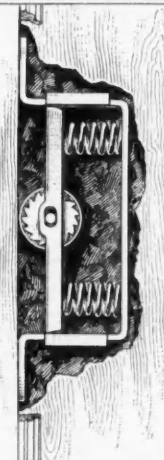


UNCONTROLLED KIND

Sold by the Hardware Trade.

THE STANDARD MFG. CO.
SHELBY, OHIO, U. S. A.

We also make pivot check for double-acting doors.



Automatic Sash Holders

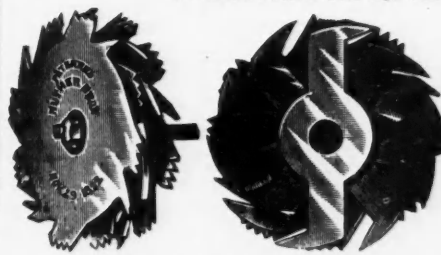
do away with
Sash Weights, Cord, Pulleys, Pocket Frames, etc.

A positive and durable device that holds window in any position desired and that cannot get out of order. For old as well as new windows. No broken cords, no binding pulleys, no rattling windows. And they are economical—Made in three styles, for sash weighing up to 8 lbs., up to 20 lbs. and to 35 lbs. and more. If your hardware dealer does not have them send us \$1.00 for a trial set, charges prepaid, together with your dealer's name. ANYHOW send for literature and prices.

Automatic Sash Holder Mfg. Co.
52 Church St., New York

Huther Bros. Patent Groover or Dado Head

Will save it's cost in three days' time



Showing Arrangement of Cutters

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

Try our Scraper Blades and you will use no others.
HUTHER BROS. SAW MFG. CO.
1000 University Ave. ROCHESTER, N. Y.

"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.

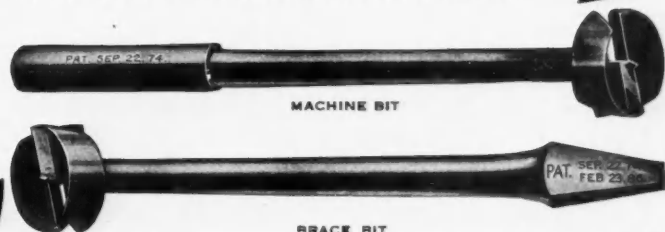
Doesn't matter how hard the wood is, no consequence whether it is full of knots, or the grain awkward to negotiate. The Forstner Bit works with equal smoothness under any condition and leaves a true polished surface on every job.

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.



The Marvel locks shut automatically, is burglar proof, and ornamental. Is made of heavy wrought steel plates.

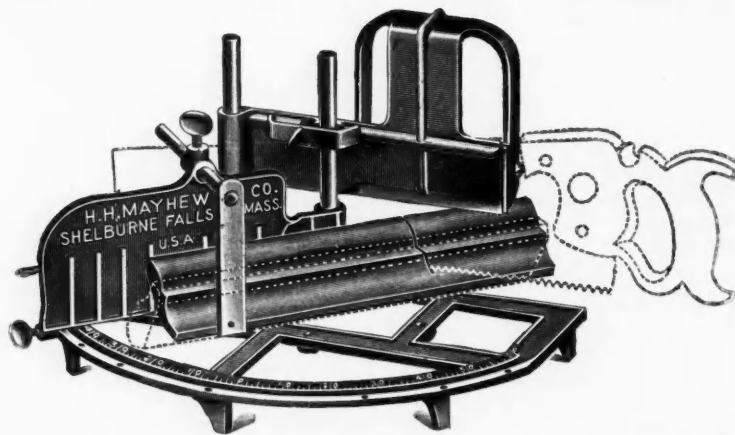
Circular for the asking.

INTERSTATE MFG. CO.
OSKALOOSA IOWA



When Writing Advertisers Please Mention the American Carpenter and Builder.

MAYHEW 60° MITRE BOX



This box embodies more distinctive features than any other made
 Designed for Simplicity, Accuracy, and Durability.
 Strictly a right hand tool for mitering.
 Box embodies a new feature in reversing the principle commonly used on other boxes.
 Any of three saws may be used — Panel — Hand or Back saw.
 Saw guide adjustable for any thickness of saw.

