

AMERICAN CARPENTER AND BUILDER



THE WORLD'S GREATEST BUILDING PAPER

A Christmas Suggestion—



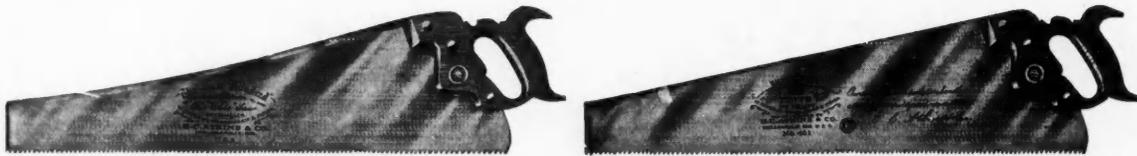
Radford's Cyclopaedia of Construction
Carpentry—Building—Architecture

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

See Insert following Page 138 for Special Holiday Premium Offer.
Order Today so that we may send you a Set at this Reduced Price.

Saws for Christmas

Now—honestly—is there anything that you would rather receive for Christmas than a really fine Saw? Then why don't you suggest this to your friends?



Here are two Famous SILVER STEEL SAWS—a straight and a skew back. Any man will be proud to own them. Then why not say to your wife or sweetheart—Buy me for Christmas, an

ATKINS *SILVER STEEL* SAW



We will put them up for you in a handsome box covered with holly like this—if you wish—making a very beautiful and appropriate holiday gift. Buy one for Christmas. Even if you have to “treat yourself.” There is no Saw as fine as ATKINS SILVER STEEL. The genuine always has our name on the blade.

Go to your Dealer. Get an Atkins for Christmas. He will order for you if he does not carry them. If he won't, then let us know.

E. C. ATKINS & CO., Inc.

The Silver Steel Saw People

INDIANAPOLIS

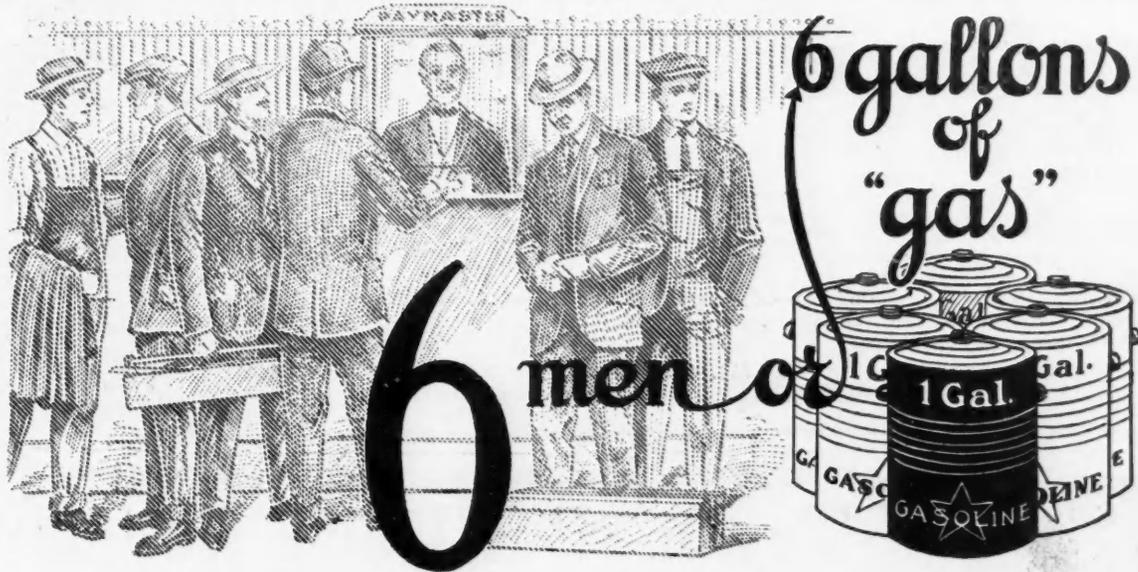
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INDIANA

When Writing Advertisers Please Mention the American Carpenter and Builder.



Quit Wasting Your Profits

Go to it!—if you'd rather pay a week's wages to six skilled carpenters than buy a gallon of gasoline a day. The Eveready Saw Rig won't talk as much as the six men; but it will do more work than they can—and BETTER work. Yes, on ANY job you've got. No, you are not expected to believe it offhand—but you are asked to send for the Eveready outfit and try it out the hardest way you know how. Many another contractor, builder, jobbing carpenter has done that—and profited by it. Six men's pay—or a gallon of gasoline—that's the difference.

On sawing jobs alone the EVEREADY will do more work than any six men you can find. Take it on a Free Trial for a week and make it show you. Don't buy it unless it does show you. Put it to the test, on your own work, in your own way—not the slightest obligation to buy it unless it makes good for YOU—at a huge saving.



With an EVEREADY you are independent of any planing mill's facilities. For it does everything a well-equipped planing mill can do for you now—and all you pay for the doing is a gallon of gasoline a day. If it won't cut your costs fully ten per cent, you are an exception. Try it a week at our expense—NOW

EVEREADY SAW RIG

Every Attachment Free

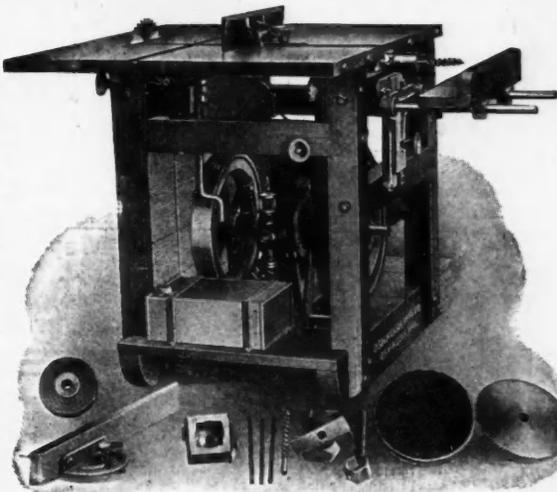
Each EVEREADY Portable Saw Rig comes fully equipped for Cross-Cut, Sawing, Rippling, Jointing, Mitering, Rabbeting, Dado-Cutting, Jig Sawing, Mortising, Boring, Sanding and Tool Sharpening.

No Extras to Buy

For each of the operations named above a special tool is included in the price of the EVEREADY outfit—and that price is a low one. Anything a planing mill does for you now you can do for yourself—at a big profit—with an EVEREADY and a gallon of gasoline a day.

Cuts Your Costs

An EVEREADY Saw Rig on your work will do more than cut your costs—for it will save you time, give you facilities for special work—like heavy framing jobs—and equip you to handle ANY woodworking contract whatever.



Worth \$25 a Week

Plenty of contractors testify to a saving of \$25 a week made by their EVEREADY outfits. You try it for yourself, ONE WEEK FREE—and if it doesn't save you ten dollars that week on sawing jobs alone, send it back—and we'll apologize.

No 'Catch' to This Offer

Simply means what we say—try it at our risk and cost—six days—on your own work. Needn't favor it a bit. Needn't feel under the least obligation. Consider us on the level, and our offer on the square, and try the outfit for yourself.

All You Need to Do

No red tape to the EVEREADY proposition. Just say, on your own letterhead, that you are willing to take us at our word. We will attend to the shipping of the machine, and with it will come every instruction a kid apprentice would need to erect and operate the equipment. You can't lose by taking up with this offer—why don't you take it up right away?

Oshkosh Manufacturing Company, 316 South Main Street
OSHKOSH, WISCONSIN

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 parquet.

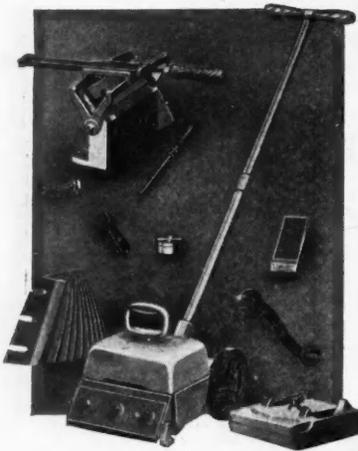
IT IS THE ORIGINAL and only two-roll, self propelled, dust collecting machine, that surfaces close to the wall and can be used in small rooms. Anyone can operate it.

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.**



Try It—But Don't Buy It—

until you have convinced yourself, by actually working with the machines, that they are satisfactory in every particular. In order that you may know just what the

Acme Floor Scraping Outfit

can do on your own flooring, I want to send the same to you on a **WEEK'S FREE TRIAL.** Thousands of carpenters and contractors have accepted this offer and if you haven't done so, get busy and write for full particulars and catalog to-day.

JOSEPH MIOTKE 247 Lake St., Milwaukee, Wis.

BUILDING CONTRACTOR AGENTS

to use and sell
the **RAPID FLOOR
SCRAPER**

**FREE
TRIAL
USE IT
FIRST—
THEN
PAY
US**



Saves its cost in
10 days.

Send for our
special proposi-
tion and catalog.

**MONARCH
MFG. CO.**
2612 Shepard Bldg.
GRAND RAPIDS,
Mich.

The Boss Floor Scraper

The Boss self adjusting Floor Scraper

The knife will adjust itself to any floor.

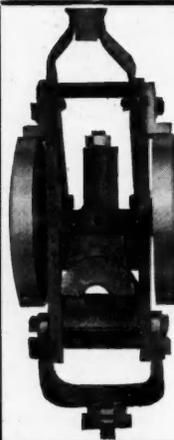
The knife is attached to the shaft, which lets it give in Frame.

The Boss is the only Floor Scraper made that will plane a Floor without leaving a square cut.

The Boss can be set for any thickness of shaving. It also can be set for any shearing, right or left, up or down, to suit the kind of lumber.

G. J. KEPPLINGER

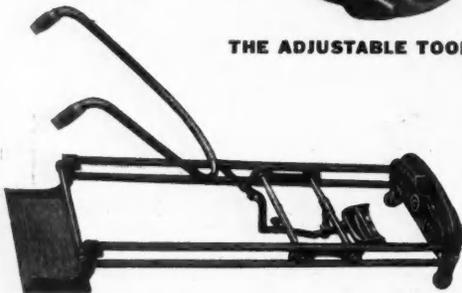
Main Office: Dwight, Ill. Factories: Dwight, Ill. London, Canada



\$25.85



THE ADJUSTABLE TOOL



The Haven Planing Floor Scraper

When Writing Advertisers Please Mention the American Carpenter and Builder.

You May Try This

Haven Planing Floor Scraper at Our Risk

We will guarantee you absolutely against expense if you are not entirely satisfied with the work of the Haven Planing Floor Scraper after having it for one week.

The "Haven" is the only practical floor finishing machine. It eliminates all of the defects of other floor machines. It will appeal to your common sense because its tool is merely a scraping plane, such as you have always known. The angle of blade and thickness of cut are each regulated by a small screw in the usual way. Because the tool is a true plane, it prevents chattering, gouging and "waves". It planes and scrapes at the same time. It also does away with the man-killing toil of pulling a heavy weight. The most simple, easy and rapid machine on the market and solves the problem permanently.

Don't pay exorbitant prices for an inferior machine, when you can get the best on earth for \$25.85. Send for catalogue and complete particulars to learn how we can make this wonderful proposition on a guaranteed machine.

THE HAVEN MFG. CO.

:-:

RACINE, WIS.

We Will Give \$25

for the best photograph of a floor scraped by a Fox Scraper. Also prizes of \$15 and \$10 each. If you haven't sent for particulars, do so at once because January 1st is the last day of the big contest. We want every carpenter in America to know about this cash PRIZE OFFER.



A carpenter profits most when he pays \$25 for a Fox Floor Scraper. He gets something substantial for his money. The Fox is made right and lasts a lifetime.

"It Does the Work"

Drop us a line today

Fox Supply Co.

Dept. A
Brooklyn, Wis.

Rapidly Replacing Installed Plants

The Hoover Electric Suction Sweeper combines the desirable features of the vacuum cleaner, broom and carpet sweeper with none of their faults.

Injury is impossible, for the powerful suction lifts the floor-covering 1/4 inch off the floor while the machine airs, sweeps, shakes and suction cleans it.

Its soft hair brush (electrically revolved) sweeps up hair, thread and lint, etc., and shakes loose embedded sand and grit to make its removal possible by the powerful suction.

It prolongs the life of floor-coverings and restores their original colorings by brushing up the crushed down nap to its intended position.

The only mechanical cleaner that robs the weekly cleaning day of its nerve wrecking, back breaking work and that greatly reduces the labor and expense of keeping the home clean and sanitary.



Whenever you are called upon to specify for home, office, church or public building, you should withhold your decision until you have fully investigated the three sizes in the Hoover line.

Hose and nozzle tools are supplied, if wanted, for every air cleaning purpose.

Write today for our interesting and instructive booklet.

Sold by the best dealers everywhere.

The Hoover Suction Sweeper Co.

Factory and General Offices
NEW BERLIN, OHIO

Dept. C

Save \$12 per 1000 Ft. On Hardwood Flooring

BY using the "Weber." The saving in time over hand work is often more than that. A couple of ordinary jobs actually save the purchase price. And the work has never been excelled.

The WEBER DOUBLE ACTING Floor Scraper

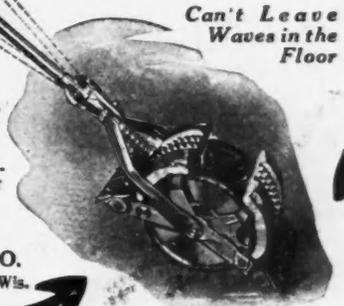
Scrapes Both Ways

—forward or backward. Double knife scrapes centers of smallest rooms perfectly; reaches well into baseboard angles. Works perfectly at any angle on all flooring, any way of grain. "Shears" without side-draft, and

FREE TRIAL

—use it five days hard. Then put it up against any other make. If its work isn't the best you've ever seen, return it. Write for details.

John F. Weber, Pres.
WEBER MFG. CO.
670 71st Ave., West Allis, Wis.



Can't Leave Waves in the Floor

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.

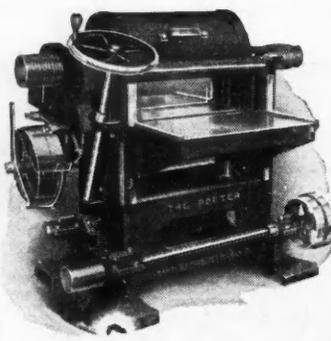
Write for full particulars.

Hurley Machine Company

1008 Flatiron Building
NEW YORK

37 So. Clinton St.
CHICAGO

When Writing Advertisers Please Mention the American Carpenter and Builder.



The PORTER
24x8, Single Surface

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

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



GRIMM WOODWORKER

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

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

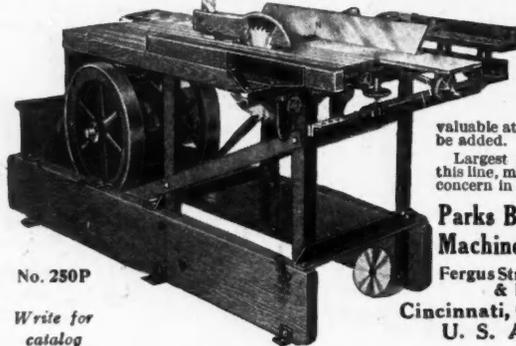
Belt Drive

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

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

Parks Portable Single and Combination Woodworking Outfits

This machine combines three of the most necessary tools to have on the job, name-



ly Circular Rip or Cross-cut saw, 6" Jointer tilting guide and boring machine, Jig Saw, Band Saw and many other valuable attachments can be added.

Largest assortment, in this line, made by any one concern in the world.

Parks Ball Bearing Machine Company
Fergus Street and C. H. & D. Ry.
Cincinnati, Ohio,
U. S. A.

No. 250P

Write for catalog

CARPENTERS

In these days of close competition need the best possible equipment, and this they can have in

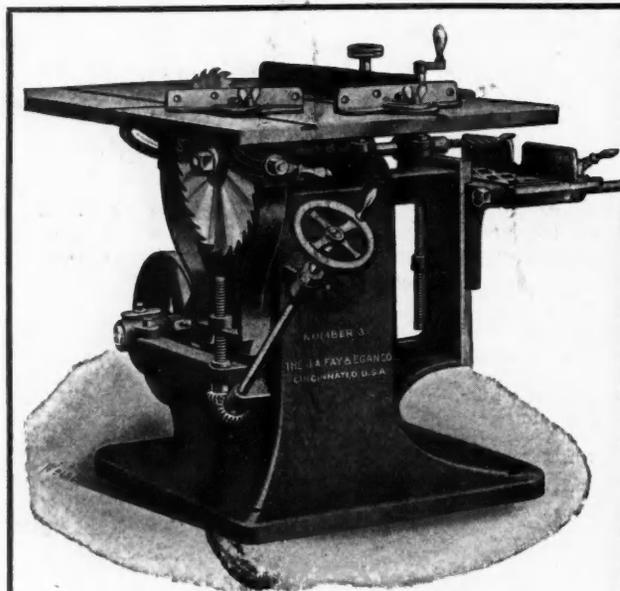
Barnes' Hand and Foot Power Machinery



Our new foot and hand power Circular Saw No. 4, the strongest, most powerful and in every way the best machine of its kind ever made. For ripping, cross cutting, boring and grooving.

SEND FOR OUR NEW CATALOGUE

W. F. & John Barnes Co.
74 RUBY ST. ROCKFORD, ILL.



A busy machine is making money for you—there are dozens of jobs that can be done quickly and cheaply on a

FAY-EGAN No. 3 Variety Saw
"Lightning"

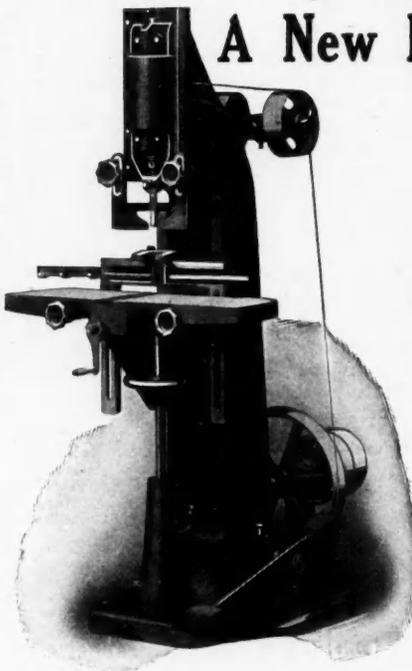
Write for description and prices.

J. A. FAY & EGAN CO.

545-565 W. Front St. :: Cincinnati, O.

WOODWORKING MACHINERY

A New Mortiser



Automatic and Operates Hollow Chisels with Auger for Removing Chips

Send for Circulars.

H. B. SMITH Machine Co.
Smithville, N. J.
U. S. A.

NEW YORK; CHICAGO. ATLANTA, SAN FRANCISCO.

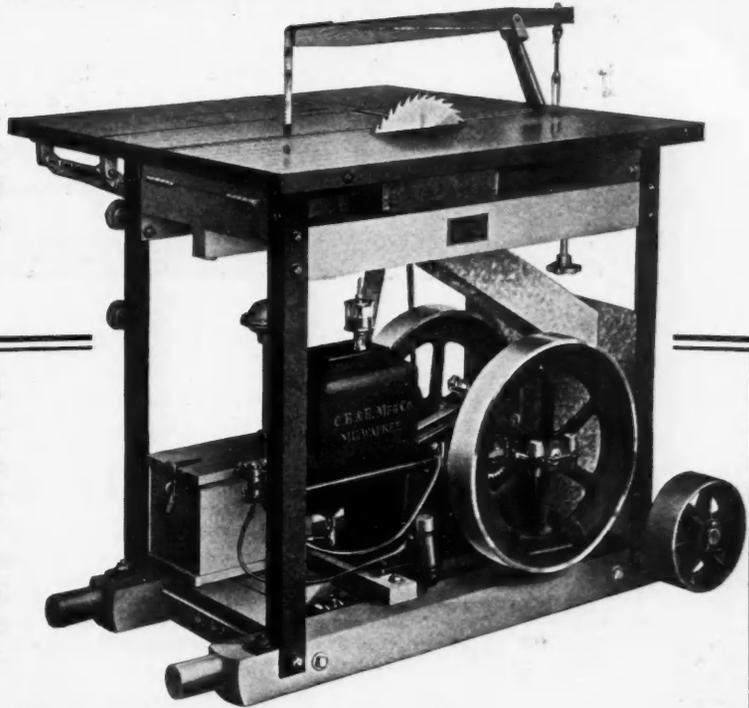
When Writing Advertisers Please Mention the American Carpenter and Builder.

BEATS A SEWING MACHINE

Marion, Ind., Sept. 9, 1912.

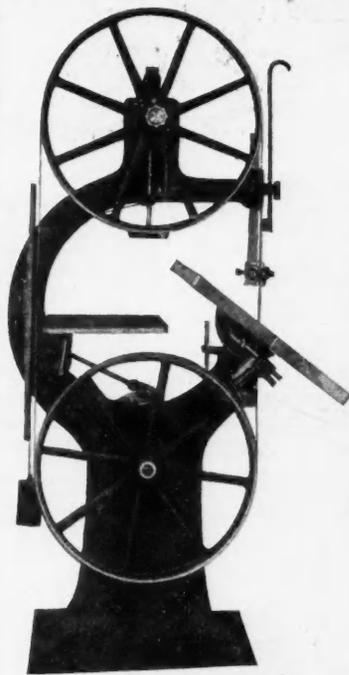
The portable saw rig is surely a wonder. I don't see how I got along without it. It takes the place of a carpenter, as a sewing machine does in a household.

M. G. Pepple & Co.



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

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

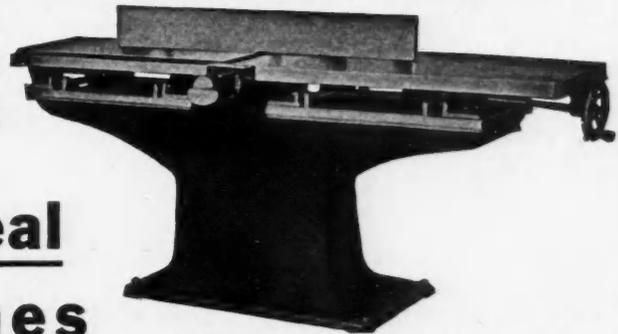


27-inch Chicago Band Saw

\$127.⁰⁰ for Both to Contractors and Builders

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

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



Chicago 8-inch Jointer and Planer

Use Real Machines

READ what this user writes:

Dear Sirs:

July 1, 1912.

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

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

Chicago Machinery Exchange

1215-1223 Washington Boulevard

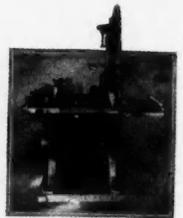
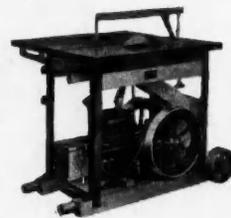
CHICAGO, ILL.

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

When Writing Advertisers Please Mention the American Carpenter and Builder.



Let Us Quote You On
**Several Styles of
 Combination Machines**
 Lowest Possible Prices
United Machinery Company
 86 Centre St. NEW YORK CITY



SAMSON SPOT SASH CORD



Reg. U. S. Pat. Off.

Reg. U. S. Pat. Off.

Samson Cordage Works

Boston, Mass.

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

**FOOT, HAND AND LIGHT POWER
 WOOD-WORKING MACHINES**



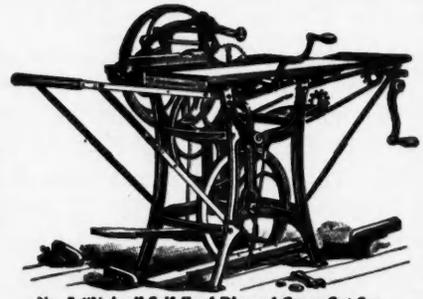
"Victor" Scroll Saw



"Diamond" Mortiser

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

Send for Catalog "A"
 describing our complete line



No. 3 "Union" Self Feed Rip and Cross-Cut Saw

THE SENECA FALLS MFG. CO.
 218 Water Street - SENECA FALLS, N. Y., U. S. A. (349)

**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.

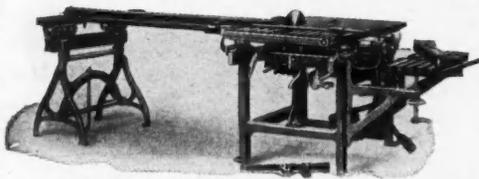
These Portable Double Arbor Rip and Cut-Off Saw Machines with either Iron or Wood Frames, can save you time, labor and material on any job. The machines are easily portable and require but small space to operate in. They are equipped with either electric motor or gasoline engine.

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.

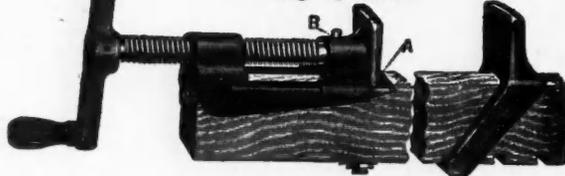
We guarantee these machines in every respect. Write us today about them. Get our catalog "M."

BEACH MANUFACTURING CO. - MONTROSE, PA.



50c FOR THIS Clamp Fixture

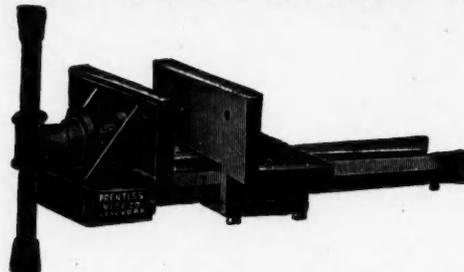
*It is Unequaled for Strength—
 Quick Action and Last-
 ing Qualities*



Write for Catalog of Sheldon's Clamps and Vises.

E. H. SHELDON & CO.
 184 Nims Street :: :: MUSKEGON, MICH.

BLAKE QUICK ACTING VISE



For Cabinet Makers and Wood Workers. Simplest—Strongest

—Cheapest—Best

Send for Catalogue of all kinds of Vises
PRENTISS VISE COMPANY, MAKERS
 106-110 La Fayette St., New York, U. S. A.

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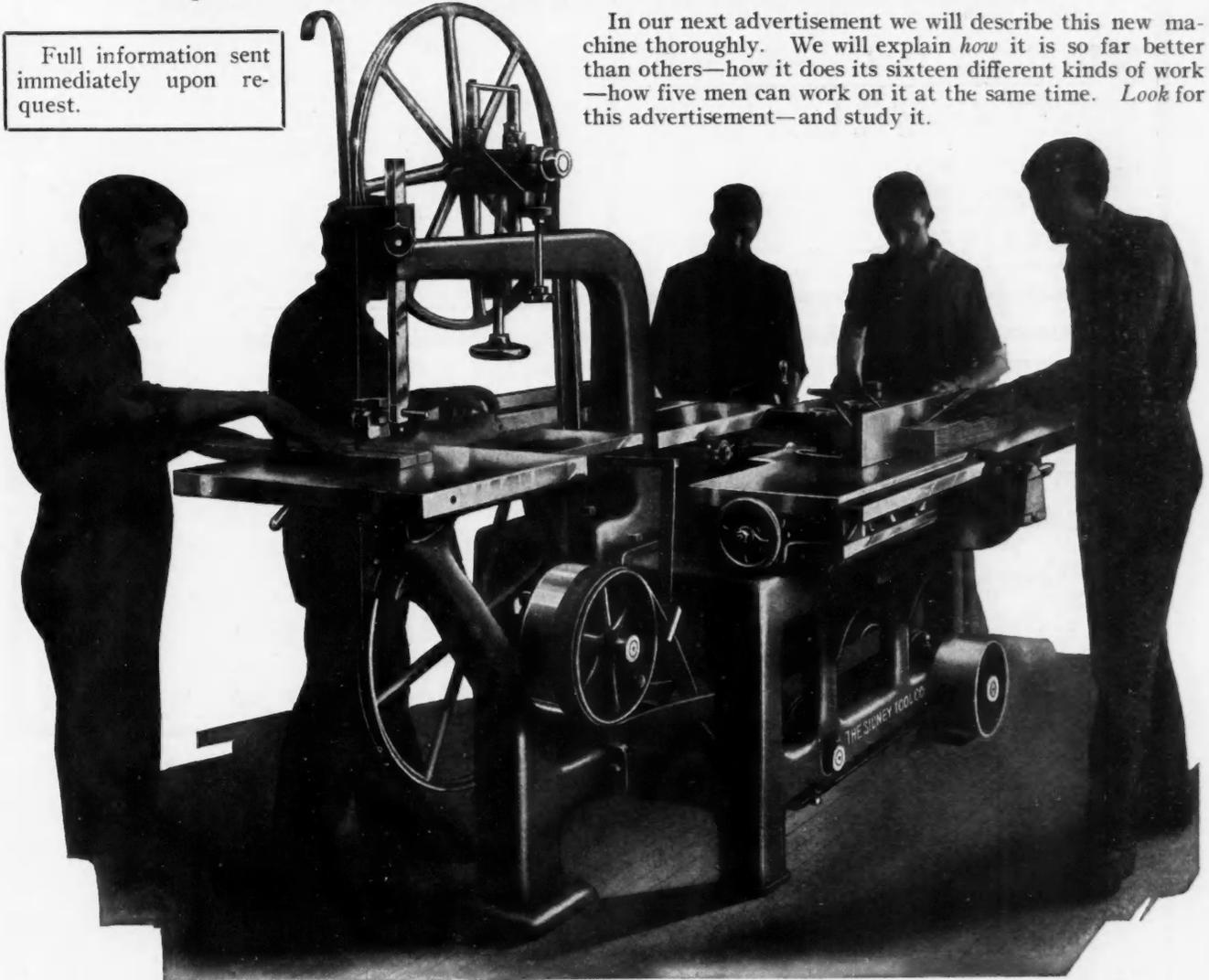
The Woodworking Wonder of the Age!

THE FAMOUS "30"

marks the highest point yet reached in Universal Woodworkers. In ease of operation, multiplicity of work and all-round economy, the New Improved Famous No. 30 creates the highest standard of efficiency.

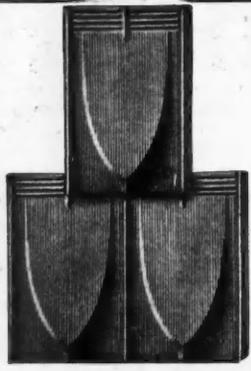
Full information sent immediately upon request.

In our next advertisement we will describe this new machine thoroughly. We will explain *how* it is so far better than others—how it does its sixteen different kinds of work—how five men can work on it at the same time. *Look* for this advertisement—and study it.



UNIVERSAL FAMOUS THE SIDNEY TOOL COMPANY FAMOUS
Chief Offices and Factories SIDNEY, OHIO U.S.A.
AGENCIES AND DISTRIBUTING CENTERS THROUGHOUT THE UNITED STATES AND ABROAD

When Writing Advertisers Please Mention the American Carpenter and Builder.



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.

Model "B" — Showing Method of Laying

GET THE ROOF THAT LASTS

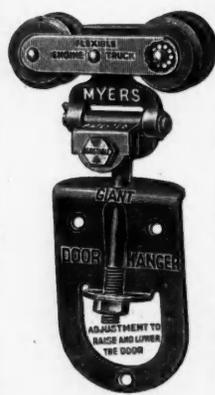
—the kind that never fades, never wears out, never needs any painting, re-coating or repairing every few years and never absorbs any water.

GENUINE FRANKLIN TUNNEL SLATE

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

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

SLATINGTON SLATE CO. Sole Manufacturers **SLATINGTON, PA.**
S. F. T. Slate puts “The Finishing Touch” on any Building.

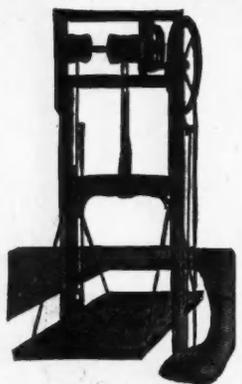


THE MYERS GIANT
ADJUSTABLE TANDEM
DOOR HANGER

for TUBULAR GIRDER TRACK is adjustable to and from the building, and up or down as necessary. Has flexible engine truck with steel rollers revolving on steel roller bearings. The adjustable features prevent trouble from weather conditions or sagging of building. Storms, sleet or ice do not affect it, owing to complete protection afforded by the tubular track. Track and Hanger are constructed to carry and operate heavy doors easily.

This and other styles of Tubular and “Stayon” Door Hangers are shown in our Door Hanger Booklet. Copy mailed on request.

F. E. MYERS & BRO.
ASHLAND, OHIO



PERFECTION
ELEVATORS

The Best Value for the Money in the World
Mechanically Correct

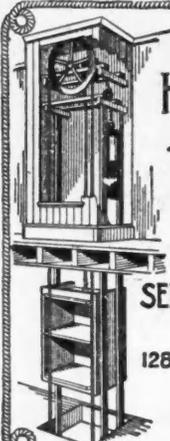
Dumb Waiters, Carriage and Store Elevators, Sidewalk Hoists, Etc., Etc.

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

The Low Cost Will Surprise You

State your requirements, giving capacity, size of platform and number of feet to travel and we will name our lowest money saving estimate.

SIDNEY ELEVATOR MFG. COMPANY, SIDNEY, OHIO



DUMB WAITERS AND HAND ELEVATORS
OF THE MOST IMPROVED AUTOMATIC CONSTRUCTION

INVALID LIFTS
TRUNK, CARRIAGE,
SIDEWALK AND
FREIGHT ELEVATORS

SEDGWICK MACHINE WORKS

128 LIBERTY ST. NEW YORK

CATALOGS AND ESTIMATES FURNISHED
SEE SWEET'S INDEX



Excelsior Dumb Waiters

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

Up-to-Date in Every Particular

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

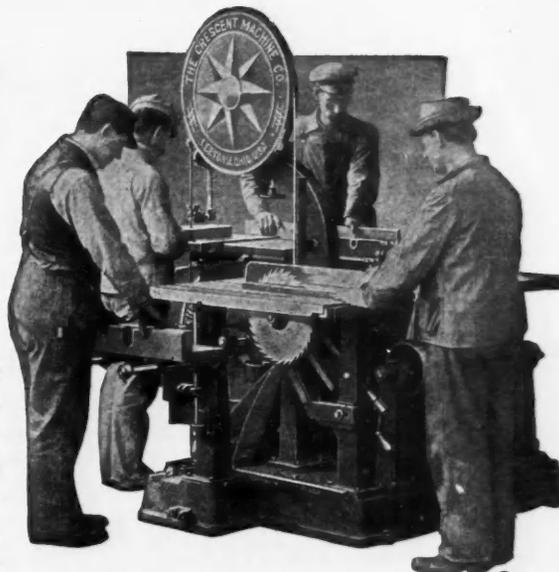
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R. M. RODGERS & CO.
74 Emerson Place - - Brooklyn, N. Y.

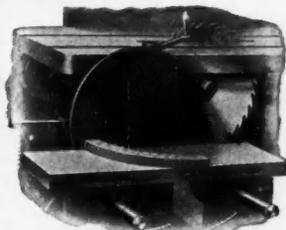
When Writing Advertisers Please Mention the American Carpenter and Builder.

Think This Over

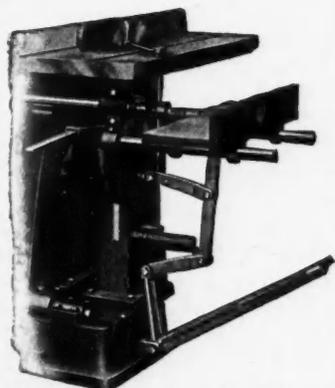
Before YOU Buy Any Woodworking Equipment



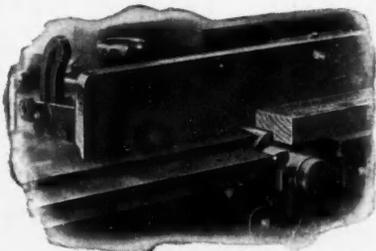
The Crescent Universal Wood Worker with four men at work at one time.



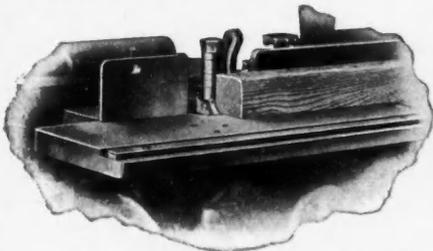
A good view of the disk grinder. The disk is 14 inches in diameter. Table can be raised and lowered to suit the work being done.



This attachment converts the borer into a hollow chisel mortiser, suitable for cutting mortises up to 3/4 inch square.



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



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

No—all wood workers are not alike. There IS a difference—and that is why we ask you to thoroughly investigate our Crescent Universal Wood Worker and its record of successful operation in hundreds of shops before you definitely decide upon any particular wood working equipment.

In the Crescent Universal Wood Worker we give you all the facilities and advantages of a fully equipped planing mill. We give you a machine that is considerably more than a mere combination wood worker. It is a machine that four men can work on at one time without interfering with one another. A machine that is really 15 machines in one—because in addition to its five separate units—the band saw; the jointer; the shaper; the saw table and borer—various attachments for panel raising, tenoning, mortising, tool grinding, knife grinding, sanding, dadoing, resawing, moulding making and pole rounding can be added.

In the Crescent each machine is entirely independent of the others—each can be started and run and stopped at will. The Crescent is compact. It is convenient. It is particularly suitable for the kind of work you have to do. It operates easily. Any average mechanic can handle it satisfactorily. The Crescent is well built throughout—and is always ready for work.

We equip the machine with either a 26-in. or 32-in. band saw, and with either an 8-in., 12-in. or 16-in. jointer. We can also furnish the machine without the band saw.

CONTRACTORS—BUILDERS —SHOPS—SUPPLY YARDS

Get our new 128-page catalog and find out fully about our wood worker. This catalog is FREE—and it is worth your having.

Get it and know the Crescent Universal Wood Worker and the Crescent line of band saws, saw tables, jointers, etc., etc.

CRESCENT

The Crescent Machine Co.

224 Main Street

LEETONIA, OHIO

When Writing Advertisers Please Mention the American Carpenter and Builder.

Our Expert Service Department

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

Free Information for Our Readers

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

Brings Buyers and Sellers Together

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

Market Place of the Building Field

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

Our Complete Equipment

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

Prompt and Practical Help

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

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

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

Expert Service Department

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

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

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

When Writing Advertisers Please Mention the American Carpenter and Builder.



**USE THIS MASTER SLIDE RULE
and MAKE NO MEASURING MISTAKES**

Take any measurements—inside or outside—quickly and accurately. This rule is strongly built of selected boxwood—trimmed with brass plated steel. Kept rigidly in place when extended by strong steel springs. Opens or closes instantly. Marked both for inside measuring and similar to other rules.

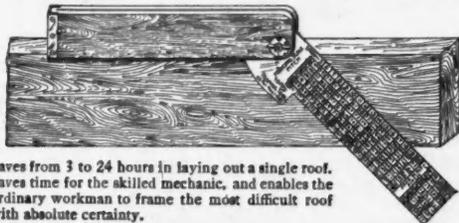
As shown above the lower slide is extended $2\frac{1}{2}$ inches, making distance between the two extreme points of the rule $10\frac{1}{2}$ inches, as indicated by the arrow.

This rule costs but 15 cents per lineal foot for 4, 5, or 6-foot rule. Ask your dealer for it or send for one today for a Xmas present.

Our circulars, agency proposition particulars, etc., will be mailed to you FREE for the asking. Get them.

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

Topp's Framing Tool



A Perfect Tool, and the Only Tool for the Purpose Ever Invented.

Price, \$1.75

Saves from 3 to 24 hours in laying out a single roof. Saves time for the skilled mechanic, and enables the ordinary workman to frame the most difficult roof with absolute certainty.

IT DOES ALL THIS { It gives angles for any pitch.
It gives lengths for any rafters.
It prevents all mistakes. It is accurate.
It gives cuts for principals, jacks, hips, valleys and cripples.

G. A. TOPP & CO., Indianapolis, Ind. See Tool at Your Hardware Dealer. Circular on request



**LESS COST—MORE PROFIT
BETTER WINDOW SASH**

You can save time and money and make better window sash by fitting it up with an

AMERICAN SASH TRIMMER.

We are willing to prove this to you to your entire satisfaction in your own plant by a free trial of one of these machines.

We guarantee it to save practically 75 per cent of the cost of fitting by hand.

If it doesn't save you that amount, you may return it at our expense.

It only costs a penny to get all the details, which may save you many dollars. Why not write now?

THE HEALD MACHINE COMPANY
2 New Bond Street WORCESTER, MASS.

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Every Carpenter

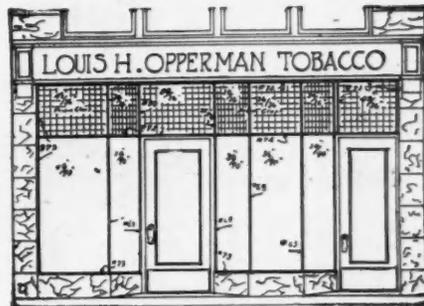
knows the ordinary lengths and cuts of rafters. It's the odd ones he cannot remember.

Our rule not only gives the length and cuts of rafters to frame the seven ordinary pitches of roof but it gives the length and cuts of rafters for

Seventeen Different Pitches of Roof.

Send for our little book explaining this rule. It's Free.

Nicholls Mfg. Co.
Ottumwa, Iowa



FRONT ELEVATION.

It Will Pay You

to get all the facts about Petz Bars before you build that new store front. It don't do to take chances; if you insist on the Petz Bar you are sure of strength, beauty and safety.

Petz Bars are easy to install, and will not break glass. Insurance men know this, and allow lowest rates where Petz Bars are used. Write for complete details now, and have the real facts before you, ready to use. Our booklet mailed free on request.

Detroit Show Case Co.
SOLE MAKERS
491 Fort Street, West : Detroit, Mich.

Guaranteed as to Work and Efficiency

MILLERS FALLS BORING MACHINE

The boring crank is turned in one direction only, whether boring or drawing auger out of hole. Fully perfected. Bores at any desired angle and is truly

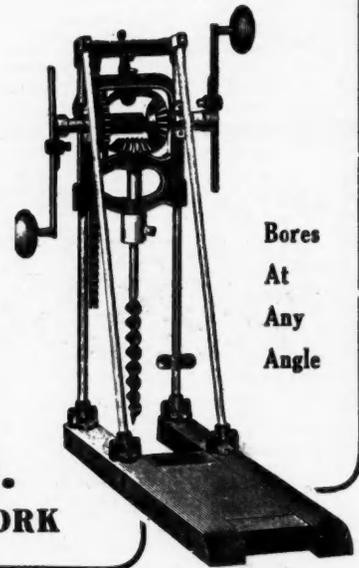
The Workman's Favorite

Adjustable Stop for depth of hole and quick reverse

ADJUSTABLE
CRANKS
REGULATE
SPEED and
POWER

Boring frame hangs itself up and is dropped to work by releasing thumb-latch. Regularly supplied to bore 11¼ inches deep, deeper if desired.

Fully described in catalog, as are many other Millers Falls Efficiency Tools. Send for FREE copies of catalog and our book, "Tool Practice,"



Bores
At
Any
Angle

MILLERS FALLS CO.

28 Warren Street

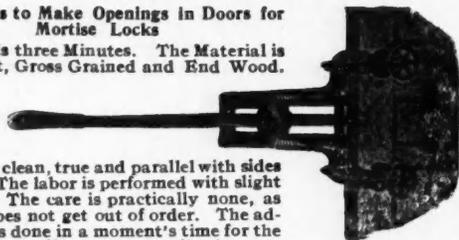
NEW YORK

Miller's Hand Mortiser

WILL SEND ON APPROVAL

Its Work is to Make Openings in Doors for Mortise Locks

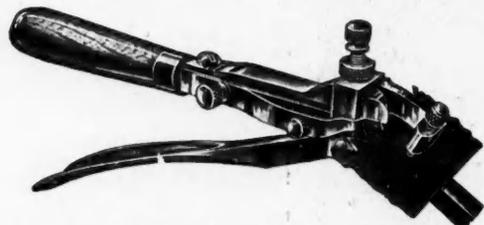
The time is three Minutes. The Material is Hard, Soft, Gross Grained and End Wood.



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 ½ inch to 1½ inches thick. Thin doors are handled as easily as thick doors.

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

WE ARE SURE THAT ONE TRIAL OF OUR



NEW "COMPLETE" SAW SET

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

OTIS A. SMITH Box 95 Rockfall, Conn.

INTRODUCTORY TRIAL OFFER

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



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

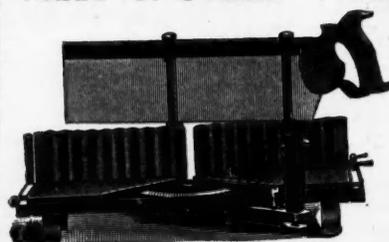
If you send us the addresses of ten carpenters, no matter where they live we will send you another hard, tough carpenter's pencil. Give the SELF-SETTING PLANE a chance to PROVE ITS WORTH, if it FAILS, return it and we will return your money.

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

GAGE TOOL CO., Vineland, N. J.

GOODELL MITRE BOX

Made of STEEL - Cannot Break



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

Send for Circular "C"

GOODELL MFG. CO., Greenfield Mass.

When Writing Advertisers Please Mention the American Carpenter and Builder.