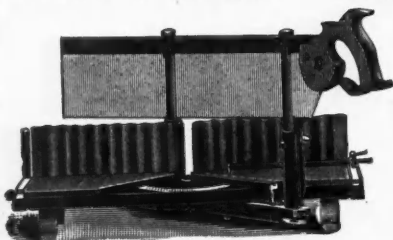
Extreme mitre to 60° without makeshift. May be used as a stationary or pivot box by use of the pin posts.
 In mitering duplicate cuts there is no restriction on length.
 Will cut compound mitre.
 Parts take down into space 10x10x4 inches.
 Weight 15 lbs. complete.
 Box contains full directions for use.

PRICE EACH, \$10.00

H. H. MAYHEW COMPANY, SHELburne FALLS, MASS.

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.

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.

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are Standards of Accuracy, Durability and Workmanship.

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SAGINAW, MICH.

NEW YORK LONDON, ENG. WINDSOR, CAN



Use KEROSENE Engine Free!

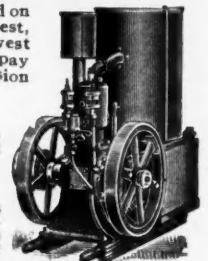
Amazing "DETROIT" Kerosene Engine shipped on 15 days' FREE Trial, proves kerosene cheapest, safest, most powerful fuel. If satisfied, pay lowest price ever given on reliable farm engine; if not, pay nothing. No waste, no evaporation, no explosion from coal oil.

Gasoline Going Up!

Gasoline is 9c to 15c higher than coal oil. Still going up. Two pints of coal oil do work of three pints gasoline.

Amazing "DETROIT"

—only engine running on coal oil successfully; uses alcohol, gasoline and benzine, too. Starts without cranking. Only three moving parts—no cams—no sprockets—no gears—no valves—the utmost in simplicity, power and strength. Mounted on skids. All sizes, 2 to 20 h. p., in stock ready to ship. Engine tested before crating. Comes all ready to run. Pumps, saws, threshes, churns, separates milk, grinds feed, shells corn, runs home electric light plant. Prices (stripped), \$29.50 up. Sent any place on 15 days' Free Trial. Don't buy an engine till you investigate money-saving, power-saving "DETROIT." Thousands in use. Costs only a postal to find out. If you are first in your neighborhood to write, you get Special Extra-Low Introductory price. Write! (138)

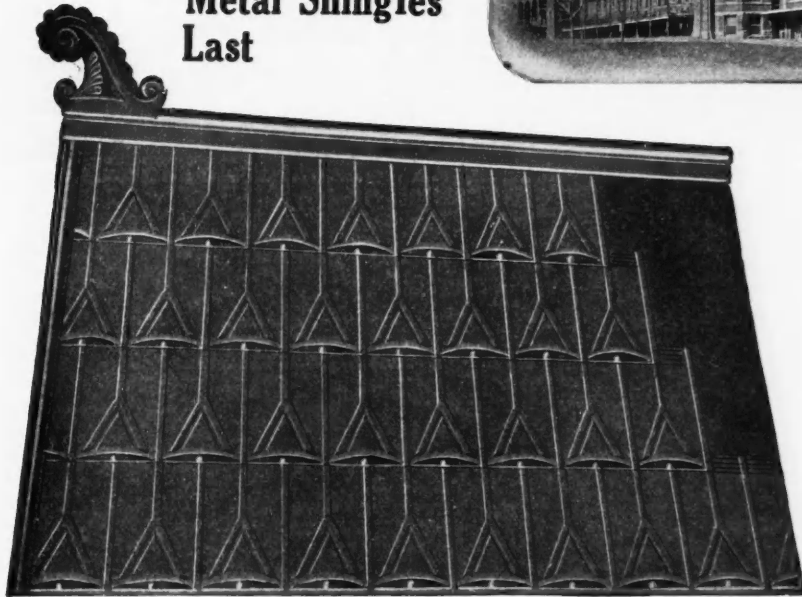
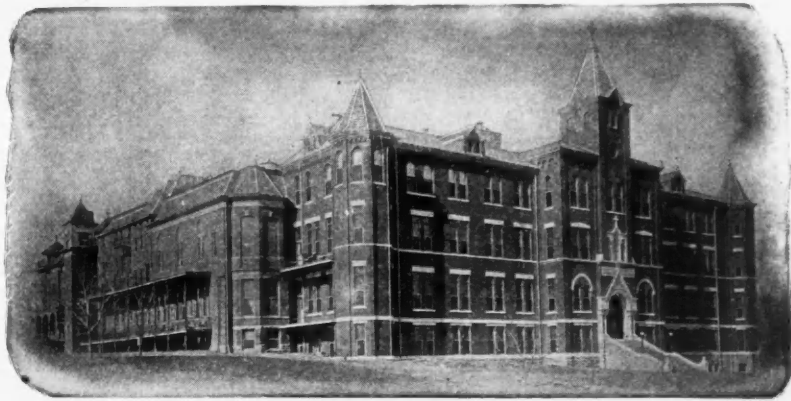


Detroit Engine Works, 495 Bellevue Ave., Detroit, Mich.

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ST. FRANCIS HOSPITAL, Colorado Springs, Colorado, is a very fine building, as this photograph shows. No expense or care was spared to make it **THE BEST AND MOST SANITARY** hospital in the West. After exhaustive competitive tests, the authorities decided to roof it with **THE BEST COVERING FOR ROOFS KNOWN**—for

Walter's Galvanized Metal Shingles Last

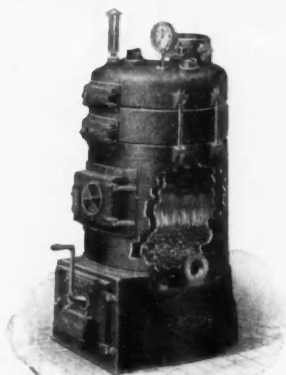


INVENTED AND PLACED ON SALE BY THIS COMPANY IN 1885

Here is a sample of the roofing accepted by this Hospital and by thousands of other public and private builders. **IT WAS THE ORIGINAL DESIGN OF THE INVENTOR IN 1885 AND IS THE FIRST SHINGLE COATED WITH PURE ZINC EVER MADE.** Hand dipped so that every crevice is **FILLED.** No chance for rust to creep in **EVER.** Send for free sample and confidential information. Might as well have **THE BEST.**

NATIONAL SHEET METAL ROOFING COMPANY

Inventors of the **FIRST Metal Shingle**
JERSEY CITY, NEW JERSEY



"Everybody's Doin' It Now!"

At least, all of the *best* builders are.

**Doin' What?
Why!
Specifying**

**GILT EDGE
Furnaces and Boilers**

They have found it is easier to sell houses with a heating plant of established merit.

If you are going to build either a house or a hotel, it is worth \$\$\$ to you to get the Gilt Edge catalogue.

Write the manufacturers

R. J. Schwab & Sons Co.,
295 Clinton Street
MILWAUKEE WIS.



FOR CANVAS ROOFS



Order the Scientifically Prepared—

**BAYONNE
ROOF AND DECK
CLOTH**

Easiest to lay—
Lasts longest.
Requires but
**ONE COAT OF
PAINT.** The
treatment permeates the
fabric and preserves the fibre.

BEST FOR PIAZZA ROOFS AND PORCH FLOORS

Ask for Sample Book A-6 and Prices

JOHN BOYLE & CO., 112-114 Duane Street
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The Standard Brand of White Canvas
All Widths—All Weights—Any Quality

Our co-operative department gives complete
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John Boyle & Co.'s Awning Stripes have
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Want Help, Agents, or a Situation? Use our**

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PATENTS without advance attorney's fees. Send sketch for free report. Books free. FULLER & FULLER, Washington, D. C.

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CARPENTERS AND BUILDERS learn structural steel designing. High-salaried positions open in steel frame construction. Write today to STEEL BUILDING DESIGN, Box 85, Akron, Ohio.

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.

Real Estate

FULL SIZE LOT—\$25. \$1 cash, \$2 a month. Located in High View Addition, a suburb of Houston, Texas, where millions of dollars are going into new improvements. Biggest opportunity for investors. Write for free literature. MUTUAL LAND COMPANY, First National Bank Bldg., Houston, Texas.