Some Suggestions for Xmas

Give your boy, that already shows such skill with his hands, a set of

Russell Jennings Bits

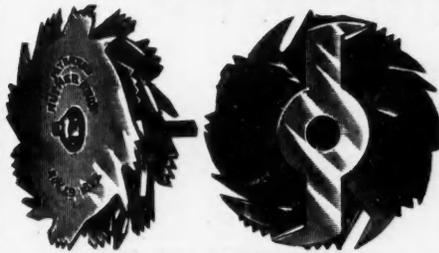
for Christmas. It is a man's gift that will please him. Give your friend that prides himself on his workmanship a set of Russell Jennings Bits. He will use them a long while and will think well of you every time he uses them. It will cost less than you would squander on some toilet article that would never give him half as much service. And give yourself a present of a set of Russell Jennings Tools. You will be pleased with them and with yourself for having purchased them. They cut cleaner and faster than other bits and they never choke or clog. Your hardware dealer will show the full line.

Russell Jennings Mfg. Co.
Chester, Conn.

21-101

Huther Bros. Patent Groover or Dado Head

Will save it's cost in three days' time



Showing Arrangement of Cutters

Can be used on any Circular Saw Mandrel
For cutting any width groove from 1/2" to 2" or over. Will cut a perfect groove, either with or across the grain, and leave edges smooth. Will ship to any responsible firm on ten days' approval; if not satisfactory you are at liberty to return at our expense. We also make a specialty of concave ground smooth cutting circular Mitre Saws, for either rip or cross cut; Grooving Saws for all kinds of special work; Lock, Corner Cutters Concave Saws, etc.

Try our Scraper Blades and you will use no others.

HUTHER BROS. SAW MFG. CO.

1000 University Ave. ROCHESTER, N. Y.

LUFKIN

Tapes & Rules

are Standards of Accuracy, Durability and Workmanship.

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THE LUFKIN RULE CO.

SAGINAW, MICH.

NEW YORK
LONDON, ENG.
WINDSOR, CAN



The Best Christmas Gift

for most any man is a "YANKEE" Tool



No. 1530.....\$2.80



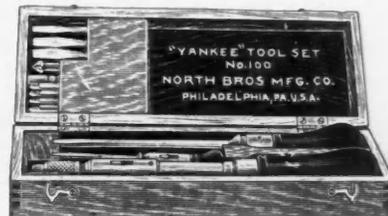
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No. 60.....\$.65



No. 65.....\$.95



No. 100.....\$4.50

They are unique, useful, up to date, and appeal to men of every profession and calling. A more substantial gift cannot be given. They last for years and your little act of kindness is remembered every time they are used.

Our Tool Book tells you all about thirty-four kinds ranging in prices from 25c to \$5.00 each. A POSTAL BRINGS IT.

YOUR DEALER SELLS "YANKEE" TOOLS

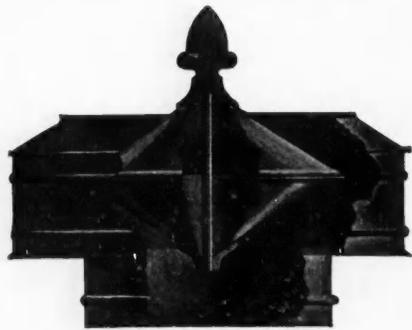
North Bros. Mfg. Co.

PHILADELPHIA, PA.

Department A

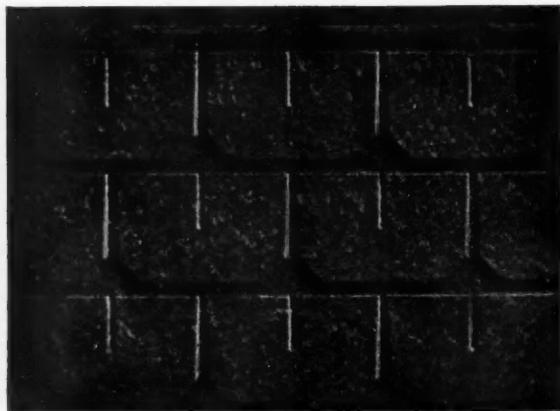
Send for the Book — anyway

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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.**



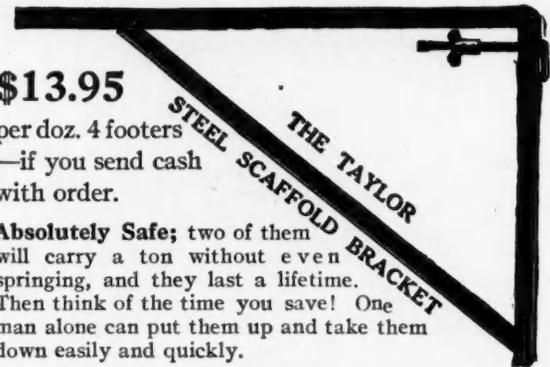
Metal Shingles in Two Styles

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.

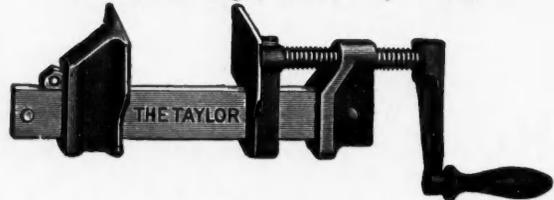


\$13.95

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

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

Write for Catalog of Builders' Specialties!



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

Think of the time this saves!

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

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

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

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



Mr. Builder:—If you are lucky enough to read this advertisement, and wise enough to write and tell us what you buy in

**IRON, BRASS
and BRONZE**

we will send you catalog that is attractive enough

to go in any man's library. Do you want it?

DOW WIRE & IRON WORKS

Incorporated
Louisville, Kentucky

When Writing Advertisers Please Mention the American Carpenter and Builder.



OAK FLOORING

Increases the Renting and Selling Values and Attracts a Better Class of Tenants

Builders and owners will find it a clinching argument to say "It's floored with OAK FLOORING." It is the biggest single feature to look for in any house or apartment building. It imparts an air of refinement and elegance. It is the modern flooring.

OAK FLOORING $\frac{3}{4}$ inch thickness by $1\frac{1}{2}$ inch or 2 inch faces can be laid over old floors in old homes or over cheap sub-floors at a very low cost. It is cheaper than carpets or pine flooring. When laid it has all the appearance of heavy flooring.

There is a solid satisfaction and lasting pleasure in the substantial and dignified appearance of OAK FLOORING.

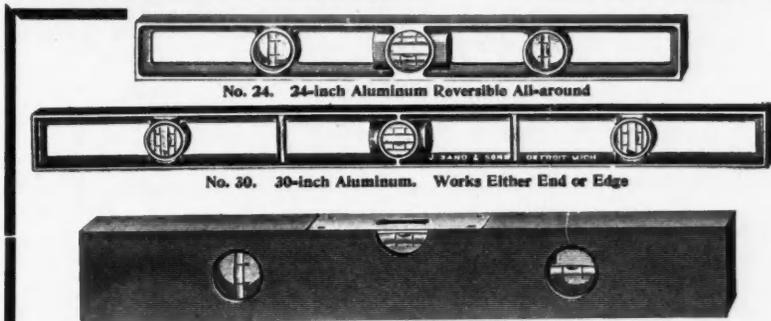
Contractors and carpenters find it very profitable to lay $\frac{3}{4}$ inch stock over old floors in old homes during dull periods. A little canvassing is all that is necessary to secure jobs. A carpenter or handy man can lay OAK FLOORING successfully.

For durability, OAK is the best. OAK FLOORING laid thirty years ago, after very hard use, is still in good condition.

Write for Booklet

THE OAK FLOORING BUREAU, 890 Hammond Bldg., DETROIT, MICH.

SAND'S PLUMBS AND LEVELS—ALWAYS READY TO USE—NOTHING TO GET OUT OF ORDER



No. 24. 24-inch Aluminum Reversible All-around

No. 30. 30-inch Aluminum. Works Either End or Edge

No. 18. 18-inch and 20-inch Long Wood Level

Be sure you ask for Sand's Plumbs and Levels. If you can't get them write to us. Better write and get our catalog anyway.

Sand's Plumbs and Levels are made by men who have had 25 years experience in the building line. Sand's Plumbs and Levels are thoroughly accurate. They are strong, light and durable. There are over 75,000 Sand's Plumbs and Levels in daily use.

Our new model aluminum levels are made of the best quality tested material. Our famous wood levels are made of thoroughly seasoned wood.

In our plumbs and levels the spirit glasses are protected from dust, dirt, moisture, etc., by a plate glass covering.

We make plumbs and levels in plain or brass bound finish. We can make anything in the plumb and level line to your order.

Our plumbs and levels are for sale by all good hardware dealers. Be sure you ask for Sand's—if you can not get them from your dealer WRITE US. Get our catalog and prices.

J. SAND & SONS

1023-25 Rivard St. Detroit, Mich.

GRIMM'S GALVANIZED CORRUGATED WIRE LATHING

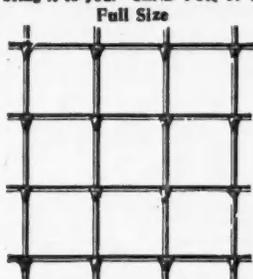
"Patent Applied for"



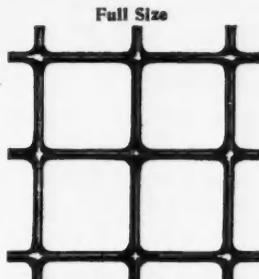
IT'S ALL IN THE V

THIS V-shaped corrugation eliminates furring, keeps plaster clear of wall, thereby securing air space and dry atmosphere. Gives necessary STIFFNESS without added weight, such as is necessary in most forms of stiffened Wire Lathing in which rods or small angles are woven into the fabric for stiffening purposes.

Plaster keys so firmly that it WILL NOT CRACK or drop off. This lathing is absolutely NON-CORROSIVE and WILL NOT RUST as it is galvanized after woven, which solders each joint and covers the entire surface of the wire with spelter (zinc) and COSTS 50% LESS to install than ordinary lathing. It will be to your interest to send for our Booklet No. 6-A. B. on Wire Lathing if you contemplate building. A post card will bring it to you. SEND FOR IT NOW.



2 1/2 Mesh, No. 20 Wire



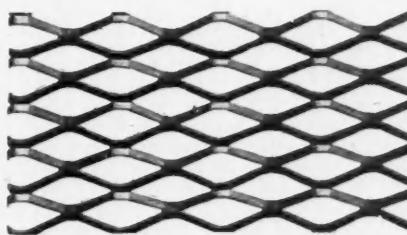
2 Mesh, No. 19 Wire

BUFFALO WIRE WORKS CO.

(Formerly Scheeler's Sons)

New York Office, 30 Church St. 316 Terrace, BUFFALO, N. Y.

METAL LATH



Sykes Expanded Cup Lath

FURNISHED WITH EITHER AN

"Anti-Rust" Coating, Painted Black or Galvanized

WE ALSO MANUFACTURE

Sykes Trough Sheet Lath

WRITE US TODAY FOR PRICES AND SAMPLES

The Sykes Metal Lath & Roofing Co.
NILES, OHIO

When Writing Advertisers Please Mention the American Carpenter and Builder.

Goodell-Pratt's

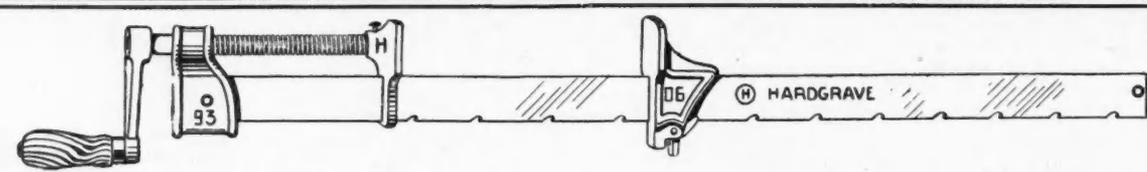


Single, Double and Triple Beam Roller Gauges

Goodell-Pratt's Roller Gauges are made in three sizes:
 No. 220 has one 8-inch graduated steel beam.
 No. 221 has two graduated steel beams, 8 inches and 4 inches.
 No. 222 has three graduated steel beams, 3 inches, 4 inches, and 8 inches.

These Roller Gauges are made from the best materials obtainable, full polished and nickel-plated.
 Mr. Carpenter, Goodell-Pratt's Catalog is just brimful of tools used by live carpenters. Yes! and it's Free.

Goodell-Pratt Company *Toolsmiths* **Greenfield, Mass., U.S.A.**



EXPERIENCE is the best teacher. We made and sold the first Steel Bar Clamp. We make three patterns and many lengths—a complete assortment.

SHOWN above is our SPECIAL PERFECTION CLAMP. The Screw is steel, carefully cut with heavy square thread and is securely keyed to malleable iron crank. Hardwood Handle turns easily, but will not break nor come off. Frame of malleable iron with plenty of bearing for screw to prevent thread stripping. Bar is made of springy steel which will not buckle nor bend out of line. On Clamps over 5 ft. long, we use an extra heavy bar. Tip is of malleable iron with plenty of bearing for Screw, and is so shaped that it will not bind on the bar. Slide is equipped with hardened forged steel dog, which will not wear out. Notches close together to give rapid work, but not so close as to weaken the bar.

ALL the Hargrave Tools are made just as carefully as this Clamp.

Made by **THE CINCINNATI TOOL CO.** Dept. H, NORWOOD, CINCINNATI, O.

1810 THE JAMES SWAN COMPANY 1912

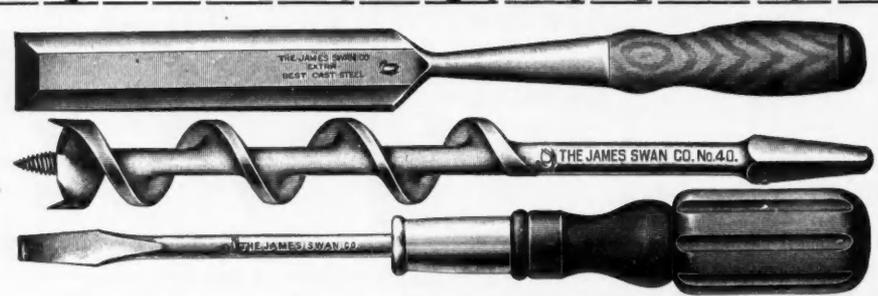
SEYMOUR, CONN.
Manufacturers of

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



Send for Catalogue

Inquiries Solicited



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

When Writing Advertisers Please Mention the American Carpenter and Builder.



Metal Top.

ROYAL VENTILATORS

Will Exhaust More Air than any other ventilator made. This is why you should always use **Royal Ventilators**. The sharpened bottom cone insures a greater exhaust of air per minute and also offers the least resistance to natural draft.

It ventilates better and there is no back draft.

Note the double deflector, which deflects the air over and out of the ventilator and out of your building.

Wherever ventilation is necessary, as in Factories, Engine and Boiler rooms, Foundries, also School buildings, Hospitals, Residences, etc., the

Royal Ventilators have proven the most efficient for the purpose.
The **Royal** is made in every size and shape with metal or glass top.
Write for catalog.

ROYAL VENTILATOR CO. :: :: 417 Locust Street, Philadelphia, Pa.

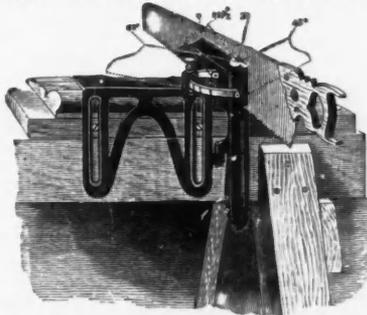
One of the Most Acceptable and Practical Gifts

YOU CAN MAKE TO A CARPENTER IS THIS

"RED-DEVIL" SEAVEY PATENT MITRE BOX.

It's an appliance he has daily use for and is something he will always appreciate.

"RED DEVIL" Mitre Boxes are sold by hardware dealers everywhere.



With a "RED DEVIL"

Mitre Box and any saw you can cut any angle any place.

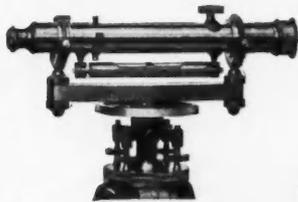
It's all metal. Weighs but 2 lbs. Folds up and can be carried in the tool chest.

It's the only perfect mitre box made.

If your local dealer cannot supply the "Red Devil" send us his name and \$2.00 and one only mitre box will be sent you prepaid.

SMITH & HEMENWAY COMPANY 150 Chambers St., New York
240 Lemoine St., Montreal, Canada

(Ask your dealer for "Red Devil" Pliers, Snips and Glass Cutters)



Over 3000 in Use
There's a Reason

**WHITE'S
IMPROVED LEVEL**

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

DAVID WHITE CO.

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



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.

The Yankee Compound Level



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

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

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

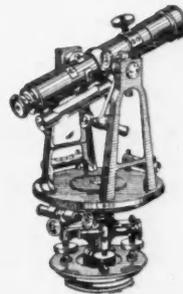
The Yankee is not an experiment. Yankees are in extensive use. They are giving thoroughly satisfactory service in every way.

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

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

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

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

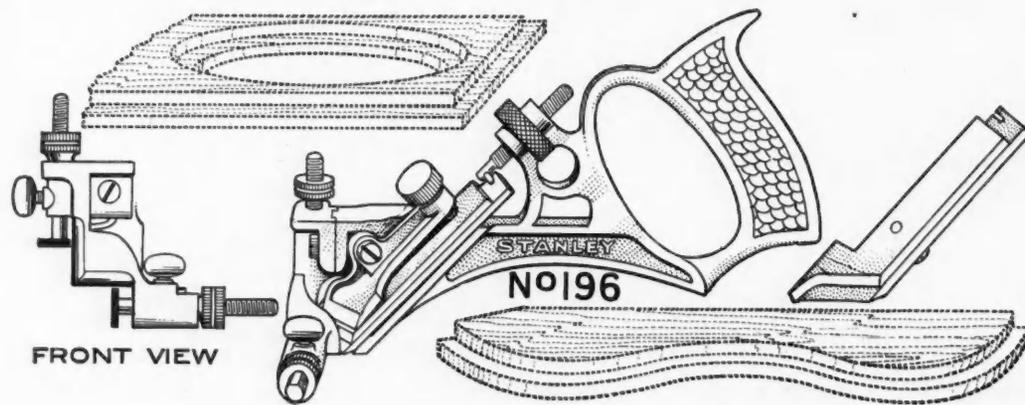
The L. Beckmann Co.

500 Adams Street

TOLEDO - - - OHIO

Established 1874

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Stanley Curve Rabbet Plane

Stanley Tools

A new and unique tool. With its use one can cut rabbets or other curved and irregular edges. It works equally well whether the rabbet is to be cut on the outside edges of the work or on edges of openings cut out of the surface of the work.

The stock and handle are cast in one piece and the entire tool is handsomely nickel plated.

Call on your hardware dealer and ask to be shown one of these Planes. You will find it an interesting tool even if you do not care to purchase same at this time.

Our Catalogue No. 34 contains a complete description. We shall be glad to send you a copy.



Stanley Rule & Level Co.
New Britain, Conn. U.S.A.



Wire Window Guards



Counter Railings
Elevator Enclosures
Tubular Hand Rails
Brass and Bronze Work

The Cincinnati Mfg. Co. Cincinnati, O.

HOT OFF THE PRESS!

Our trade bulletin No. U-1
Containing valuable information
for the Architect,
Woodworker and Builder.
All the information you need
regarding wood columns.
Free for the asking.



HARTMANN - SANDERS COMPANY
Sole Manufacturers of
KOLL'S PATENT LOCK JOINT COLUMNS
2155-2187 Elston Avenue, CHICAGO
Eastern Office: 1123 Broadway, New York City
The best columns for porches, pergolas or interior use.

When Writing Advertisers Please Mention the American Carpenter and Builder.

Galvanized Iron Cut Nails



For shingling, slating, boat and wharf building, fencing, sheathing and all exterior work use

Anchor Brand Iron Cut Galvanized Nails

as they will outlast the best of wood under all climatic and weather conditions.

Write for Prices.

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

PEARSON'S AUTOMATIC SHINGLE NAILER



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

PAYS ITS COST ON ONE JOB

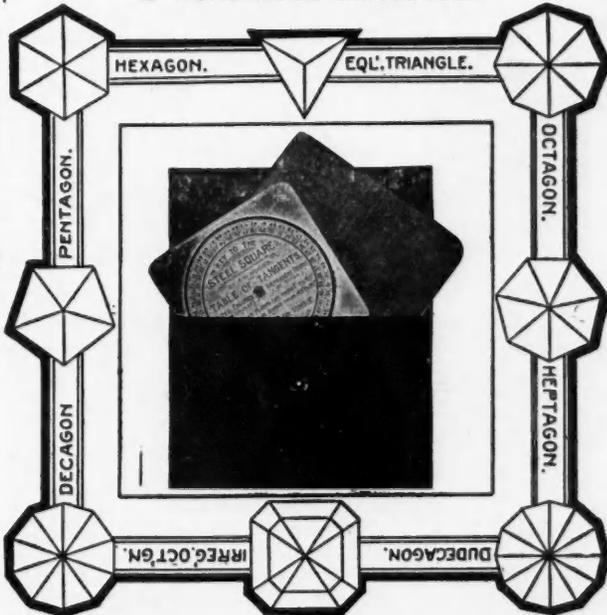
Made in two sizes:
The **BLUE** Nailer for 3d common No. 14 gauge wire nails.
The **RED** Nailer for 3d galvanized No. 13 gauge 1 1/4 inch wire nails.

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

Money refunded if not as represented.
PEARSON MFG. CO.
Robbinsdale, Minn.

ALFRED W. WOODS' KEY TO THE STEEL SQUARE

A WONDERFUL INSTRUCTOR



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

Price \$1.50, Postpaid

AMERICAN CARPENTER & BUILDER
178 W. Jackson Boulevard. CHICAGO

More pay for your work



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

LUTHER SHOP TOOL GRINDER

Sent to You on **FREE TRIAL**

Sharp tools enable you to either reduce your shop costs or get greater profits for your work. The rapid DIMO-GRIT Sharpening Wheels of the Luther Shop Tool Grinder sharpen tools 25 times faster than the grindstone and are many times more efficient than emery. Positively will not draw temper. No water needed for cooling. Special tool rests give you the exact bevel for sharpening all tools. DIMO-GRIT Wheels are especially made for sharpening steel.

The Luther Tool Grinder is built entirely of steel and iron, has enclosed shaft drive like an automobile and dust-proof bearings. No chance to stretch or break.

Write for 40-page book which gives full particulars about this wonderful labor saving machine. We will send any outfit you may select on 30 days' trial without prepayment.

LUTHER GRINDER MFG. CO.

1505 Michigan St., MILWAUKEE, WIS.

When Writing Advertisers Please Mention the American Carpenter and Builder.



HERE Is A Can't Slip Screw Driver

It Is The Mayhew "Peerless" No. 510

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

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

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

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

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

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

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

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

THE BUSINESS END OF
A Peerless Screw Driver



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

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

1853



1912

Fine Beveled Edge
Shank and Socket

Chisels



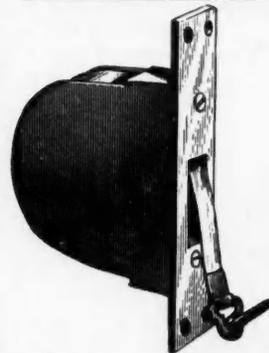
Butt Chisels

Plain and Beveled Edges

Send for illustrated Catalog

Buck Brothers, Millbury, Mass.

CALDWELL SASH BALANCE



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

Makes sashes work perfectly.

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

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

Write for circular to the

Caldwell Mfg. Co.
15 Jones Street, Rochester, N. Y.

THE WORCESTER



Improved BLOUNT
DOOR
CHECK

The most certain,
durable and strong-
est door check built.

Worcester Mfg. Co.
10 E Worcester St.
Worcester : Mass.

Hurry that Material

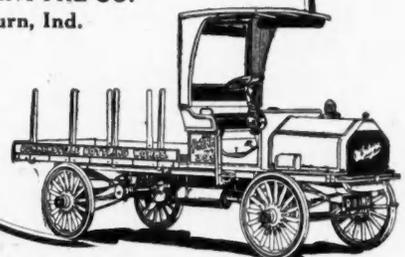
with a MOTOR TRUCK.

Write Us This Minute

We have it at prices within reach.
You are wasting time and money with horses.

W. H. McINTYRE CO.
Auburn, Ind.

Catalog
AC



When Writing Advertisers Please Mention the American Carpenter and Builder.



**“The Handiest Tool
In the Whole Tool-Box”**

That's what an old carpenter who had spent nearly all his life at his trade said when asked what he thought of the

Starrett Combination Set

He said it because he found he could do so much with it. He had used it on all kinds of jobs and under all conditions and found that it was as he said—the handiest tool in the box. He could use it as a rule, or a square, or a level, a depth gage, and a bevel and when serving as any of these it was perfectly accurate. No wonder he was proud of it. If you ever use carpenters' tools you should look at our line.

Starrett Tools are Sold at all Hardware Stores

Send for Catalog No. 196 and learn what tools we make for you.

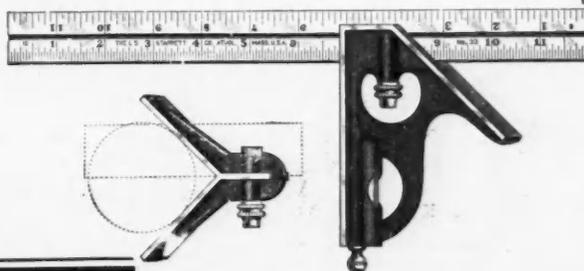
The L. S. Starrett Co.
ATHOL, MASS.

NEW YORK

LONDON

CHICAGO

(42-100)



**MONITOR
SASH LOCKS**



(PATENTED)

NEVER BREAK

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

If the upper plate drops, the Monitor "Never Break" Sash Lock will pick it up from a lower point than any other, adjust the sashes perfectly, prevent all vibration and lock securely, so it cannot be opened from the outside.

MADE IN TWO SIZES AND ALL FURNISHED BY

The Champion Safety Lock Co.
Geneva, Ohio

**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.

When Writing Advertisers Please Mention the American Carpenter and Builder.

Bishops Refined "Greyhound" Steel Saw—A Masterpiece

Of the Saw Maker's Art. We are proud of its quality and guarantee it to cut faster and run easier in all kinds of wood, to hold its sharpness and set longer than any other good saws.

It's the Your-Money-Back-If-Not-Satisfied Saw

30 Days' Trial Will Prove Our Guarantee



The "Greyhound" is the result of - years of experimenting to originate a purity of steel with fine grain and tough body.

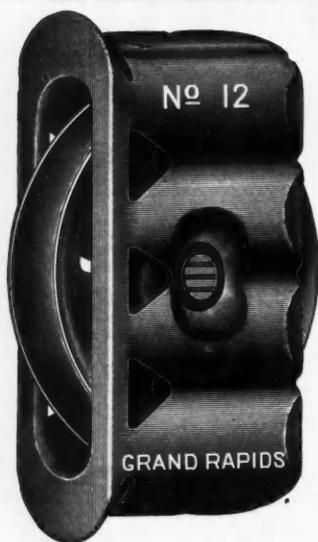
Made in both Straight and Skew Back

Length	18	20	22	24	26	28 1/2	30	inches
Each	\$2.35	\$2.50	\$2.65	\$2.80	\$3 00	\$3.30	\$3.65	net

Packed One in a Box



GEO. H. BISHOP & COMPANY
LAWRENCEBURG, IND.



"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.

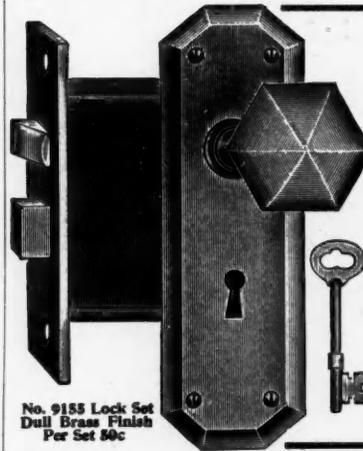
You can't afford to use old style pulleys.

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 16 per cent, too.
**S O R E W S
C O S T M O N E Y**



No. 9155 Lock Set
Dull Brass Finish
Per Set 50c

Going to Build

Send for Rehm's Builders Hardware catalog and Net Price list and select up to date Hardware for your job. Catalog mailed free to contractors, carpenters and Material men.

We do not sell to Contractors or Carpenters in Cook Co. Ill. When sending for Catalog please state whether Contractor, Carpenter or Material Man.

REHM HARDWARE CO.
1501 Blue Island Ave.
CHICAGO, ILL.

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

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

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

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

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

AMERICAN VENEER CO.

Specialists and Manufacturers of Built-up Veneer Panels

We appreciate small orders as well as large ones

12 Market St.,

KENILWORTH, N. J.

When Writing Advertisers Please Mention the American Carpenter and Builder.

72 Years of Disston Control

IN these times when new firms are born every year and old ones are changing from one control to another; when many are endeavoring to *build* reputations by clever advertising, it is significant to learn of a firm with a record such as that of Henry Disston & Sons.

Aside from those sentimental feelings that naturally attach to it is the importance of this record to the users of DISSTON goods. It conveys the assurance that DISSTON Saws, Tools and Files are made today in the same thorough manner as for nearly four-score years, and that the efforts expended to *build* the high reputation achieved are still being made to maintain and enhance it.

When the statement is made that the ownership, operation, and management of Henry Disston & Sons has not left the DISSTON family since the foundation of the business in 1840, it presents the products of this firm in a new light.

A man starting with the high ideals that Henry Disston did must surely impress his personality upon his sons and grandsons, and while they continue to manage and extend the business, as they are doing today, the same high aims and broad policies that were his will never cease to pervade the entire organization.

No man knew better the value of a reputation and he strove to establish one that could never be surpassed. This reputation he built with his unmatched saws as a secure and lasting foundation. The business has grown to its present huge proportions because the reputation established by its founder has been greatly broadened by his descendants.

The same policies, the same spirit of advancement, the same aspirations prevail today, and those who purchase DISSTON products hold in higher esteem the reputation behind them than the guarantee that goes with them, for a guarantee can be given by *anyone* while a reputation must be earned.

Reprinted from
"The Disston Crucible"
of April, 1912

HENRY DISSTON & SONS
Incorporated
KEYSTONE SAW, TOOL, STEEL & FILE WORKS
PHILADELPHIA, U. S. A.

*Quality
Sells*



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

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

"A Bit of Utility"

Guided by its circular rim—instead of its centre—the Forstner Labor-Saving Auger Bit will bore any arc of a circle, and can be guided in any direction.

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

Unequaled for Delicate Work

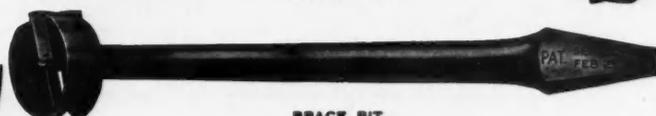
Supersedes chisels, gauges, scroll-saws, or lath tools combined, for all kinds of delicate work. Cabinet and pattern makers and carpenters are enthusiastic because they do more work than other bits and cost no more.

We can offer something special in the matter of price on sets packed in a sensible box. Send today for particulars and catalog.

The Progressive Mfg. Co.
Torrington, Conn.

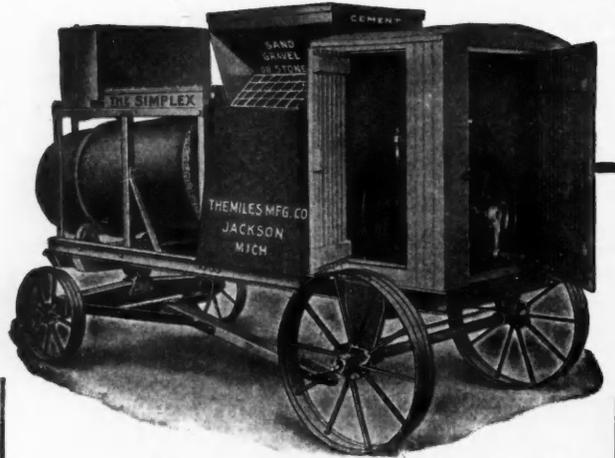


MACHINE BIT



BRACE BIT

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**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', 14', 16', 20',
22', 24'. In Width: 4', 6',
8', 10', 12'. In Height, 4', 6',
8'. Also Angle Stone, Cross
Stone, Gable Stone, Hollow
or Solid Stone.
The Contractor's Friend, Sim-
ple, Strong and Rapid.
Lowest in price.

WRITE FOR NEW 1911
CATALOGUE

THE MILES MFG. CO., Inc. 309 E. Franklin St.
JACKSON, MICHIGAN



The Simple, Little, Light, Handy and Substantial

NORTHFIELD MIXER

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

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

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

IS NOT A MAN-KILLER

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

Sold on trial. Satisfaction Guaranteed.

Write at once for FREE Catalogue, Price and Terms.

Manufactured by

NORTHFIELD IRON COMPANY

402 Water Street : : Northfield, Minn.



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

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—
and is cheap. And that is all that is needed to
make blocks on our Junior Block machine. This
Junior machine produces the small blocks per-
fectly. It is equipped to make blocks of different
sizes and faces.

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

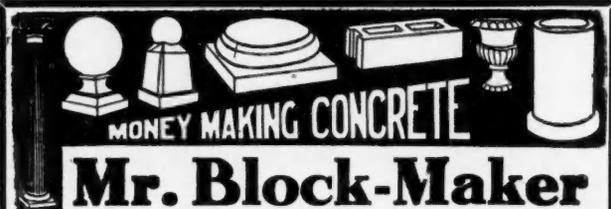
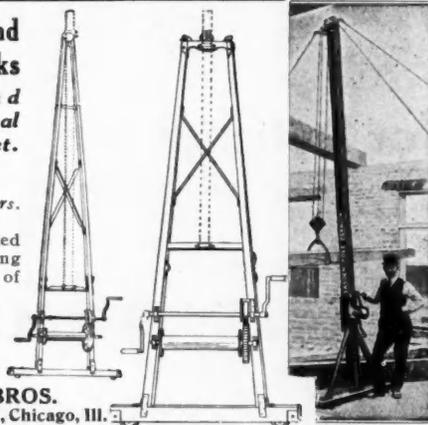
**Sasgen Poles and
Setter Derricks**
The Latest and
Most Practical
on the Market.

Sent on trial to
Reliable Contractors.

Write for illustrated
catalog No. 2 showing
complete line of
Builders Derricks.
We will exhibit at
Pittsburgh and
Chicago Cement
shows.

SASGEN BROS.

2053-57 Racine Ave., Chicago, Ill.



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 ma-
chine has and many that no other machine has.

PRICE—Machine and Outfit, \$75.00

WRITE FOR CATALOG

THE PETTYJOHN COMPANY

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

When Writing Advertisers Please Mention the American Carpenter and Builder.

Do You Know That—

"The Standard" mixer mounted on skids can be placed inside of the building, can be taken through any ordinary door, can be moved by two men, will turn out more concrete with less expense and will mix everything from start to finish—concrete, cement mortar, and several kinds of plaster.

Don't think because winter is coming that you cannot do any more mixing, secure "The Standard" mixer and mix all through the winter months.

"The Standard" mixers are Low Charging, being charged directly from the floor or a very low platform.



"The Standard" LOW CHARGING Concrete Mixers

mounted on trucks have a charging platform only about 2 feet high and attached to the mixer. The Semi-Automatic discharge can be operated from either side of the drum and is the simplest and quickest on the market.

The Open Drum allows the inspection of the entire batch while mixing, assuring a high grade uniform mix. There will be a very interesting exhibit at the Pittsburgh Cement Show in spaces 3-4-5, also at Chicago Cement Show in spaces 213-214.

If you are unable to attend the shows you had better write for our catalog No. 144.

The Standard Scale & Supply Company

PITTSBURGH
243-245 Water St.

CHICAGO
1345-1347 Wabash Ave.

PHILADELPHIA
35 So. Fourth St.

NEW YORK
136 W. Broadway

Lay Your Own Concrete

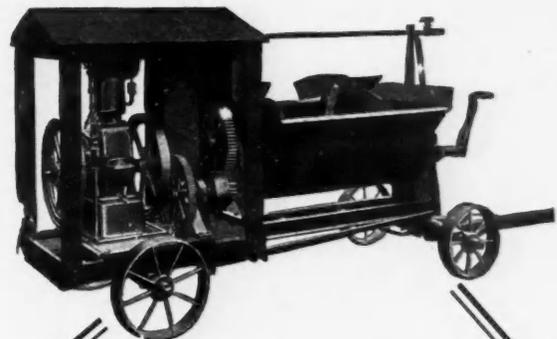
AS the forests are cut, builders turn to concrete. Concrete construction is not difficult. It pays liberal profits. Hundreds of contractors are going into concrete every year. You can start with a small investment—some wheelbarrows, shovels, small tools and a

Smith Hand Mixer

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

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

Let us send you our
guarantee and booklet
No. 17



We Can Save You Money In Your Mortar Mixing

Mr. G. Ed. Berry, a Harrisburg, Ill. contractor, writes us that with the Blystone Mixer, "One man has slaked my lime and made mortar for eight and ten masons besides having time to spare for other work. I have saved the cost of at least one man's wages and a gain of ten per cent more mortar per barrel of lime over the old way of mixing."

is YOUR mortar or plaster mixing a profit eater. Why not make it a profit producer. Our Blystone Batch Mixer is a mortar and plaster mixer as well as a concrete mixer. It can save you time, labor and material on every mortar or plastering job you do.

The Blystone Mixer operates very easily. It is filled while in motion and material is discharged while machine is in motion. It mixes material in full view, insuring an absolutely accurate mix. The reverse spiral paddle system of the Blystone mixes rapidly, turning material over forty times in ONE minute. Blystone Mixers are furnished with gasoline engine power equipment, or for belt driving. Mounted on skids or portable hand trucks.

BUILDERS—Get The Facts About The Blystone

Let us send you our catalogs and other matter explaining in detail just how the Blystone can save YOU money.

Write us for this information right now—while you have it in mind. Asking us for details puts YOU under NO obligations.

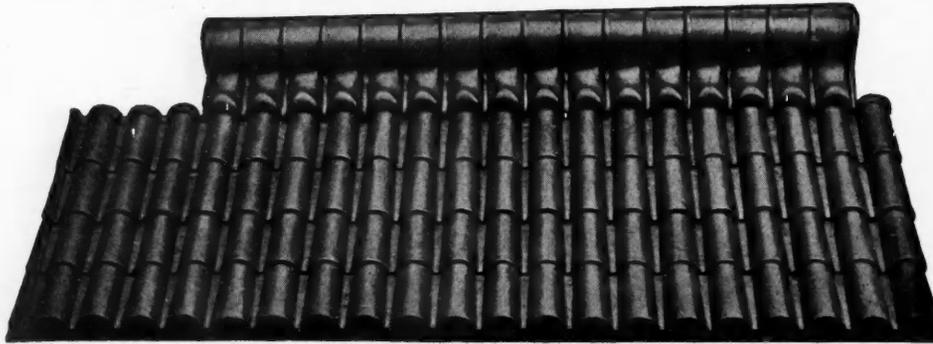
THE BLYSTONE MACHINERY CO.
19 Carpenter St. : CAMBRIDGE SPRINGS, PA.

When Writing Advertisers Please Mention the American Carpenter and Builder.

Mullins Metal Tile Roofing

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

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



We also make Cornices, Building Fronts, Finials, Tympanum panels, Rosettes, Faces and other architectural ornaments. Many thousands of 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.



Making ready to insert the floor beams.

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

Steel Reinforced Throughout

DONT WASTE YOUR MONEY

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

Our Walls are Stronger

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

Our Buildings are Warmer in Winter, Cooler in Summer

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

Our Silo Machines

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

Cold Storage Machine

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

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

THE PEERLESS Cement Brick Machine

was designed at a time when there were no brick machine patents that interfered with the inventor's ideas.

He Had a Clear Field

and invented what time has proven the best cement brick machine made.

Since then others have tried to design a machine as good as the PEERLESS but couldn't do it—the PEERLESS patents were in the way.

+ + + + +

Next month we will tell you why THE PEERLESS WILL MAKE MORE PERFECT BRICK AT LESS COST THAN ANY OTHER CEMENT BRICK MACHINE ON THE MARKET.



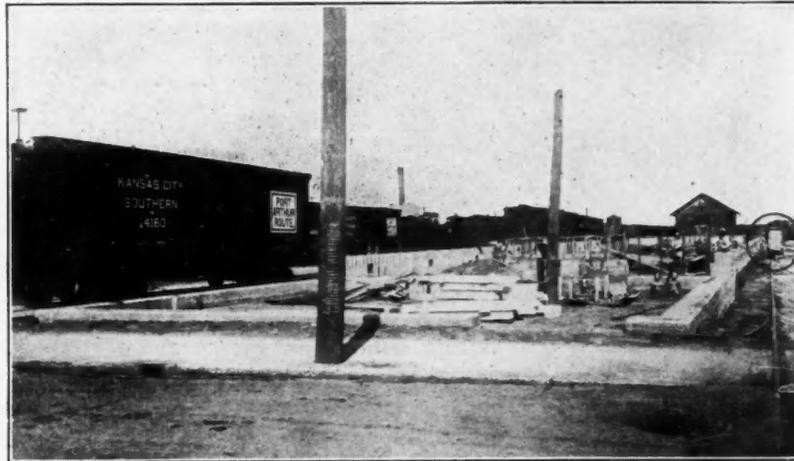
Write for Catalog

Peerless Brick Machine Co.
19 N. 6th St., MINNEAPOLIS

When Writing Advertisers Please Mention the American Carpenter and Builder.

It Is the Ability to Save Money

In first cost, operation cost and total cost when the work is done that is proving to users of mixers the greater economy of the Coltrin



Frisco Freight Depot at Joplin, Mo. Maret & Anthony, Contractors

The Knickerbocker Company, Jackson, Mich.

Joplin, Mo., Nov. 1, 1912.

Gentlemen:—I am sending you, under separate cover, photograph of our No. 9 Coltrin Mixer in operation on the Frisco freight depot at Joplin, Mo., which we were building by contract. This building is 40 ft. by 300 ft. We bought this Mixer more than three years ago and have used it constantly when the weather would permit. It is doing just as good service today as it did the first day we used it.

We consider it by far the best continuous mixer ever made, and for most purposes we consider the continuous mixer preferable to batch mixers. While we have handled some large jobs of large yardage, our principal work has been in construction of sidewalks, curb and gutter.

With our mixer with eight men and one finisher, we have put in 430 lineal feet of 8 in. combined curb and gutter, also in same time 2,400 sq. ft. sidewalk of 4 in. concrete. In heavy work we often put 50 to 60 cubic yards into forms in 8 hours with 8 men in crew. In the near future, we will buy another mixer and rest assured, it will be a Coltrin.

Yours truly,

MARET & ANTHONY,
Per J. M. Maret,
2114 Kentucky Ave.



No. 12 Coltrin

And Do Not Forget

That the Coltrin's first claim to superiority is that it works on an **entirely different principle** from any other continuous mixer and produces more **uniform** and **better** concrete than any batch mixer in existence.

Shipped Anywhere on Trial

The Coltrin Continuous-Batch Mixers

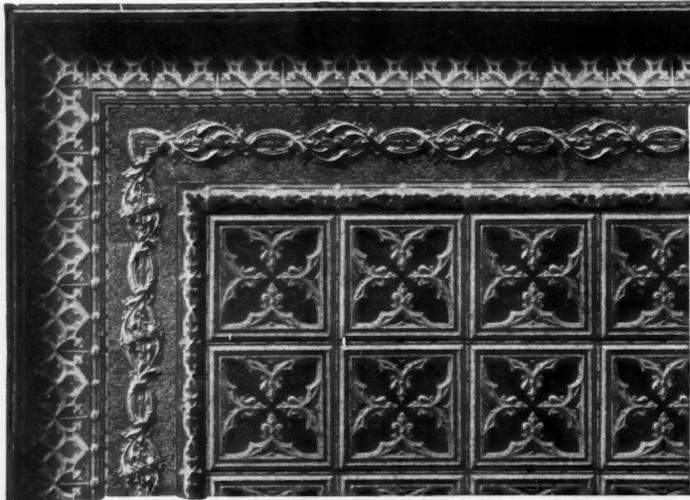
WE WILL SHOW THEM AT

PITTSBURGH CEMENT SHOW
Dec. 12-13. Spaces 136-137

CHICAGO CEMENT SHOW
Jan 16-23 Spaces 65-72

The Knickerbocker Co.
JACKSON, MICHIGAN

When Writing Advertisers Please Mention the American Carpenter and Builder.



Edwards Metal Ceilings and Walls

Carpenters Contractors and Builders

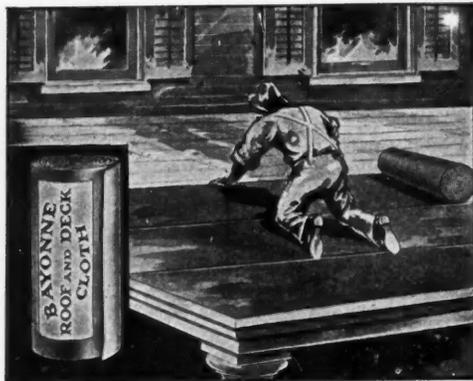
Here is a chance for you to build up an independent, profitable business for yourself right at home. Many agents are now devoting their entire time to selling our Metal Ceilings. Others have made big profits simply devoting part of their time to selling and applying our Metal Ceilings and Walls. *Write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

The Edwards Manufacturing Company, "The Sheet Metal Folks"

401-417 Eggleston Avenue, Cincinnati, Ohio

Largest Manufacturers of Metal Ceilings, Metal Shingles, Steel Roofing and Siding in the World
Eastern Representatives: The W. H. Daycock, Jr. Co., 81-83 Fulton Street, New York
Branch Office and Warehouse: 1625-1627 Pacific Avenue, Dallas, Texas. J. F. Agnew, Manager

FOR CANVAS ROOFS



Order the Scientifically Prepared—

BAYONNE ROOF AND DECK CLOTH

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

BEST FOR PIAZZA ROOFS AND PORCH FLOORS

Ask for Sample Book A-6 and Prices

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

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

Our co-operative department gives complete
instruction for laying

BAYONNE or GULF STREAM

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

GULF STREAM
ROOFING
CANVAS

Concrete Marble Decorative Concrete Composition Flooring Processes

FOR SALE, Shop, County or State Licenses.