Miscellaneous

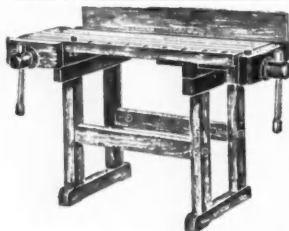
“THREE LITTLE BOOKS FOR LADIES,” postpaid, in plain cover, 25c. (Tells what you want to know.) O. K. Publishing Co., Decatur, Ill.

ARCHITECTURAL DRAWINGS, TRACINGS, BLUE PRINTS. DURHAM BROTHERS, 1213 Filbert St., Philadelphia.

KODAK FILMS DEVELOPED, 10c per roll, any size. Prompt attention given mail orders. Prints 2 1/4 x 3 1/4 to 3 1/4 x 4 1/4, 3c; 4x5 to 3 1/4 x 5 1/2, 4c. J. M. Manning, 1062 Third Ave., New York City, Box K.

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CARPENTERS NOTICE—We want a carpenter in every town and community to sell our Ever Ready Door Clamp on commission. Send \$1.75 for sample clamp today, and receive our guarantee and protection to you as our local agent. 40 per cent profit for you on each sale. WILLSHIRE CLAMP CO., Willshire, Ohio.



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 Visas, and will be shipped you at once on receipt of **\$7.00**

C. CHRISTIANSEN, Manufacturer
2219 Grand Ave., CHICAGO, ILL.

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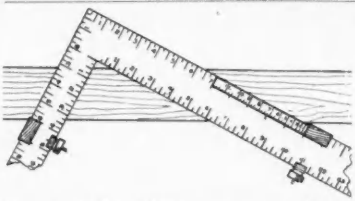


Handy Rule

JOHNSON'S PATENT COMBINATION RULE

Combines many devices indispensable to your trade. Use one rule instead of several Tools. Has Vernier attachment. Reads to 1/2 degree. Made of German Silver. If DEALER doesn't handle them will send one prepaid for \$1.50.

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For Roof-framing

This gauge is the easiest and quickest tool or method in existence. Any one of 100 pitches in 5 minutes. Is unexcelled as Stair Gauge. Sent prepaid for \$1.50. Returnable with money back. Full description free. Good terms to good Agents.

JOHN PARKHILL
Rochester - Minn.

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

Door 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 ORIGINAL FOLDING SAW CLAMP



Takes up no more space in tool box than a hammer. Absolutely noiseless. Can be fastened anywhere. With this clamp a 28-inch rip saw can be filed with but one changing. Very light and easily carried. Price \$1.00.

Send for Woodworkers Tool Catalogue

JOS. WOODWELL CO., Agents, 201-203 Wood St.
Pittsburgh, Pa.

Wanted:—Capable SUPERINTENDENT for up-to-date, progressive factory making fireproof windows, drawn steel doors, Kalamein work and general architectural sheet metal work. Exceptional opportunity for the right man. Address Factory Superintendent, Room 1528 McCormick Bldg. Chicago, Ill.

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*In Roofing Slate, Slate Blackboards
Structural and Plumbers' Slate*

SATISFACTION GUARANTEED IN QUALITY AND PRICE
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Columbia Dumb-Waiters
Pavement or Cellar Hoists
Jumper Disappearing Dumb-Waiters
Chain Blocks, Cranes and Trolleys

Send for Catalog

J. G. SPEIDEL : Reading, Pa.

The American Combined Level and Grade Finder

SIDE VIEW



TOP VIEW



All progressive and up-to-date Carpenters, Contractors and Mechanics are getting one of our levels and grade finders. An instrument with which at one glance you can get the true slant on any line or grade, either in degrees, inches or percentage, or all at one time, and will at once give the exact distance needed to plumb up to a true level.

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

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

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

Sandow \$4250

2 1/2 H. P. STATIONARY ENGINE—COMPLETE

Gives ample power for all farm uses. Only three moving parts—no cams, no gears, no valves—can't get out of order. Perfect governor—ideal cooling system. Uses kerosene (coal oil), gasoline, alcohol, distillate or gas. Sold on 15 days' trial. **YOUR MONEY BACK IF YOU ARE NOT SATISFIED.**

Five-year ironclad guarantee. Sizes 2 1/2 to 20 H. P., at proportionate prices, in stock, ready to ship. Postal brings full particulars free. Write for proposition on first engine in your locality. (160)

Detroit Motor Car Supply Co.
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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.



GENUINE BANGOR Roofing Slate
Structural Slate
Blackboards

Large Facilities, Prompt Deliveries

EAST BANGOR CONSOLIDATED SLATE CO. - - - **East Bangor, Pa.**

"I Have Color-Mixed Several Carloads of Saw Dust With Green Fluid"

Denver, Colo., April 30, 1912

Cement Mach. Supply Co.,
Denver, Colo.

Gentlemen:—During past two years my Coltrin Mixer has mixed 6000 cu. yds. of concrete for all kinds of work, sidewalks, floors, foundations, piers, etc. I have also color-mixed several carloads of saw dust with a green fluid which was used on floor of stock yards stadium during annual stock shows. The total expense for repairs during the time have owned mixer, will not exceed \$10.00, and it is in good running condition today.

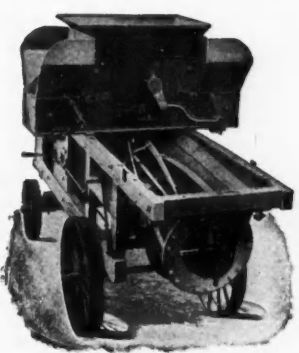
I have received \$6.00 per day as rent for my Coltrin on several occasions. The mixer has more than paid for itself and I am perfectly satisfied.

Very truly yours,
FRED LIND.

The Coltrin Continuous-Batch Mixers

SHIPPED ANYWHERE ON FIVE DAYS TRIAL
Write for Catalog

The Knickerbocker Co. - - - **Jackson, Michigan**



NO. 12 COLTRIN

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Why Take a Chance on Crude Methods of Mixing Concrete?

Lay down your shovel and look around you. No matter how small the yardage, first class concrete is worth while; and first class concrete is impossible at prevailing prices, unless mechanically mixed. The old shovel and hoe methods are obsolete—they don't pay. But surplus capacity and weight, cost of operating, erection and haulage make a power mixer unprofitable on the small job. There's *no escape* either way. The progressive contractor **MUST** use the

SMITH HAND MIXER

It is a batch mixer with a capacity of $2\frac{1}{2}$ cu. ft.—a thoroughly tested machine, guaranteed to mix in *three turns* of the drum — a MIXER capable of reliable service under long, hard service — a REAL mixer backed by the best and oldest firm of mixer builders in the U. S. This machine will improve your work and increase your income at the same time.

Write for our special Smith Hand Mixer proposal and booklet No. 17.



The T. L. SMITH CO.
1333 Majestic Building, MILWAUKEE, WIS.

HARWELL PLACE
ATLANTA, GA.

W. J. CULLEN
30 Church Street
New York City

OLD COLONY BLDG.
CHICAGO, ILLINOIS

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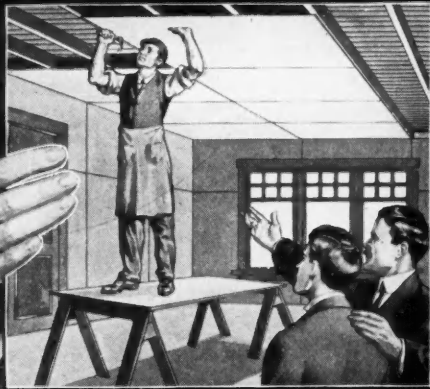
NOTICE TO ADVERTISERS

Forms for the September number of the American Carpenter and Builder will close promptly on August 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.

"I Make More Money Handle More Jobs

Please Every Customer and Gain a Month's Time on Every Building Job by Using

Bishopric Wall Board"



THE START



THE FINISH

A FEW HOURS' TIME PUTS A ROOM IN READINESS FOR THE OWNER TO MOVE IN

A well-known and very successful builder says of Bishopric Wall Board:

"It's an actual fact that I can build a house in at least a month's less time since I use Bishopric Wall Board instead of plaster. In two or three hours I can finish the walls and ceiling of an entire room—and the room can be decorated that same day. No waiting for 'building weather' or for walls to dry. I can handle more jobs for I'm independent of the slow-going plastering gang—and not only make a lot more money but please my customers immensely.