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

Art Stone Co.
Waynesboro, Pa.

Box A

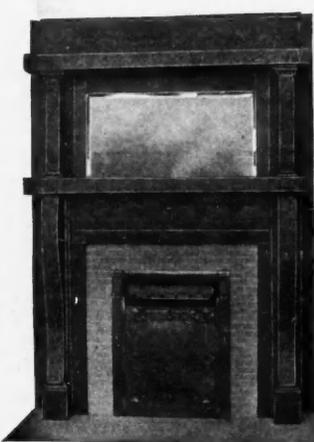
Genuine Peach Bottom Slate

THE BEST ROOFING MATERIAL IN THE WORLD

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

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

When Writing Advertisers Please Mention the American Carpenter and Builder.



\$28.60

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

"From Factory to You"

Price includes our "Queen" Coal Grate with best quality enameled tile for facing and hearth. Gas Grate \$2.50 extra. Mantel is 82 inches high, 5 feet wide. Furnished with round or square columns, as shown in cut.

No. 8754.
"Reputation and Quality Count" Dealer's price not less than \$40.00.

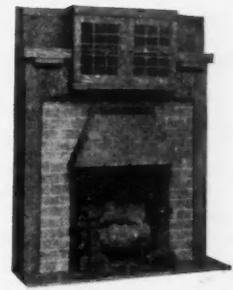
Central Mantels

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

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

CENTRAL MANTEL COMPANY
1247 Olive Street St. Louis, Mo.

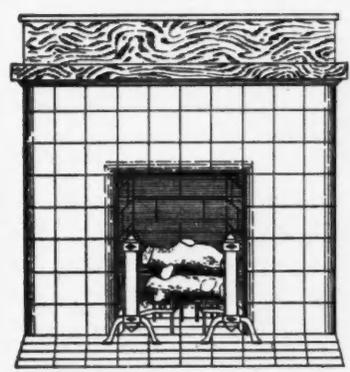
High Grade Mantels and Fireplaces



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

If building or remodeling be sure and write us.

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



Do You Want Our Handsomely Illustrated MANTEL-CATALOG?

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

Catalog free upon application

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

HESS MEDICINE SANITARY LOCKER

The 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

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.

Keep the Dollars Coming in During the Winter Months

In the October issue of the "American Carpenter and Builder," 100 answers were asked for, to the question—"How can I turn my spare time to profit during the winter season?"

Here is one answer. We think it is the best yet. It is a big, new proposition that I have to make to you,—man to man. I want to start you in the same business that made me wealthy, and built up my big store that you see in the picture. Some of you who read the "American Carpenter and Builder" are situated just right to make a lot of money with my Popcorn Crispette Machine during the winter months. Then, in the spring, when building begins, you can run it as a side line, with a good man to handle it for you. Or, as is more than likely, you'll find this business a good deal more profitable than your old work, and you'll want to keep right at it.



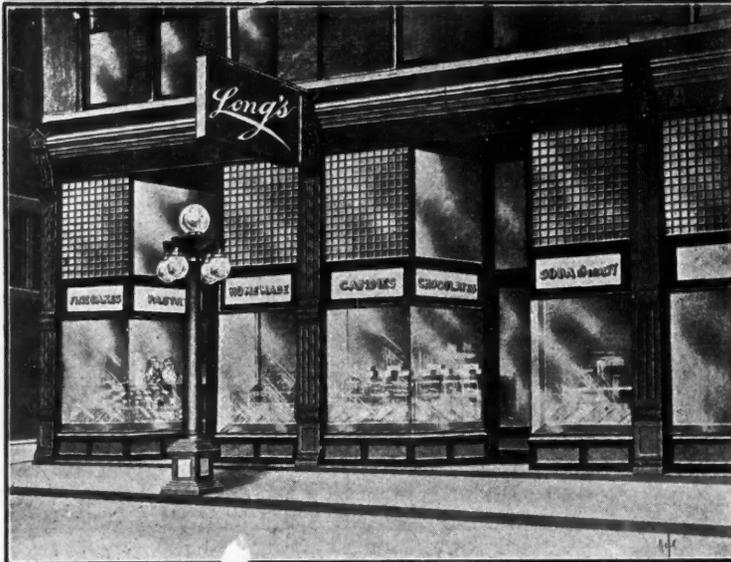
The man in the picture at the right made \$1,500 in one month in a store window, making and selling Popcorn Crispettes, the new delicious popcorn confection. That was a high-water mark. But many users of my machine are making big sums week in and week out. You can do it, too. If you have a big shop that takes your time, you can conduct this business as a side line. Put your son or a relative in charge of it. You can't make an outside investment that will net you more on the money invested. You'll have cause to compliment your judgment. Write me for my big free book telling all about the business. I'll send it and write you a letter explaining just how you can make money with my Popcorn Crispette Machine.

A Word to the Man Who Wants to Have a Business of his Own

If you have worked for somebody else all your life, I've got a proposition for you, too. Start something big for yourself, with easier work and bigger profits. I want you to come and see me at my expense. I want to meet you face to face and show you the wonderful possibilities in the Crispette business. Once I was a struggling candy maker. Profits from Crispettes, the wonderful, new, delicious popcorn confection, made with my Crispette Machine, built a big business for me. I want to start you the same way I started. Long winter months are ahead. Don't slave them away for someone else. Start a business of your own—be independent. I'll teach you how to start—show you how to make Crispettes by my special secret formula—personally or by mail. But I repeat it—I want you to

Come to See Me at My Expense

Learn all about the proposition. I'll show you records that will thrill and inspire you. I'll read you letters from users of my machine that will take your breath away. You'll see that what I say is true. Don't let me know you're coming—drop in quietly. Call on any banker or merchant. Ask them about Long—about my store—my crispette business. Ask them if what I say isn't the truth—right from the shoulder. Look into my reputation. See if folks think I'll give you a square deal. Then come and see my store—see that it's just like the picture in this advertisement. See the machine. See crispettes made—make a batch yourself. Learn the business. Get my pointers on how to succeed. Up to a distance of 300 miles I'll pay all your traveling expenses, if you buy a machine. You'll see how—learn everything. It's simple—easy. Won't take you a day. I'll be glad to see you—glad to show you the store and have a good talk with you. You'll go home ready to make more money than you ever made in your life.



Every Nickel You Take in Nets You Almost Four Cents Profit

Think of it! Think of the fortunes made in 5-cent pieces. It's one business in a hundred. Everybody likes crispettes. One sale always mean two—two mean a dozen. So it goes. It's a great business. I found it so—so should you.

FREE My book, "How to Make Money in the Crispette Business"—48 pages illustrated—complete information and story of how I built my business. Write for it today. Read it and then come to Springfield.

W. Z. Long Company

690 High Street

SPRINGFIELD :: OHIO

When Writing Advertisers Please Mention the American Carpenter and Builder.

SHORT TALKS WITH OUR SUBSCRIBERS



We Wish You all a Merry Christmas

THIS is again the glad season of the year when the spirit of the jolly old Saint prevades the air and when we all feel a little more generous and a little more kindly than usual.

The AMERICAN CARPENTER AND BUILDER wishes its readers everywhere the Christmas season's choicest assortment of blessings. May every one of you have the opportunity of making someone else happy this Christmas.

When the Presents are Passed Around—Don't Forget Yourself

ONE of the Chicago daily papers printed a "Christmas joy" cartoon the other day, that is pretty true to life as it often is—mother, sister, and the boys all wore a broad grin; only the old man was glum. For, like the famous Jones, "he pays the freight." And as the glad day approaches all seem to enjoy the gifts giving keenly, except Dad.

And in a good many families this is about the situation. Father has to pay all the bills (and he usually considers it a privilege to do it, too); but in order that the load may not become too heavy we want to suggest that senseless Christmas presents be "cut out" this year. Christmas gifts may be useful and they are appreciated just as much.

In the home of a carpenter or builder, what is better as a remembrance than a fine carpenter's tool of some sort—a fine saw, or plane, or improved brace, or set of chisels; or, if there is a leaning or ambition toward architectural work, a nice set of drafting instruments or a new drafting table; and then for any carpenter and builder, young or old, there are BOOKS.

Start the young men right on their building journey by giving them good practical building books to study and read. While they are learning, help them to *learn the things right*. The older experienced workman, also, relish nothing better than reading up-to-date books about architecture, building and construction work and so keeping fresh and up-to-date.

Season for Study

PRACTICAL building books are in themselves the very best possible Christmas presents for carpenters and builders. And also this merry gift-giving holiday comes at just the right

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season of the year to make book gifts of the utmost possible value to those who receive them. This is the season for study—these long winter nights are the ideal time to sit down with paper and pencil or possibly with drafting instruments or the steel square, and study through the building methods outlined in some of these practical, well written building books.

Invest this winter season in reading and study. It will increase your earning powers and make you enjoy your work more than ever before.

Post Up on Old Things as Well as Well as New

WE have had something to say previously about investigating all the new propositions pertaining to building construction which you see advertised in the AMERICAN CARPENTER AND BUILDER. You will do this, of course, for you realize that to maintain your position in your locality as the building authority, you have to keep well posted. A good many of these new things are worth while, too—will save or make money, or create satisfaction for any builder.

But, while posting up by investigating the new things, don't overlook the old friends.

Go through the pages of this number. Note the number of familiar faces. Some of these friends have been with us continually for over eight years. There is confidence in using materials long on the market and in dealing with long established concerns. Are you as well acquainted with all of the different products of these old standbys as you ought to be? Better look over the list and write for their *new catalogs*.

Big Surprise Coming

IN the January AMERICAN CARPENTER AND BUILDER an announcement will be made that will delight every wide-awake carpenter and builder. Be sure not to miss it. We have pulled off several entertaining and vitally helpful prize contests already; but we have saved the liveliest and most important one for the January AMERICAN CARPENTER AND BUILDER. Every carpenter and builder who is alive to his opportunities will want to have a share in this; and there will be room for all.

Don't miss this big January number.

Again wishing you the joys of the Christmas season, we are,

Fraternally yours,
EDITOR, AMERICAN CARPENTER AND BUILDER.

CHICAGO

SPRING BUTTS

REPUTATION

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



Chicago "Relax" Spring Hinges

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

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

Chicago Spring Butt Company

CHICAGO



NEW YORK

BOMMER

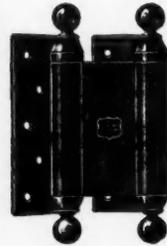
SPRING HINGES

ARE

Quality Goods

BUT COST NO MORE THAN THE SUBSTITUTES

This trade mark



Reg. U. S. Pat. Office

on every genuine Bommer Hinge

Durable—Neat—Reliable

BOMMER SPRING HINGES

ARE THE BEST

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

Saw Points—

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

The Morrill

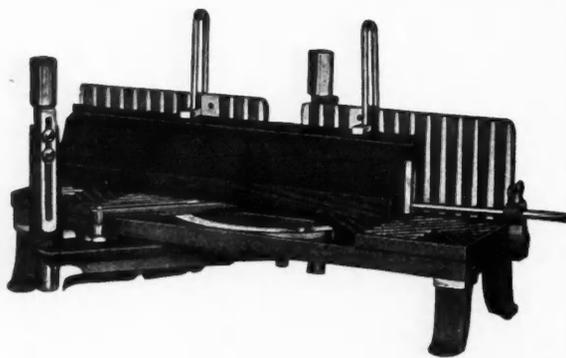
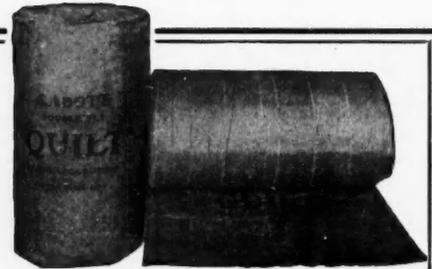
Saw Set for 30 years has had the reputation of being the best *saw set* made. You should use it.

Chas. Morrill, 275 Broadway
New York

The Warmest Sheathing

Wind and Frost Proof

Not a mere felt or paper, but a matted lining that keeps out the cold as a bird's feathers do. 28 to 40 times warmer than common papers, and warmer and cheaper than black plaster. Costs less than 1¢ a foot. Keeps houses warm in winter and cool in summer. Has no equal as a sound-deadener for floors and partitions. Send for sample and catalogue—free—of **CABOT'S "QUILT"** SAMUEL CABOT, Inc., Sole Manufacturers, Boston, Mass. 350 Dearborn Ave., Chicago 1133 Broadway, N. Y. Cabot's Shingle Stains, Waterproof Cement Stains, Waterproof Brick Stains, Conservo Wood Preservative.



Marsh Ayer Miter Box

Six Points of Superiority

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

Send for circulars and learn ALL about them.

H. C. MARSH CO.

606 RACE ST.

ROCKFORD, ILL.

When Writing Advertisers Please Mention the American Carpenter and Builder



The
**World's Greatest
Building Paper**

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

The
**World's Greatest
Building Paper**

American Carpenter and Builder

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

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E. B. WOLFROM, EASTERN REPRESENTATIVE

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SUBSCRIPTION RATES

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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.

From the Ends of the Earth

IN a "Family" so big as ours there are sure to be some a long ways from home. Here's a brother a little further away than most. It took his letter just forty-three days to make the journey to us.

It was worth waiting that long for, though. It is encouraging to know that the work we are doing here is helping to modernize the Dark Continent.

FRANK JAMES INDUSTRIAL SCHOOL

American Missions

(Elat) Kribi, Ebolowa, Kameruns, West Africa,
September 12, 1912.

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

Dear Sirs:—In answer to your letter of May 23rd., I am glad to say as you already know that the renewal of my subscription and your letter concerning it passed somewhere

on the high seas. It takes nearly two months for a letter to make the trip.

Your magazine is proving very valuable to me in this far away country, I don't know how I should get along without it. In the June issue I was very much pleased with the article "for the one-machine wood working shop" in which you tell how to make one do the work of six. I notice so many advertisements for combination and portable machine and power plants that I am sure many of the brother contractors are setting up one-or-two-machine shops. We are putting in a 20 horsepower steam engine, saw-mill, planer, rip- and combination saws, wood and machine lathes, and tool grinder; and I, for one of your faithful readers, will always be glad to see an article for the manager of the small shop.

Yours very truly,

HERBERT GREIG,

Asst. Supt.

Truly the sun never sets on the satisfied and loyal subscribers to the AMERICAN CARPENTER AND BUILDER.

EVEN when a man can save 75 cents by fixing a leak in the plumbing himself, he can spoil a \$30 suit of clothes by doing it.

The "American Style" in Architecture

WRITERS in the architectural press who bewail our supposed lack of any "American style" may find the following from the New York *Press* of interest.

"There is an American architecture," said the traveler, "but not many Americans will believe it until they have taken a course in moving picture shows in foreign countries. That was what convinced me. Owing to ignorance of foreign languages we sought most of our dramatic entertainment in Europe from the cinematograph. No matter where we went one-half the pictures were American. Sometimes they were so labeled, sometimes not, but whether they were or not we soon learned to tell American pictures by the architecture. Skyscrapers, of course, were the chief distinguishing mark, but high-stooped stone houses and frame cottages with two or three wooden steps leading up to a porch were just as unmistakably American. All the way from Inverness to Cairo the minute we set eyes on one of those houses we knew we were looking at something that couldn't be duplicated outside the United States, and all the rest of the audience knew it, too."

MARVELS OF MODERN

A PERSONALLY CONDUCTED TOUR THROUGH A MODERN SAW PLANT



By **Bernard L. Johnson,**

Editor, American Carpenter and Builder

Photographs by courtesy of E. C. Atkins & Co., Inc.

Illustrations by Ernest C. Wilbur and Earl H. Travis

I UNDERSTAND, Mr. Editor, you are now something of a saw maker," the Boss Carpenter observed as he slid into the visitor's chair and helped himself to a pipe full of our tobacco.

"Well no, we'd hardly want to claim that," we rejoined, "To become a saw maker—a modern saw maker you understand—has taken some 5,000 years. We do know a good saw though, when we get hold of one; and you better believe we have a greater admiration and respect for these faithful tools now, after seeing exactly how they are made, than we ever had before.

"You know we have always been a crank on good tools, and especially saws. We have been uncommonly interested in these, probably because of their ancient and honorable origin. In a few minutes you will hear something about some old and curious saws, and will see then the sentiment that clings around every high grade carpenter's saw today for us literary fellows. You are so hard headed and practical probably a saw is just a saw to you, and so long as it does its work that's all you care."

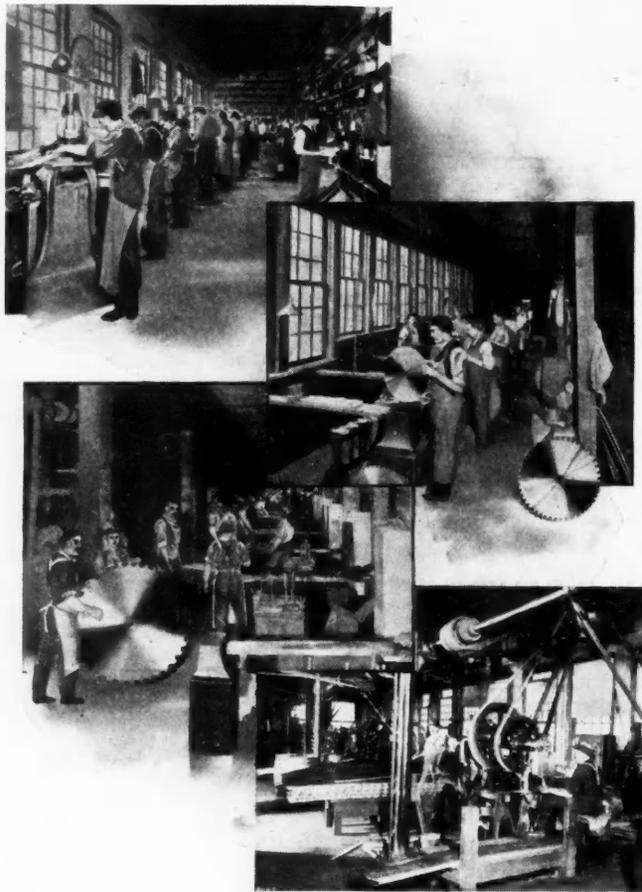
"Hard headed, Mr. Editor? Yes, maybe, but not hard *hearted* enough to forget my trusty helpers. Why,

I've got three saws in my chest; and I have gone through so much with them that they are like blood relations to me now; and sentiment! I want to tell you, Mr. Editor, for real sentiment you leave it to my carpenters out on the job and in the shop. I'll tell you right now we don't work with these tools every day, week in and week out without getting to have some real affection for them."

"That's right," we assented, "We won't quarrel with you there; in fact, nobody knows better than we do the loyalty and devotion of the carpenters."

"And for one," the Boss broke in, "I have always wondered how saws are made. I tried to make one once myself—a very small one—out of a piece of old band-saw steel. It didn't come out right somehow; I was never very proud of it. And if my time making it was worth anything it cost me a lot of money, too."

"There you have it, exactly," and here we produced our memorandum book. "You went back a hundred years and more when you started to make a saw by hand. The best saws aren't made that way anymore; it is too uncertain. Part may be up to standard; but there is no guarantee for the rest.



Expert Mechanics Aided by Ingenious, Precision Machines, Punching Teeth and Hand Smithing Circular and Band Saws

TOOL MAKING— SAWS.



Expert Tempering Saw Steel in Gas Furnace

In fact, like wrought work of any kind, no two pieces are ever exactly alike.

"The craftsman of old, so we have heard, hammered away as faithfully as he could and produced an honest piece of goods—correct so far as his senses would tell him, and as accurate as he knew how to make; but alas subject to the imperfections, the irregularities, of hand wrought work.

"You said as you came in, (just before you appropriated our tobacco) that you understand we knew something about modern saw making. And so we



A Corner of the Steel Testing Laboratory where Science Directs Craft Skill to Produce Perfect Saws.

do, though a very moderate little.

"Through the courtesy of the gentlemen in charge of one of our foremost American saw manufacturing plants we have been permitted to view, for the benefit of yourself and other intelligent users of carpenters' tools, saw making methods that have been perfected through more than half a century of experience and study and the love of those engaged in this work.

"Through the courtesy of these gentlemen we have had thoroughly explained secret, individual methods of steel making, testing, tempering, and saw processing never before revealed to an outsider—and all that

we might tell the story to you and to your carpenters, that they may in turn be more interested in their saws and appreciate better the scientific care and study, the precision coupled with ingenuity, the honesty—which has gone into the making of them.

"You have often referred to the old time skilled hand workman. Do you want to know what is the key note of modern tool making? It is just this;—scientific accuracy of nicely adjusted, ingenious machines guided by expert knowledge and watched over by skilled workman.

"In this modern saw factory for instance (an immense plant employing more than a thousand skilled workmen, there is just as much of this 'old time' craft skill present as ever in ye olden days; and there is also in addition exact scientific knowledge, together with precision machines to bring this knowledge into practical application.

"Take tempering for instance. You know how they to know all about it would put the particular piece of steel to be tempered into the furnace and heat it used to temper steel. The man who was supposed up to a certain shade of cherry red color when it was *supposed* to be done and come out. Did you ever try to look into a furnace against the glare of 2,000 degrees of heat? How long do you think you would be able to judge of a certain exact cherry red shade of color in a piece of glowing saw steel?

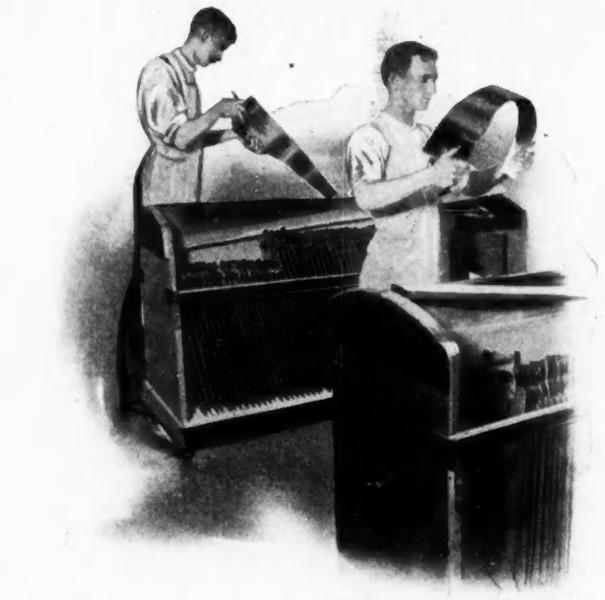
"This used to be accurate enough for the old time saw maker; but not so today. The shop laboratory now tests every piece of steel—determines by actual experiments just exactly the best tempering heat and duration of heat *for that particular piece of steel*. Then, all the man at the tempering furnace has to do is bring the heat up to this point and leave the steel in the prescribed length of time; and it is done. No guess work, no depending on the unaided eye. An electric pyrometer, or fire gauge, tells all the time just exactly what the tempering heat is.

"No saw is better than the steel that it is made of. Probably no tool gets the abuse the hand saw does. More is expected of it than of any ordinary tool. The steel has to be hard and *tough*, stiff and firm, yet not brittle,—a steel that can take a keen sharp cutting edge and hold it for a long time with but little filing. The leading saw manufacturers have spared no money in putting the very best steel they know how into their saws. The exact steel formulas used are jealously guarded. The smelting of the steel itself is one of the most interesting of modern manufacturing processes; but, as Rudyard would say 'That's another story,' and will have to wait until another time.

"Beginning with the saw factory proper, the plates of raw steel are delivered, and it is the duty of the shop laboratory experts to test a sample from every piece of steel for large band saws or circular saws, and to test one out of about every 25 hand saw sheets. You can rest assured, too, that the saw laboratory doesn't hesitate to refuse any stock that doesn't come up to its established standard. If the steel has more than a certain small percentage of impurities, or less than the fixed proportion of the 'bettering materials' called for by the saw steel formula, back it goes.

"To follow a piece of saw steel through the fifty or more operations that make up the modern saw factory process is a revelation constantly unfolding, of American ingenuity combined with the most skillful care and scientific watchfulness.

"We are not a saw maker. We looked on in wonder and saw, as you or any other carpenter would see, the elaborate saw making process; the cutting of the mild or raw steel blank into the general shape of a saw; the cutting of the teeth by a process which although it cuts only one tooth at a time cuts about 500 teeth per minute; the tempering of the steel through three different heating furnaces, each to a different temperature as prescribed by the testing laboratory to give that particular batch of saw steel the toughest, hardest, keenest temper—after one heating the steel comes out brittle as glass, drop it on the floor and it would break into a thousand pieces, yet when it emerges

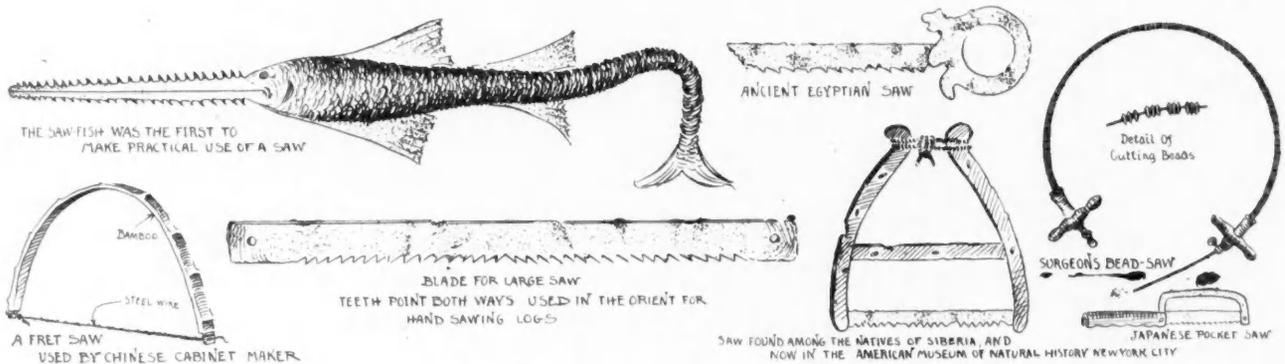


The Finished Saws are Carefully Inspected and Tested One by One

finally from its oil bath after the last heating it can be bent double and will fly back exactly into line, and tough enough to saw through a ten penny spike; the cleaning of the saw blades; the grinding of them down, the skillful grinding which leaves the tooth edge all of even gauge from point to heel, yet grinds away the rest of the saw in a long sloping slant by which the upper point becomes the thinnest part, and all the back of the saw is made thinner than the cutting edge—the whole idea being to make a clean cutting saw which will run freely without binding with very little set to the teeth.

"Friend Boss, how do you test a saw when you go to the store to buy one?"

"Sure you do, that's what we thought. You grab it by the handle and wave it up and down. If its thin and flexible you say, 'That's a good saw.' No test at all. If you worked in China or Japan and cut boards by pulling your saw instead of pushing it that would be a test. Instead of a thin flexible saw, a better test is to see that it is thin and firm. If a saw is properly ground it is heaviest at the tooth edge and at the handle end, tapering gradually up to the



Some Quaint and Curious Saws NOT Made in a Modern Saw Plant

top and forward to the point. You can take it by the handle and shake it; and it will feel firm. Such a saw can be *pushed*, driven through hard work.

"Then there was the smithing of the saws. To any one but an expert the hand saw looks just the same before smithing as it does after; but ah! the difference in the working of it! The saw-smiths are the highest paid workmen in all the plant. They have to serve a four years' apprenticeship to master this trade.

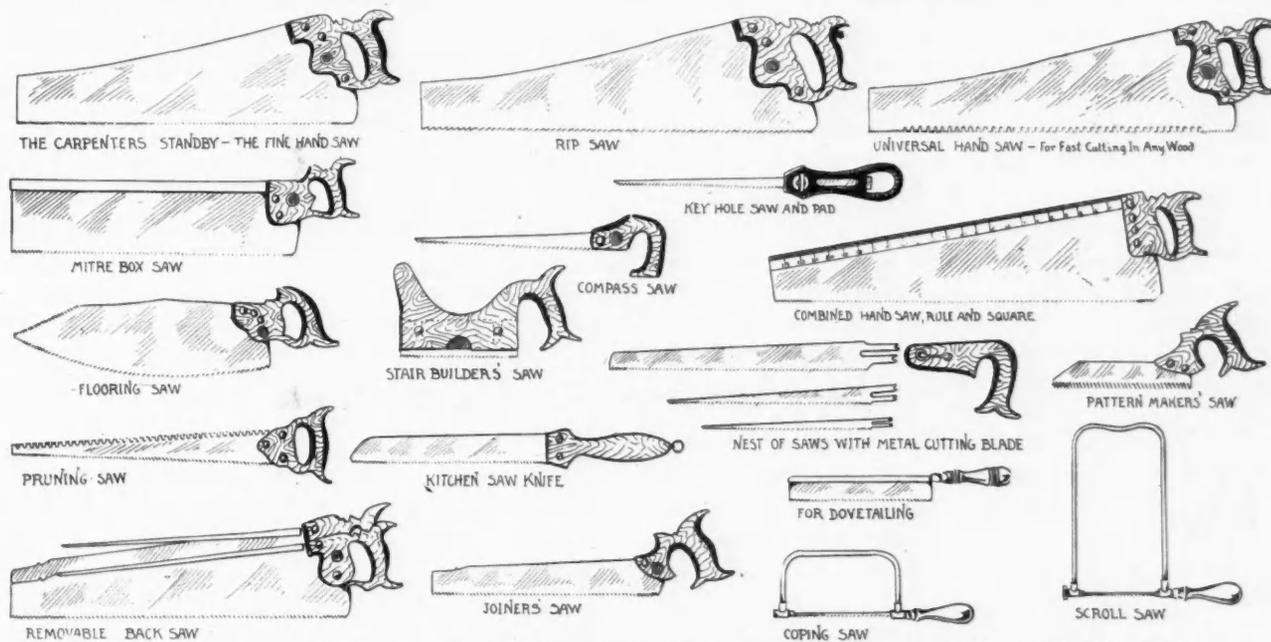
"The foreman saw-smith tried to show us how it was done. It's so very easy to do, (so he said).

"It seems that in the hardening and tempering process, the steel plate comes out flat, but with no tension. These saw-smiths, working in the most perfect light before large windows looking out towards the north, and each with gauge in hand, taps with his hammer onto

regulation forms and in special designs to meet special requirements. A completely equipped woodworking establishment is needed to turn out just saw handles.

"Did you ever try to use a saw not properly hung, handle not fitted on right?—about 50 per cent of your muscle goes for nothing, using such a saw. And so you will see why it is that the modern saw maker takes so much pains in the final act of saw making, the fitting of the handle onto the saw.

"There is no chance for automatic machine work here. One at a time the handle-fitter adjusts the handles onto the saws and when the handle is set just right marks the holes for punching to coincide exactly with the holes already bored in the saw handle. The punching of these holes and the setting of the screws completes the saw ready for use.



Two Saws in the Carpenter's Kit are not Enough—The Wise Craftsman has Half a Dozen; and Each one Pays for its Keep by Doing Some Special Work Faster and Better

the saw, here a little and there a little, testing all the while with his gauge, until the steel is just as he wants it in all parts.

"Friend Boss, you wouldn't like it being a saw-smith and neither would we,—we like to see that we have done something! Never anywhere before have we been so impressed with the truth of the fact that perfection comes from a multitude of infinitesimally small things well done!

"And then there was the polishing of the saws. We all like a nice polish on our saws and when we see it we don't realize that it has taken at least four distinct manufacturing operations to put it there,—grinding and rubbing with emery flour and buffing and the wavy lines put in.

"Last, but by no means least, there is the handle of the saw. Without a good handle the best of saws would be of very little use to us or to any carpenter. The handles are of apple wood, beech, black walnut, mahogany, rosewood,—turned out in all standard

"We were interested in the way they brand these saws, etching on the maker's name, etc.; for the brand means so much to the buyer of saws. Going by the brand is about the only way he can be sure of what he is getting. The established, well known brands are backed up with more than the guarantee of their manufacturers that they are perfect in every respect—reputation and confidence are also back of them. The maker of high grade saws never permits his brand to go onto an inferior article. So we were interested in this branding process.

"The saws are spread out on a bench a dozen at a time and painted over with species of lacquer. The brand is coated over with a caustic, which when applied to the saw eats away the lacquer where the design and inscription are to be. An application of weak acid does the etching, eating into the places where the lacquer has been removed. After a few minutes an application of denatured alcohol cleans off both

acid and lacquer and the saw is stamped for life."

"I suppose you saw a lot of different saw styles?"

"Now you're talking! We looked at and handled more styles of carpenters' saws—special saws for special purposes—than it is likely you ever heard of. It would have made your mouth water! Here you are a boss carpenter and you fool along with only three saws in your outfit. Most of your men have only two! Why, there are special saws that would buy and pay for themselves for you in three weeks time!

"We have made a sketch here of some of the saws we saw. Notice that fast cutting universal hand saw,—has teeth like a cross-cut—will wade through any sort of wood in double quick time. What do you think of this flooring saw? Guess that's a new one to you. It's a heavy saw that will do the work and do it right. If you do any jobbing work (and you do) we don't see how you can afford to be without one of these 'nests of saws,'—a handle with three detachable blades, one of them a metal cutting blade. We were told of a builder who was doing some remodeling in an old building and ran up against an 8-inch I-beam. He had to get by it so took his metal cutting blade and went to it. He didn't say just how long it took, but anyhow he got through it all right! Then look at these accurate little saws,

that one for dovetailing, the pattern makers' saw, and the joiners' saw. It would be a poor stick of a man who couldn't do pretty nice, fine work with such fine tools wouldn't it?

"We warrant you there are a half dozen saws here you ought to own. You have felt the need of them a hundred times.

"We said it has taken 5,000 years to develop the modern saw makers, and to evolve modern saws. We will stand by that. The handsaw was known and used in Egypt long before the building of the Great Pyramids. Saws for cutting both stone and wood have been developed by the native peoples of almost every land. Such saws appear to us very crude and curious. They are far from the graceful, strong, heavy-duty, special purpose saws as produced today by our expert American saw makers. All honor to them. We carpenters sometimes don't appreciate all that is being done for us. A carpenter's work can be no better than the tools he is given to work with. Having a saw specially designed for every need, watched and tended with scientific, loving care through all the manufacturing process and finally delivered to him at a marvelously low price for so good an instrument, there is no excuse for crude or laborious sawing. This is the day of specialties. Have a saw for every use. You will find it will pay."

To the Architect In a Rut

By A. W. Woods

WE have all heard the expression about running in a rut,—meaning too much of a sameness in one's work. In fact it is a common fault to be found in all lines of work; and it requires diligent exercise on the part of the one so afflicted to pull out of it and obliterate the tracks behind him.

The architect has this to fight against; and if he would be successful in his chosen profession, he must be like the tree with wide spreading branches, presenting a new and different appearance from each direction and yet bearing the same quality of fruit and foliage; no two of the branches are identical in shape and are only known by their kind, judged by their manner of growth.

Recently while passing through one of the older states, we were impressed with the similarity of the residences in the different villages—one in particular, with its one and a half story buildings, with steep roofs and with steeper side gables, containing always a Gothic head window wherever there was a chance to get one in. The porches, long and narrow, and for variation in some cases running on two or more sides, with posts invariably made out of 2 by 8 inch posts with scollaped openings cut in them. The gables were filled with fret work and spindles of wondrous (?) designs; the ridges had sawed cresting and the cornice saw teeth.

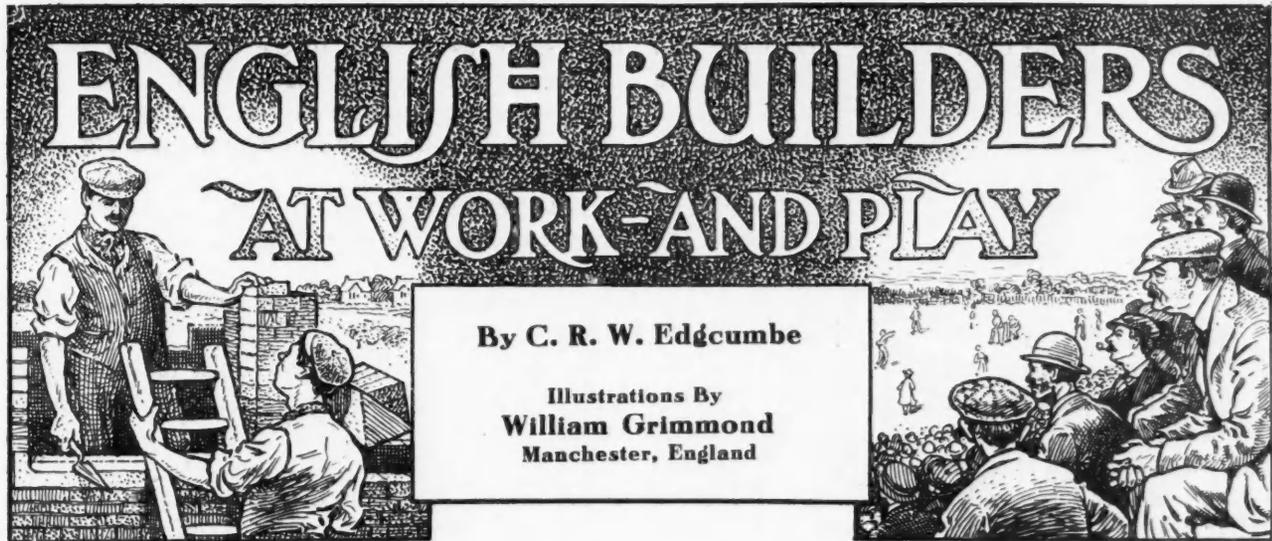
Such a mixture; we were glad to have the train

move on so that we could feast our eyes on the handiwork of the creator in the growing crops, the hills and valleys with their shady nooks, until we arrived at the next station,—Ditto. This is not the name of the station, but much the same handiwork of man was in evidence.

This was one place where the man was in a rut, and the local architect, contractor and builder, more than likely all in one, was it. Or, if he followed the custom of the community or wishes of his client's taste, he failed to pull them out; so he was still deep down in the rut and was largely to blame anyway.

But we are glad to say that this class of building is fast disappearing through the rays of light being shed through the medium of building trade journals and in this our own AMERICAN CARPENTER AND BUILDER (pardon us), it is not bringing up the rear either. For through these journals the latest in everything in the way of modern conveniences, style and arrangements are clearly set forth, so that there is no longer excuse for ill-shaped and poorly arranged residences, even of the cheaper class, in any section of the country and that too in most cases, without extra cost to the owner, the one that must bear the burden.

Get out of the rut. Keep a going.—Everybody's Doing It, i. e., if they read the AMERICAN CARPENTER AND BUILDER.



E NGLAND is proverbially a land of happy homes. Getting right down to cases, I suppose that there are many unhappy ones there, but in the main they are happy, just as the large majority of American homes are happy. Practically every Englishman has his own home. True he may not own it as does the average American, but the place that he calls his home and for which he pays rent is in a vast majority of cases a "house" with its own front and back yard. This is the case even in the larger cities, such as London, Manchester or Liverpool. These houses are invariably attached to others just like it in every respect, but as they are separated from each other by a brick wall and the "yards" by a high brick fence our Englishman friend has the same seclusion and privacy found in a detached home.

The American who works in any of the associated building trades will be interested and surprised at the very low wage scale paid to the English mechanic.

To give you an idea of the difference in the wage scale between the two countries, here is the comparative wage scale paid in such a town as Manchester, which is, I think, the third largest town in England, and Chicago, Ill., the second largest town in the United States:

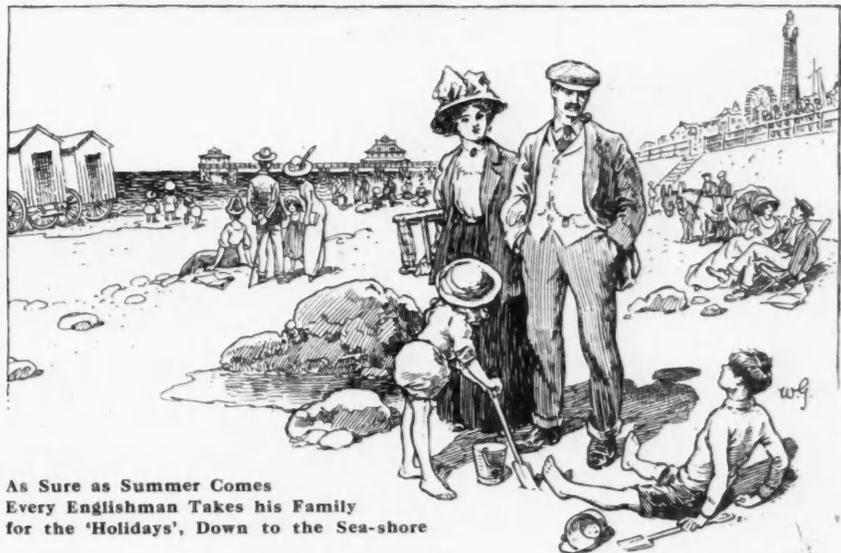
MANCHESTER, ENG.		CHICAGO, ILL.	
20 cents per hour	CARPENTERS	65 cents per hour	
21 cents per hour	BRICK MASONS	72½ cents per hour	
24 cents per hour	STONE MASONS	72½ cents per hour	
21 cents per hour	PLASTERERS	75 cents per hour	
22 cents per hour	PLUMBERS	75 cents per hour	

These amounts to the American seem hardly adequate to keep body and soul together. Wages however, are relative. It is not so much what a man earns, as it is what his earnings will purchase. The purchasing power of money in England is more than double what

it is here in the United States. I know this to be a fact.

Let me offer a comparison. We will take it for granted that food-stuffs cost the same in both countries, although on this one item the Englishman, eating three hundred and sixty-five more meals a year more than the American has a slight disadvantage.

Next in the matter of importance comes rent. Here the Englishman is far ahead. A very respectable home can be rented in the city of Manchester, a town of almost one million inhabitants, for from eight to ten shillings a week—from \$2.00 to \$2.50—inclusive



of all taxes. Homes of the type shown in the accompanying illustration rent for this amount. These homes are usually well-built and modern in every respect. This illustration shows the old type of home and the new. The modern type is typical of the homes built in the "Garden Cities" of England. This drawing in my estimation refutes any statement to the effect that England is not progressing, especially along the lines of building industry.

To the man who buys his clothes in America the prices charged on the other side are ridiculously low. Far less than one-half the money required to buy a suit in America will buy one of better cloth in England. Of course the tailoring in the American suit gives it a superior appearance. This applies equally to women as it does to men. Shoes cost about the same amount. The American shoe looks at least five hundred and fifty-five per cent better, but the English shoe will outlast the American shoe at least two to one.

Then again the Englishman's pleasure is not nearly so expensive as is the American's, possibly, from the fact that he is satisfied with less. Theaters, music-halls (which correspond to our vaudeville performances and where smoking is permitted), and such entertainments are very moderately priced indeed. Moving pictures shows, (you often hear them spoken of as "Motion Photos" although they are generally called "Kinemas") are possibly a little higher in price, but are not found nearly so generally as they are in this

week or "long week-end" at the seashore. This "Holiday" seems as essential to the Englishman as does his four or five meals per day. The railroads are in a large measure responsible for this; inasmuch as they induce people to travel by offering rates that are within the reach of every pocket book. Many times I have traveled between London and Skegness, a distance of about 150 miles, for seventy-five cents for the round trip.

No, this amount did not include my meals en route or parlor car service either.

If one lives at the seashore, then the "Holidays" will be spent either in London or some other large center. I like this "Holiday" idea. It leaves a man better equipped to take up his duties. It gives him something to look forward to and to look back upon with a great deal of pleasure. So after all you see wages ARE relative. It is not so much what a man earns as what his earning will purchase.

The English mechanic is usually a first-class workman, a man who understands his line of work thoroughly; and for this there is a good reason. Take, for an instance, a youth who decides (or his parents decide for him) to take up carpentry for a livelihood. Until very recent years, this boy would have been "bound out" to a master builder as an apprentice. He was paid no wages whatsoever. He would start right in at the beginning and learn everything that



THE ENGLISH ARTISAN'S HOME



These Modern Desirable Homes Will Rent From \$2.00 to \$2.50 per Week, Inclusive of all Taxes

country. Here it is a mighty small town that does not support one or more of them.

Every English mechanic has his "Holiday" every year just as surely as summer times comes. The English "Holiday" is the American "Vacation." It is a very poor family indeed that does not have its

he had to know from one who had gone through the same schooling. This apprenticeship usually lasts until the apprentice reaches his majority, when he is a duly qualified journeyman builder.