"Bishopric is the easiest thing in the world to apply. Even my youngest apprentice helpers can do a fine job. Anyone who can drive a nail can apply Bishopric Wall Board perfectly. Yes sir, it is a wonderful material for building Walls and Ceilings, partitions and for all remodeling purposes.

"It is sound-proof, water-proof, fire-resisting, and keeps out both heat and cold. It reduces fuel bills in winter. Makes rooms cool in summer.

"The Big Saving"

"Another mighty important fact is that Bishopric Wall Board costs only half as much as plastering.

"It lasts as long as the house stands. Never cracks—never comes loose, never warps! Always stays solid and rigid! Ready for paint, paper, burlap, kalsomine or any other decoration as soon as applied. That makes a big hit with my customers, for they're always in a hurry to MOVE IN.

Says it Helps Him Get More Business

"I use Bishopric exclusively for everything I build—houses, bungalows, business buildings, hotels, summer cottages, garages, for adding rooms or covering old cracked plastered walls or ceilings anywhere.

"I show my townspeople how I can make more rooms, or finish off an attic, or change a hall, etc., without any bother to them, and at very modest cost. Everything is coming my way since I began using Bishopric Wall Board."

How "Bishopric" Board is Made

The turned back sheet (see cut) shows the patented construction of Bishopric Wall Board. It is made of specially toughened Asphalt. It is made of specially toughened Asphalt (called Asphalt-Mastic). In this Asphalt are embedded kiln-dried dressed laths—closely placed together, as for a plastered wall—and forced into the hot Asphalt under pressure of 500 pounds to the square inch. These laths are what make Bishopric Wall Board rigid and substantial. Sold under \$5,000 Anti-Warp Bond!

The Wall Board comes in sheets 4 feet square. Sheets are nailed direct to studding

—a nail being driven through each lath end. This holds the Wall Board absolutely immovable, so it cannot swell, bulge, or pull away from the studding. The sheets meet evenly at the edges, and form a smooth, hard surface, ready at once for paint, paper, burlap, frescoing, or any kind of wall decoration.

The outer surface of Bishopric Wall Board is heavy sized fiber board. Its soft silver grey color makes a beautiful, artistic wall without any decoration by the use of panel strips.



See the LATH!

Get FREE SAMPLE, Books and Special Offer

Increase your profits by using Bishopric Wall Board on every building job. Book, sample of Wall Board, copy of \$5,000 Anti-Warp Bond, working plans for a Model House and interesting Special Offer are yours for the asking. Enclose 6c to pay postage and mailing.

The Mastic Wall Board & Roofing Mfg. Co., 354 Este Ave., Cincinnati, Ohio, U. S. A.

BISHOPRIC WALL BOARD AND SHEATHING

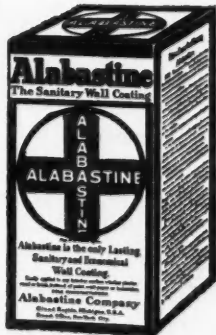
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**Owners of
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No higher grade wall coatings are produced in this country than Alabastine Company products. Since 1909 the demand for these goods has increased 40 per cent. Owners and decorators of business and public buildings, as well as homes have found that our superior wall coatings not only increase selling and renting values, but are the cheapest materials to use for the reason that they keep in good condition longer than kalsomine and ordinary paints, as they positively do not chip, peel or rub off when properly applied.

Alabastine

The Beautiful Wall Tint



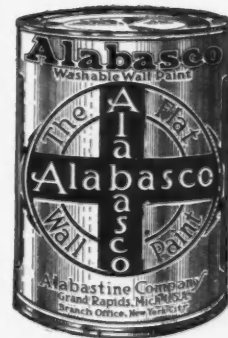
In dry powder, ready to mix with cold water, applied with a regular 7 or 8-inch wall brush; packed in full 5-lb. packages, in white, tints and colors—also in bulk for large jobs.

Alabastine may be easily washed, if desired, from any surface it has been applied to.

Alabastine, after being mixed, will remain in working condition for days, does not harden nor set in the bucket.

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. It 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. In bulk for large jobs.

Alabasco is now widely used for

Hotel, Club, Office and Home Decoration

Alabastine Company

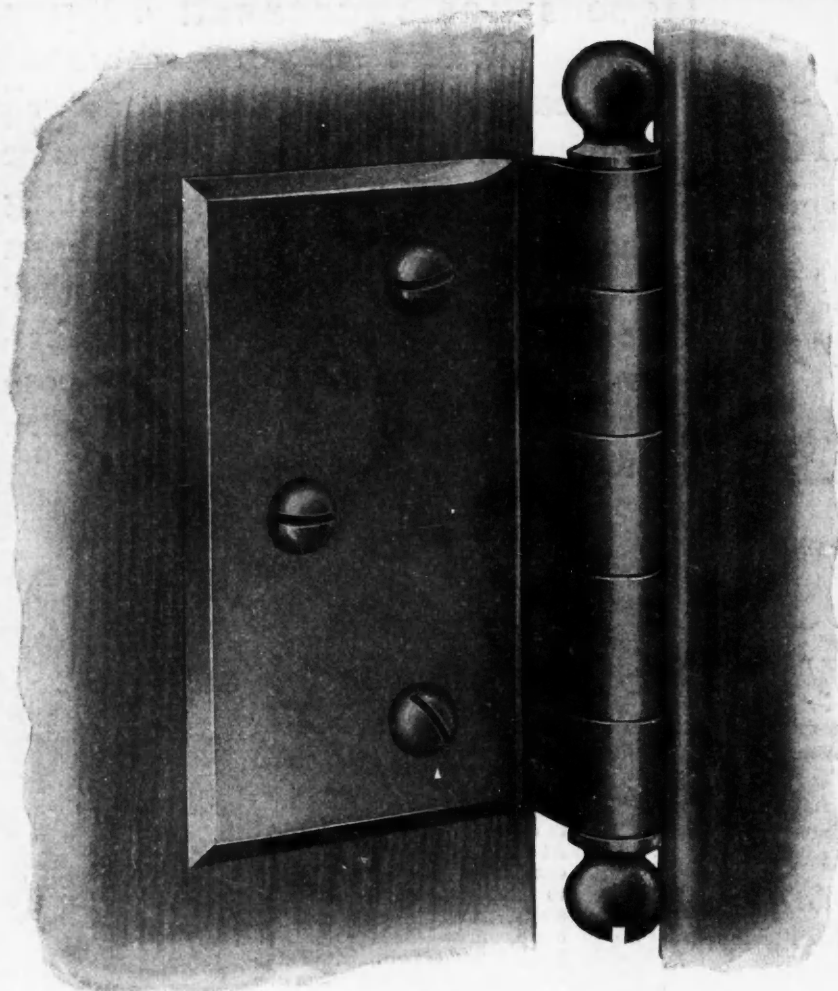
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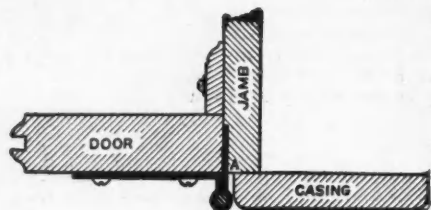
☞ The false tip is threaded and screws into the butt. The **Slot** for a screw driver is also an exclusive feature. It makes it easy to remove the pin and shows also which is the bottom of the butt.

Style No. 450

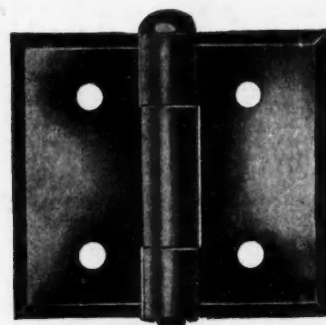
here illustrated, is the latest design, and a beauty. It has beveled edges, is highly polished and double plated. All sizes from 1½-inch to 4-inch, inclusive. Any finish desired.

Ask for “Ornamental Ideas,” and give us your dealer’s name

No. 450



Directions—Attach butt part “A” to jamb first, then set and wedge door into position and attach Ornamental Leaf to surface of the door. Simple, isn’t it?



Be sure to look for the flag—it’s stamped on all “National” Butts—It stands for quality.

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STERLING, ILL.