In many cases the master to whom the boy is "bound" will demand a certain amount of money for

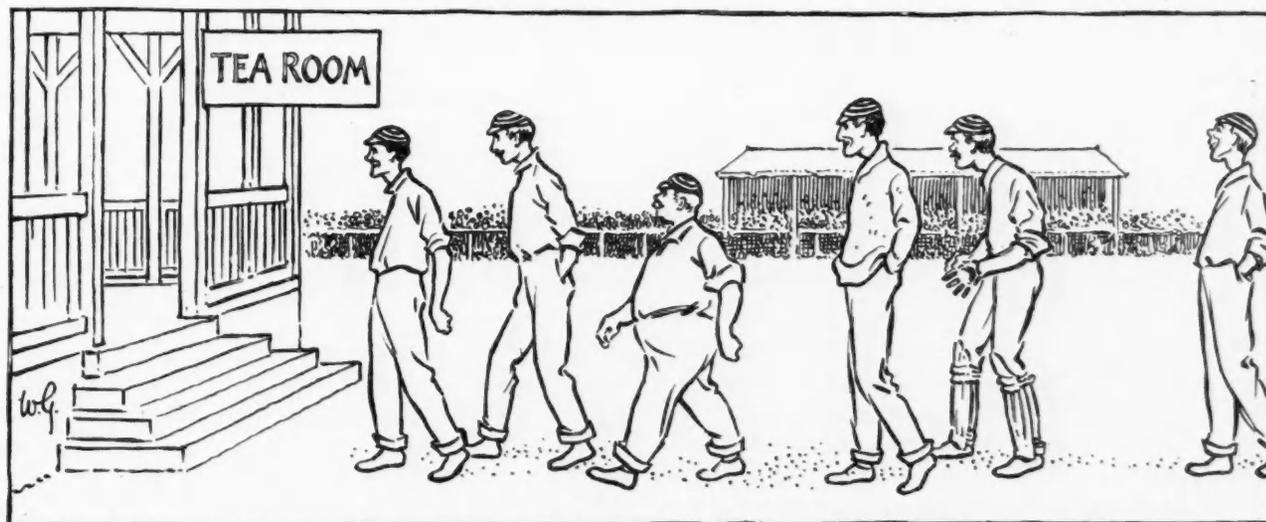
the instruction he is to give. I have always thought that this system was wrong, as in most cases it works a distinct hardship on the parents of the boy. It's a good deal like paying his tuition in a school or college, however. After the first few months of the apprenticeship, the green youth begins to have a real earning power, and I think that at least a part of this should be given to him instead of the entire amount going to the master.

But, as I said, there has been a change in very recent years and now the apprentice starts in on the munificent salary of one dollar per week. Reminds me of the gentleman from the emerald isle, by name Patrick Flaherty, who upon arriving in New York was compelled to share his room in the hotel with another man. When they first met in their room, the

purposes than slate, and from the fact that it is fireproof, the English home is much more of a fireproof residence than the American. This fact can be easily substantiated by reference to the fire statistics of the two countries.

The Englishman takes life very seriously, which is the absolute opposite of the American. He takes his sports and pleasures as well as his work seriously. It was my pleasure to witness a "cricket match" or at least a part of one—it takes several days to play one match—this summer. Personally, I am fonder of baseball, as is the average American or the Anglicized Englishman, to which class I belong. A cricket match in England is an EVENT, especially when two well-matched, well-known teams are playing together.

What I noticed particularly at this game was the



Fancy Muggsy McGraw Leading the Giants off the Field After the Sixth Inning to Regale Themselves With a Cup o'Tea!

Irishman introduced himself by saying, "My name is Patrick Flaherty of county Cor-r-rk, Oireland, and pfhah, may I ask, is yours?" "Glad to know you, Mr. Flaherty," greeted his room-mate, shaking hands, "My name is Judge Campbell." "Let me see," he continued, "how long, Mr. Flaherty, would you have been in Ireland before you would have had the honor of sleeping with a judge?" "Faith," responded Pat, quickly, "how long wud yez 'a bin in Oirland before yez wud 'a bin a judge?" Which merely goes to show that in that country, before you can be a judge—or a carpenter—you have to go through that long, steady grind of the apprenticeship.

England seems to be more of a "home" country than does America. Flats and apartment buildings are the exception instead of the rule, even in the big towns. The homes are not up to the standard of the average American home, although they seem to be better built. Until comparatively recent years, they have built all of their houses of solid brick construction.

Slate is used almost universally as a roofing material, as it can be bought cheaper than wooden shingles, which would have to be imported. It is a known fact that there is no more durable material for roofing

apparent lack of enthusiasm, that is, from the American standpoint. I looked out upon the green and saw some very well-developed athletes, dressed in faultlessly-laundered white tennis trousers and white shirts. They were serious indeed. One fielder made a one-handed stop of a very hard hit ball, which saved his side many runs. A play of this kind in America would have electrified the grandstand and would have sent the real base-ball fan into the very wildest sort of display hysteria. Those serious minded Englishmen faintly clapped their hands, and one or two were so moved with enthusiasm that they remarked "Maw'v'lous" and "remawkable."

As I said, the Englishman takes his sports seriously. In this cricket match I witnessed all the players "knocked-off" at "five and twenty minute after three" to regale themselves with a cup of TEA.

Give your imagination all the rope you have on your premises and see if you can picture Muggsy McGraw and his players walking calmly off the field at the end of the sixth inning to regale themselves with a "cup of Tea." At that, the Englishman enjoys his cricket just as well as we do our baseball. He enjoys his Tea also.



Noon Hour Talks by the Boss Carpenter

Talk No. 5

THE BOSS TELLS ABOUT DIFFERENT KINDS OF LOADS, THE STRENGTHS OF VARIOUS KINDS OF TIMBER AND EXPLAINS HOW TO HANDLE OTHER METHODS OF LOADING

“WHEN we quit talking yesterday,” said the Boss, “we were considering average loads to be allowed on floors of different kinds of buildings, and we used the term *dead load* and *live load*. While engineers may differ in the meaning of these terms, dead load is usually understood to mean the fixed loads which are always present on a floor, such as the weight of the floor itself, including girders, beams and flooring, and all loads which are built into place on the floor. Live loads are usually understood to be made up of any other loads which may come upon the floor after it is built in place. Such loads may be composed of people, furniture, or other weights which may vary in amounts and which may be moved from place to place.

“The engineer considers that a live load is one which is applied suddenly or accompanied with vibration such as swift trains moving over a bridge, or a force exerted by a moving machine. The effect of a live load of this nature, or of a *suddenly applied load* is found by the principles of mechanics to be *double* that of a gradually applied or dead load. Therefore, a beam or member of any kind which is to be subjected to a suddenly applied, or moving load, should be designed with a working stress of one-half that used for the same amount of dead load in order that it may be of the same degree of safety. A crowd of people walking on a floor is usually considered to produce an effect midway between that of the same crowd standing still or moving about quickly as in dancing. In the case of people walking, a unit stress half-way between that used for a dead load and a suddenly applied load should be used. For example, if with yellow pine a stress of 1,000 pounds per square inch is used for dead, or quiet loads, and 500 pounds per square inch is used for suddenly applied loads, then 750 pounds per square inch might be used in the case where a crowd of people were merely walking on this same floor.

“In city building ordinances and laws relating to the loads on floors, the load to be supported by the floor, exclusive of its own weight and of the fixtures which are built in connection with it, is generally referred to as the live load, no matter of what it may consist. This does not agree with the meaning of the term as understood by engineers, or as explained above.

“You fellows must realize that I started you in with a common case of loading on a floor joist. Now that I have explained the various steps which should be taken in our original problem, suppose that we take some other cases which are likely to be met with and apply our general rule to them and see how it works out. You remember that I told you that we would do this later for cases other than that of a beam which supports a uniformly distributed load. You must also see that we are not always to use yellow pine as our building material, and that the working strengths of other kinds of timber will be a necessity. The following table will give working strengths of other kinds of timber to be used for dead or reasonably quiet loads on beams.”

Average Safe Working Unit Stresses for Timber

(Values of p for use in Formula No. 1, Talk No. 1)

	Pounds Per Square Inch
White Oak	1,200
Southern Long-Leaf or Georgia Yellow Pine	1,200
Short-Leaf Yellow Pine	1,000
Norway Pine	800
Cypress	800
California Spruce	800
Chestnut	800
Douglas Fir	800
California Redwood	750
White Pine	700
Spruce	700
Eastern Fir	700
Cedar	700
Hemlock	600

After the Boss had copied this table of values into the “log book,” he explained that these amounts were about one-sixth of the actual breaking strength of these materials as given in the hand book issued by the Cambria Steel Company. He also explained that members designed by Formula No. 1 to carry a certain load would have what is termed a *factor of safety* of

6 when these values were used. In other words, that the members would be six times as strong as one which would be just on the verge of breaking.

"Here is another important point, men," said the Boss. "You all know that a stick of green timber, or one which contains a considerable percentage of moisture due to its exposure to the weather, is not as strong to carry load, or as stiff to resist deflection, as seasoned material. The values given above in the table are based upon 18 per cent of moisture in the material. This percentage is determined by experiment on timbers which are exposed. The U. S. Department of Agriculture, Division of Forestry, has divided structures into four classes and specified a moisture percentage which is likely to be found in timber in each class of structure.

"Class A includes parts of buildings and structures which are freely exposed to the weather, such as railway trestles, uncovered bridges, etc. The amount of moisture in timber used in such locations is taken as 18 per cent.

"Class B includes timber structural work, which is under a roof, but without side shelter; freely exposed to outside air, but protected from rain, such as roof trusses of open sheds, covered bridges over streams, etc. The moisture percentage is taken as 15 in this case.

"Class C includes timber structural work in buildings which are unheated, but more or less protected from outside air, such as may be found in barns, enclosed shops and sheds, etc. The moisture percentage is taken as 12 in this case.

"Class D includes timber structural work in buildings at all times protected from the outside air, heated in winter, such as houses, halls, churches, etc. The moisture percentage is taken as 10 in this case."

The Boss then copied the following table into the "log book," and explained that the numbers given in the columns were to be used in determining the safe loads for beams in different kinds of structures when the values used in the table of working stresses given above are used.

Table of Coefficients

Classes—	Yellow Pine	All Others
Class A	1	1
Class B	1 1/4	1 1/2
Class C	1 1/2	1 3/4
Class D	1 3/4	1 1/2

"For instance," said he, "if we found by working Formula No. 1 backward that a total uniform load of 1,000 pounds could be carried by a certain size and

length of beam which came under Class D, and a working stress, or value of p , had been taken from the table of stresses above, which are for Class A, then we should multiply our 1,000 pounds by either 1 1/2 or 1 1/4 as given in the Table of Coefficients. The load should then be checked by Formula No. 2 to see if the allowable deflection is exceeded. Values of E for different timbers will be given later. Or, another way might be to multiply the working stress given in the table by the coefficient for a given class and kind of lumber, and then use this value in Formula No. 1 for p when solving for size to carry a given load.

"In our problem which we have solved, we used our value of p for yellow pine as 1,000 pounds per square inch without reference to the class of structure, so as

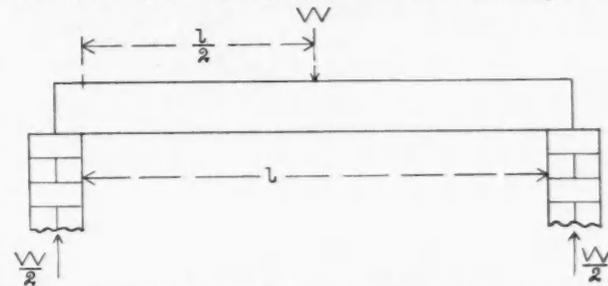


Diagram Showing Load and Supporting Forces for a Beam with Single Central Load

to get an idea of the general method of solution. Now we see how p can be controlled to suit the kind of timber and the place in which it is to be used.

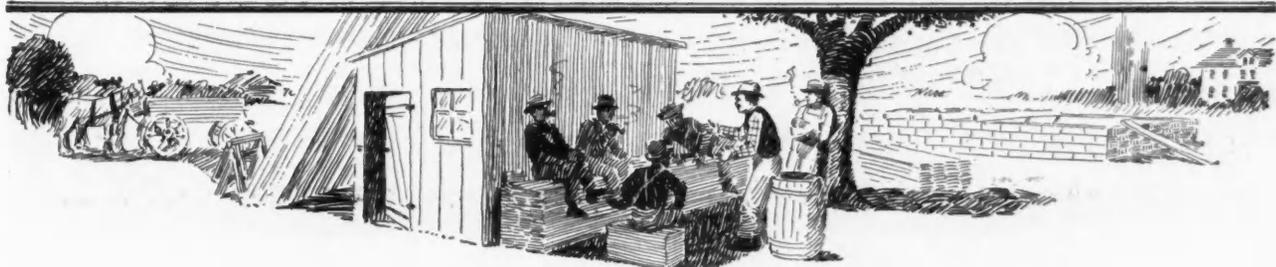
"I want to show you one thing more today," said the Boss, after looking at his watch. "Sometimes we have a case in which a single heavy load is concentrated on a beam, instead of being distributed uniformly along its length as in our previous problem. Suppose that we take a case where a load is to be supported in the middle of a beam or girder, and solve the problem.

"Let us see what central load a 4 by 8-inch spruce beam 10 feet long would support with a factor of 6, when exposed to the weather. Fig. 9 shows the layout.

"Using Formula No. 1, $p \frac{I}{e} = M$, we have from the table of working stresses, $p = 700$; I from Talk No. 1, $= \frac{4 \times 8 \times 8 \times 8}{12} = 170 \frac{2}{3}$; $e =$ one-half the

depth $= 4$ inches; and M for a single central load $= \frac{1}{4} Wl$, where W is the total load and l is the length of the beam in inches.

"Then, filling in Formula No. 1, we have



$$\frac{700 \times 170\frac{2}{3}}{4} = \frac{1}{4} \times W \times 10 \times 12. \text{ Solving}$$

this for W, we have

$$4 \times 700 \times 170\frac{2}{3} = 4 \times W \times 10 \times 12, \text{ or,}$$

$$477860 = 480W$$

$$W = 1,000 \text{ pounds (nearly).}$$

“Since the beam in the above problem was exposed to the weather, it came under Class A, and 1,000 pounds is the allowable central load. If this beam was protected as in Class D, we would multiply our answer by $1\frac{1}{4}$ as shown in the Table of Coefficients. Our answer would then be $1\frac{1}{4} \times 1,000 = 1,250$ pounds.

“If we were interested in finding the amount of sag in this beam, due to either the 1,000 or 1,250 pound load, we would use Formula No. 2, which was explained in Talk No. 2, but with changed values. Let us try it for the 1,000 pound load and see what the result is. Using Formula No. 2,

$$d = K \frac{Wl^3}{EI}$$

“In this case, $K = 1/48$; $W = 1,000$; $l = 10 \times 12 = 120$; $E = 1,200,000$; and, I , from above, $= 170\frac{2}{3}$ (call this 171). Then

$$d = \frac{1000 \times 120 \times 120 \times 120}{48 \times 1,200,000 \times 171} = 1/6 \text{ inch (nearly).}$$

“Taking $1/360$ of the length of the beam as the allowable deflection, or sag, we would have $1/360$ of 120 $= 1/3$ -inch. Thus, we see that the deflection caused by the 1,000-pound central load is not excessive.”

As the noon hour was nearly over, the Boss told the men that he would not begin on another kind of beam that he wanted to show them how to handle, but instead would write down in the “log book” a list of values of E for different kinds of timber, so that they would have them for use in the deflection formula (Formula No. 2).

He then gave the following list:

Values of Modulus of Elasticity (E)

	Pounds Per Square Inch
White Oak	1,500,000
Georgia Yellow Pine	1,500,000
Short-Leaf Yellow Pine	1,200,000
Norway Pine	1,130,000
Cypress	900,000
California Spruce	1,200,000
Chestnut	1,000,000
Douglas Fir	1,400,000
California Redwood	700,000
White Pine	1,000,000
Spruce	1,200,000
Eastern Fir	1,200,000
Cedar	700,000
Hemlock	900,000

Lettering on Plans

IF we were to ask the question, “How many know the letters of the alphabet?” it would be considered an impertinent question, an insult to one’s dignity. Why, the very idea! And yet, how many really do?

It is amusing to see some business men—men that are prosperous in their line of work—undertake to make a sign to call attention to some special price, or

fact about their goods or whatever it may chance to be. The sign, more than likely, will have as many different slants to the letters as there are letters in the sign and there will be little regard to uniformity of size, a mixture of small and capital letters, the cross in the “N” the wrong way; the “S” turned backward, etc. These are all common faults, so common, in fact,

(Continued to Page 50)

WELCOME **ALPHABETS** DECEMBER.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z - 1 2 3 4 5 6 7 8 9 0 - \$

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f g h i j k l m n o p q r s t u v w x y z &

abedefghijklmnopqrstuvwxyz abcdefghijklmnopqrstuvwxyz.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z . A B C D E F G H I J K L M N O P Q R S T U V W X Y Z .

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z . 1 2 3 4 5 6 7 8 9 0

abedefghijklmnopqrstuvwxyz. 1234567890. 123456790 &c.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z . 1 2 3 4 5 6 7 8 9 0 . a b c d e f g h i j k l m n o p q r s t u v w x y z

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z . 1 2 3 4 5 6 7 8 9 0 .

WITH COMPLIMENTS OF A.W. WOODS

Pick out the Style that Suits You Best—And Stick to it

A Queer Mistake and What Came of It

A MOST INTERESTING NARRATION OF A REAL OCCURRENCE, CONTAINING A MORAL FOR EVERY CARPENTER AND BUILDER—HELPS AND HINTS TO THE BUILDER—SECOND PAPER

By Harold L. Alt

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

ANOTHER mistake that is sometimes made is the opening of a front or side door directly into a room or hall. While this may be necessary in some cases, it is only a matter of time until a hard wind and rain storm will drive water under the door and into the room. A vestibule with a waterproof floor of tile or even a common wooden floor which may be covered with linoleum is always a very necessary adjunct to any outside door. In winter the vestibule is doubly useful, acting as an intermediate space in which the cold draughts from the outside door are held and prevented from blowing through the house every time a door is opened.

Another point that should be looked out for in arranging rooms is to leave sufficient horizontal space to get in a decent stairway. Many houses are first-class throughout with the exception that they have a poor stairway either its being too steep, too dark, or with headroom so small that persons of even moderate height have to duck their heads in going up and down. Now this is usually caused by shortening the floor opening forming the stairwell entirely too much so that the drop of the stairs does not equal a person's height by the time the end of the opening is reached.

An easy stairway should drop about eight and one-half to nine and one-half inches for every horizontal foot advanced and in using this figure it is easy to compute, that to drop from the floor level to the

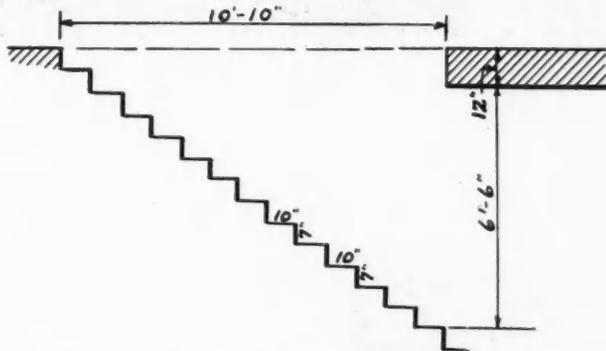


Fig. 4. An "Easy" Stair With Proper Headroom

bottom of the joist and still leave six feet, six inches clear for a man's height, means a total vertical drop of about seven feet, six inches, and a corresponding horizontal length of nine feet six inches to eleven feet required. Fig. 4 is an illustration of this and indicates clearly how much space is necessary to properly allow passage up and down the stairs.

An amusing example of what carelessness in this line may lead to was brought to the writer's attention some time ago. This was a case where a builder had erected a house on a terrace at a considerable height above the street (to save excavation expense) and as is customary in some localities he went ahead and

finished up the whole structure including the porch and porch steps before he started in to build the concrete steps up the terrace.

At this point of the proceedings the house was purchased by a party who made all their trips of inspection perform via the rear door and when the builder began to build his front flight of steps up the terrace he

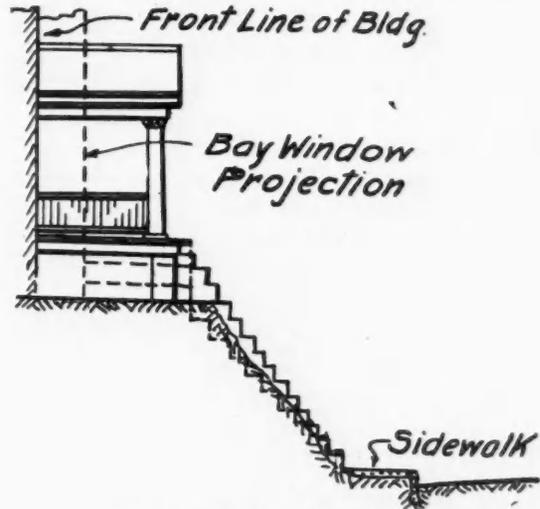


Fig. 5. Clearly Some Mistake Here

found to his surprise that he had set his house too near the street to make the drop from the front porch to the sidewalk in any kind of a flight of steps which did not resemble an inclined ladder.

In fact the steps he built were a good deal as shown in Fig. 5, and were dangerous at all times being absolutely unusable in winter. It cost the purchaser exactly \$150.00 to tear out this flight of steps, extend the porch two feet out toward the front, putting the porch steps sideways in front of the bay window, thus gaining two feet in the horizontal. How this was done is shown in dotted lines in Fig. 5.

And if you want a recommendation for that builder go ask this purchaser and see what he says after buying a botch job like that. And the queer part is that it would not have cost a cent more to have set the house two feet farther back in the yard, thus avoiding all such trouble.



Cleveland Carpenters Open School

For the education of members the carpenters' union, local 1750, of Cleveland, Ohio, has arranged to establish a course in architectural instruction, open to men of the union. The classes will meet in the Council Educational Alliance Home on Woodlawn Avenue, S. E. Morris M. Gleichman, architect, will take charge of and teach the course.

To keep the coming in during the winter months

Winter Remodeling with Wall Boards

WHAT BUILDER JENKS SHOWED PA AND MA LOTT ABOUT MAKING THREE GOOD ROOMS "GROW WHERE NONE HAD GROWN BEFORE"—A STORY WITH A SEASONABLE MORAL FOR CARPENTERS AND BUILDERS

By Fred M. Lally

"WHAT in the world am I to do," began Mrs. Lott as her husband reached home one evening just a short time ago, and before that worthy could place his hat or coat upon the hall-tree and comfortably locate himself in his easy chair. Mrs. Lott had ready for his not altogether willing ears a veritable flood of woe.

"Here it is, near the holidays, Tom will be home from the city and Katherine in from her school and now, this morning, I get a letter from brother George announcing that his family will be along next week to make us a visit. Of course, we will have to let them have the spare room, and then what in the world will we do with Kitty and Tom?"

Pa Lott pondered a while and then advised that Carpenter Jenks be sent for to put some sort of a temporary partition across the attic and fix up a couple of rooms.

"Just the thing," agreed Mrs. Lott, and bright and early the next morning, the telephone in Jenks' shop tingled and Mrs. Lott on the other end of the wire informed Mr. Jenks she would like to have him come right up to the house and estimate on a partition for

the attic.

Jenks came, was told the trouble, and forthwith was able to offer a pleasing as well as an economical solution.

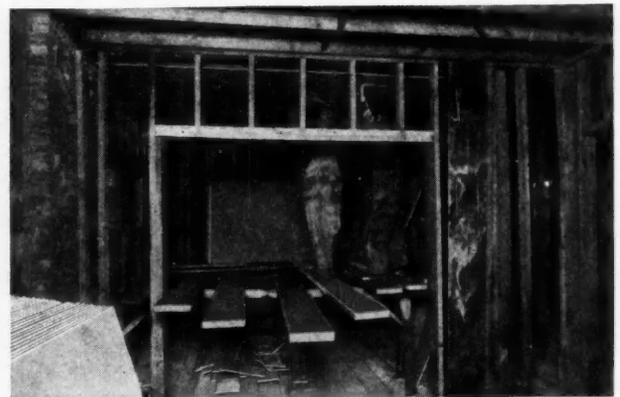


Photo by Courtesy of Bestwell Mfg. Co.

Wall Board is a Carpenter Proposition Throughout

"Mrs. Lott," began Jenks, after the difficulty had been explained to him, "In a very little time and at comparatively small expense, by using wall board, I can make this attic into several really comfortable, homey rooms. They'll be rooms that you can use at any and all times, too. There'll be nothing about them you have to be ashamed of. And after I put up the wall board and divide the attic space into rooms just the size you want, I can decorate them for you. You know this wall board I use will take any tint or paint even better than most plasters will."

Mrs. Lott seemed quite pleased with Jenks' idea



Illustrations by Courtesy of Roberds Mfg. Co.

Attic Room Before Remodeling and After; \$20 Spent for Wall Boards

and when the latter had whispered to Lott the figure he would ask to completely wall board and partition the attic into rooms, Lott didn't hesitate one minute in telling him to go ahead. Result?

In the Lott home to-day there are three more every day usable rooms than formerly. Jenks turned the attic from seldom-used-storage-spaces into a really livable, comfortable, part of the house. And when the Lott's friends and neighbors saw what had been accomplished Carpenter Jenks actually had more wall board



Photo by Courtesy of Plastergon Wall Board Co. Swell City Cafe Done in Wall Boards

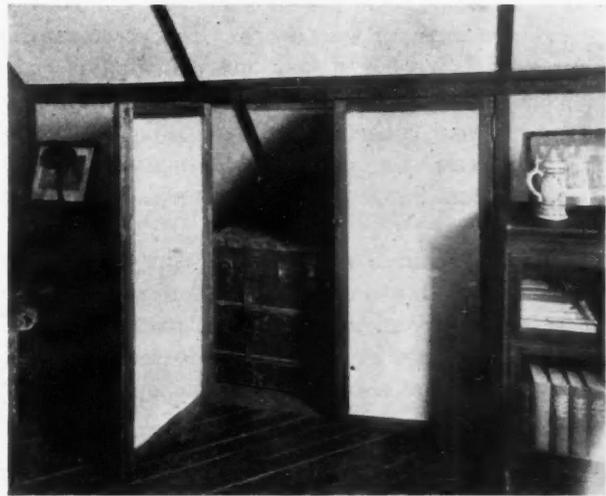
attic and room remodeling work than he could handle during the winter.

The problem the Lotts faced exists in many, many homes at the present time—and it is distinctly “up to” the carpenters and builders to solve these problems for the home owners.

A better field for winter work could not be found. Think of what can be accomplished in practically every home simply through the use of wall board. Rooms can be remodeled or reshaped; partitions can be built within any part of the home and not in any way detract or effect the general appearance; attics and basements can be remodeled and attractive rooms formed within their space; trunk rooms or rooms for general storage purposes can easily be made; billiard rooms or dens can be fitted up for the men folks; and sewing rooms and play rooms for the children can be built in. In fact there is really no limit to the remodeling or refixing work that can be accomplished through the use of wall board.



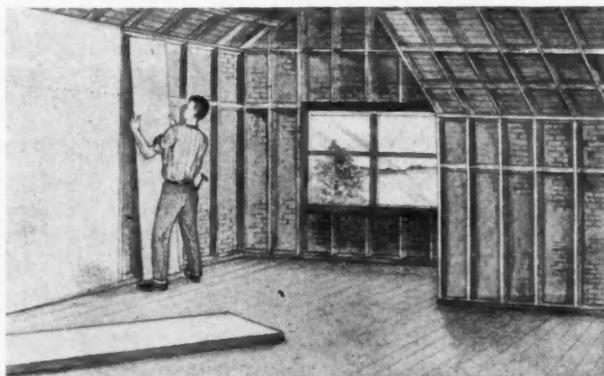
Attic Den and Study Cheaply and Artistically Created by Means of Wall Boards



Photos by Courtesy of the Beaver Co. Cleverly Arranged Trunk Closet in Attic Den Shown Above

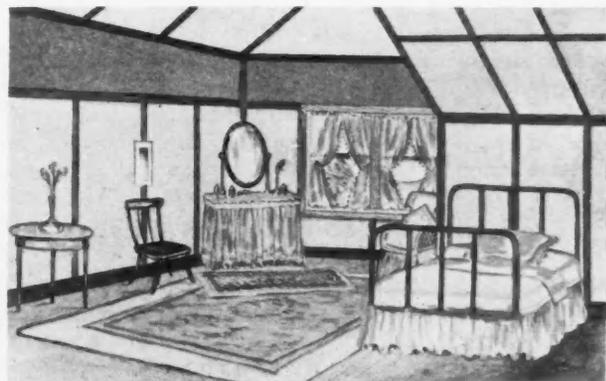
The work is not costly. It is essentially a carpenter's proposition. Wall board to be put up properly must first be fitted. It is then nailed to either studding or lathing or right over the plaster. One man can have no difficulty at all in wall boarding an entire house.

In every locality the carpenter can and will find



BEFORE

Illustrations by Courtesy of Philip Carey Co.



AFTER

Unused Attic Space Made Into a Delightful Chamber by Finishing off with Wall Boards

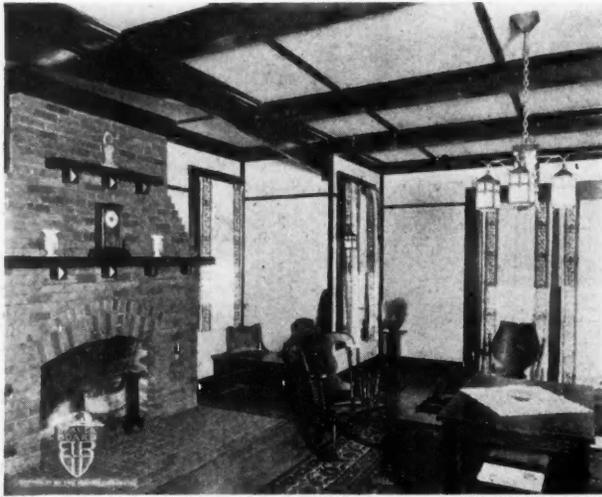


Photo by Courtesy of the Beaver Co.
**The Finest Room in the Finest House Can With Propriety Have
 Wall Board Walls and Ceiling**

many homes or buildings in which he can do considerable work with wall board. The accompanying illustrations give but a faint idea of what is easily possible. Study over these photographs. Show these pictures to your customers—explain to them just how, at trifling cost, you can easily change this or that room of their house or re-make their basement or attic.

You can obtain from the many various manufacturers of wall boarding catalogs, descriptive matter, samples of their wall board and other particulars which will make it quite simple for you to secure and do, during this winter season, a profitable amount of wall board work.

Enough to Keep Him Busy

Powell, Ohio.

Editor AMERICAN CARPENTER AND BUILDER:

I am a reader of this grand old book, the AMERICAN CARPENTER AND BUILDER. I am a young man of 21 years, and I find that this book contains more thoughtful ideas than any book I have ever studied.

As to keeping the dollars coming in during the winter months, last winter I built a large cabinet for laboratory work in the new school-house, also several very nice tables for the same purpose. I also built a large book case. I have another book case to build this winter out of black walnut.

I engage this kind of work during the summer, that I might be busy through the winter months. Very often I sit down and draw plans, to use when our spring work begins.

Sometimes I make sleds for my boy friends and sometimes larger one-horse sleds.

Many small jobs come in during the winter, such as window screens, wash boards, wash benches, flower racks, and I repair many chairs, stands, davenport and tables.

GEORGE C. WILLIAMS.

How Best to Make Screens?

To the Editor: Greensboro, Florida.

We are greatly interested in the articles, "To keep the \$\$ coming in." We have a small shop with 9-inch moulder, 20-inch surfacer, rip saw table, rail-way saw, band scroll saw, boring machine and lathe. We have no winter here that we cannot work, but we want something to do during dull seasons.

We would like full directions for making screens for doors and windows. We would want to know how to make the

frames without mortiser and tenoner, and how to stretch and fasten the wire. We find many helps in the book of details and very interesting reading in the AMERICAN CARPENTER AND BUILDER and wish you the greatest success.

THE DEZELL ENTERPRISE Co.,

Jas. A. Dezell, President.

✦ Lettering on Plans

(Continued from Page 46)

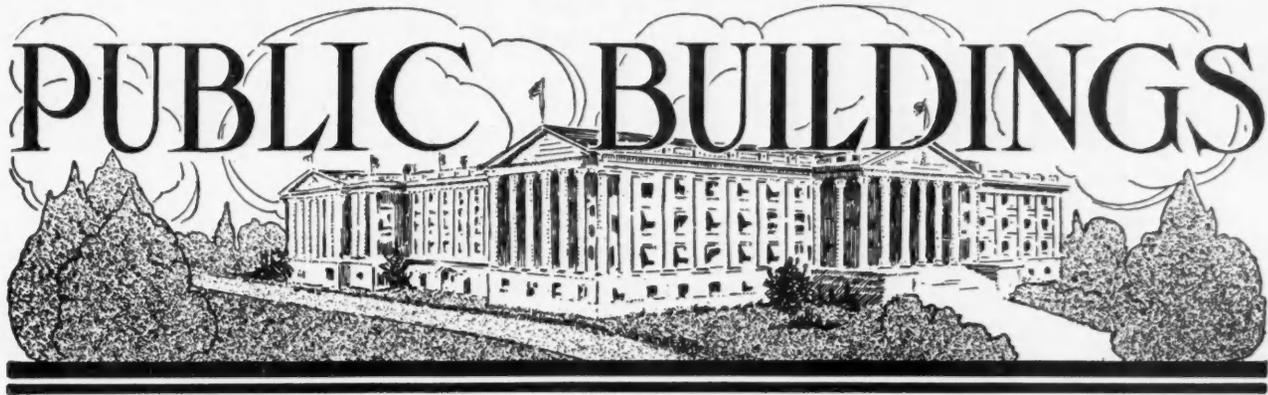
that they may be seen in a simple sign containing but a few words.

Then again, many people make ill-shaped figures, which is a very serious matter. Costly errors are many times made simply on account of poorly executed characters which in most cases cannot be charged up to ignorance alone, but more to carelessness on the part of the maker.

Then there is another class, the highly educated business man, politician, office holder, etc., who imagine, by virtue of their position, they cannot take time to study up the rules to be able to make their hieroglyphics legible, but leave it to others to decipher and take chances to do or say what they meant to convey. Poor fellows. Of all the classes of people, they should be the very ones that should be able to put down in black and white so that there can be no mistake about it. But this class is past redemption; all that can be done with them is to let them live on and finally die with old age and then engrave on their tombstones their own hieroglyphics, so that in after years it cannot reveal who they were.

But there is another class we wish to reach, and we hope we are talking to many of them—the young carpenters and builders, many of whom are fitting or expect to fit themselves to be draftsmen. Though they may not expect to follow it as a vocation further than for their own use, they want to be able to make their work presentable. Many otherwise good draftsmen spoil the whole effect of their work by poor lettering and figures. Nothing tones up a drawing so much as neat, clear cut letters and figures and there is no valid reason why this cannot be done. There are no long technical rules to commit to memory. Study the forms and get them fixed on the mind. Study similarity. Do not shoot at random, trusting to luck; but aim to make every lick count. Then *practice*; it will make perfect.

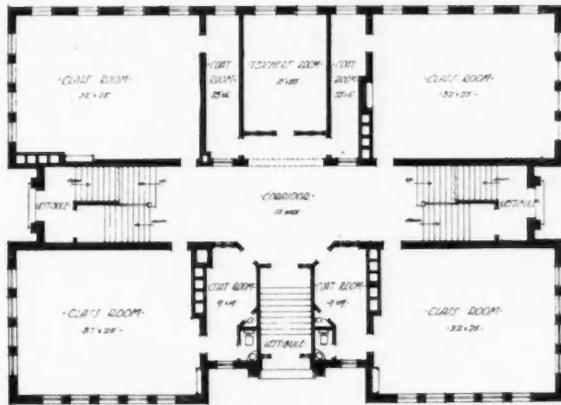
We are herewith presenting a number of alphabetical designs suitable for various marking purposes. Choose a type that suits your taste best and go to it. The slanting letters of the lower case are best suited for marking packages for mailing purposes, but for marking plans better use plain Roman letters, as shown in the first part of the second and fifth lines. The square letters shown in the last line are made with ruling pen, T-square and angle. Many architects use these for title lettering because there is no free hand work about them and are easier to make. Yet we do not advise their use; they are too mechanical. Better go at it free handed and stay with it until mastered by mind and hand.



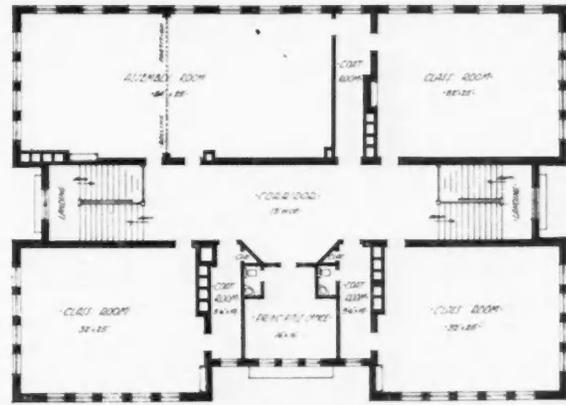
Grade School of Modern Design

Cicero, Ill., is proud of its fine public school buildings, of which it has several. In fact, Cicero is getting to be famous for its modern public schools. One of

the best is illustrated below, the Columbus School, an eight-room grade school. Architectural embellishment consists of white stone trimmings and herring-bone bond brickwork panels.



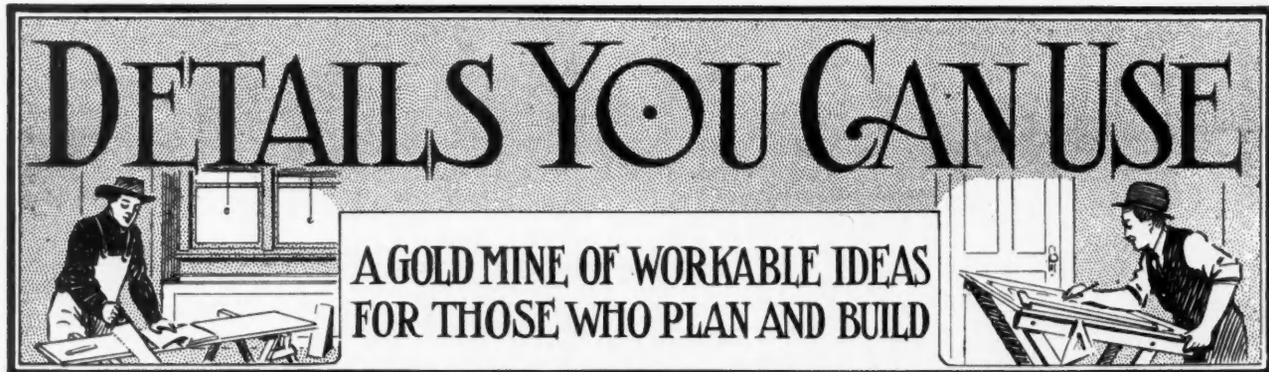
First Floor Plan



Second Floor Plan



The New Columbus School at Cicero, Ill., Geo. W. Ashby of Chicago, Architect



A Two Story Solarium and Sleeping Porch

PHOTOGRAPH AND COMPLETE WORKING DETAILS, DIMENSIONED, SHOWING THE DESIGN AND CONSTRUCTION OF A TWO STORY ADDITION WITH SUN-PARLOR AND CONSERVATORY ON THE FIRST FLOOR AND AN OPEN BALCONY TO BE USED AS A SLEEPING OR LIVING PORCH ON THE SECOND FLOOR

NO residence today can be called really modern if it does not have a sun parlor or a living porch, or both. In the city suburbs, and in the prosperous smaller cities and towns, the architects are all including these features in the plans for new residences that are in any way complete.

Also many of the older dwellings are being remodeled to provide these newer comforts and conveniences.

The beautiful residence shown in the photograph is an old frame house remodeled by overcoating with cement plaster on metal lath and with this two-story

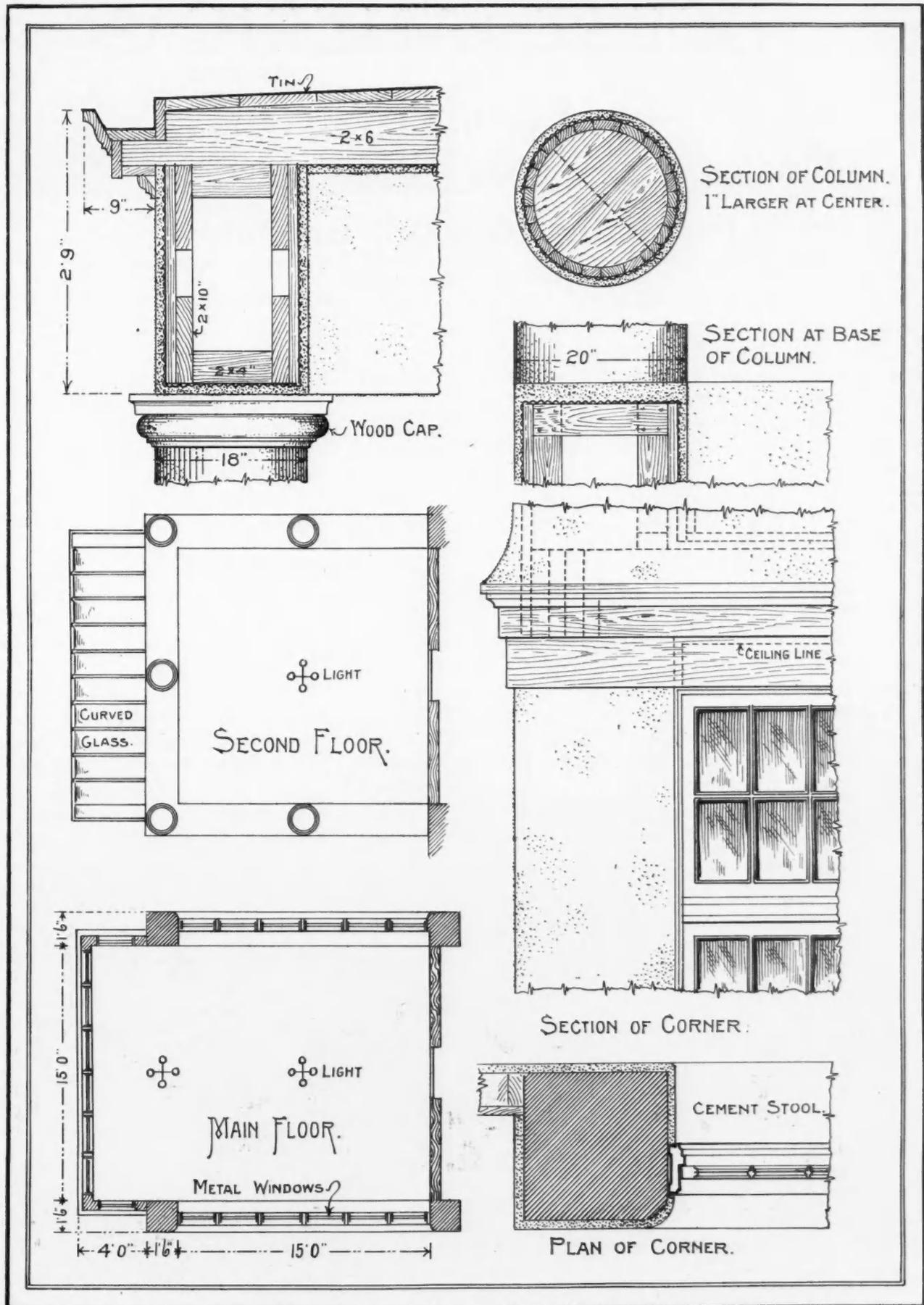
addition built onto one side. This house would easily bring a thousand dollars more on sale today than before this sun parlor, sleeping porch addition was built on. It is a beautiful and harmonious piece of work.

The detailed plate shown on the opposite page shows the design and certain parts of the construction of this addition.

Although this is doubtless larger and more elaborate than the majority of home builders would want, it contains absolutely first-class ideas which can be modified and adopted to suit any needs.



Perfect Harmony Between House and Garden—Details of This Two Story Conservatory Porch Addition are Shown on Opposite Page



DIMENSIONED DRAWINGS OF TWO STORY CONSERVATORY PORCH SHOWN ON OPPOSITE PAGE

MODEST AMERICAN HOMES

Plans for "Greek" Bungalow

ACTUAL PHOTOGRAPH, FLOOR PLANS AND ELEVATIONS OF A PRACTICAL BUNGALOW BUILT AROUND CENTRAL COURT

RATHER unique is the bungalow home illustrated here, and details of which are given on the following pages, in that it represents a type of construction that is comparatively a newcomer to the northern sections of the country. In the south, and especially in the southwest, the court and pool arrangement as employed in this bungalow has long been popular.

This style is not really new in any sense, as it represents an idea, and is modeled after, the ancient Greek custom of house construction with an inner court surrounded by the living apartments.

The bungalow illustrated here was designed and built for Dr. J. H. Ray, of Kankakee, Ill. The exterior finish is of cement stucco and the roof stained shingles. Stone capped porch walls and posts carry out in full the desired effect.

Reference to the floor plan will show that ample space has been allotted each room and that all, except the kitchen, are directly accessible from the corridor leading around the court and pool.

That portion of the porch directly before the front door has been covered and this conveys an impres-

sion that a part of the vestibule, rather than the porch, was appropriated for covered use. Upon either side of this covered porch are built-in seats.

Entrance is into small vestibule off of which is a closet. The vestibule opens directly into the central corridor. To the left is the living room, well lighted and having fireplace with built-in book cases upon each side. The dining room, opening from both ends of corridor and living room, is large and well placed. From the dining room and through pantry is the only entrance to kitchen from interior of house.

Along corridor to the right of vestibule are the bedrooms, bathroom and at the extreme rear an entrance to the garage, which is a feature of this construction. Of course this space could be utilized for other purposes and to do so would require but minor changes in the plans.

Note should be taken that casement windows have been used very generally. The laundry and heating equipment—which is hot water—have been placed in the basement.

All in all, this bungalow forms a particularly attractive arrangement. It is not difficult to imagine



7-Room Bungalow of Unusual Plan, Designed and Built for Dr. J. H. Roy at Kankakee, Ill.
WORKING DRAWINGS FOR THIS HOUSE ARE PRESENTED ON THE 3 PAGES FOLLOWING

the delightful effect of this inner court with its skylight shedding a soft light and the fountain and pool in the center. In winter this fountain can be used for the display of house plants.

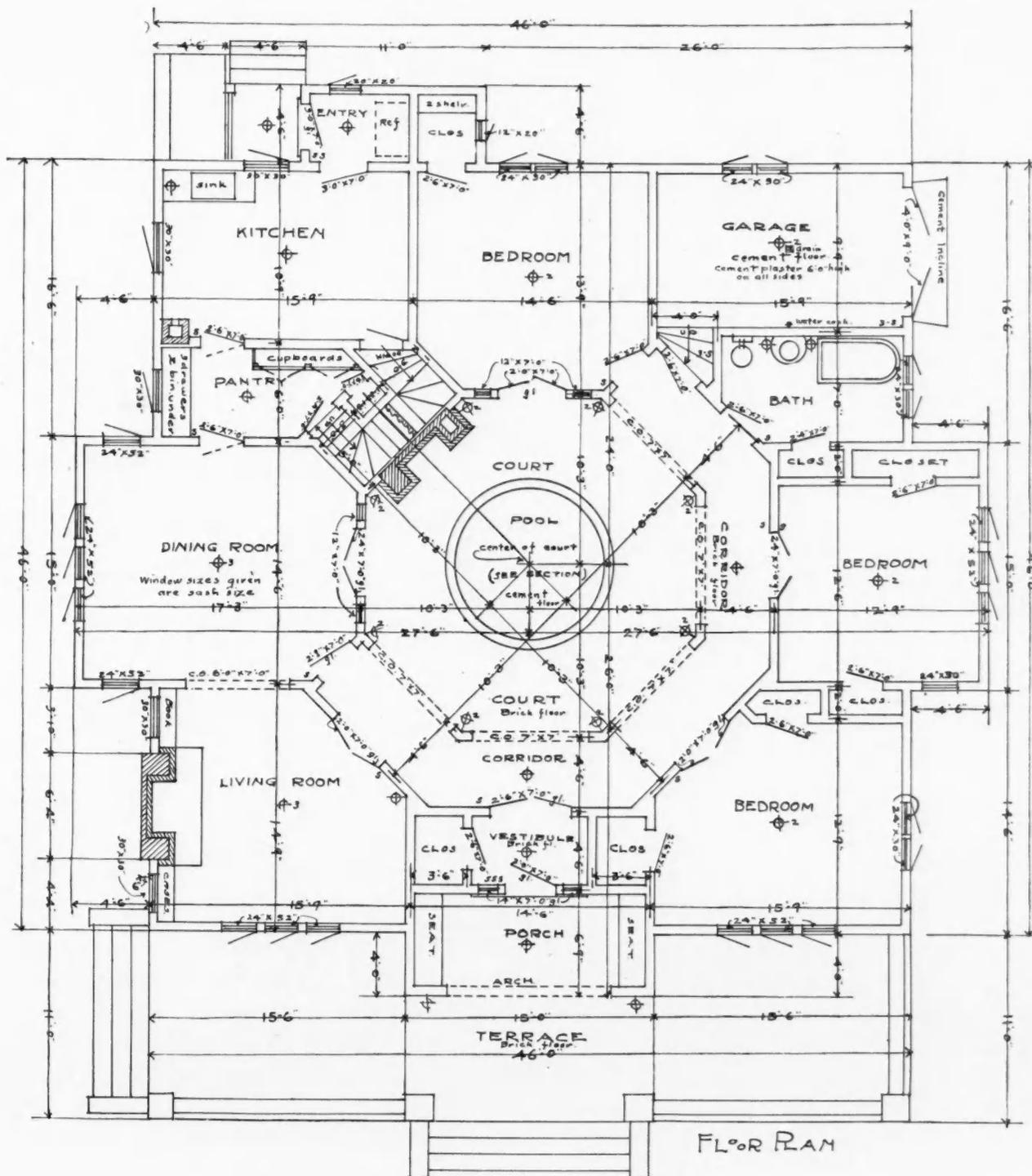
Accomplishments

Dear old Lady (with a view to a little moral teaching)—“Now, do either of you little boys say naughty words?”

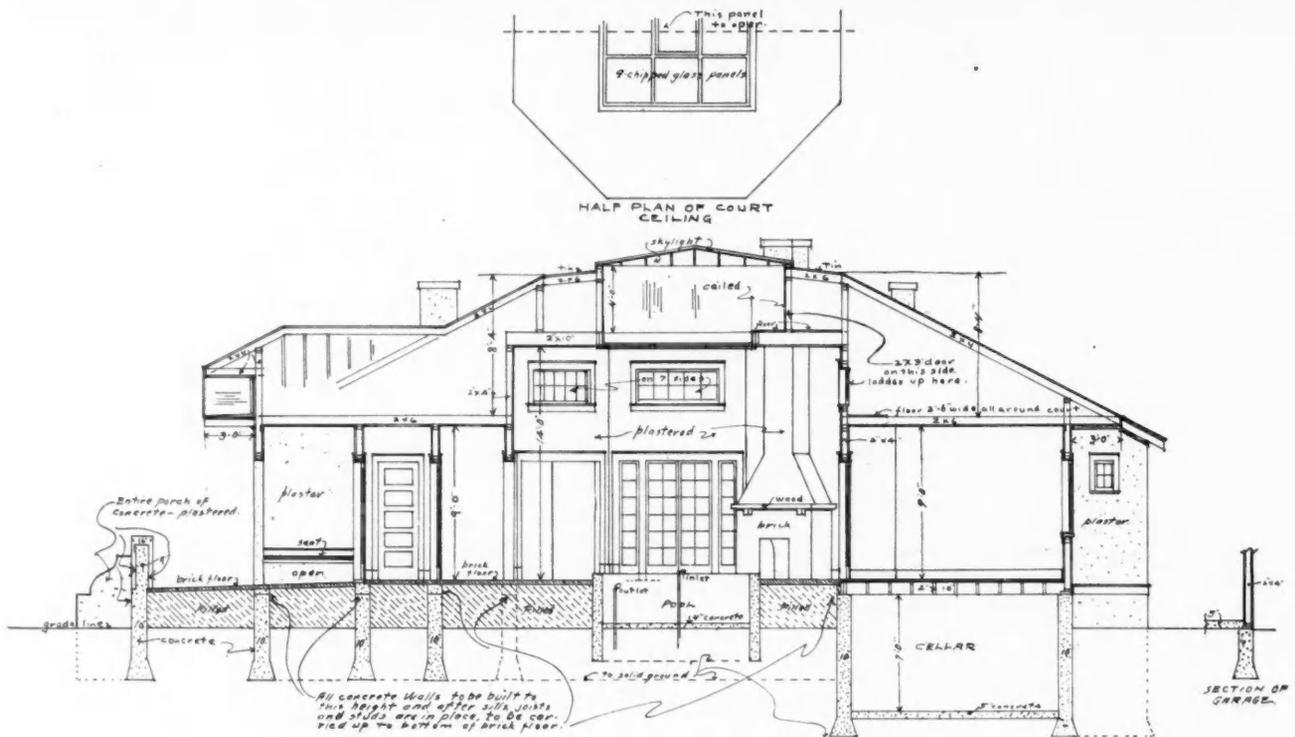
Elder Brother—“Well, mum, I ain't much of a 'and at it myself, but young Bill 'ere, 'es a treat. Cuss a bit for the lady, Bill.”

Largest Carpet is Laid

The largest carpet in the world was recently laid on the floor of the ballroom of the Hotel La Salle, Chicago. It was made by American workmen at an American factory. The carpet is composed of 1,100 yards, woven in three sections, which if placed end to end, would reach more than two city blocks or would reach from the top of the great Eifel Tower of Paris to its bottom. It weighs three tons.



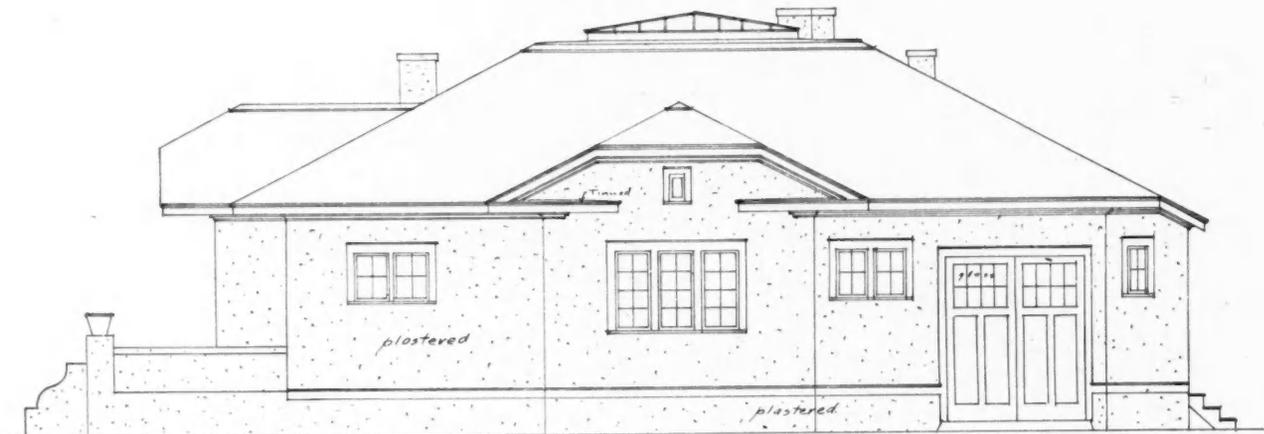
MAIN FLOOR PLAN
(Bungalow on Opposite Page)



SECTION NEAR CENTERLINE FROM FRONT TO BACK.



FRONT ELEVATION

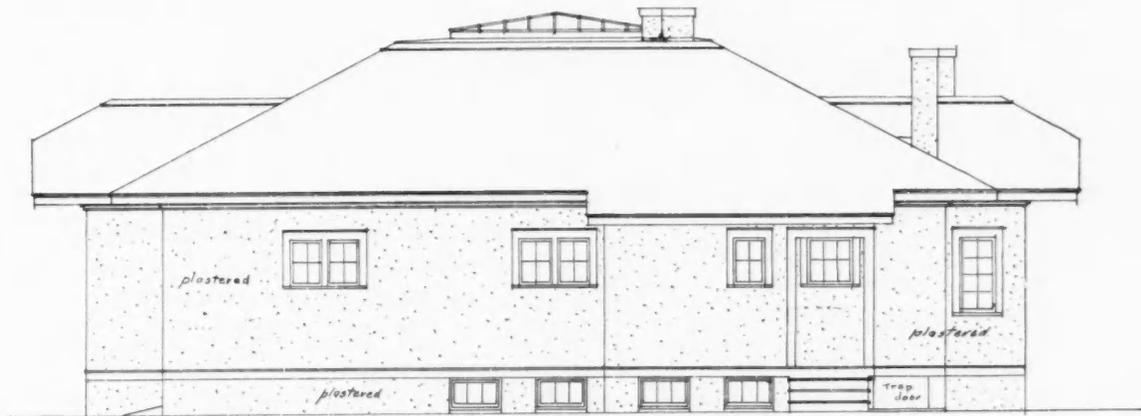


SIDE ELEVATION

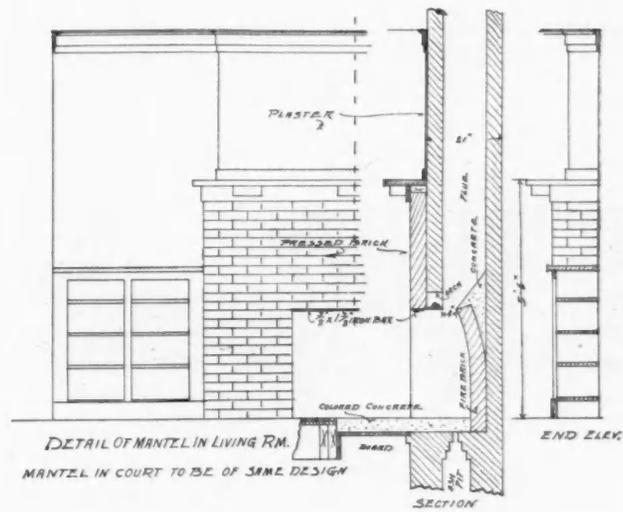
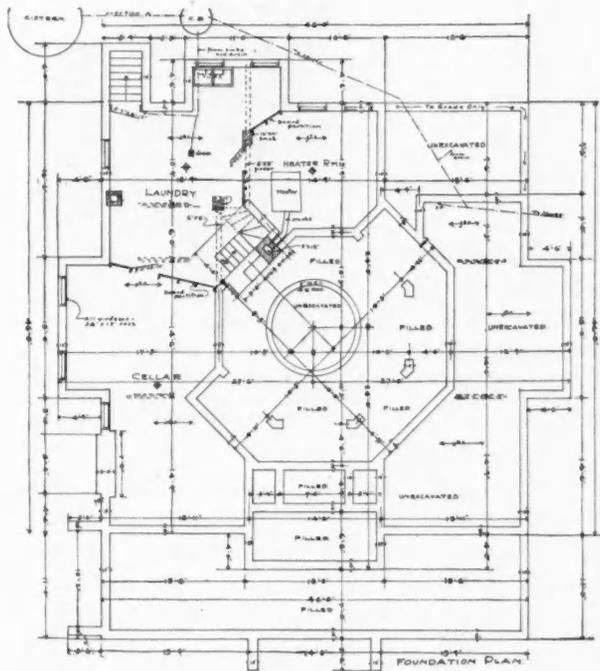
ELEVATIONS AND SECTION OF BUNGALOW ON PAGE 54



SIDE ELEVATION



REAR ELEVATION



DETAIL OF MANTEL IN LIVING RM.
MANTEL IN COURT TO BE OF SAME DESIGN



MAKING POWER

Watching Jimmie

By W. D. Graves

Illustrations by Walt Louderback

"I am a conservative old fog; I admit it. My old friend Blaysdell, on the contrary, is an active operator of a machine woodworking shop, and his son, Jimmie, is a progressive young contractor. They may get the best of me yet with their new-fangled notions—and I'm just ornery enough to hope they will."

AS I took down the receiver of the recently installed automatic phone, thus ringing up Blaysdell without the mediation of central, there flashed before my mental vision an astral film picturing some of the changes that have transpired since Blaysdell and I laced our first belt together. That wasn't so long ago as to render it safe for a small man to disrespectfully call us old; but the film was long and the pictures too many for any attempt at numeration here. We used whang leather for that first lacing, and for many more, and would have scoffed at the idea of using wire for the purpose almost as heartily as we would at the idea of talking over a wire—had either ridiculous proposition been suggested to us. Yet whang leather is fast disappearing from use, and not only conversation, but music, are now mostly canned.

Blaysdell says that the new comes, surrounding and tending to obscure the old, but that the old remains good. He's one of those fellows that would find some good in a decayed onion. He compares our industrial growth to that of a tree, wherein the cambium hardens into sap wood, but arrives at its best only when it matures and combines with, forming a part of, the heart wood within. "The heart wood, the older experiences of life," he says, "has value only while and in so far as it continues to live and do its part toward the accretion of new cambium." He claims that in



I found my old Two Foot Rule under a pile of political "literature" continued activity lies happiness and worth—but he wasn't born as tired as some of us were.

"Hello," comes Blaysdell's voice—a trifle testily withal, for I fear it is the second time he's said it.

"Hello"—and no other introduction is needed—"anything new in machine practice?"

"Of course. There always is."

"Umph! Suppose you haven't noticed these portable wood working machines with which contractors are supposed to be enabled to do their own mill work right on the job?"

"Sure I have. Jimmie has one and is just getting it into my shop for the winter."

"Jimmie! I thought he was specializing in concrete construction."

"Yes, so he is, but that has only increased his business as a whole; and he says that he has as much use for wood as before."

"Sho! Say, I believe I'd like to come around and see Jimmie operating that contraption—but I suppose he hasn't any use for old fogies any more."

"Don't you fool yourself, Jimmie will find a use for you. He asks just as many questions as he did at ten."

"But Jimmie has become a 'specialist' now, and we old 'all around workmen' can't interest him."

I heard Blaysdell's little chuckle, which is more physical than verbal: "So that is what ails you? You've been having that pipe dream about the specialist crowding out the man of general efficiency, while the fact is that general efficiency is more in demand than ever. The only difference is that it must be along new lines, cumulative, accomplishing new things in ways, either new or old, which are most effective. Say, you get on your overalls, put a rule in your



Walt Louderback

"You've been having that Pipe Dream about the Specialist crowding out the man of General Efficiency"

WOOD WORKERS PAY



pocket, and come on down here. You watch Jimmie for a while and see if he doesn't jolt some of the cobwebs out of your head."

Blaysdell's intimation about the cobwebs in my head made me mad. I've taught him many a trick, though it is true he has reciprocated, and I'll show him some more yet. Harriet had the old overalls tucked out of sight as only a woman can get things out of the way; but she found them readily enough when I told her what I was looking for. She seemed pleased, too. Doubtless she was glad to get rid of me for a while. I found the old 2-foot rule under a pile of political "literature" and, feeling more "nifty" than for months past, started down to see Jimmie's new condensed wood working plant. I wondered if it would be in a tin can. A compact little thing it was, with the motive power tucked under the table: but plainly capable of doing every thing that a small buzz-saw can do—which is a whole lot—and then some. Jimmie seemed as pleased as a boy with a brand new pup, and talked of doing a lot of work with it this winter. There are a lot of wedges, keys and short blocks,

slivers to catch; so he got out a strip which he can

clamp on almost instantly, in almost any position, and to which he can secure other strips, blocks and stops *ad infinitum*. I sketched the rig on a bit of board, as shown in plan and side view herewith. A is a strip of hard wood about 4 inches wide and 8 inches longer than the table. B, B, are wood blocks, notched out to the thickness of the table edge and fastened to A by common carriage bolts, C. The heads of these bolts are sunk flush with the top of A, and the one in the rear end passes through a slot so that it will slide outward in case the strip is to be put on diagonally. Although the machine has a tilting fence, there will be uses for this; indeed it is evident that Jimmie has already used it. I also noticed other jigs, rigs and contraptions lying around, most of which were familiar to me, but some of which were new. I didn't ask about them though, because Jimmie was busy and it is better to see them work anyway.

I'm going to drop around and see him again, and tell about what I see; for Jimmie is no dullard and has been brought up in an atmosphere of machinery. Many of his ideas, naturally, have been picked up from his father and from "Dad," as he affectionately calls me, and are therefore not new to old timers. Yet the signs of the times indicate that there will be many taking up the use of machinery to whom some of the old practices will be new; and I'll warrant Jimmie has some ideas of his own.

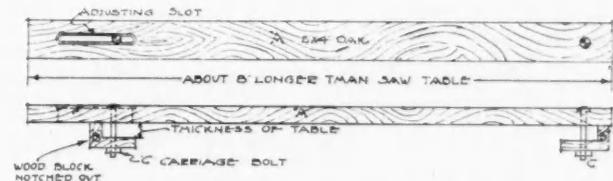
Harriet has all a woman's ideas and aggressiveness about neatness, but she said nothing when she saw my memorandum block on the parlor table. Indeed,



Jimmie Seemed as Pleased as a boy With a Brand new pup, and Talked of Doing a lot of Work With it This Winter

which he will need for various concrete moulds, and he expects to profit by getting them out in the dull times this winter. A job he is now finishing inside calls for a lot of short pieces of ceiling; while another that he is to begin early in the spring will require odd sized frames—and I and know what all. Most of his cutting and ripping he lots on doing with his new machine—and I guess he can.

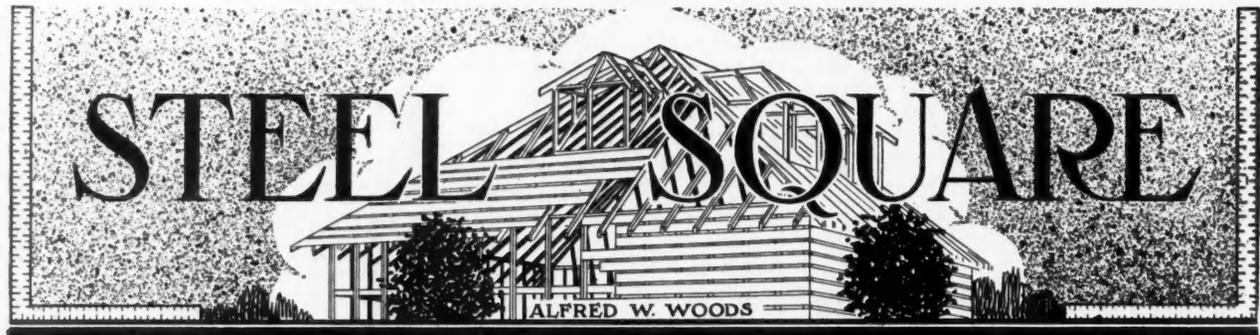
The first thing that struck me was, that the table being of iron, one couldn't tack strips on it for the various purposes of guiding and tilting the stock, as one can on a wooden table; but Jimmie showed me that he could get over that difficulty very nicely. He didn't like to drill holes in the table, for that would mar and weaken it, as well as make places for



Clamp Rig for use on Iron Top Saw Tables

I believe her eyes twinkled a little as they did twenty odd years ago. She got up a wonderful good supper to-night, too; not that it was particularly different, but it *did* have a tasty flavor.

Assuredly, I must watch Jimmie some more, and prod up Blaysdell a little too, for I fear the old fellow is getting doty.



Possibilities of the Steel Square

A SHORT LECTURE ON THE STEEL SQUARE, ENDING UP WITH AN UNUSUALLY INTERESTING ILLUSTRATION OF A ROOF IN THE COLLAPSIBLE, AS THOUGH SPREAD OUT ON A LEVEL SURFACE, SHOWING EVERY PIECE IN ITS RESPECTIVE PLACE

THE steel square, or we should say the iron square, has been in use for a long time, running well into the hundreds of years; but nothing like what it is today. Simply a right angled instrument void of measurement markings, used principally for squaring purposes, has been known to be used running back for thousands of years. But come on down to the steel square of today (and in saying that we have reference more especially to that part showing the standard measurement of inches and these divided in twelfths and sixteenths).

We prefer a square with an 18-inch tongue and a 24-inch blade, because it permits of a greater range of angles when working from the full scale, (12 inches to the foot). In that way we let 12 on the tongue represent the starting point for everything. But you say, you drop 12 and substitute 13 and 17 for the seat cuts for the octagon and common hip respectively. Why, yes we do, but we reckoned from 12 to get them. That is, when 12 is used to represent the run of the common rafter, it requires the larger figures to represent the run of the hip on account of the gain in the run over that of the common rafter. These figures are stationary; in other words, they remain the same regardless of the size of the building or of the pitch.

It should be remembered that all of the cuts in any kind of framing are solvable by the aid of right angled triangles, the shape of which are governed by the shape of that part of the building to be roofed and the pitch given same. And yet, strange to say, it has only been within the last generation that the steel square has been brought to bear in solving these angles directly. Riddle, Moncton, Newlands and others brilliantly

blazed the way in geometrical diagrams for solving framing problems; but they failed to illustrate the use of the steel square in connection with same to any appreciable extent. This was left to more modern writers.

The steel square with its arms furnishes two sides of the triangle (the right angle corner) and the third side of the angle is formed by a line connecting the ends of the lines forming the other sides. Knowing the plan and the run and rise desired, all of the other required angles can be readily developed. It may truthfully be said,—The Steel Square is simply a delineator or reading instrument and with a knowledge of the formation of the angles, its use becomes legion; and correct results must follow as sure as night follows day.

For our illustration this month, we represent an unusual diagram. See opposite page.

Here is a conventional roof plan, showing the hips and valleys, while around the plan are shown the various sections of the roof, as though the gables were hinged to the plates and were let down, carrying with them the adjacent parts of the roof, as though spread out on a level space, showing all of the rafters in place, with their lengths and angles of the various cuts. If this drawing is cut out and trimmed to the plate lines and then folded to the opposite side of the paper, with gables standing straight up and with the inner edges of the angles touching the plate lines, it will show a miniature roof with all of the rafters in their respective places. The pitch of this roof is 9 inches rise to the foot and the simple lines shown in connection with the squares, show the angles required for the various cuts.

“Beat it if You Can”

By A. W. Woods

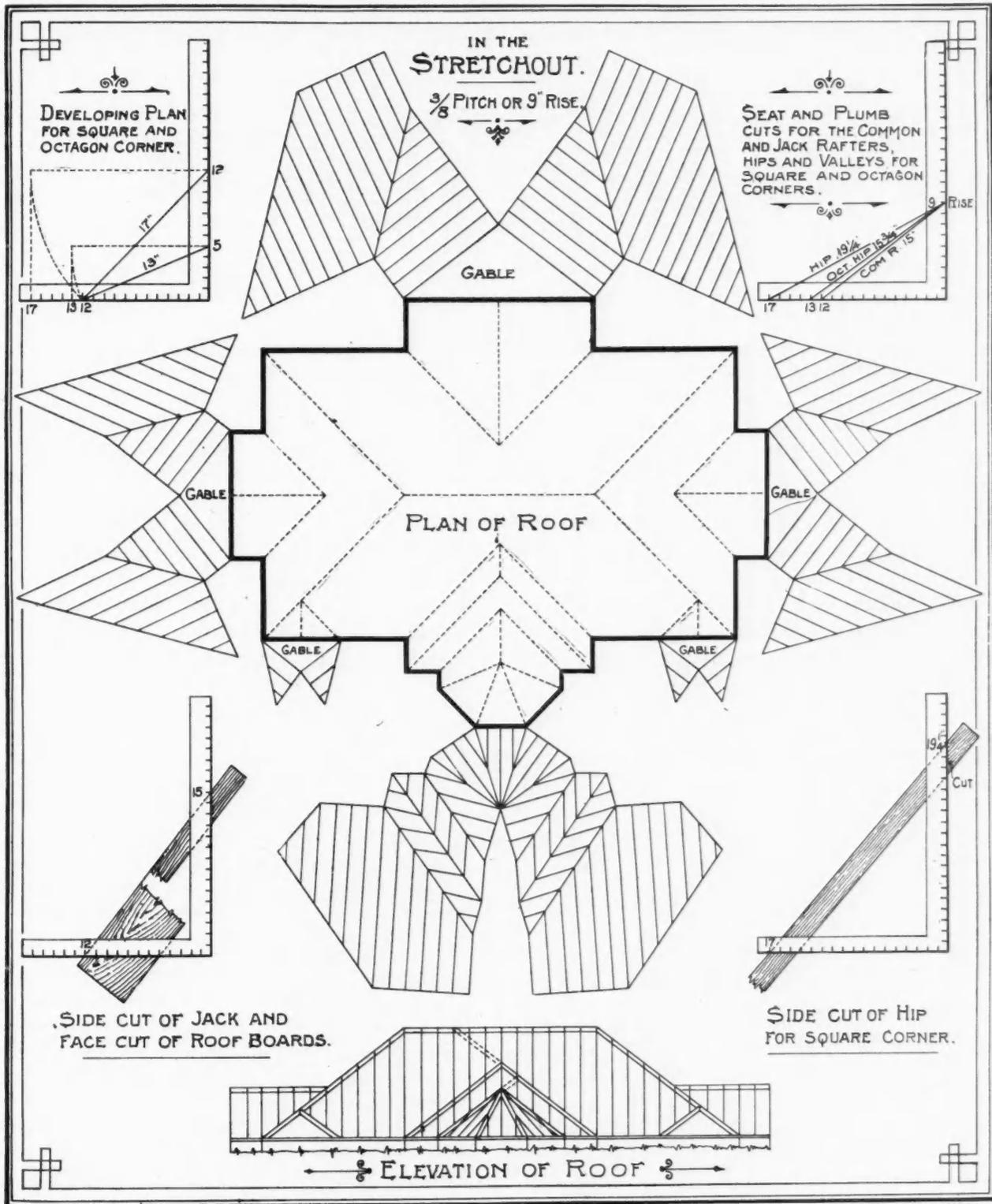
WOOD turning is an art; and not a few that think they are wood turners are in reality artists, because there is something more than facing the lathe with chisel in hand, sending feathery chips spinning through the air like snow flakes in a Montana blizzard. A successful turner must have an

eye for graceful curves as well as a delicacy of touch, making angles, where angles are required, clean and sharp. Unless he possesses these qualities he cannot intelligently follow the best executed design laid out for him by one who knows how the finished product should look. Too often a meritorious design is killed

from an artistic standpoint in life giving qualities in the ways of beauty and grace.

As the writer pens these lines, he has before him an old fashioned stand-table that is probably a hundred or more years old, made from solid cherry. How he would like to turn the hands of time back, as it were, and take a peep at this old time cabinet maker, for that he was in its fullest sense.

We fancy we see him felling the trees with his own hands and by the sweat of his brow, wielding the ax, setting the iron wedge and with the relentless swing of the large wooden maul, rifting the log in halves, then quarters, eighths, and again and again until down to the required table leg size. We see these pieces stored away in the loft and then a long wait for nature's seasoning process to do its work;

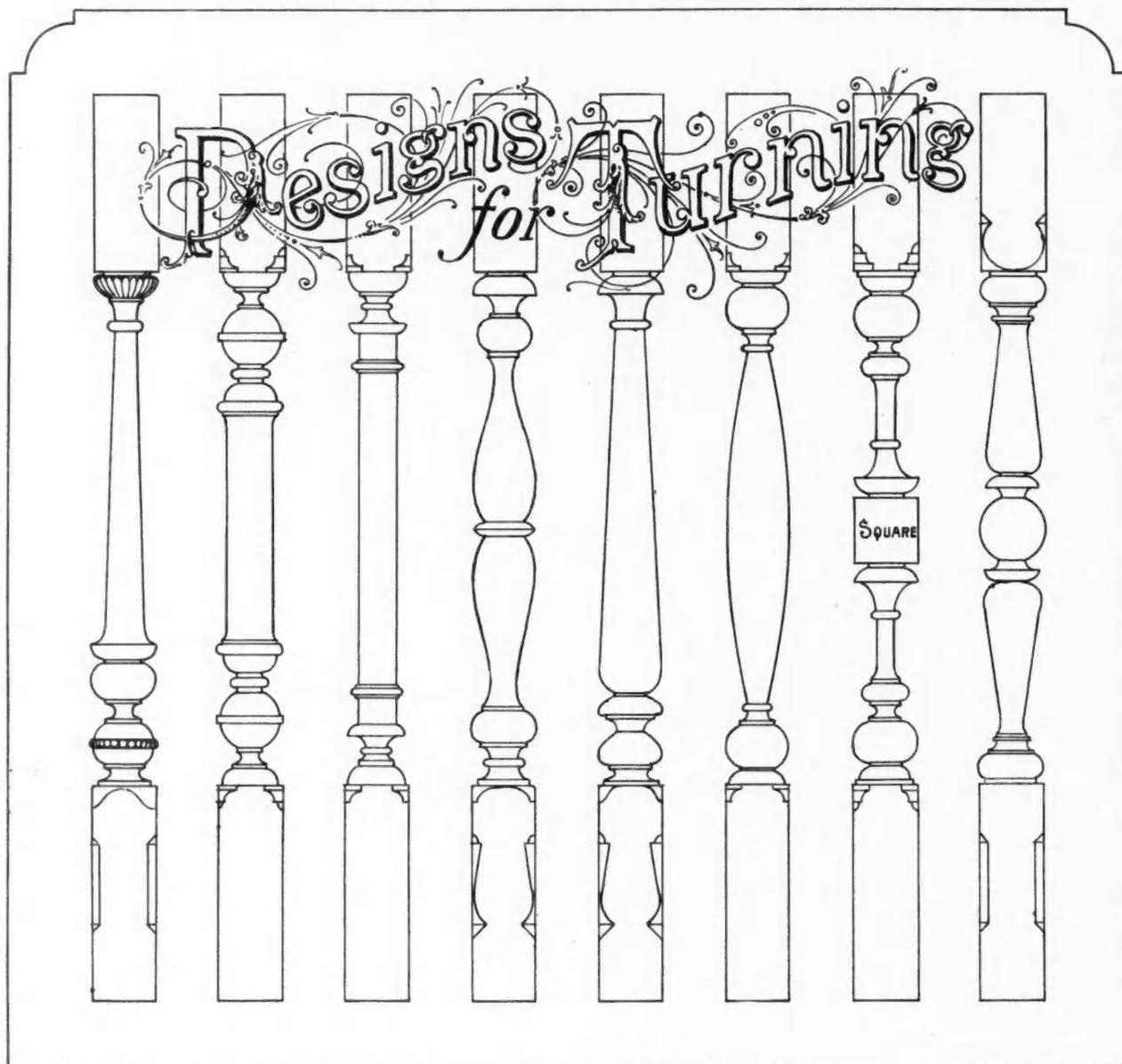


Gabled Hip Roof Laid out and Opened up to Show Method of Framing all Rafters with the Steel Square

then brought forth and hewed down to a working size; and then we see him astride the shaving horse with draw shave in hand and with foot on the clamp, leaning back and forth each time lifting a long slender chip until at last it is ready for the jack plane to be trued up to the required size.

All this, we see not in the up-to-date mill, such as Brother Jasbury tells us about, with all its new-fangled machinery for doing this part and that part, each bossed by a white aproned artist whose special duty

power staked down on the outside, propelled by faithful old Baldy, urged along by a gad in the hands of his son Tim, or if more fortunate to be located on a river bank, with water power. Here we see him in all his glory with the splashing water falling over the wheel and the hum of the lathe is sweet music to him. Neither short hours or long hours bothered him; no one to tell him to strike and shut down the shop. All he asked was to let him turn out a good job of work and he usually succeeded.

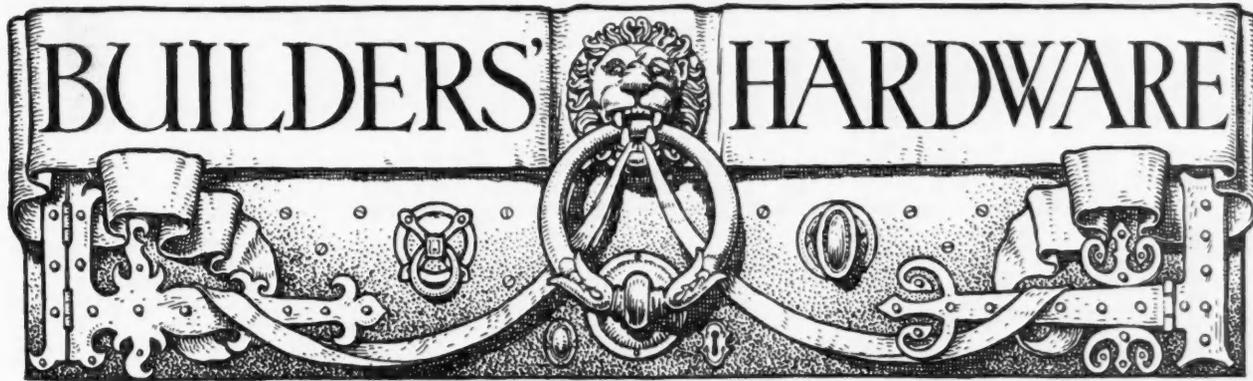


Some Graceful and Appropriate Designs for Turned Balusters

is to look after that one machine, eight hours per day (no more, thank you), driven by that unseen power (electricity), and under perfect control, even to the little finger (so nicely in fact, that at the noon whistle, before its last reverberating sound has died out, the machine is shut down deader than a pickled mackerel!)

But we mean the old time cabinet maker, not in a Jasbury shop, but in the log cabin with a horse

Such turning of the legs of this table we see before us, though old fashioned with a succession of swells and reverses cut true and sharp, we cannot but admire without giving our credit to one who in the nature of things has long since passed away; and though the winds have whistled over his grave that may now appear not, he has left a work that we feel like holding up to the turners of today with all of their new-fangled machinery and say,—“Beat it, if you can.”



Complete Typical Modern Schedule

THE PRESENT SERIES CONCLUDED—MODEL HARDWARE LIST SHOWING THE INFORMATION THAT SHOULD ALWAYS BE GIVEN WHEN ORDERING OR ASKING FOR BIDS

By Our Hardware Expert

THE builders hardware trimmer takes greater pleasure in furnishing hardware for a residence, than any other kind of building. The hardware trimmer should not be made to compete with the other fellow, if the owner wants a good high grade job.

If the owner is wise, he tells the hardware man to give him the best selection which can be furnished for a given sum of money. This puts the hardware man on his honor, and he will do his very best to please his customer. After the job is finished, the owner moves into his home, he finds everything satisfactory, he pays his bill and compliments the hardware man on his good work.

To help along the good cause, I hereby show a typical schedule of openings found in an up-to-date residence building.

This schedule is designed to help the carpenter, the architect, and the hardware trimmer. If you will make a close study of it, you will find that it contains all of the information required to make a perfect working lot of goods.

I suggest that the carpenter, the architect, and the hardware trimmer adopt this schedule as a regular

form.

If the order has to be sent in to the hardware manufacturer, it cannot be supplied correctly, unless most of this information is sent in with the order.

I, who from modesty and other personal reasons, have been content to be known to you simply as the Hardware Editor ("expert" they call me here), am very sorry to inform my readers that my labors for the AMERICAN CARPENTER AND BUILDER are for the present finished with this issue.

I have taken a great deal of pleasure in my work, and I trust that my readers have accepted same in the right spirit. I did not mean to be such a terrible scold. Do not blame me for the many harsh words found in my writings, as I was continually urged to put *Human Interest* and *Punch* into my articles.

I earnestly hope that I have not written in vain, and that my readers will remember me kindly.

I cannot end my work without proposing a toast to the AMERICAN CARPENTER AND BUILDER. May it prosper and increase in circulation; it deserves the greatest success, as there is no other Building Paper which has so much information of real value to its readers.

SCHEDULE OF HARDWARE FOR TYPICAL RESIDENCE.

First Floor

- | | |
|---|--|
| Dull brass finish front of double act. door to pantry and front of door hall to rear hall, bower barff near part. | 1 1 3/4-in. door, hall to back hall. |
| 1 sgl. 1 3/4-in. front ent. sash door, 3 ft. by 7 ft. 6 in., rt. 26-in. glass. | 1 pr. butts, 4 by 4, bower barff finish. |
| 1 1/2 pr. brass butts, 4 1/2 by 4 1/2, dull brass finish. | 1 set thumb bolt, lock, knobs and escutcheons; dull brass and bower barff. Thumb piece in front hall so servant is locked in servant's portion of the house. |
| 1 push button to match. | 1 1 3/4-in. D. A. door, dining room to but. pantry. |
| 1 set cyl. front door lock; knobs and escutcheons; Cha. A. | 1 set spring hinges, dull brass and bower barff. |
| 1 sgl. 1 3/4-in. vest. sash door, 3 ft. by 7 ft. 6 in., rt. hd. 26-in. glass. | 1 push plate, dull brass finish. |
| 1 1/2 pr. steel butts, 4 1/2 by 4 1/2, dull brass finish. | 1 push plate, bower barff finish. |
| 1 set cyl. vest. lock; knobs and escutcheons; Cha. A. | 1 door holder, bower barff finish. |
| 1 dbl. slid. door, hall to parlor, 6 ft. by 7 ft. 6 in. opening. | 1 mortise thumb bolt, dull brass finish. |
| 3 slid. door pulls, dull brass finish. | Thumb piece in dining room to lock against servants. |
| 6 cup escutcheons; no key holes. | 1 1 3/4-in. door, kitchen to pantry. |
| 1 1 3/4-in. door, hall to coats, 2 ft. 6 in. by 7 ft. | 1 pr. butts, 4 by 4, bower barff finish. |
| 1 pr. steel butts, 4 by 4, dull brass finish. | 1 set 1 tumbler lock, knob and escutcheons, bower barff finish. |
| 1 set 1-tumbler locks; knobs and escutcheons. | 1 sgl. slid. door, hall to dining room, 3 ft. by 7 ft. 6 in. opening. |

- 1 1 $\frac{3}{4}$ -in., kitchen to basement.
- 1 pr. butts, 4 by 4, bower barff finish.
- 1 set 1 tumbler locks, knobs and escutcheons, bower barff finish.
- 1 mortise thumb bolt.
- 1 1 $\frac{3}{4}$ -in. rear ent. door to kitchen.
- 1 $\frac{1}{2}$ pr. butts, 4 by 4, bower barff finish.
- 1 set 3-tumbler locks, knobs and escutcheons, plain bronze and bower barff.
- 1 cyl. rim N. latch. Cha. B.
- 1 door fast.

Note: Cha. B is to differ from, yet be passed by Cha. A, which are alike.

- 1 pr. 1 $\frac{3}{4}$ -in. open-in French doors, porch to living room, open 90 degrees, 2 ft. by 7 ft. 6 in.
- 3 pr. brass butts, 4 $\frac{1}{2}$ by 4 $\frac{1}{2}$, dull brass finish.
- 2 lever extension bolts on edge, 12-in. and 18-in. rod.
- 1 set thumb bolt lock, 1 $\frac{3}{8}$ -in. backset; lever with oval rosette; outside knob with 2 $\frac{1}{8}$ -in. rosette, and thumb knob inside for 2 $\frac{1}{2}$ -in. stiles with T astragal.
- 1 pr. 1 $\frac{3}{4}$ -in. open-in French doors, porch to dining room, open 180 degrees, 2 ft. by 7 ft. 6 in.
- 3 pr. brass butts, 4 $\frac{1}{2}$ by 6, dull brass finish.
- 2 flush extension bolts on face of door, 12-in. and 18-in.
- 1 set thumb bolt lock, 7 8-in. and 1 $\frac{3}{8}$ -in. backset; lever with oval rosette; outside knob with 2 $\frac{1}{8}$ -in. rosette, and thumb knob inside for rabbet $\frac{1}{2}$ -in. deep, stiles 5-in. between glass.

The above lock can be put in upside down, so you need not be bothered with hand of door.

The above 4 $\frac{1}{2}$ by 6 butts is needed when door swings around against the wall, and Hartshorn shade is attached to the top stile of door.

- 1 pr. 1 $\frac{3}{4}$ -in. open-out French doors, 2 ft. by 7 ft. 6 in.
 - 3 pr. brass pin galvanized butts and screws, 4 $\frac{1}{2}$ by 4 $\frac{1}{2}$.
 - 2 flush extension bolts on face of door, 12-in. and 18-in., dull brass finish.
 - 1 set thumb bolt lock, 2-in. backset, lever and oval rosettes both sides of door, with thumb knob inside for 2 $\frac{1}{2}$ -in. stiles with T astragal on outside.
 - 1 pr. 1 $\frac{3}{4}$ -in. open-in. French windows dining room, 2 ft. by 7 ft. 6 in.; open 90 degrees.
 - 3 pr. butts, brass, 4 $\frac{1}{2}$ by 4 $\frac{1}{2}$.
 - 1 Cremorne bolt, dull brass finish, 7 ft. 6 in. long, knob in middle.
- See detail No. 9 of February issue of AMERICAN CARPENTER AND BUILDER for the latest up-to-date detail for use of Cremorne bolt.

- 1 sgl. 1 $\frac{3}{4}$ -in. open-in casement sash, dining room, 18-in. glass; open 90 degrees.
- 1 pr. brass butts, 3 $\frac{1}{2}$ by 3 $\frac{1}{2}$ in.
- 1 ring handle, fast with wide strikes; see page 47, May issue.
- 1 adjuster, 12-in. rod, stool depressed $\frac{5}{8}$ in. and stool 2 $\frac{1}{2}$ in. wide.

Note: Attach base plate 7 in. to center from hinge on stool.
Note: Attach bracket 8 $\frac{1}{2}$ in. to center from hinge on sash.

Second Floor

Dull brass in hall and chambers; nickel in bath; barff in servants.

- 1 1 $\frac{3}{4}$ -in. door, front hall to servants' hall.
- 1 pr. steel butts, 4 by 4, bower barff finish.
- 1 set thumb bolt lock, barff knob and escutcheon, rear; Octagon glass knob and thumb knob in front hall.
- 1 1 $\frac{3}{4}$ -in. door, hall to bath.
- 1 pr. butts, 4 by 4, nickel plated.
- 1 set thumb bolt lock, Oct. glass knobs; thumb knob inside, key plate outside.

Note: See details B and C, page 61, April issue.

- 1 sgl. 1 $\frac{3}{4}$ -in. open-in casement sash, 18-in. glass; open 180 degrees.
 - 1 pr. Stanley parliament loose-pin butts, 6-in., dull brass.
 - 1 fast, as above.
 - 1 adjuster, as above.
- Note: Attach base plate 5 in. to center from hinge on stool.
Note: Attach bracket 6 $\frac{1}{2}$ in. to center from hinge on sash.
Note: See detail D, page 61, April issue, why 6-in. butt is used.
- 1 pr. 1 $\frac{3}{4}$ -in. open-in recessed casement sash; open 90 degrees.
 - 2 pr. Stanley parliament loose-pin butts, 6 in.
 - 2 flush bolts, 6-in., having $\frac{5}{8}$ -in. angle.
 - 1 fast, as above.
 - 2 adjusters, as above.

Note: See detail B and E, page 61, April issue, why 6-in. butt is used.

Note: See detail B, page 61, April issue, why bolt having $\frac{5}{8}$ -in. angle is used.

- 1 sgl. 1 $\frac{3}{4}$ open-out casement sash.
 - 1 pr. brass-pin galv. butts, 3 $\frac{1}{2}$ by 3 $\frac{1}{2}$.
 - 1 ring handle, fast with narrow strikes; see page 47, May issue.
 - 1 adjuster; see page 47, May issue, for illustration of same.
- Note: The adjuster best adapted to open-out windows is the lower one shown on this page, directions for application of same is furnished with the adjuster.
- Note: See page 46, May issue, for space required for adjuster.

- 1 D. H. sash, front.
 - 1 Diamond sash fast, dull brass.
 - 2 bar sash lifts, dull brass.
 - 1 Jimmy-proof ventilating sash stop.
 - 1 D. H. sash, rear.
 - 1 Diamond sash fast, bower barff.
 - 2 bar lifts.
 - 1 Jimmy-proof ventilating sash stop.
 - 1 book case, living room; 1 pr. 1 $\frac{1}{8}$ doors; 2 sgl. 1 $\frac{1}{8}$ doors.
- See page 51, July issue, showing the hardware man's form and schedule of items.
- 1 buffet, dining room.
- See page 51, July issue, showing the hardware man's form and schedule of items.

Cases, butler's pantry.

- Butts, 3 by 3, on bin, hinged at bottom.
- Butts on doors, 2 $\frac{1}{2}$ by 2, bower barff finish.
- Elbow catches, japanned.
- Cupboard turns, bower barff finish.
- 3-ft. pieces Stanley rail, $\frac{3}{4}$ -in.
- Sheaves, No. 110 and scs. on sliding doors.
- Flush lifts, on sliding doors.
- Drawer pulls, on drawers and bin.
- 1 icing door on rear porch.
- 1 pr. galv. butts, 3 $\frac{1}{2}$ by 3 $\frac{1}{2}$, galv. scs.
- 1 flat-key night latch, reverse latch bolt.
- 1 door pull.

Note: Thumb knob spindle cut off to half the thickness of door, and the plug key is an emergency key from outside.

- 1 1 $\frac{3}{4}$ -in. door, hall to chamber.
 - 1 pr. butts, 4 by 4, dull brass finish.
 - 1 set thumb bolt lock, Oct. glass knob; thumb knob inside, key plate on outside.
- Note: The lady of the house thinks this bath room lock is just the thing for bed room doors.

- 1 1 $\frac{3}{8}$ -in. closet door.
 1 pr. butts, 4 by 4, dull brass finish.
 1 set 3-tumbler lock, Oct. glass knobs and key plates.
- 1 1 $\frac{3}{8}$ -in. communicating door between chambers.
 1 pr. butts, 4 by 4, dull brass.
 1 set thumb bolt lock, Oct. glass knobs and thumb knobs each side of door.
- 2 1 $\frac{3}{8}$ -in. doors from 2 chambers to 1 closet between same.
 2 pr. butts, 4 by 4, dull brass.
 2 set thumb bolt lock, Oct. glass knob and thumb knob one side of door.
 Note: Put thumb knob on chamber side of door.
- 2 1 $\frac{3}{8}$ -in. doors from 2 chambers to closet having wash bowl in same.
 Use same hardware as above.
- 1 1 $\frac{3}{8}$ -in. door to wash bowl closet.
 1 pr. butts, 4 by 4, dull brass finish.
 1 set mortise latch, Oct. glass knob with closet spindle inside.
- 1 1 $\frac{3}{8}$ -in. mirror door to wardrobe, 3-in. stile.
 1 pr. butts, 4 by 4, dull brass finish.
 1 set mortise latch, 1 $\frac{1}{2}$ -in. backset, knob as above.
- 1 1 $\frac{3}{8}$ -in. door, servants' part.
 Same trimmings as kitchen.
 Windows of all kinds same as 1st floor.
 No jimmy-proof sash stops except over roofs.
- 1 sgl. sliding communicating door, chamber to bath.
 1 door pull.
 1 cup escut., nickel; no key hole.
 1 cup escut., dull brass; no key hole.
 1 Corbin ventilating bolt, nickel finish, No. 1408.
 1 Corbin ventilating bolt, dull brass finish, No. 1408.
 Put these bolts in the side of the near stile and the plate on the sliding door stop.
- 1 wardrobe in chamber; 1 pr. 1 $\frac{1}{8}$ -in. doors; drawer below.
 3 pr. butts, 3 by 3 $\frac{1}{2}$, dull brass.
 1 elbow catch at top.
 1 bolt at bottom, 3-in.
 1 half-mortise cupboard latch; 1-in. backset and thumb knob.
 2 drawer handles.
- 1 medicine case.
 1 pr. butts, 2 $\frac{1}{2}$ by 2, nickel.
 1 half-mortise cupboard latch; 1-in. backset and thumb knob.
- 1 linen case, having drop fronts and 36-in. drawers.
 Butts, 2 $\frac{1}{2}$ by 2, dull brass finish.
 Forge catches and scs., No. 11, two to each drop.
 Drawer knobs, 1 $\frac{1}{8}$ -in., one to each drop.
 Stanley desk slides, No. 430, 7 $\frac{1}{2}$ -in., one to each drop.
 Drawer handles, two to each drawer.
- 1 1 $\frac{3}{8}$ -in. secret panel door.
 1 pr. Soss hinges.
 1 mortise latch in the jamb, no knob is required.
 1 electric opener No. 151 in the door.
 1 push out spring No. 79 in door.
 1 Mite push button No. 63, located in some hidden place.
 These electrical goods are sold by Western Electric Co.
 Placing latch in jamb and opener in door, nothing shows from the outside.
 If secret door extends down to the floor and the base board is attached to the door, Soss hinges cannot be used.
 Use No. 53 Sargent sash center; place it on the inside of the door about 3 inches from hinge edge.
- Miscellaneous.
 Base knobs.
 Floor door stops.
 Window and sliding door stop screws and washers.
 Coat and hat hooks.



WHEN you think you are too old to learn, it simply means that you are getting too stubborn and contrary, for there is no age limit to learning new things.



Facts Both Curious and Informing

A smoke abatement exposition has been held at Glasgow. Texas established a new high record for coal production last year.

Within a year the population of Buenos Aires has increased almost 50,000.

The United States and its dependencies produce one-tenth of the world's sugar.

The forests of the Alaskan coast yield about 27,000,000 board feet of lumber a year.

Bolivia's third railroad through Chile to the Pacific coast will be opened this month.

New York has more than 1,300 electric trucks and nearly 5000 electric pleasure vehicles.

Denmark imported nearly 3,000,000 tons of coal last year, most of it from Great Britain.

An aviation school in that country has been contracted for by the government of Guatemala.

The energy released by a candle burning steadily for two full days is equal to one horse power.

According to a Berlin nerve specialist knitting in bed is an excellent antidote for tired nerves.

Thirty-eight of the forty-eight states have fairly adequate laws for the protection of insectivorous birds.

The French government has offered a prize of \$80,000 for a device that will make aeroplanes safe.

A fence can be made cat proof by stringing a tight wire about two inches above and parallel to the top.

The salt deposits of the United States are ample enough to supply the nation's demands for many years to come.

With gradients of 92 feet in 1,000, a railroad in Brazil is the steepest in the world of any built of ordinary rails.

Polishing with stone gives alligator leather its beautiful gloss that neither japanning nor varnishing can imitate.

Vienna's new water works system brings 50,000,000 gallons of water a day from a point in the Alps 113 miles distant.

About one-tenth of the electric lamps made in the United States every year are used for advertising signs.

England's largest clock, an electrical affair with dials twenty-four feet in diameter, has been erected in Liverpool.

A national organization of electricians is providing free electric fans to the poor in New York next summer.

Tokio has more than 800 public baths, where more than 300,000 persons bathe daily at a cost of about 2 cents each.

The surface soil and rock having been removed, coal is being dug from a big Pennsylvania anthracite mine with steam shovels.

Tourists will be able to reach the famous leaning tower of Pisa in Italy by an electric street car line in the near future.

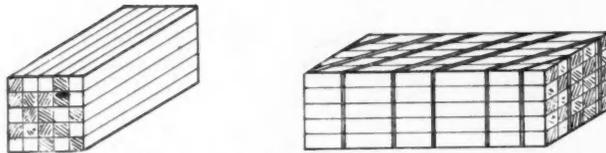
PLANING MILL WORK

More Shop Kinks

HELPFUL IDEAS AND SUGGESTIONS FOR CARPENTERS, CABINET MAKERS AND MACHINE WOODWORKERS

By Wm. Jasbury

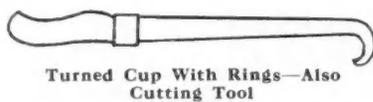
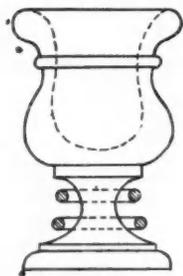
A NOVELTY IN WOOD TURNING. Gluing up a number of pieces of white maple and walnut in strips $\frac{1}{4}$ by $\frac{1}{4}$ inches squared, and then afterwards cutting them diagonally, reversing and re-gluing them,



Glued up Block can be cut on the Bias for Fancy Markings

then turning up and shellacing while yet in the lathe, makes a very pretty novelty.

TO TURN SOUVENIRS. In the novelty shops where they make a specialty of turning vases, cups, jewelry boxes, etc., they use a hook for getting out the core or inside first. They bore a hole in the revolving piece



Turned Cup With Rings—Also Cutting Tool

with a bit in the tail stock of the lathe; then they reach in with a special tool called a hook, which is made of tool steel of $\frac{5}{8}$ -inch stuff, though some are larger or smaller as desired; some have a hook on one end and some on each end and are handled same as turning tool.

SPEAKING ABOUT WOOD TURNING, I have turned as many as seven loose rings on the neck of a small cup with the aid of tools with a very small hook that I doped out myself to make the under cut to separate the ring from the neck. This work was done for the novelty of the thing, but now I am going to tell of some turning for the money that was

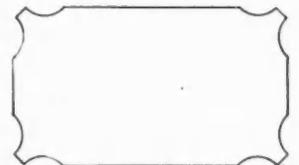


Cross Section—Duster Handle at 25c per Gross

in it. I worked part of one winter in a brush and duster handle shop on 24th street, New York City. To give some of the AMERICAN CARPENTER AND BUILDER readers an idea how the prices range, we got 25 cents a gross for the duster handle, known as the Common Boston. They were run on the moulder first, to a cross section, as shown; then they were cut up in 12-inch lengths and delivered to us Pollocks in basket loads. We worked from 7 A. M. to 9 P. M., and I have made as high as \$1.75 per day. Talk about labor assassins,—this is it. Every time I see one of these duster brushes in the shop, or elsewhere, I get hungry and say,—the poor devil who turned it has my sympathy.

HOW IS THIS FOR A SCREW DRIVER?

I know a Hungarian cabinet maker who uses a scraper for a screw driver, one on each corner, as shown.

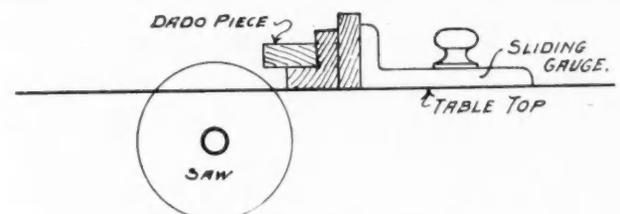


Four Screw Drivers in one

This is some scheme; not for me, though.

TO CUT DADOES WITH CIRCULAR SAW.

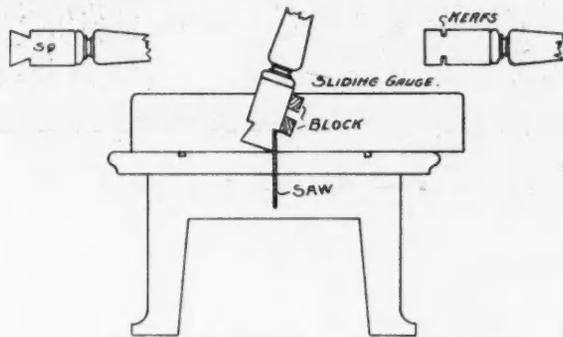
Many times we have lattice work to build where the cross pieces are halved out or dadoed—now and then a job of thin lattice, such as a small grill or partition for small pigeon holes, etc. To dado these on a cross-cut saw with a common sliding gauge is an unhandy thing to do, unless there is a piece of stuff ripped L shape and fastened to the wood of the sliding gauge,



Rig for Dadoing on Circular Saw

as shown in sectional drawing. The L shape piece can be any length to suit the length of stuff to be worked. This scheme can be used to good advantage in getting out dentil strips.

A USEFUL ATTACHMENT. Speaking of stair building, I saw a rig for hand dove-tailing balusters on a saw recently. The method was a new one to me, hence I pass it along. The operator first cut the square shoulders on the bottom; this he did on a cross

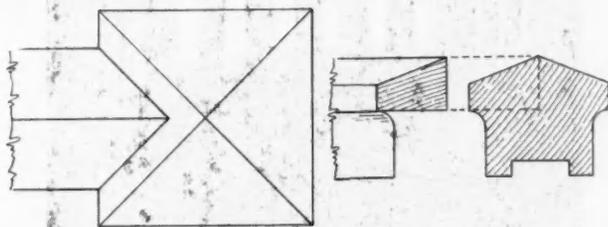


Rig for Dove-tailing Balusters on Circular Saw

cut saw with the aid of a sliding gauge. He cut the kerfs, as shown in illustration, first; then nailed blocks on the gauge and cut the dovetail end as shown.

BUT THE KING'S BIRTHDAY WAS MARKED. In the mill where I am now working, the boys hang up a calendar on the wall before them (to keep from working over-time). Well at the end of the year, it was necessary for a change of calendars and in the change, I saw a good box of cigars won on a bet. One lad said he had a nice, up-to-date calendar and that no Decoration Day or 4th of July was indicated on either by word or color of figures; whereupon another lad bet the cigars and left it to the gang to be the judge. The calendar in question proved to be that of a Canadian Lumber Co., and Mr. Second Lad paid two plunks for the cigars and the gang was in on it to the finish.

SOMETHING ABOUT COPING. To cope or miter a rail into a cap, take a rail like that shown in cross section, to miter into a beveled cap. The top part of the rail is mitered into the cap but the lower



Upper Part Mitered; Lower Coped

part is simply coped against the cap. Of course there are other ways, but this is a good way.

SOMETHING ABOUT TEAK WOOD. This New Jersey town at present is over-run with amusement places and such, including Japanese auction rooms; they have Yankee autioneers, owing to their more glib tongues. It makes me wonder at these fellows, for instance, in putting up a handsome carved piece of furniture, they will say it is made of "Teak Wood, one of the highest priced woods on earth, now about extinct; in ten years the price of teak wood

will be out of sight. Good luck accompanies every piece of teak wood, a wood that is in a way, sacred." In fact, they indulge in this way on the innocent bidder, until they run the price so high that their altitude-meter freezes up. Now the solution of this enormous bunco is, teak wood is not expensive. It is used largely for ship timbers, because it has an oily nature and repels the water. There is an abundance of it in every ship yard; but to the auction-going throng, teak wood is as precious as inlaid diamonds.

FUN IN THE MILL. After one serves his apprenticeship, he is familiar with all the work in and about the mill; and no play makes Johnny a bum class leader. I once worked in a mill where the band sawyer had a two-bladed fan, run for cooling purposes, directly over the saw; a small belt from the line shaft transmitted the necessary power. This worked all right for the purpose for which it was intended, but some of the boys thought to extend its usefulness in another line. They placed a box holding about a bushel, with a sliding bottom, just above the fan. This was filled with sawdust. A small wire ran from a hook in the slide bottom of the box along a roof truss for some 50 feet or more to the moulder cutter rack, handy for operation; and when a victim showed up that did not look good he was given the third degree full and plenty; the fan emphasized the movement of the dust and gave Mr. Victim the appearance of Santa Clause just immersing from a Minnesota snow storm. But this outfit was eventually condemned by the Super.

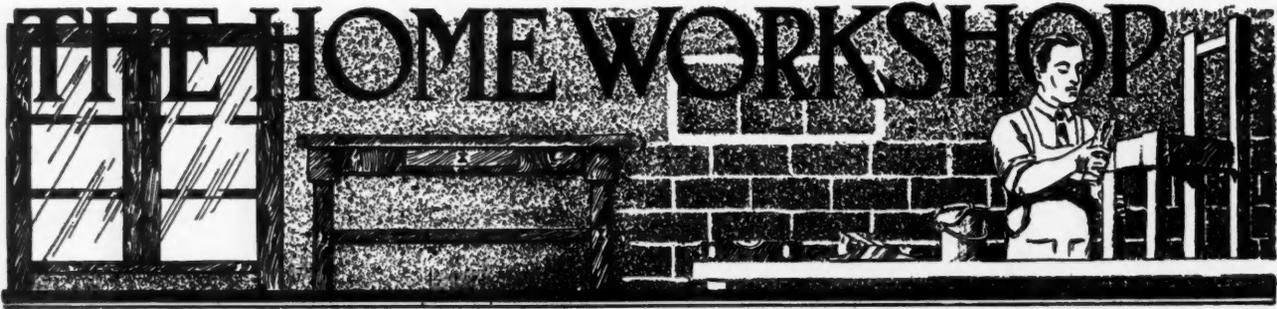
FOR BENT WORK. I find that the back of a riser, or string that has been kerfed and bent will



These Pieces Stay Curved

stay in the required shape if a piece of canvas is glued on across the kerfs. I have seen stiff paper used for this purpose; but it does not make as strong a job as the canvas. I have sometimes used small pieces of paper veneer. I have also seen two pieces of 7/16 inch thick stock kerfed and placed together with the kerfed sides against each other and bent. This will make a piece 7/8 inch thick; and will hold its shape well after being bent.

HOW LARGE TO MAKE THE PIN. Many wood turners are bothered when they get an order for Colonial columns, to know how large to turn the pin; that is, that part that extends up through the compo cap to carry the weight. I know of one firm of compo makers that make the shell 1 inch thick up to 6 inches in diameter, then increase 1/8 of an inch for every 2 inches in diameter, on up; that is, if the cap is 6 inches at the neck, the pin or core would be 4 inches in diameter and so on.



Designs for Wall Case and Laundry Box

COMPLETE DETAILED INSTRUCTIONS FOR MAKING AND FINISHING THE TWO FINE AND USEFUL PIECES OF FURNITURE SHOWN IN THE PHOTOS

By Ira S. Griffith

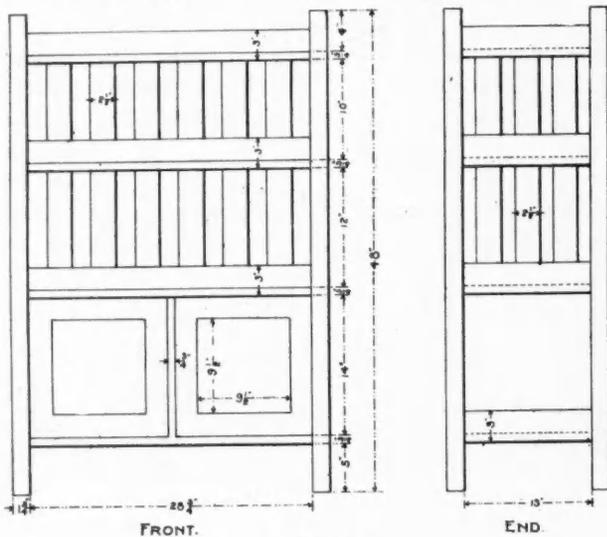
THE two photographs shown this month are of pieces designed and built in the home workshop of Mr. H. B. Geib, of Chicago. The dimensions, however, are suggested by the writer and may be varied to suit the reader's taste, as to size and proportion.

The wall case shown is suitable for the holding of books or magazines or both. It is built of quarter-

and cut them to size.

Stand the posts upright in the positions they are to occupy relative to one another and mark, as with penciled circle, the approximate locations of the intended mortises. Lay the posts upon the bench side by side and lay off accurately with knife and rule the locations for the ends of these mortises. Gauge the sides and then work them to depth.

Square the slats to width and length. The easiest way to handle this part of the work will be to smoothly plow a groove in the rail to receive the ends of the slats. The unfilled portions of the grooves may afterward be filled with wood of a thickness equal to that



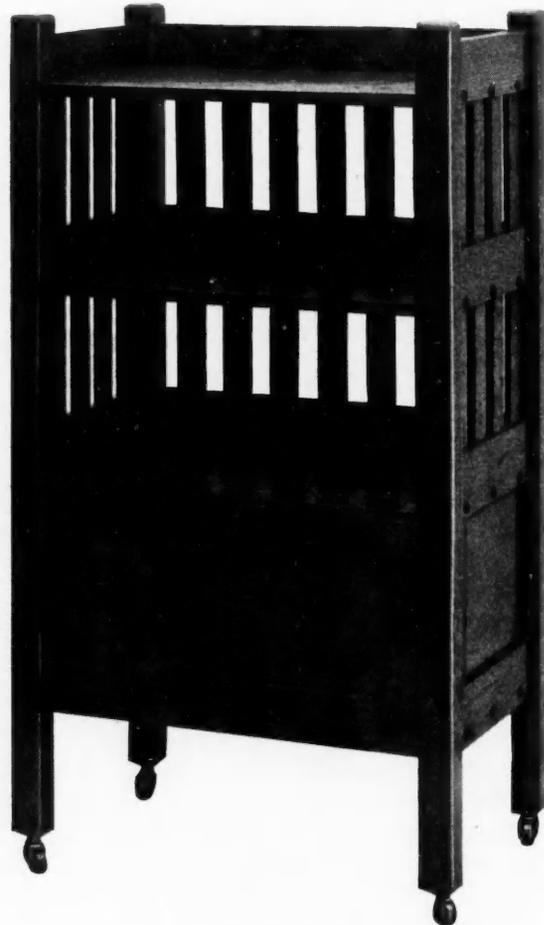
WALL CASE.

sawed white oak and finished a Mission brown. The following stock will be needed:

STOCK BILL FOR WALL CASE.

- Posts, 4 pieces, $1\frac{3}{4}$ by $1\frac{3}{4}$ by $48\frac{1}{2}$ inches, S-4-S.
- Shelves, 4 pieces, $\frac{3}{4}$ by 17 by 33 inches, S-2-S.
- Slats, 12 pieces, $\frac{3}{8}$ by $2\frac{3}{4}$ by 11 inches, S-2-S.
- Slats, 12 pieces, $\frac{3}{8}$ by $2\frac{3}{4}$ by 13 inches, S-2-S.
- Rails, 8 pieces, $\frac{3}{4}$ by $3\frac{1}{4}$ by 15 inches, S-2-S.
- Rails, 4 pieces, $\frac{3}{4}$ by $3\frac{1}{4}$ by 31 inches, S-2-S.
- Back panel, 1 piece, $\frac{5}{16}$ by $12\frac{1}{2}$ by $29\frac{1}{2}$ inches, S-2-S.
- Side panels, 2 pieces, $\frac{5}{16}$ by $12\frac{1}{2}$ by $13\frac{1}{2}$ inches, S-2-S.
- Partition, 1 piece, $\frac{3}{4}$ by 15 by $14\frac{1}{2}$ inches, S-2-S.
- Door Stiles, 4 pieces, $\frac{3}{4}$ by $2\frac{1}{2}$ by $14\frac{1}{2}$ inches, S-2-S.
- Door rails, 4 pieces, $\frac{3}{4}$ by $10\frac{1}{2}$ by $11\frac{1}{2}$ inches, S-2-S.

Since the posts are ordered mill-planed to size as to width and thickness, it will be necessary to merely remove the mill-marks and square to length—provided, of course, that good, well-seasoned stock is provided. Plane the rails to width and saw them to length, making due allowance for tenons. Lay off these tenons



Wall Case—for Books, Magazines, etc.

of the groove and of similar grain, each cut to the proper length. One could, if he prefers, cut a separate mortise for each slat and thus house the whole end.

Lay out and work the dados that are to house the partition, after cutting the partition to length and width. Prepare the grooves and then the end and



Laundry Box of Oak

back paneling and assemble the ends of the case. After the glue has hardened upon these, place the back and the shelves.

While the glue is setting upon the main frame, the doors may be built and later fitted.

How to Finish These Pieces

A suitable finish for this piece, as well as the one the description of which follows, is obtained as follows:

Select and apply a coat of penetrating Mission stain and allow it to stand over night. If this stain is of water it will have to be sanded with number 00 paper after it has dried, as water stain raises the grain badly. Even with the acid or spirit stains there will no harm come of sanding lightly the surface. Upon this stain apply a filler of a color dark enough to make a good contrast with the stain just applied, which will remain as on the highlight and the background. If a sharp contrast is wanted, a thin coat of shellac should precede the filler, being placed over the stain so as to prevent the coloring matter of the filler from discoloring or darkening the highlights. The shellac being thin does not in any way interfere with the proper application of the filler coat.

Treat this filler in the usual manner—directions will be found upon the can in which it is purchased—and after it has hardened over night, sand it lightly with fine sandpaper.

Upon the filler coat apply a coat of shellac, not a very thick coat, and then apply several coats of some

good rubbing floor wax. Directions for applying the wax will be found upon the cans in which it is sold.

This will produce a surface that will protect the wood and will be subdued enough for this style of furniture.

How to Make the Laundry Box

A rather unusual piece of furniture is the laundry box shown. It is left open between the slats so that clothes kept therein may not become unsanitary.

The following stock will be needed:

STOCK BILL FOR LAUNDRY BOX.

Posts, 4 pieces, $1\frac{1}{2}$ by $1\frac{1}{2}$ by $24\frac{1}{2}$ inches, S-4-S.

Rails, 4 pieces, $\frac{3}{4}$ by 3 by 16 inches, S-2-S.

Rails, 4 pieces, $\frac{3}{4}$ by 3 by 16 inches, S-2-S.

Slats, 12 pieces, $\frac{5}{16}$ by $3\frac{1}{2}$ by $16\frac{1}{2}$ inches, S-2-S.

Top, 1 piece, $\frac{3}{4}$ by $3\frac{1}{4}$ by $18\frac{1}{2}$ inches, S-2-S.

Top, 1 piece, $\frac{3}{4}$ by $15\frac{1}{4}$ by $18\frac{1}{2}$ inches, S-2-S.

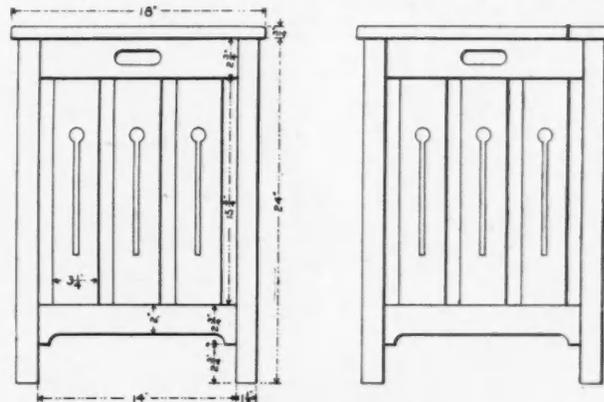
Bottom, 1 piece, $\frac{3}{4}$ by 15 by 15 inches, S-2-S.

There is nothing intricate about the construction. The four posts are to be squared to length and the mortises properly laid out and worked. Square the rails to length and lay out and cut the tenons upon their ends and the mortises in their edges into which the slat ends are to be housed.

The manner of laying out and working the pierced ornaments is easily determined from the drawings, the bit and keyhole saw being depended upon to do most of the work.

Before assembling, the lower rails should be plowed to receive the edges and ends of the bottom.

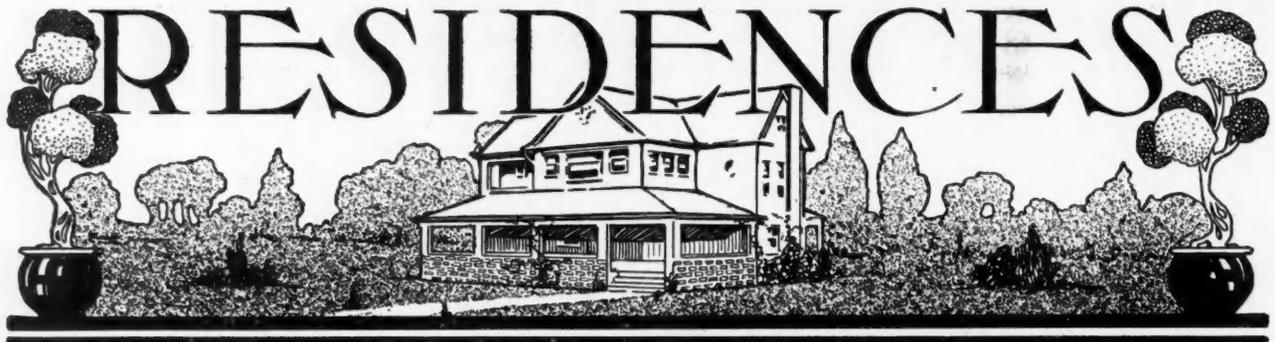
When the various parts are ready, the clamps may be attached to two opposite sides of the frame. Use good hot glue and make certain that the sides are out of wind by sighting across from post to post, that the rails are square to the surfaces of the posts, and



LAUNDRY BOX.

that the diagonals of each side are equal. A proper shifting of the positions of the clamps can be made to correct any irregularities.

When the glue has hardened over night these clamps may be removed and the rest of the frame assembled. In assembling the remainder of the frame, measure the diagonals from post to post to see that they are equal. Also take pains to see that the clamps apply the pressure to the posts so as not to break the glue joints already made.



Plans for Attractive 2-Flat "House"

ARCHITECT'S PERSPECTIVE, ELEVATIONS AND FLOOR PLANS OF SIX ROOM TWO FLAT BUILDING OF GOOD DESIGN

D OUBTLESS the flat building illustrated here, and details of which are given on following pages, will appeal to a great many as affording means to make an investment in a home and at the same time have an incoming producing property.

This flat building is particularly adapted for construction in the smaller towns where the larger buildings are generally looked upon as undesirable. This building would afford a home to the owner as well as proving an investment from the renting of the other flat. Or it could be constructed expressly for renting purposes.

The exterior finish is a stucco cement plaster. A

large porch extends across front and entrance to vestibule is at left. From this vestibule stairs lead to upper flat. At the right of these stairs is the door into reception hall of first floor. The arrangement of the flats is practically the same, the slight difference being that in second floor flat the space over vestibule and stairs is formed into a bedroom.

Reference to first floor plan will show the particularly convenient arrangement. Special features of this flat include built-in hinged cover box seat in reception hall, large fireplace and built-in book cases in living room, bay window in dining room, back porch inclosed with either screens or storm sash, arrangement for



Two Family House (6 Rooms on Each Floor) Designed for Mr. Lewis Ackerman, La Grange, Ill.

[COMPLETE WORKING DRAWINGS FOR THIS HOUSE ARE PRESENTED ON THE 5 PAGES FOLLOWING

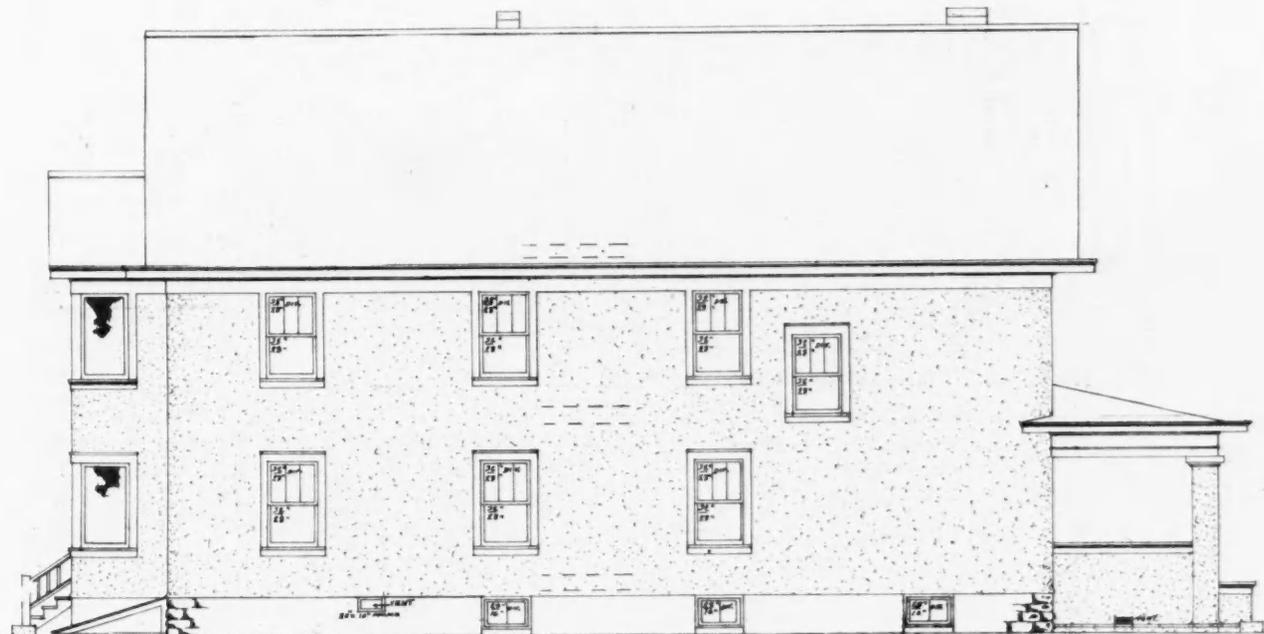


RIGHT SIDE ELEVATION

icing ice box direct from porch without need of entering either kitchen or pantry. Second floor plan and construction is similar other than front bedroom and reception hall, which are smaller than on first floor.

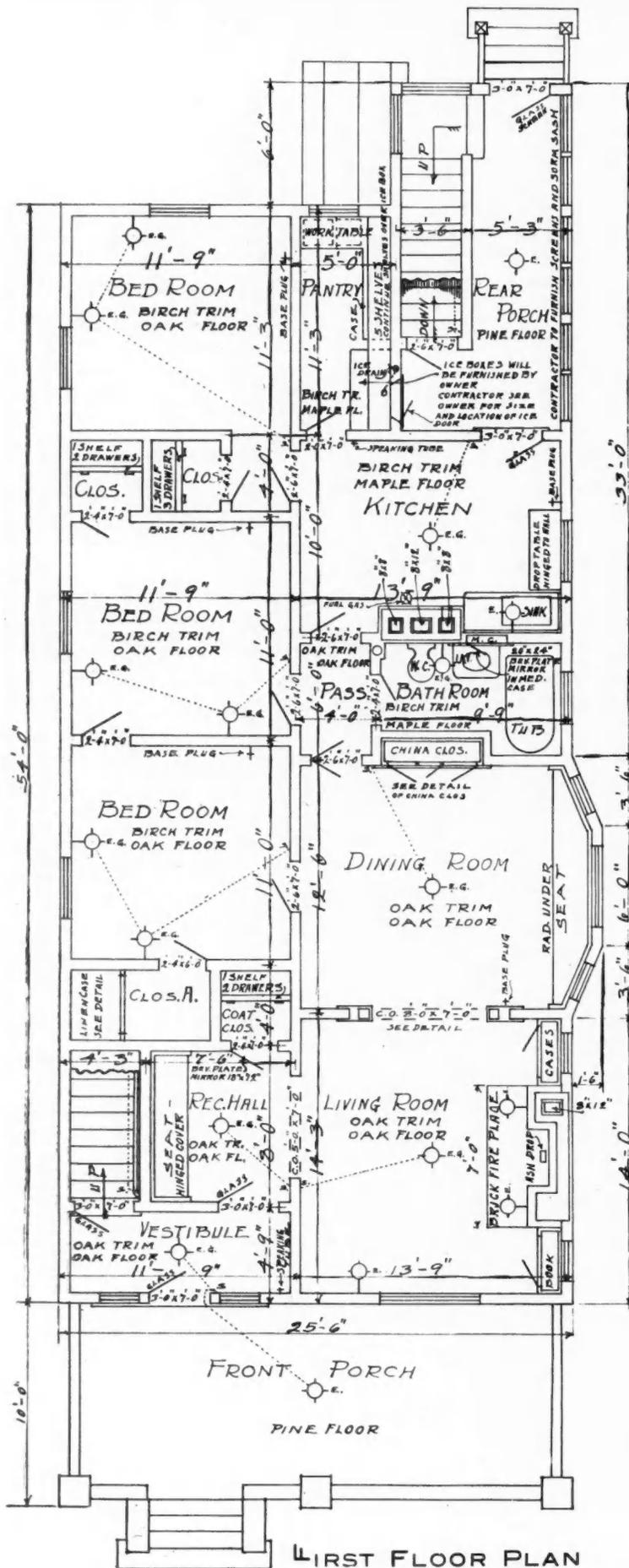
Note that ample closet space has been provided throughout. Clothes chutes have been built in. Basement is not divided and has heating equipment, laundry, fruit cellars and storage space. Storage space is also provided in attic, which is accessible by stairs leading from upper rear porch.

A PLACE TO STOP. I once worked in a wood letter shop, rounding letters. When not engaged in that pastime, I was turning sign posts (not in an auto) on a lathe and periods out of the waste from the centers of the round letters as B. C. D. O. etc. I had 700 of these periods to turn. Well you know when you come to a period, it means a stop for a while. I did. It took me five whole days to turn them, then the Boss took a turn. He said, "Quit Bill." Another period. Wm. C. JASBURY.

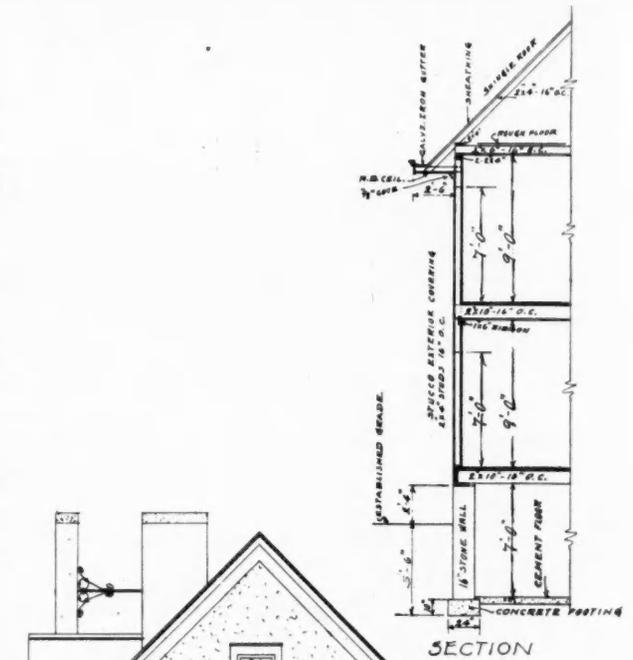


LEFT SIDE ELEVATION

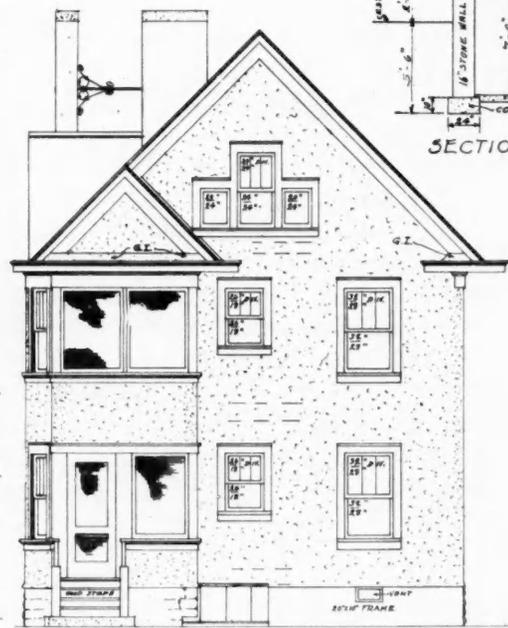
(2-Flat "House" Shown on Page 70)



FIRST FLOOR PLAN
2-FLAT "HOUSE" SHOWN ON PAGE 70



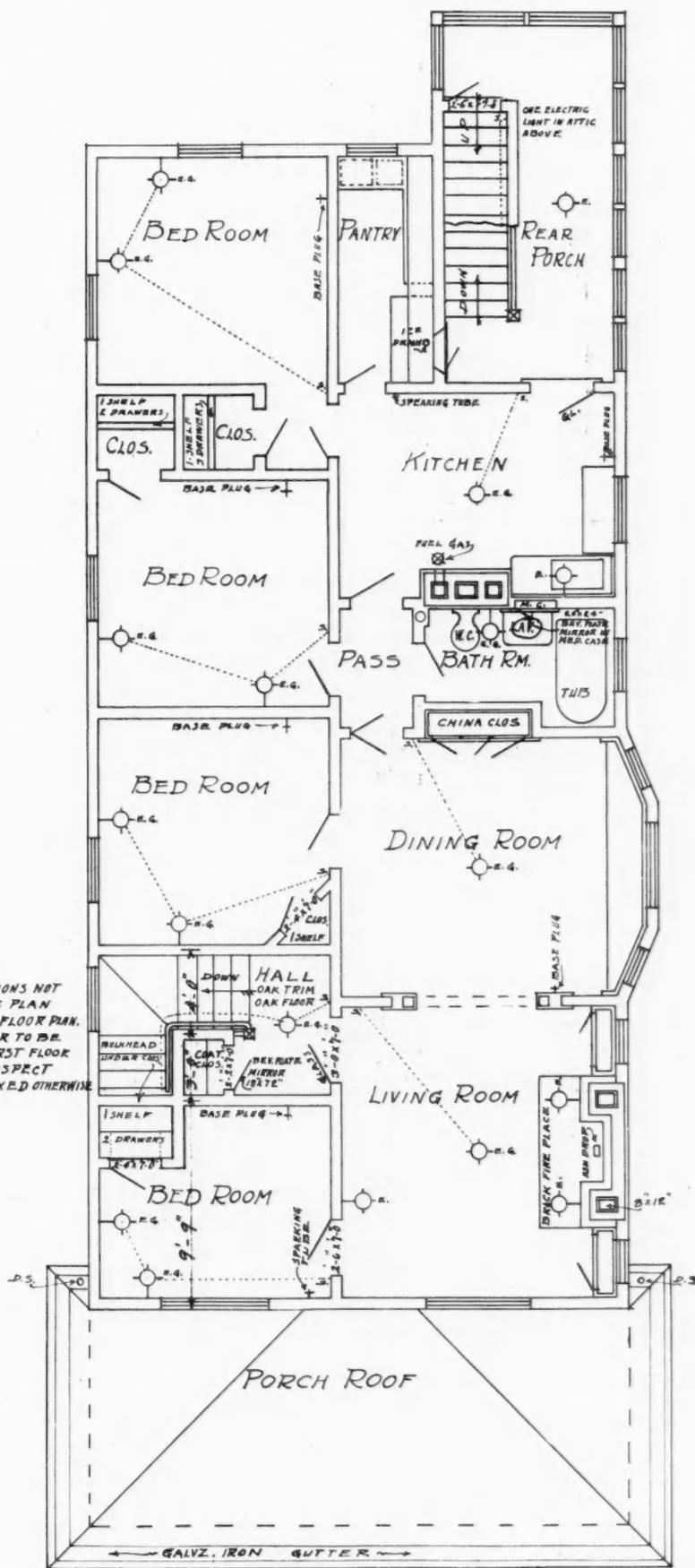
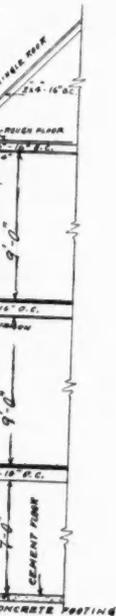
SECTION



REAR ELEVATION

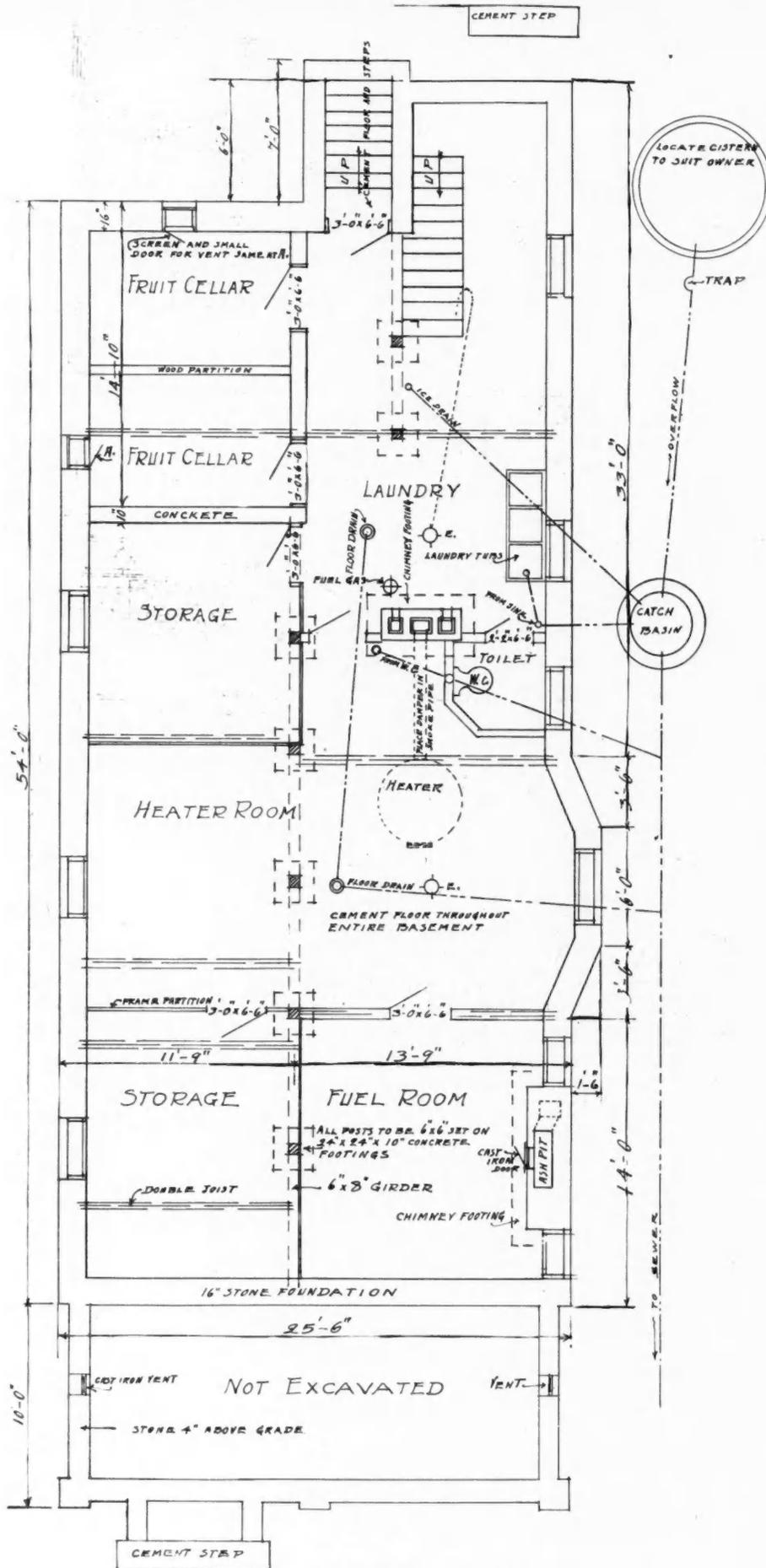


FRONT ELEVATION

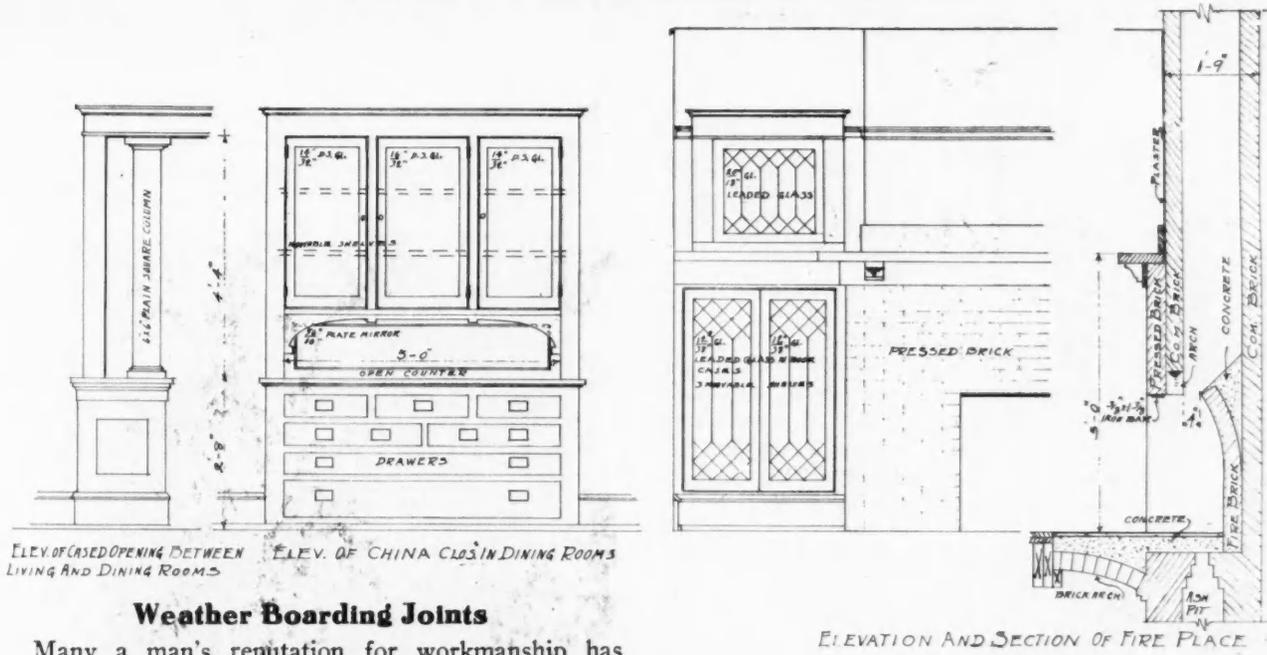


NOTE.
FOR DIMENSIONS NOT
GIVEN ON THIS PLAN
SEE FIRST FLOOR PLAN.
SECOND FLOOR TO BE
SAME AS FIRST FLOOR
IN EVERY RESPECT
UNLESS MARKED OTHERWISE.

SECOND FLOOR PLAN
(2-Flat "House" Shown on Page 70)



BASEMENT PLAN
(2-Flat "House" Shown on Page 7.)

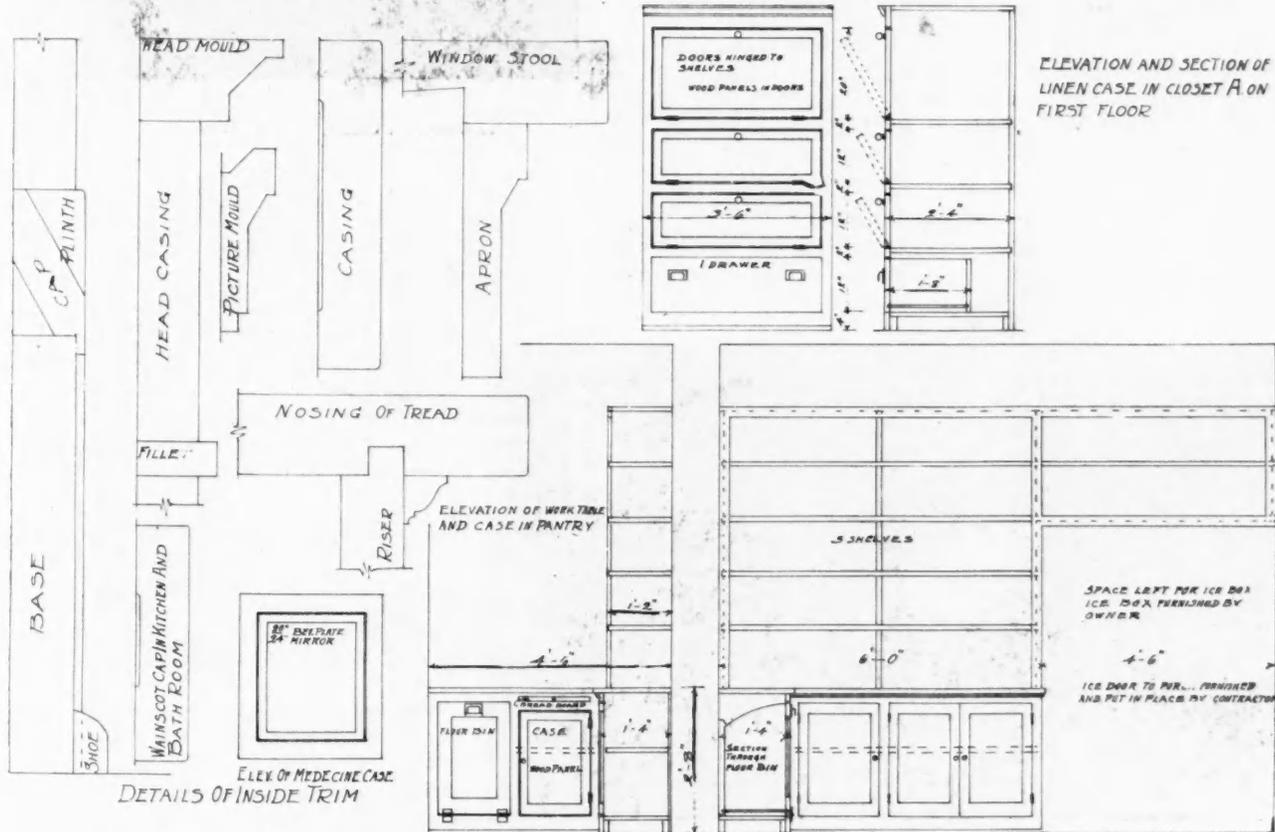


Weather Boarding Joints

Many a man's reputation for workmanship has been spoiled, or at least impaired, because his weather boarding was not thoroughly dry when nailed on the building. For be it known, this is the secret of good joints in weather boarding—have the stock thoroughly dry before you cut it and put it up. We don't think so much about this stock being absolutely dry, for it goes on the outside of the building, is thin and will dry out while the building is being finished and gotten ready for paint. And besides, wood is not supposed to shrink endwise. Yet you can go around many a

building after the weather boarding has been on a week or two in the summer time and see open end joints, joints that were very carefully fitted when the work was done. Some woods will show more end shrinkage than others, but all will show some, enough to spoil the looks of a close fitting joint. There is only one way to get good end joints in weather boarding, and that is to have the stock thoroughly dry before you put it up—and then it is a good idea to get a priming coat of paint on it.

J. CROW TAYLOR.



DETAILS OF INSIDE TRIM AND SPECIAL BUILT-IN FEATURES
(2-Flat "House" Shown on Page 70)

The Editors' Drawer

New things worth while

Keep Your Fire Escape on a Reel

To mine host of the country hotel the fire escape used to mean a coil of manilla rope in the top dresser drawer—one end to be tied to the bed in case of fire and the other end thrown out of the window—the assumption being that the unlucky guest could shinney or slide down the rope to safety.



"Harris" Steel-Cable Fire-Escape in Use

Personally we were never much reassured by any such fire escape ropes.

A great improvement over this has recently been developed and it is so inexpensive that many buildings now without any fire escape protection whatever, ought to be able now to put in a supply of them.

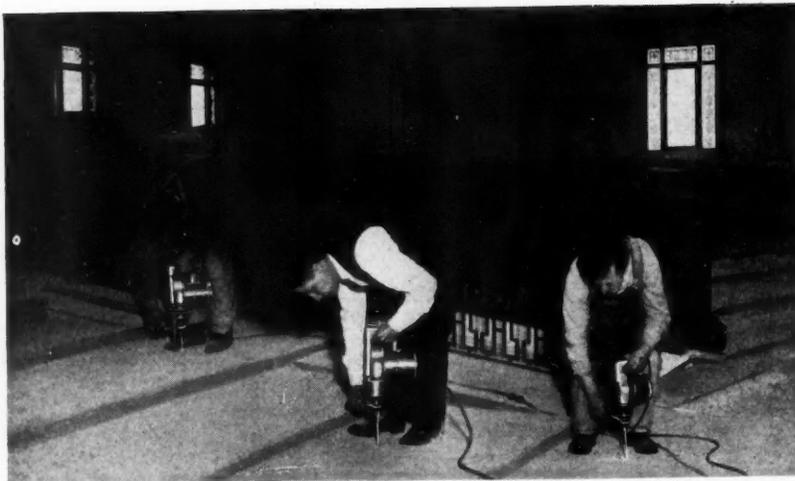
This fire escape ladder consists of three cables of flexible, galvanized wire. The rungs are placed 12 inches apart. The ladder rolled up makes a small inconspicuous bundle, which is contained in a metal covered case installed at the base-

board directly under the window. One end is securely fastened so that all that is needed to do in case of fire is to open the window and throw out the ladder and descend.

It looks like an ingenious worthy method that should find favor.

Electricity Now Does It

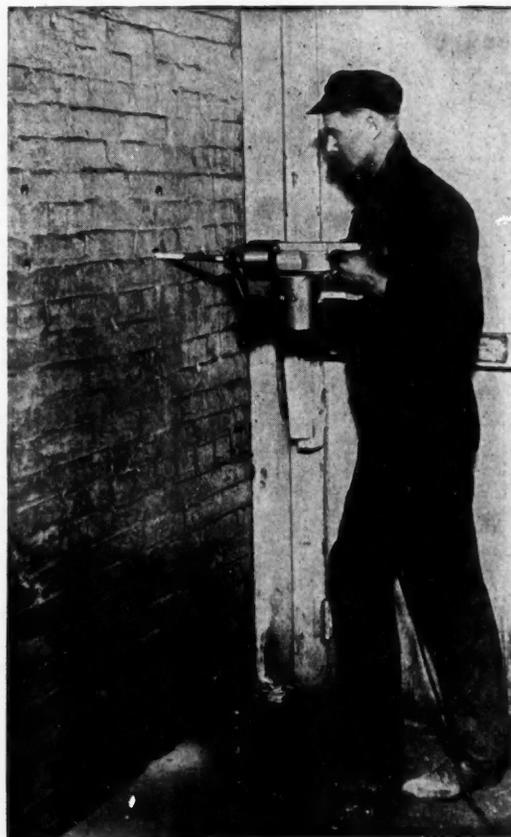
One of the slowest and hardest jobs the builder is ever up against is drilling into brick, stone or concrete for the setting of fixtures. Where a pneumatic drill can be used



Electric Hammers at Work in a New Auditorium, where Iron Railings, Chairs, Carpets, Etc., are all Bolted to the Solid Concrete. On the right a Model 3 Drilling Holes for Carpet Pins. The other Tools (Model 4) Drilling for Opera Chair Bolts and Averaging 1600 Holes a Day

the work is made very much easier, but the gear for driving pneumatic tools is so complicated, including compressor pumps, piping, hose, etc., that for the average field operation pneumatic tools are out of the question.

Electric hammers or drills now come to the rescue. For about two years and a half electro-magnetic tools have been in use by builders; and their practical worth has been thoroughly demonstrated. A flexible wire running from a light-



A Model 4 Hammer Walking Through a Brick Wall The Holes are Clean, Round and Uniform

ing socket furnishes the power. The tool itself is light and easily handled. Special tool points of various shapes and sizes are made to fit the electric hammer. A saving in cost of from 70 to 80 per cent, depending on the nature of the work, is shown over hand labor.

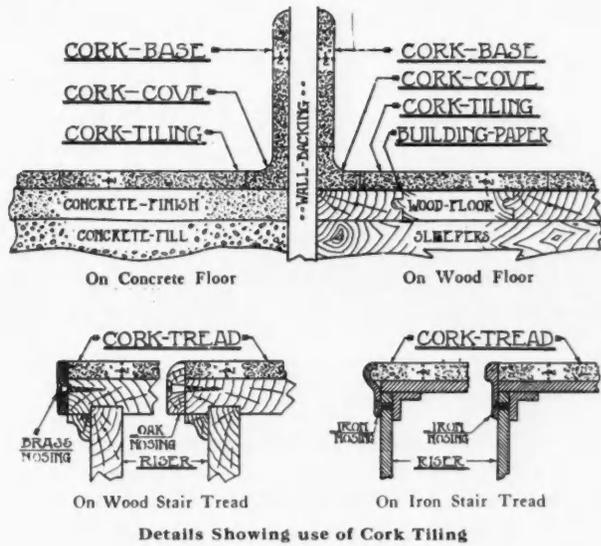
A small fire-resisting theatre building having a solid concrete floor recently demonstrated effectively the value of these electric driven drills. Iron railings, chairs, carpets, etc., all had to be bolted to the solid concrete floor. An average of 1,600 holes a day for the opera chair bolts was made, drilling into the solid concrete work.

Cork Stair Treads and Flooring

Every year seems to bring its improvements in building which make both residences and public structures safer and more comfortable. A development in manufacturing now causes cork to bob up as a building material.

The cork is ground, or rather granulated, put under great pressure and thoroughly packed, forming tiles $\frac{1}{2}$ inch thick and in various size squares from 3 by 3 inches up to a foot square.

There are also oblongs and strips ranging from 3 to 6 inches up to 3 feet long by a foot wide. This new cork tiling



as it is called, has been quite thoroughly tested and has showed itself to be sanitary, easy to the feet, noiseless, non-slippery, and attractive in appearance. It is impervious to water and can be very easily cleaned.

Various colors are obtainable, ranging from light oak to dark walnut. The figure is most interesting, a delicately veined and mottled surface.

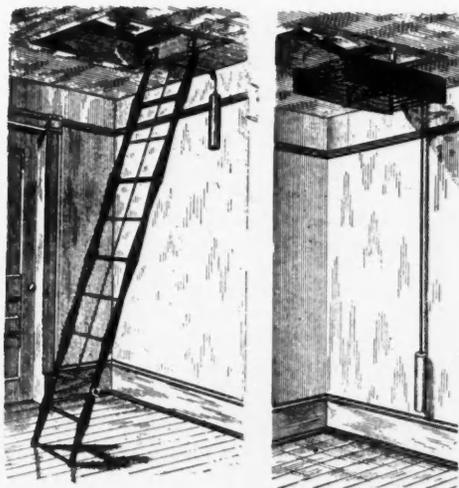
In use the cork tiling is laid over most any smooth flooring, such as old wood floors or stairs, concrete floors or iron treads.

Builders will see in this material something that they can recommend and use to good advantage for public buildings and for residences both in new and remodeling work.



Space Saving Folding Ladder

An ingenious contrivance has been developed which will prove useful in many situations. A folding ladder of light steel. It can be used as the bottom ladder for fire escapes, or leading up to a roof hatchway where an ordinary ladder



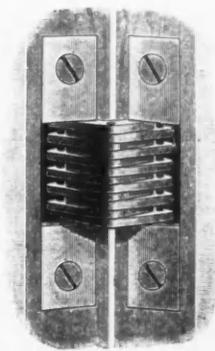
Ladder in Position for use Ladder Folded
Light Weight Steel Space Saving Ladder

would be objectionable. This one folds up onto itself and takes up little room. It is counter weighted so is easily operated. It can be locked in either open or closed position, if desired.

An Invisible Hinge

A new style hinge that is coming into quite general use in some sections is illustrated. This is built on a new principle, yet it is applied to the same part of the door and jamb as the ordinary butt and requires no special arrangement of the work. The actual working parts are a series of twelve working arms, six on each side, which work freely on each other without friction.

There seem to be two main advantages for this new type of hinge. It tends to make a burglar proof door, since it is impossible to get to the hinge to remove it, except when the door is wide open. Doors are also fitted without any cracks at the hinge edge when door is opened.



This Hinge is Popular Where Introduced



Radiator in Attractive Case

A refinement in residence equipment that is bound to find favor is a combination bookcase and radiator cabinet illustrated in the accompanying picture. It has been tested and found entirely practical. The ugly iron radiator is removed



Combination Bookcase and Radiator Cabinet

from sight without losing thereby in its heating function, and the books are absolutely protected from the heat by the ingenious construction of the cabinet.

Similarly, and with the same object, the manufacturers build curio cabinets, in dull gold finish, with glass shelves in one part and a mirror front over the radiator section.



Weather Tight Sill for Sliding Doors

Sliding doors for barns, garages, warehouses, etc., have an unpleasant way of letting in the wind, snow, and rain along the bottom. With ordinary building methods it is almost impossible to make a tight joint at the bottom of a sliding door.

An arrangement is now offered consisting of a steel groove, embedded in the floor flush with the surface, in which slides a thin steel plate attached to the bottom of the door. The groove acts as a guide, and the steel plate acts as a weather strip.



End View of "Schoulers" Patent Weather Tight Door Sill



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

What Some Ambitious Mechanics are Doing

To the Editor: Maniwoc, Wisconsin.
It has been my privilege to instruct night classes in our local industrial school for the past year, in the subject of mechanical drawing. These classes meet two evenings a week, from 7:15 until 9:15, during the winter months. As a criterion of the interest taken, the average attendance was high. Out of 37 who enrolled, 30 were regular in attendance, and over 20 missed but one evening during the season. These were men in the various trades, the majority being carpenters, cabinetmakers and machinists, with a few steam fitters, molders and tinner.

This season's class began in October, with an enrollment the first evening of 20, many of whom were in the last year's class. The enrollment increases every evening, and there has been a demand for architectural drawing and shop mathematics. Each evening the whole class has a session of 35 minutes for shop arithmetic, and is then divided into two sections; one taking mechanical and the other architectural drawing. This work is not the cut and dried kind, but real work that may be directly applied to each man's trade all the time. One man is a stair builder; his drafting is on that subject, and he lays out stair strings, windings, and whole stairs. Another is a brick mason's apprentice; he learns the composition of brick arches, English Bond, American bond, etc. Another is an expert tinsmith; he wishes a course in sheet metal drafting, and has already started on it. The machinists have drawing directly in the line they are working on. Naturally this makes a great deal of extra work for the instructor, and the class is growing so rapidly, a second teacher will be needed soon to supply all the individual instruction necessary.

L. C. DEWEY,
Director of Manual Arts.

Wants to Know About Shingle Nails

To the Editor: Lisbon, Iowa.
I have read with interest the letters in the past numbers about shingling. Now I wish the subscribers would discuss the shingle nail question.

I find two kinds of galvanized wire nails on the market. The one has a light gray rough galvanized coating and has been manufactured the longest to my knowledge. The other is a smooth, darker gray nail; I first knew them as zinc coated. I have heard arguments on both and I have tested both with sulphuric acid to find that the galvanizing burns off in 10 minutes, and the zinc is not affected.

Now I wish some of the other brothers would give their experience. What are the good qualities of cut nails if any? Some people still insist on using these. Is the cement coated shingle nail a success? What are the processes by which all wire nails are manufactured?

E. M. LIGHT,
Contractor and Builder.

Glass Area for Proper Lighting

To the Editor: Waterloo, Wis.
How many square feet of glass is required to properly light a room 24 feet 6 inches long, 14 feet wide and 9 feet high? What is your opinion of plaster dash, and is it durable when put on wire lath?

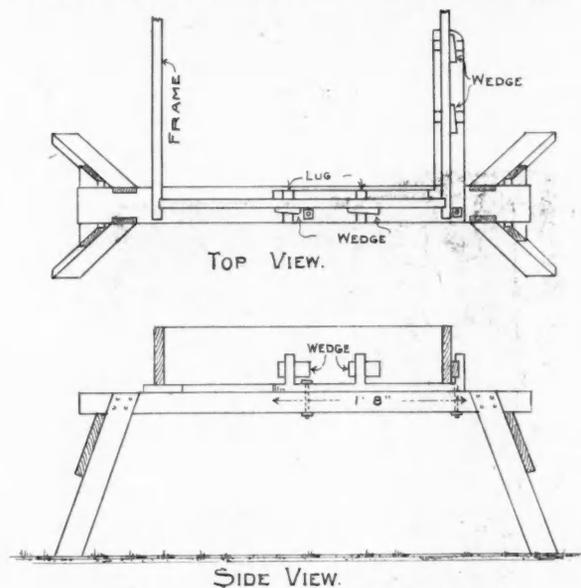
E. H. HAGEL.
Answer: The Chicago building ordinances requires a window area equal to one-tenth of the area of the floor. For the size of room mentioned in your letter, the window area would be 34 square feet. The fashion in building today seems to run strongly to windows. Probably you would want to use more than this minimum.

We have found Portland cement stucco when placed on wire lath to be serviceable if put on in a proper and workmanlike manner.

EDITOR.

A Handy Device

To the Editor: Wilburton, Okla.
I am sending herewith a crude sketch of a device for holding window and door frames secure while being put together.



Rig for Holding Frames while Assembling

I made the pattern and paid one dollar to have it cast in iron. I find it a great convenience as the frame is held secure, and I get a tight fit every time.

J. P. LARTY.

Level Kinks

To the Editor: San Rafael, Cal.
Did you ever stop to think how much time you could save by fastening the level to the straightedge? How many times have you seen a man pick up the straightedge and then look

for the level? Taking from ten seconds to two three minutes to find it?

I remember once when my partner and I put up the forms for a concrete foundation (and had some fun(?) over it). After properly lining up the outside posts we ran the top board on all the way round. Used a 14-ft. straightedge and 26-in. iron level. Started at the northeast (rear) corner. Reaching the southeast (rear) corner we simply lined across to the starting point. About that time George went out front for some nails and when he started back the fireworks began. I'd hate to have to write it all down. The southeast corner was four inches lower than the starting point.

We lost practically a half-day on that job. The trouble? Oh, nothing much—except a little daub of pitch which got onto the bottom of the level just after we started. And which would never have occurred had the level been made fast to the straightedge—simply because we would have tested it both ways and had it right to begin with. Then it would have staid O. K. throughout the job.

George made a solemp vow then and there never to lay another foundation unless the level was "glued" to the straightedge hard and fast, and tested "bof a comin' and a goin'," as the old darkey said. So always after that we fastened one of our levels to the straghtedge and used the other one for plumbing.

It is always right where you want it, always right side up, and always *in position*. No time lost in adjusting it to the proper position or wiping off sand or dirt. Another thing; you can use a small level just as well as a big one. Mortise the top of the straightedge and set in a pocket level if you wish, using the longer level only to test out with.

Another fine stunt is to fasten a level to a six foot straight-edge to use in setting door frames, etc. I have one made of straight, fine grain redwood and it has not been trued up for a year. Nailed a strip to the side of it perfectly parallel to the bottom, placed level against this and tacked small blocks at each end, of same thickness as level. A little metal button on each of these holds the level securely at all times. Then two 2-in. holes where the plumbs are, and a $\frac{1}{2}$ "x4 inch opening at the level, serving as hand grip and for seeing the glass when using for levelling purposes.

This makes a mighty convenient tool. No matter how you grab it, it's always right side up. You don't have to swap ends trying alternate sides of a frame. Being short it is useful in a hundred ways and places, where a longer one would be out of the question.

One thing more (for I *have* found carpenters who did not know this kink). A little block tacked on each end of the face of a straightedge, causing it to rest on the two ends only, does away with the troubles caused by intervening inequalities of the sill or joist or whatever you happen to be working on. BUT—be dead sure that both blocks are the same thickness.

H. J. BLACKLIDGE.



To Hang Single Sash

To the Editor:

Cornell, Ill.

I am a subscriber of THE AMERICAN CARPENTER AND BUILDER and wish some reader or the Editor would give the correct method of hanging one-sash windows, such as are used in bungalows or in bath rooms. I have a method; but it is rather inconvenient and is not a good job when it comes to turning water.

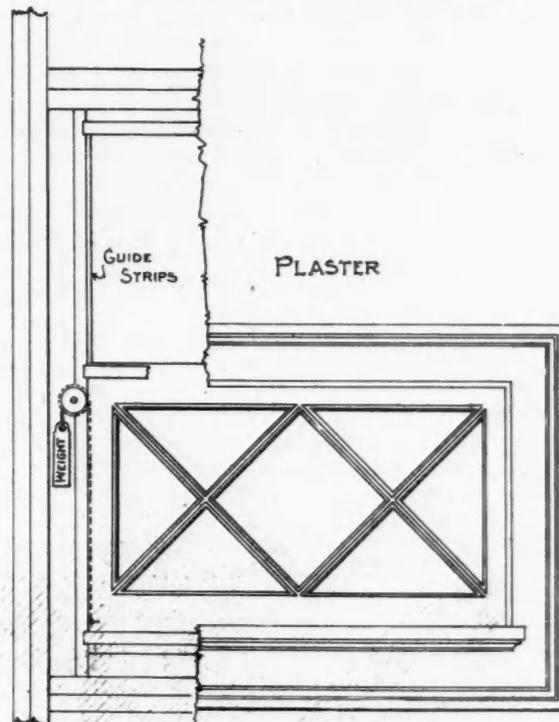
GLEN E. WEIST.

Carpenter and General Builder.

Answer: Mr. W. is not alone in his troubles. At least we have found it that way, until we quit experimenting and fell back to the old reliable jib head window with weights. It is easy enough to make a neat looking job, but when it comes to keeping out beating rains, that is another thing. It is true

there are patented hangers, etc., that we will assume answer the purpose, but the question is how can a water tight job be made without these things.

The illustration shows the jib head frame, which allows the sash to slide up through an opening in the head jamb



Arrangement of Single Sash Window

between the studding, which must be framed for same, as shown. The side jambs should extend up to the height that that sash is desired to be raised and with pocket and sliding groove complete. Set the sash pulleys near the top of the window opening in the usual way and groove out the sash and fasten the cord near the bottom of sash. We have seen the pulleys set near the top of the jamb but the objection to this is that after the house is completed, should the pulley get out of order, or the cord break and slip over the pulley, there is no way of getting it on again without removing a section of the plaster.

EDITOR.



Fine Church Work

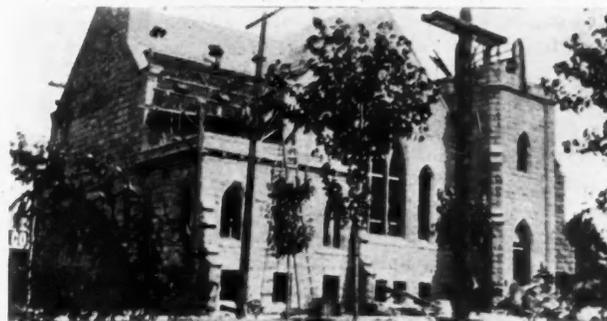
To the Editor:

Lewistown, Mont.

Here is a photograph of a fine church we have just finished here. I laid out the ceiling;—it is a curved one having four valleys; and I also laid out the curved ceiling for the octagon organ loft. It all went together to a Tee.

THE AMERICAN CARPENTER AND BUILDER is a great help to me in my work; and I do not want to miss a single copy of it.

C. MAYER.



Church at Lewistown, Montana

What Will be the Length of the Valley Rafter?

To the Editor:

Millport, Ohio.

Kindly have Mr. Woods take a house with hip roof $\frac{1}{3}$ pitch and with a center gable of $\frac{1}{2}$ pitch. How and what is the proper way to get the length of the valley rafter?

F. H. BROWN.

Answer: We have answered this question a number of times, though probably not selecting the above pitches for illustration purposes, but it should be remembered that the formula applies to all alike.

point of the triangle that forms the plan covered by one-half of the gable. The rest is easy.

Suppose it is to be a hanging valley; then one of the valleys should extend up to the main ridge. What is going to be its length? Continue a line from the plan and in line with the hypotenuse side and intersecting the rise line of the main roof, as shown, and the length of this will represent

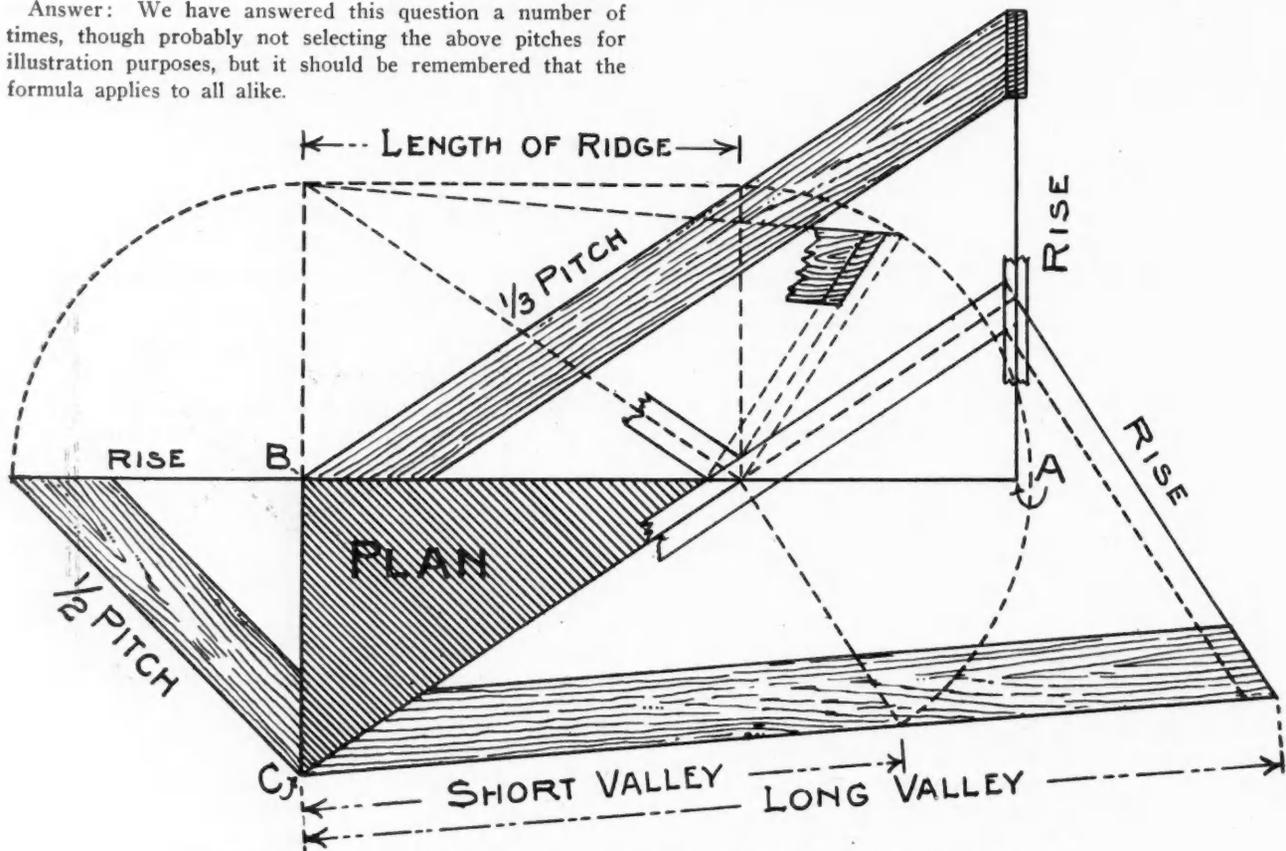


Diagram of Valley Rafter Framing for Hip Roof of $\frac{1}{3}$ Pitch With a Center Gable of $\frac{1}{2}$ Pitch

Now, as to the proper way of arriving at the length of the valley, will say there are a number of ways and it is more of a question which way suits the individual best, and that naturally resolves itself into the question of which is the more easily understood by the manipulator.

On Page 89 of the October number will be found a very good illustrated article on the subject in connection with the steel square.

Now, we will try it again, taking the pitches as mentioned in the propounded question and make a plain simple diagram, giving all of the cuts and lengths without bringing the steel square into use at all, as far as applying the same direct to the timber is concerned.

Now we have a one-third pitch roof and on one side of this there is a gable of one-half pitch. What is going to be the length of the valley? To begin with, we know the proportion of the rise to the span of whatever it may be, and that the run is one-half of the span. So the run and pitch are known quantities; and that is all that is necessary to start with.

Suppose A B is the run of the main roof and B C is that for the side gable. NOTE they form a right angle corner at B. Now, lay off the respective rise from A and B and lay off the rafters, as shown, and the angles for the seat and plumb cuts are plainly shown. Now from B, and with the rise of the $\frac{1}{2}$ pitch as radius, draw an arc to a point in line with B C and square over to the $\frac{1}{3}$ pitch, thence plumb down to the line A B; and the intersection of these defines the

run of the long valley. Its rise, of course, will be the same as that for the main roof, and, having the run and rise, the length is readily found as shown by the diagram. In connection with this, the short valley is also shown, together with the plumb lines required to obtain the side cuts for the valleys. NOTE the plan of the intersection of the valleys are shown and from this the plumb lines are governed, as to the distance apart they should be when laid off on both sides of the rafter; by cutting diagonally across the back from one to the other gives the proper angle for the side cut.

A. W. WOODS.



Trouble with Sagging Floor

To the Editor:

Clarksville, Texas.

I ask for information and advice as touching the building interest here which I am connected with.

Last March I made plans and specifications for a two story brick addition of 40 feet long for The Clarksville Bottling Works at Clarksville, Texas, and being a contractor I got the contract to build same. I planned the building; in first story the side walls to be 17 inches—second story 13-inch walls—end wall to be 13-inch wall in both stories. The first floor concrete; second floor framed with 2 by 12 inches, 24 feet long, native pine joists and set on 16 inch centers, well anchored to brick walls, said joists crowned one inch in center, put up green from the mill and bridged with 1 by 3 inch cut in between every joist, herring bone fashion, with two rows of bridging; floor laid with $\frac{7}{8}$ by 4

inch D. & M. flooring, ceiled under the joist with strips and metal ceiling. I constructed and completed the building in accordance with plans and specifications and to the satisfaction of the owners, was received and paid for several months past.

A few days back I was notified that the joist in back end of building had swagged 1½ inches down from the base board where they had stored a lot of goods on center of the joist spans.

Now to the point, would you please state how many pounds of weight to the square foot ought this floor to carry before the joist would break and swag so as to injure the building; 24 foot span, if loaded in center or distributed evenly? And how would be the best and cheapest way to reinforce those joists to give it greater strength?

The parties claim they have never put over four or five thousand pounds weight at a time on a span in the center, of 6 by 8 feet square. I would ask you to kindly advise me, if you think from the facts I have given you, that it is my place to reinforce these joists at my expense when there was no certain amount of weight stated or mentioned by the second parties to the contract, or when I got all my data for making plans and specifications they only said they wanted to store a lot of goods up there. I want to do right and just with my fellow man; the parties claim that it is my place to make this work good, but they do not say, nor never have said, how much they expect to load this floor with goods. This is my first time to be involved in a difference of this kind in all of my 30 years contracting and architect work of 15 years.

D. F. ENGLISH.

Answer: The load commonly considered safe for a 2 by 12-in. yellow pine joist 24 ft. long is 1334 pounds. This is considered to be a uniformly distributed load. If the load was to be concentrated in the center of the joist, 667 pounds would be the limit for ordinary safety. These loads not considered to be breaking loads for the joist, but are figured on the basis of a factor of safety of six. We consider that this would be a fair degree of safety to be expected in a structure of the kind under consideration. If the load of 1334 pounds per joist was distributed evenly over the floor surface held up by that particular joist, the load per square foot of floor would be about 42 pounds. This would include the weight of the floor and joist.

A common limiting deflection is given as 1/360 of the span. According to the tables for safe loads for rectangular timber beams, as given in the hand book of the Cambria Steel Company, the deflection in your case would be excessive and beyond the limit stated above. This may be partly due to the green lumber which was used, but more particularly due to the excessive length of joist as compared with the depth of joist used. In the case of a single central load of the same amount as that uniformly distributed, this deflection would be still greater.

It would seem to us that the use of 12-inch timber joists of the length stated would not provide a sufficiently rigid floor for any considerable weight of stored materials. We have no means of passing judgment on this case from your local standpoint, but we would not care to construct a floor for ourselves in the manner described.

There are two ways of remedying this difficulty. First, by increasing the number of joists used in this particular floor. Second, by putting in a girder running down the center of the span of these joists so as to support them at their weak point, thus forming two sets of floor timbers 12 inches long, instead of one set 24 inches long.

To determine the more efficient method of the two would necessitate the assumption of a given floor load in pounds per square foot. Then careful calculation should be made to determine whether extra 2 by 12-inch joists could be used

economically to produce the desired result. Otherwise the center girder would seem to be a necessity. C. E. PAUL.



How About the Roof Lines?

To the Editor:

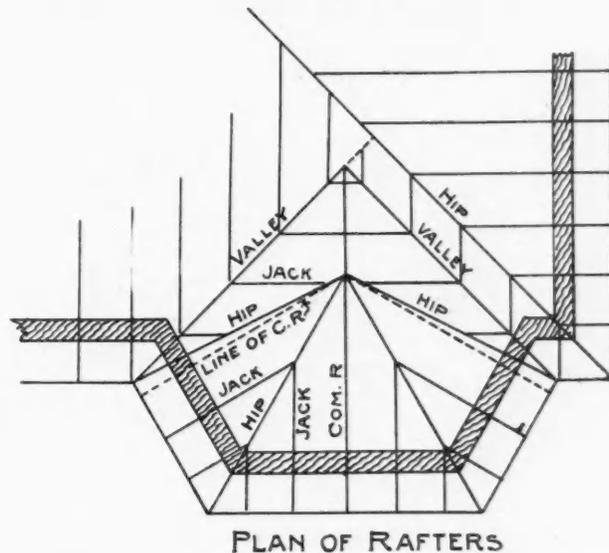
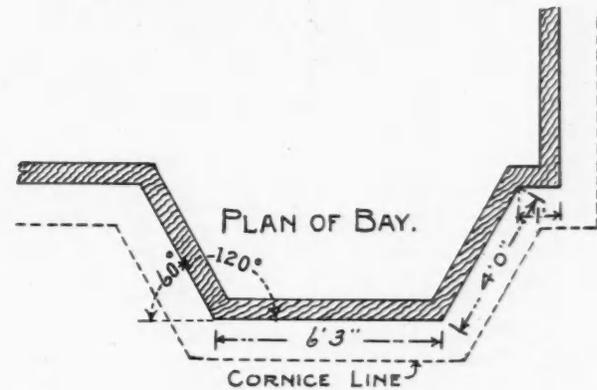
Lagrange, Ind.

The enclosed drawing represents a quarter pitch, one story structure, to which is to be added a bay window; the main plate to continue around the bay so that the cornice members and continues around also. The roof of bay to be same as the main part, ¼ pitch. I would like a plan of the roof lines.

JAMES W. BILLMAN.

Answer: The angle, while out of the ordinary, is regular or in other words, it is a hexagon corner. twelve and 6 15/16 will give the cut for the corner for either a miter or a lap joint. (This is something that does not occur on any other corner). Now, we pass to the roof. As we understand it, the house is already built and to it the bay window is to be added, with roof and cornice to match that of the main building. We do not know whether the house has a box or a rake cornice. If it has the former, we will assume the pitch starts over the outer edge of the plate and if so, that will be the working line; but if it has the latter, then the pitch will start at the cornice line, and for illustration purposes, we will take the latter. NOTE the hips pass over the external corners, but not over the internal corners, or where the bay joins the main wall, because the hip must intersect the angle of the cornice.

Now the question is, where are the hips going to intersect at the ridge line? That is easy. The external angles being a hexagon, is 120 degrees and as the bisecting line must



Roofing a Hexagon Bay so That Cornice Members With Main Roof Cornice

be at the half way point or 60 degrees; and where these lines intersect will be the proper point for the end of the ridge-tree, and establishes the point to which the other two hips are to run.

Now, it should always be borne in mind that the common and jack rafters should always rest at right angles from the plate under any condition, excepting it be a part of a circle and in that case, they should run toward a common center. Ludicrous mistakes are often made by carelessly overlooking this fact. We have in mind a circle corner porch which was to be added to a house. The work was done by a carpenter of good ability; in fact above the average in workmanship; but when it came to putting on the rafters, he set the common rafters up to the beginning of the curve, then he put one down through the center of the curve and filled in the space with jacks, sheathed it over and shingled it and that roof is doing service to-day, but it has the appearance of an underfed animal, because it shows its slats radiating from the backbone. We only mention this to show what some men will do for the lack of a little forethought.

Now, let us get to the question in hand. NOTE the position of the jack rafters over the short sides of the bay, all of them run to the front hips; and note that where the dotted lines are shown represent where the common rafter should rest. It is so near the line of the hip, it is simply shoved over a little at the foot and made to answer for the hip. If the length of the cornice on the sides of the bay were equal to one-half that of the front, the hip and the common rafter at the internal angle would be merged into one rafter. Thus, it is possible by the manipulations of angles for a common rafter and a hip to be one and the same, but of course, it cannot be considered a regular hip; yet all of the slopes given the roof, both in new and old part, are of the same pitch.

We have one shot more, and then we quit. In planning a building, or an addition thereto, the angles and projections should always be kept in mind as to how they are going to roof up. This should be thoroughly understood before starting the construction. Often this part is overlooked to find later, to the sorrow of the builder and detriment to the building, when it could, by a little forethought in the planning, have been avoided.

A. W. WOODS.



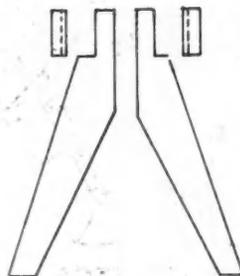
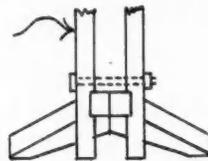
A Knockdown Trestle

To the Editor:

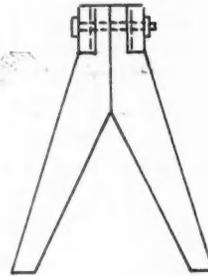
Loveland, Colo.

Being a charter member of the best carpenters' paper published, and as many of the brother carpenters are submitting helpful hints, thought I would contribute a little to help the

TOP VIEW.



IN THE KNOCKDOWN.



END VIEW.

A Knockdown Trestle Easily Moved From one job to Another

good work along.

Here is a plan for a pair of trestles that can be taken down and set up again in a few minutes' time. The side pieces are 1¼ by 4 inches with gains cut ¼ inch deep for the legs to clamp into. By loosening the bolts, the legs can be easily removed and by placing the legs separately between the pieces and tightening the bolts again, the trestles can be easily moved from one job to another, which is a great convenience over the common make of trestles. J. S. NOBLE.



Another Method of Figuring

To the Editor:

McCook, Neb.

In answering Mr. Not Shure of His Answer,
Rockland, Maine.

The strength of a beam or joist depends on its dimensions: the broader it is, the stronger; the longer it is, the weaker. The strength also varies directly as the square of the depth. The safe load per foot of length may be ascertained from the following formula:

$$W = \frac{k b d^2}{L^2}$$

in which W = safe load, in pounds per lineal foot, on beam;

b = breadth of beam, in inches;

d = depth of beam, in inches;

L = length of span, in inches.

k = the coefficient taken from your table of strengths, to correspond with the kind of wood used.

Example.—What safe load per foot will a beam carry that is made of Northern, or short-leaved, yellow pine 10 feet long, 2 inches wide, and 10 inches deep?

Solution.—Here, L = 10 × 12 = 120; b = 2; d = 10; and k = 16,000.

Therefore,

$$W = \frac{16,000 \times 2 \times 10 \times 10}{120 \times 120} = 222 \text{ lb. per ft.}$$

The total load that the beam will carry when uniformly distributed is the load per foot times the length of the beam, or

$$222 \times 10 = 2,220 \text{ lb.}$$

Your floor joist being spaced 16 inches on centers, the number of square feet of flooring that each joist will support is

$$1.33 \times 10 = 13.30 \text{ sq. ft.}$$

Then,

$$\frac{2,220}{13.30} = 166.91 \text{ lb. per square foot of floor surface.}$$

Ans.

Let the good work go on.

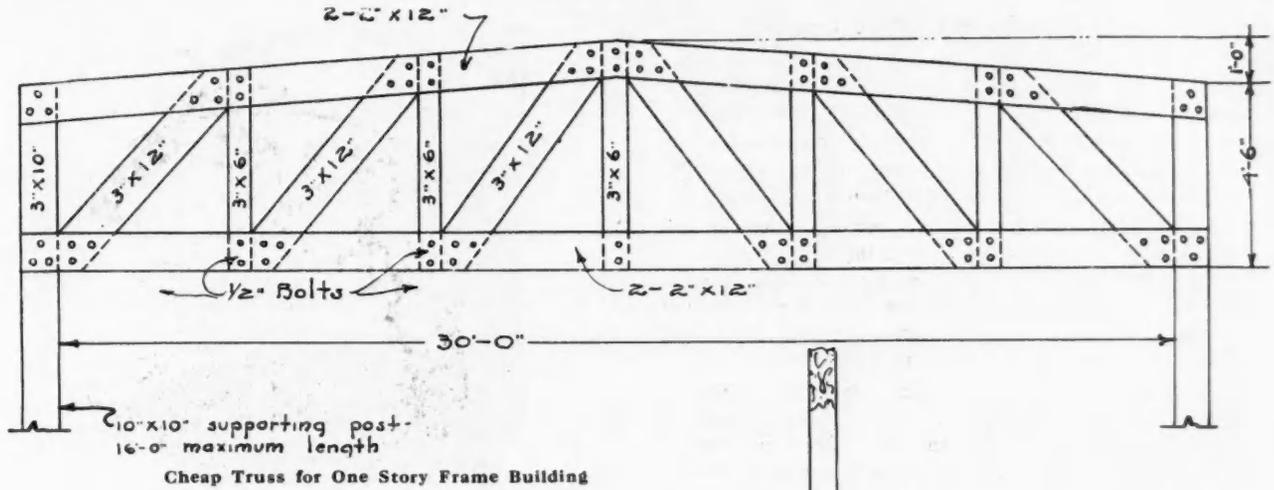
Yours very truly,

P. W. BELL,

Architect and Engineer.

Note: We wish to call the reader's attention to the fact that although Mr. Bell has used a method of solution which is different from the one outlined by "The Boss Carpenter," the result is evidently the same in either case. The method outlined by the Boss uses the strength of the material as given in the Cambria hand book, and as a fractional part of the breaking strength. The coefficient mentioned by Mr. Bell is a combination of working strength of material proper and another constant. This coefficient would have to be taken from a special table whose values were figured according to a fixed combination of quantities. It might be of special interest to our readers if Mr. Bell would tell them where the table of coefficients which he used may be found. A different way of doing the same thing is often valuable in checking results. We are sure that the number of the calculating squad will appreciate the kindness shown by Mr. Bell.

EDITOR.



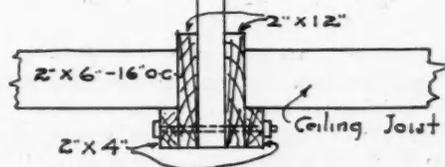
Flat Roof Construction

To the Editor: Sydney, Cape Breton.
 In accordance with our privileges of your consulting department, we would ask you for advice on the construction of a flat roof 30 feet wide without post support. This roof is for a cheap hall and we want the cheapest construction consistent with strength. The hall to be sheathed or plastered.

CHAPPELL BROS. & Co., LTD.,
 Wood Workers and Builders.

Answer: We take pleasure in offering herewith two drawings showing the construction of a roof of this kind; one for a substantial brick building, the other for a lighter and cheaper frame structure.

The construction detailed shows one of a series of trusses to be set 16 feet on centers down the length of the building.

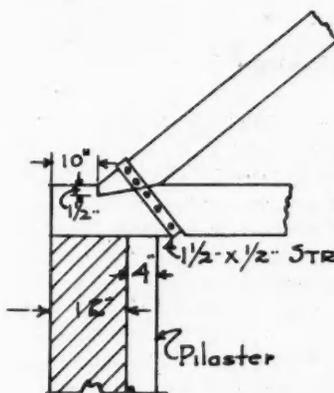
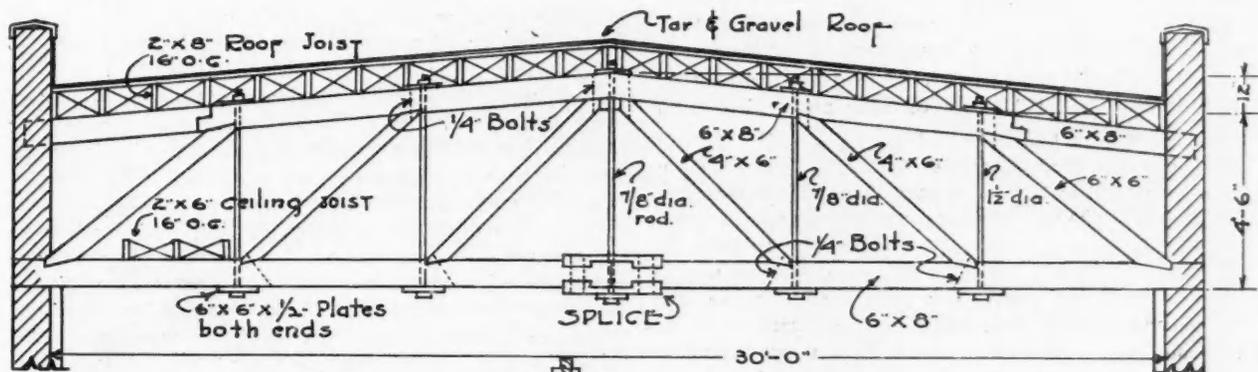


DETAIL OF LOWER CHORD

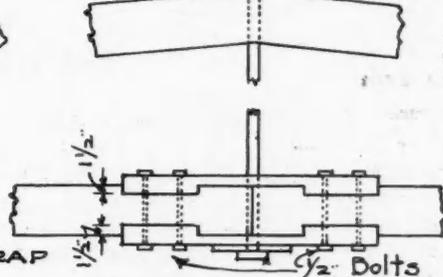
There is just enough slope to this roof to carry the water to the sides and thence along down to the back of the building. In the brick building roof, the pitch of gutter is provided for by running the outside end of the 6 by 8 timbers lower and lower as the back of the building is approached. These timbers are no part of the truss proper and so this change will not effect the strength of these trusses.

This ceiling may be plastered without fear of excessive deflection, producing cracks.

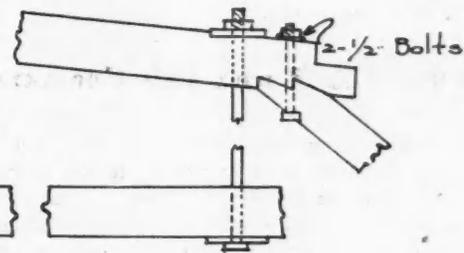
EDITOR.



DETAIL OF END JOINT



DETAIL OF SPLICE IN TIE MEMBER



DETAIL OF UPPER CORD JOINT

Note: all members figured for norway pine
 Trusses 16'-0" on centers.

Details of More Substantial Truss for Brick Building

Still Thinks its Gen. Lee

To the Editor:

Barre, Vt., Nov. 9, 1912.

In your November number I have read with interest your reply to my letter in regard to likeness of Gen. Robert E. Lee, and am still convinced that your sculptor used a likeness of the famous Confederate in his work on the terra cotta relief portrait to which he gave the name of Gen U. S. Grant.

If you will get a copy of Grant's personal memoirs you will find on the outside of the book a medallion portrait of the general which no more resembles the one printed in the AMERICAN CARPENTER AND BUILDER than does the triumphant Democratic animal of the long ears look like either the stand pat (flat) elephant or the wounded bull moose.

Any student knows from history the characteristic likenesses of both the famous generals of our late, and we hope last, unpleasantness and we of older years who have been more or less the contemporaries of the heroes of the greatest war in history can see the familiar likeness of General Lee and no other in the cut shown in your reprint of the writer's former letter.

Certainly General Grant should have been sure of his likeness which is printed with his memoirs and the numerous side view portrait of General Lee are evident in the cut shown in your September number and we are willing to submit the question to the men who fought the battles of their stirring period as to our contention.

Your last issue is a winner.

Wishing the AMERICAN CARPENTER AND BUILDER continued supremacy in it's field, sincerely yours,

W. H. MESSER.

To the Editor:

Barre, Vt., Nov. 12, 1912.

Having noted the cut in the *Boston Daily Globe* of today which shows Gen. Robert E. Lee in profile and an almost exact likeness of what your sculptor called Gen. Grant, the writer sends the enclosed clipping in support of his recent letter.

Aside from the uniform you will see but little difference in the cut of Lee enclosed and the one you printed as Gen. Grant, the beard in particular being an exact duplicate.

Probably the sculptor will now have to admit that he "did it with his little hatchet," for he certainly placed Gen. Lee's head on the shoulders of Gen. Grant.

Would say that later pictures of Gen. Lee look still more like the cut shown in September number of your publication.

Very respectfully yours,

W. H. MESSER,

Contractor and Builder.

Answer: The Lee picture you send does look like him some, we admit. But don't all men with beards (like all babies) look alike a good deal? We still stand pat, waiting to hear further from the sculptor, Mr. Schneider, and from the architect, Mr. Zimmerman.

EDITOR.



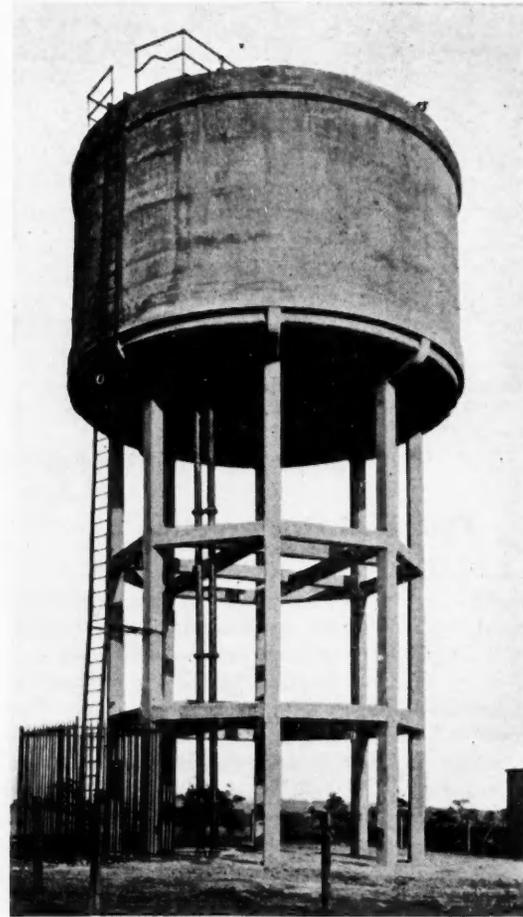
No Fault Found with This Concrete Job

To the Editor:

Winnipeg, Canada.

There should be many readers who could vouch for successful large concrete work in answer to the query of Mr. W. E. McCasland in the October issue. I have only been on this side a year and six months, so cannot speak from experience of large concrete jobs on this side; but there are many large jobs in the old country, constructed of concrete, which have given great satisfaction. The general post office, London; the Palace of Varieties, Southampton; the Royal Liver Insurance Block, Liverpool; and the Lion Chambers office block, Glasgow, to name only a few.

I enclose a photo of a circular water tank, built for the Lanark County Council, Scotland, in the spring of 1910, at which I was foreman. The tank is of 50,000 gallons capacity



50000 Gal. Reinforced Concrete Tank Built for Lanark County Council, Scotland

and constructed on the Hennebique system of ferro-concrete. Inside diameter of tank 20 feet, height of tank, inside, 16 feet 6 inches. The tank floor slab, 6 inches thick, and the wall, 6 inches thick at bottom, tapering to 5 inches at top. From ground level to tank roof, 50 feet. It may be interesting to know that the tank was not rendered either inside or out after the timber was removed, the only finish being one coat of cement wash, laid on with a brush.

It was first filled late in September, 1910, and has been in constant use since, giving no trouble whatever, being perfectly watertight a few weeks ago when I had a letter from a friend who lives close to the tank. I have been a reader of the AMERICAN CARPENTER AND BUILDER since I came over and I think it is easily the best building paper I have ever seen.

W. Y. LAURIE.



End Shrinkage

To the Editor:

Bushnell, Ill.

Please advise me if there is any shrinkage to lumber end-ways; either board of dimension.

J. B. ROBERTSON.

Answer: According to "Byrne's Inspectors Pocket Book," during the drying or seasoning process, timber shrinks considerably; below about 30 per cent of moisture it shrinks nearly as much as it dries; that is to say, when timber dries down from 30 per cent of moisture to 10 per cent of moisture, it dries out or loses in weight about 20 per cent of its dry weight. It also loses about 20 per cent of its dry volume. A board that is 1 foot wide at 30 per cent moisture, is only 11 $\frac{3}{8}$ inches wide at 10 per cent moisture, or a board 4 inches wide at 20 per cent moisture is only about 3 $\frac{3}{4}$ inches wide at 10 per cent moisture. The shrinkage lengthwise is very slight.

(Continued to Page 88)

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Size 2.8x6.8 x 1 1/2 in. Our price **\$1.95**
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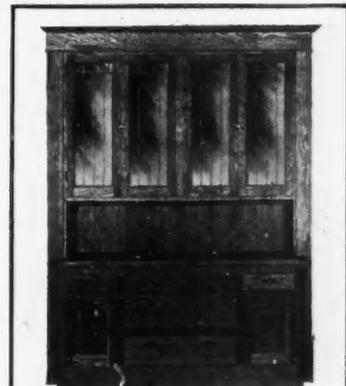
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For over twenty years I have been doing the highest paid expert drafting work. I am chief draftsman of a large and well-known company. Long ago I saw the demand for practical trained draftsmen. I organized my practical methods for ambitious men whom I train personally.

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that I have always given my students. I watch every piece of work that you do and tell you just what is the matter with it. If it is right, I tell you so; if it is wrong, I show you where the mistake is. You get the training with practical work—work just like large firms are paying \$175 a month for. Send the free coupon for my big book and full particulars of this offer.

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Positions Guaranteed

Every week I receive dozens—yes, scores—of requests for trained men. In fact, I publish every week a list of the positions that I know are open. If you write at once I will send you this list and show you just exactly

the opportunities that I know to be at hand. And there are thousands of others besides those I hear of. Positions that are paying from \$125 to \$175 a month.

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Do not delay an instant. How would you like to be drawing \$175 a month six months from now? I have given others a chance and I will give it to you. Absolutely no obligations of any kind in filling out the free

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Here is the \$15 outfit that I will give you absolutely free. I want every one of my students to have practical working instruments. You can't do practical work with toy instruments, so I have selected these instruments from the stock of one of the largest manufacturers in the country. I will give you this outfit absolutely free. You cannot duplicate it for less than \$15. I will give it to you absolutely free. As chief draftsman of a big firm I know exactly the quality and quantity of practical training, knowledge and actual up-to-date experience you must have in order to obtain a good position and advance to the highest salary. I also know the kind of instruments that you need.



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End Shrinkage

(Continued from Page 84)

On account of the very large radial fibres (medullary rays) in oak wood this kind of timber shrinks mostly in a circumferential direction, and all timber shrinks more circumferentially than radially since all woods have these medullary rays to a greater or less extent. It is for this reason that "quarter-sawed" (radial-sawed) lumber is more satisfactory than "flat-sawed" for all kinds of furniture and house trimmings. For flooring, quarter-sawed or "riftsawed" boards, presenting an "edge-grain" surface, are far preferable to a "flat-grain," because it wears evenly and does not sliver on the surface.

EDITOR.



Southern Cottage

To the Editor:

Mayesville, S. C.

I have been reading your fine journal for one year now, and you will find the price here for another year, for I don't want to miss a copy, as I enjoy it so much.

While the houses you show are very different from the kind we build down here, still the cuts, etc., help a lot. I



5-Room Modern House at Mayesville, S. C.

have read the different ways the boys keep the dollars coming in during the winter and they are very good; but down here we hardly ever freeze up and we can knock along from January to June pretty well.

I am sending you a photo of one of the houses built the first of this year. I drew my own plans; and I have found the best way to get along is to give a man a good job (a little more than I promise) and get a good price for it.

I have been contracting for about eight years and I have always had from one to three jobs going at the same time, and the most time I lose is waiting for material. T. B. FORT.



Strength of Timbers

To the Editor:

Loveland, Colorado.

In the June number, of 1907, T. B. Kidner gives a rule to find the strength of beams as safe loads; he also gives a table of cwt. weight per foot to figure from. Now, I would like to have a table of red fir, white fir and tamarack loblolly pine. Yours is the best paper ever published. J. S. NOBLE.

Answer: Red fir and white fir may be considered as about the same as spruce as given in the table. Loblolly pine would have a breaking value of about 4 cwt., when figured on the same basis as those given in the table.

We would advise that if you use these tables that you also use a good big factor of safety in your working calculations since we believe that the values given in the table referred to are a little high for American practice. Why not check up the calculations contained in Mr. Kidner's article with those which are now being published in the AMERICAN CARPENTER AND BUILDER under the heading of "Noon Hour Talks

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Immediate shipment will be made on orders for cast iron columns from our stock as follows:

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	A-3 Plain Cap and Base	A-4 Moulded Cap and Base
5 inch columns 12 feet long, each	\$ 6.40	\$ 7.10
7 " " 12 " " "	9.60	10.60
9 " " 12 " " "	13.00	14.50

The above prices are given on a column 12 feet long over all including cap and base. For columns of different lengths deduct per foot

5 inch columns	\$.25
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A-3 Plain Cap
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Made Up from Base and Top Castings	5-inch Column		7-inch Column		9-inch Column	
	Cap and Base 10 in. Square	Cap and Base 12 in. Square	Cap and Base 14 in. Square	Cap and Base 16 in. Square	Cap and Base 18 in. Square	Cap and Base 20 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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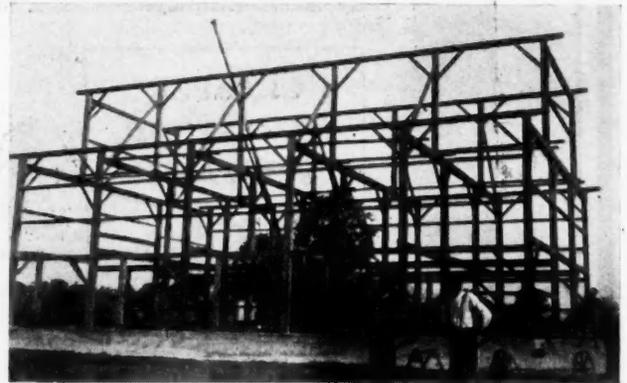
by the Boss Carpenter"? Then you will see which values for strength of material will give you the safer structure.

EDITOR.

Full Mortise Frame Barn

To the Editor: Lewis Creek, Ind.

Find enclosed money order for \$2.00, for AMERICAN CARPENTER AND BUILDER, and also a photo of a barn 42 by 60 feet, I built down in old Shelby county, Ind. It is a full mortise



Stout Barn Frame Erected by Contractor Cochran in Shelby Co., Ind.

frame. I used something over 600 pins in this barn. I think the AMERICAN CARPENTER AND BUILDER a very instructive magazine.

BUD COCHRAN,
Contractor and Builder.

To Cut Siding with Miter Box

To the Editor: Los Angeles, Calif.

I think it would be of interest to your readers if you would give the best method for getting the cut on a miter box for the mitered siding on the square angle of a building. This refers only to lap siding, which has not a plumb backing. It is quite common out here to omit the corner boards and instead to miter the siding at the angles.

W. I. GREENWAY.

Answer: This problem may be easily solved by taking the ordinary miter box with the cut for the 45-degree angle in same and tack in a V-shape filler so that when the siding is placed against same, it will be set in the position that it will be on the wall. Then cut in the 45-degree angle in the usual way and the cut will be O. K.

EDITOR.

How to Frame a Flat Roof

To the Editor: Milwaukee, Wis.

Will you kindly let me know through the magazine, the best way to frame a flat roof on a brick veneer frame building? Would you set the beams on ledger boards cut into the studding or cut the studding to the same pitch of roof and set the beams on top of plate?

ALEX WESTER.

Answer: Would recommend nailing a 1 by 4 inch board to the studding to the desired pitch; this principally for convenience to rest the beams on while in construction. Then slip a shingle down between the beam and stud to throw the beam at right angles to the roof boards and spike well to the studs.

Editor.

HE who hesitates is bossed.

THE only man who cannot profit by his mistake is the fellow who doesn't make any. And he isn't doing anything.

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AMERICA'S FINEST WOOD

BIRCH IS AN HONEST WOOD. It does not masquerade under high-sounding commercial or foreign names. BIRCH stands on its own merits—a native American wood for American homes.

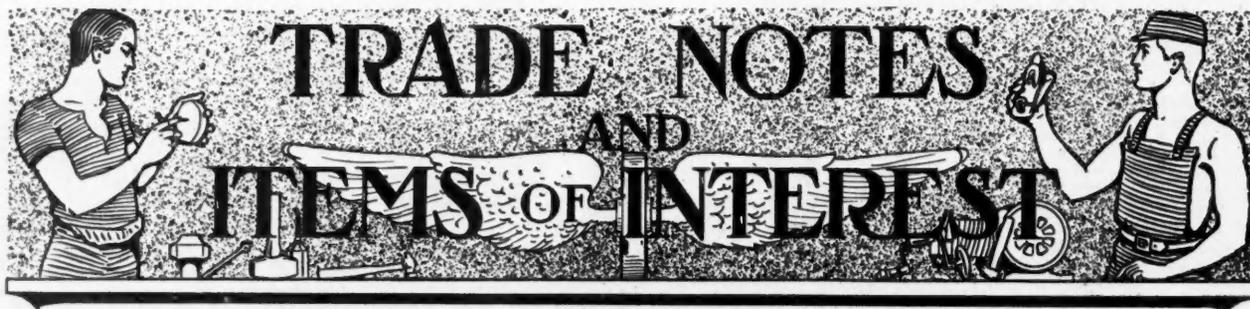
BIRCH IS A PERMANENT WOOD. The finish and lustre lasts as long as the wood itself. BIRCH does not warp nor shrink. Close-grained, wear-resisting and not easily marred, BIRCH can be depended upon to stay where it is put and give steady, reliable service.

BIRCH IS A VERSATILE WOOD. It takes readily and artistically any desired stain, while a finish in natural colors is very attractive. Moreover, BIRCH is so adaptable that it gives the best effect for the interior trim of every part of the house from cozy corner and built-in book-case to kitchen and bedroom.

BIRCH COMBINES BEAUTY AND ECONOMY. Finish in BIRCH half furnishes a house. The cost of BIRCH makes possible its use in the modest cottage and bungalow, while the peculiar richness of tone and figure pleases the most discriminating architect and builder. BIRCH is a dignified, durable wood with a refined appearance that gives increasing satisfaction with each year of use.

WRITE TODAY for our illustrated BIRCH BOOK "C," which shows how BIRCH is used in modern homes, apartments and office buildings. The book and a sample of BIRCH in stained and natural colors will be **SENT POSTPAID** on request.

NORTHERN HEMLOCK
& HARDWOOD MANUFACTURERS ASSOCIATION
WAUSAU, WIS.



Through this department the editors aim to keep builders, contractors, carpenters and architects in touch with what their friends, the manufacturers, are doing for them in new or improved tools and machinery, methods and materials—pertaining to building. Items for these columns must have real news value; they are offered here as interesting information for our readers; they are not advertising. No matter will be printed here simply because some advertiser wishes it. Likewise, no matter will be excluded simply because the article described is not advertised in this magazine. Suggestions for the betterment of this department are requested of our readers.

A Good Time to Visit Chicago

The great annual Chicago event, the International Live Stock Exposition is being held at Union Stock Yards, Chicago, November 30th to December 7th, 1912. Many of the practical problems that confront us in town and country are vitally related to the work which the "International" is doing. Take the cost of meat for example: this Exposition seeks to encourage the production of more and better beef, pork and mutton and with increased production (there is a marked shortage now), lower prices to consumers would be inevitable. Again, more live stock on the farms means more productive lands, an increased purchasing power, better homes, and a more satisfying country life; in fact, cheaper and better living for a greater number of people.

Those who have ever attended the "fat stock show" need no second invitation to take it in again this year. It is decidedly worth while.

Solution to the Millwork Problem

An important addition to the growing family of universal woodworkers is the new improved Famous No. 30, which is formally announced in the advertising section of this issue, and will be described thoroughly in our next number.

From the limited information on hand, we have no hesitation in pronouncing this machine to be one of the most remarkable tools ever brought within the reach of the carpenter and builder, as it offers the services of a complete planing mill at a very moderate price.

On the one frame are embodied the working qualities of sixteen individual machines, any one of which can be operated independently of the others. Five men, operating as many attachments, can work at the same time without any fear of interference to each other. This, and other features equally important, put the No. 30 Famous to the front, and show it to be of even greater benefit to the carpenter, builder and

AGENTS MAKE \$45 TO \$80 A WEEK

I want good agents in every county in the United States, Canada and Mexico. I want men and women, who want to get out and work and make a lot of money. **I offer you an opportunity to earn thousands of dollars a year.** I offer you a position where you will be independent—you will have an abundant income—your time will be all your own—you will be bossed by no one, and can work just as hard as you want to and when you want to—and every penny of profit will come into your own pocket. I offer you an agency for

The
Robinson Fold-
ing Bath Tub



A GREAT NEW HOUSEHOLD INVENTION

Just out—nothing else like it. Gives to every home a complete bathroom in any part of the house—without expense. Can be used anywhere—upstairs, downstairs, in the guest room—anywhere—and always ready—in demand everywhere. **Made full size, of specially prepared, exceedingly high quality rubber—folds instantly and without effort—takes up no room—requires no plumbing or fixtures—ideal for absolutely every home in the world.** No repairs—no expense—no bother—no objections. Perfect, economical, necessary everywhere. Thousands being sold. Agents

taking orders at nearly every house. **Will Gunkel, of Ohio, got \$240 worth of orders the first week.** A. Bernier, of Kansas, **made \$30 in four hours.** Made eight calls, sold six tubs. **Weil, of Mo., made \$10 in one hour.** Hamilton, of Wyo., made \$60

first two days. New territory being assigned every day. Send your application at once. This is the biggest money maker invented in 50 years for hustlers everywhere. It is exciting widespread attention and thousands of letters are received from homes asking us to have one of our agents call so they can place an order.

EXCLUSIVE TERRITORY Means a big, immediate and permanent income. It means that you will be in business for yourself at \$45 to \$80 a week sure. Prospects for doubling that amount. General agency openings for those who can show the ability to handle them. This is the most brilliant opportunity of the century for those who act. Answer this invitation at once. Don't delay. Don't put it off. The chance is open today.

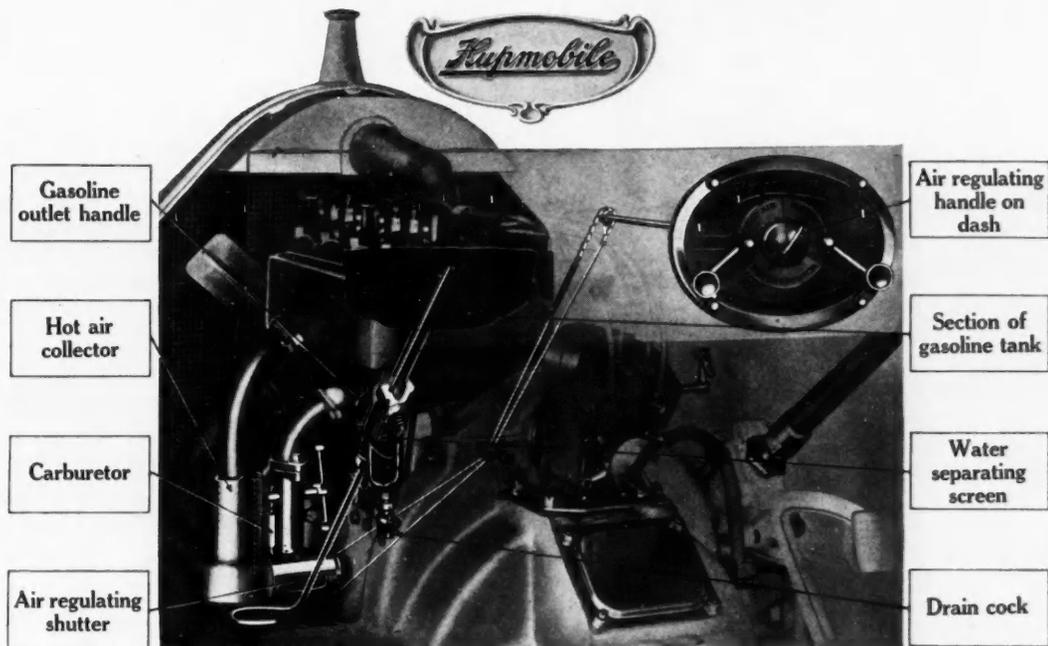
100% PROFIT I pay you 100% profit. I give you complete instructions, assistance, co-operation. I back you and absolutely insure your success. I shall judge you largely by your promptness. I want good men. So put your name, address and the name of your county on a postal card and mail it to me immediately. I will send complete information, free—and I will offer you free this chance to make a big salary the very first week. I am organizing my selling force now, and territory is being rapidly snatched up. Only one agent allowed to a field—so send your application at once. Mail your postal card or a letter today—do it right now. Address

H. S. Robinson, President

THE ROBINSON BATH TUB CO.

204 S. 15th St., Toledo, Ohio

When Writing Advertisers Please Mention the American Carpenter and Builder.



How this Self-Priming Device makes cold-weather starting easy

The Hupmobile gasoline system—picture above and explained in the text—shows many distinctive features of motoring convenience that are well worth your notice.

Study especially the hot-air control and self-priming device.

By these you are enabled to start your motor in cold weather almost as easily as you do in summer.

This device, together with the direct fuel feed; the gasoline cleansing screen; the emergency supply; go to make a system as complete as engineering skill can accomplish.

We lay stress on it here because it is characteristic of the thoughtful and painstaking skill in designing that is evident in every detail of Hupmobile construction.

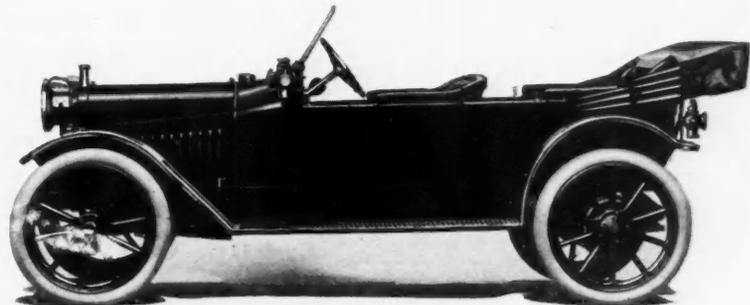
It is but one of many instances we can show you to justify our belief that the Hupmobile is, in its class, the best car in the world.

Hupp Motor Car Company
1255 Milwaukee Avenue DETROIT, MICHIGAN

Hupmobile "32" Touring Car, fully equipped, \$975

F. O. B. Detroit, including equipment of windshield, mohair top with envelope, Jiffy curtains, quick detachable rims, rear shock absorber, gas headlights, Prest-o-lite tank, oil lamps, tools and horn. Three speeds forward and reverse, sliding gears. Four cylinder motor, 3¼-inch bore and 5½-inch stroke; wheelbase 106 inches; 32x3½-inch tires. Standard color, black. Trimming, black and nickel.

"32" Roadster, fully equipped, \$975 f.o.b. Detr
"32" Delivery, fully equipped, \$950 f.o.b. Detr
"20" H. P. Runabout, fully equipped, \$750 f.o.b. Detroit



How the Automatic Primer Operates

Gasoline motors need a heavy charge of gasoline to start them in cold weather.

Generally this is obtained by flooding the carburetor. Or, when still more gasoline is needed, by injecting it directly into the cylinders through the relief cocks.

We have done away with both of these troublesome methods by supplying the Hupmobile carburetor with an automatic primer.

The air supply to the carburetor is controlled by a shutter, operated by a handle conveniently placed on the dash.

By turning this handle the quantity and temperature of the air passing through the carburetor can be regulated.

For starting in cold weather the air shutter is nearly closed and a mixture very "rich" in gasoline is drawn into the cylinders.

This comes from the carburetor nozzle as a very fine spray, mak-

ing it easier for the spark to explode than in the car of ordinary priming with liquid gasoline.

All air passing into the carburetor at starting is drawn through the hot air collector and heated by the exhaust pipe, so that the engine gets under way almost as quickly and smoothly as under more favorable weather conditions.

Another advantage of the Hupmobile gasoline supply is the location of the tank under the dash shroud, so that gasoline is positively fed to the carburetor by gravity, whether on the level or hill.

On its way to the carburetor, the gasoline passes through a screen so fine that the water and dirt are separated from it.

Just below the screen is a valve, operated by the gasoline outlet handle, which can be set to keep one gallon of gasoline in reserve for an emergency.

When Writing Advertisers Please Mention the American Carpenter and Builder.

contractor than other Famous models. It is built by the Sidney Tool Company, Sidney, Ohio, who have over 1,300 universal woodworkers in use at the present time. Advance information on this new model can be obtained by writing them.



Carrying Cases For Draftsmen

An interesting feature of the line of goods of the Spaulding Print Paper Company of Boston, Mass., is their complete drafting outfit and carrying case for draftsmen, technical students and others.

The Spaulding drafting case is made light and strong and not only provides all necessary compartments for the smaller articles, but also furnishes a very convenient method of holding and carrying the drawing board and T square. The case is designed with one side open and when the drawing board is in place it forms a cover for that side. It can be readily removed when desired, as it is held by four small turning hooks.

This company handle a complete assortment of drafting tools, drawing instruments, drawing papers, etc., and their catalog describing completely their line can be had on request. Address the Spaulding Print Paper Company, 46 Federal Street, Boston, Mass.



"Through Perfect Doors to Beautiful Homes"

So have the Morgan Company of Oshkosh, Wisconsin, styled a very attractive booklet they have but recently issued.

This booklet number represents in its every page not only the Morgan spirit of quality but of distinction as well. The

pages are artistically arranged and a series of photographs of handsome homes in which Morgan doors and woodwork has been used, together with many photographs of finished Morgan doors are displayed throughout the booklet.

Architects, builders and carpenters are quite familiar with Morgan hardwood doors and woodwork and fully appreciate just what the stamp of Morgan quality means. As the booklet introduces itself "it contains a few door characteristics which, when known and observed will avoid mistakes, effect a saving and insure permanent door and woodworker satisfaction."

Our readers and their clients can secure a copy of this Morgan booklet through addressing the Morgan Company, Oshkosh, Wisconsin.

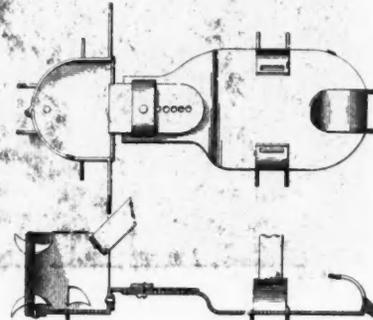


Climbing Device for Roof-Workers

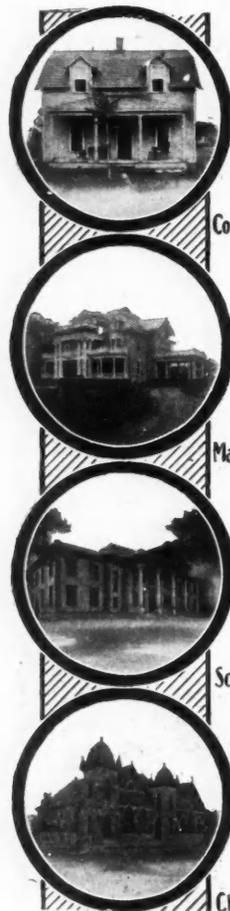
1,039,928 — Patented Oct. 1, 1912, by Sylvester B. Gray, of Chickasha, Oklahoma.

This invention relates to improvements in climbing-devices for use by roof workers.

The objects of the invention are to produce a simple device which is designed to be worn over the shoes of workmen



Back, Side and Sole Views of Roofers' Shoe



Cottages

Mansions

Schools

Churches

Cortright Roofs Everywhere!

In every class of building construction—from the smallest dwelling to the most pretentious structures—Cortright Metal Shingles will combine wonderfully attractive appearance with a protection against storm, wind, lightning and fire, that cannot be procured through the use of any other roof covering.

Cortright Metal Shingles

please everyone, and the Contractor or Builder who represents the Cortright line is in position to give his customers more value for their money, and make a better profit for himself.

Write for samples, prices and for our interesting catalog; also let us tell you what we will do to help you sell Cortright Metal Shingles.

WRITE NOW, or simply sign and return the attached Coupon

Cortright Metal Roofing Co.

PHILADELPHIA and CHICAGO

CLIP, SIGN AND RETURN THIS COUPON

You may send me catalog and proposition.

Name

Street Address

City

A. C. B. 12-12.

Writing Advertisers Please Mention the American Carpenter and Builder.

The "ABC" of BEAVER BOARD Construction

The twelfth of a series of monthly talks to carpenters beginning with the issue of January, 1913. Anyone who has missed the earlier chapters may obtain the complete series by writing to one of the addresses given at the bottom of this page.

CHAPTER XII

Beaver Board Essentially a Proposition for Carpenters and Builders

THERE is the keynote to the whole series of talks on BEAVER BOARD that have been published in this magazine since last January.

We have tried to tell you exactly what BEAVER BOARD is, how it is used, and a few of its forty-one great advantages.

You have also gained many little hints on its application and decoration that help to insure a satisfactory and attractive job.

Now the big thought to carry away from these talks is this:—

Beaver Board Means Profit to You

Its use is spreading with such rapidity that in spite of enormous additions to our manufacturing equipment we have to hustle to keep up to the demand.

Its field of use lies all around you in every city, town or village; in new buildings and old, in stores, office-buildings, residences, churches,—and any kind of building.

It is pleasant work, easy work, inside work, all-the-year-round work.

It offers great opportunities to the skillful mechanic—still greater to the mechanic who adds a little salesmanship to his skill.

There is reputation and steady work for the man who puts up Beaver Board and does it well.

There is a fine, growing business opportunity for the man who pushes the sale of BEAVER BOARD.

You can get all the additional information you want by asking for it. We'll be glad to write you at any time.

Then why not go to it and see what you yourself can get out of Beaver Board?

Write to the nearest address.

When Writing Advertisers Please Mention the American Carpenter and Builder.



Beaver Board walls and ceilings suit every type of residence, large and small, new or remodeled. This picture shows but one of many designs appropriate to living rooms, and is from the attractive home of Mr. Walter Richardson, at Nashville, Tenn.



Here is a very different Beaver Board design from the offices of White, Wile & Warner, Buffalo, N. Y. It suggests not only the infinite variety of Beaver Board walls and ceilings, but their adaptability to a tremendous field of commercial use.

GENUINE BEAVER BOARD has our registered trade-mark on the back of each panel. 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.



The Beaver Companies

UNITED STATES, - - 442 Beaver Road, Buffalo, N. Y.
CANADA, - - - - 382 Wall St., Beaverdale, Ottawa
GREAT BRITAIN, 4 Southampton Row, London, W. C. Eng.

What The Builder Can Learn From The Grocer

There is a certain money-making piece of information which a builder can obtain from grocers. He can get the same from druggists, jewelers, hardware and furniture dealers, dry goods men and even from music and piano dealers.

Most of these men have learned in the last few years that the magazines are creating a tremendous demand for advertised goods. Do you know that national advertisers are spending eighty million dollars a year in the great weekly and monthly publications?

How Does This Affect The Contractor?

These men are learning that the easiest goods to sell are those that advertising has half-sold for them in advance. And such goods make satisfied customers, simply because the national mediums are becoming more particular all the time about who advertises with them, and will not advertise poor merchandise.

The wisest thing a builder can do is to sit down with some high-class woman's magazine, like Good Housekeeping Magazine, and see just what construction materials are being advertised. He will be surprised to see how many they are, and how excellent they are.

He will find that the swiftest way to win a woman's favor to his house-plans and his bids is to incorporate some of these advertised products in his specifications. And he will open his eyes when he finds how familiar the women are with a great many of these construction specialties. Here are some of them, as advertised in and absolutely guaranteed by Good Housekeeping Magazine.

Standard Sanitary Plumbing Fixtures
Trec Stationary Air Cleaning System
Monarch Metal Weather Strip
Sherwin-Williams Paints and Varnishes
Vudor Porch Shades
Maxwell's Lakeside Rug Border
Tyler's Domestic Hot Water Generator
Carpenter's Spring Shades
Wild's Parquet Inlaid Linoleum
Elastica Floor Finish and Kleartone Stains
Brenlin Window Shades
United States Radiators and Boilers

Sargent's Builders Hardware
Siwelclo Noiseless Closet
McCray Refrigerators
Utility Wall Board
Sanitas Wall Covering
Beaver Board
Pratt & Lambert "61" Floor Varnish
Vitalite White Enamel
Minneapolis Heat Regulator
Macbeth-Evan's Glass Shades and Globes
Alabastine Wall Tints
Alabasco Fast Wall Paint
Mellotone Wall Finish
High Standard Liquid Paint, Oil Stains (Lowe Brothers)
Imperial Sanitary Flooring
Valspar

Give The Public What It Wants It Wants Advertised Goods

The magazine publishes GOOD STOREKEEPING, a quarterly devoted to this question of cashing in on the wide demand for advertised products. A copy of it, and a copy of Good Housekeeping Magazine, will be sent free on request to any contractor or builder. Address Dealers Service Department, Good Housekeeping Magazine, 381-D, Fourth Avenue, New York.

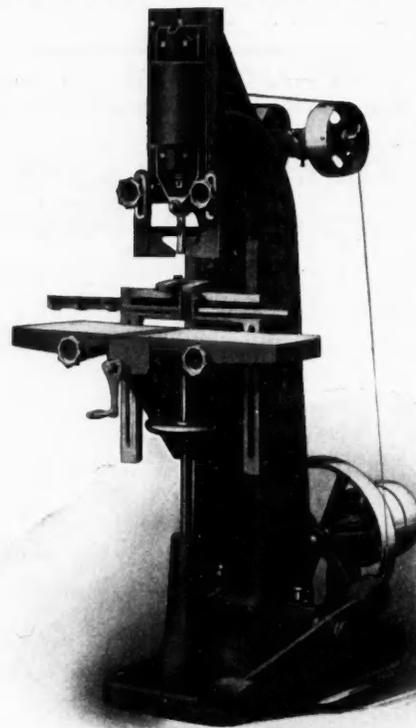
employed in the somewhat dangerous yet common task of shingling, painting, and repairing slanting roofs, said device being so constructed that when in position upon the feet of a workman it will constitute a most efficient means for preventing slipping, enable him to readily climb and to anchor himself securely at any point while engaged in work.



The Smith Automatic Mortiser

The new Smith automatic hollow-chisel mortiser illustrated here has some particularly interesting features as the following description will show.

The countershaft is in the base and is the most rapidly running part of the machine except the boring spindle, and as all parts are perfectly balanced, the machine runs quietly



Right Front View of No. 282-A. Hollow Chisel Automatic Mortiser

and without tremor. This countershaft is 1½-inch steel and operates the self-lubricated gearing which gives the automatic motion to the plunger or chisel, and it also drives the auger which is within the chisel.

The head-stock which carries the chisel and auger is fitted in adjustable gibbed bearings at the top of the frame and overhangs the main frame so as to mortise in the middle of large pieces. This head stock with the chisel and auger has an automatic reciprocating movement of 4 inches and makes eighteen to twenty plunges a minute, or as fast as a rapidly revolving auger will bore; hence it will be seen that mortises can be made rapidly and at the same time freed from chips and ready for use.

The table has a planed top and a vertical adjustment of 14 inches. It also has a screw adjustment to and from frame of 4 inches, so that the machine will mortise in the middle of a piece 7¾ inches wide. The back part of the table is fitted with a combined guide and hold-down which has a vertical adjustment for thickness or depth of material and the guide is provided with gauge stops so as not to require laying out or marking the stock in duplicate work. The table, as a whole, is mounted on a strong knee which is adjustably gibbed to the lower framing and which rests on an 1¼-inch

When Writing Advertisers Please Mention the American Carpenter and Builder.



You Ought to Have More than a Bow- ing-Acquaintance with Varnish

Next to the Painter, the Carpenter or Contractor should know more about varnish and its uses than any other craftsman.

You may never wield the brush yourself, but you should see that your handiwork is finished in the best manner possible.

Send for free copy of

"Natural Woods and How to Finish Them"

This book, plus an intimate acquaintance with the Berry Brothers' label, will make you a good adviser to your clients.

Berry Brothers, Ltd., - - - Detroit

When Writing Advertisers Please Mention the American Carpenter and Builder.

screw with four threads to the inch, and is provided with a hand-wheel for adjusting the table to suit the thickness of materials being worked. The table cannot lift up when the chisel withdraws. In addition to the hold-down on the table-guide, there is a substantial hold-down attached to the upper framing which can be adjusted to the depth of mortise required and the table brought up according to the thickness of material being worked.

A hollow chisel 4 inches long is supposed to make a mortise as deep as 3 inches and therefore it will be necessary to invert the piece if it is thicker than 3 inches and the mortise is to go through. A wood piece is inserted in the table directly beneath the chisel so as not to spoil the bits in case of mortising through a thin piece.

A foot treadle controls the chisel movement so that it can be started by placing the foot on the treadle and stopped at any instant in any position by removing or raising the foot, otherwise the automatic reciprocating motion will continue so long as foot is on the treadle. There is no pounding nor jar to the foot and no extra pressure required.

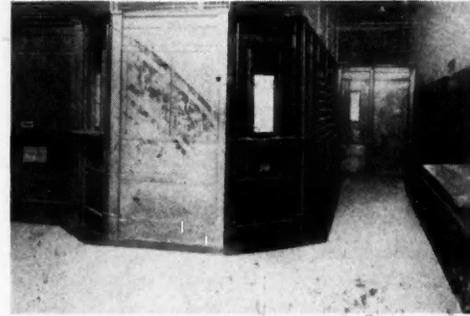
The mechanisms by which this machine is made automatic in its boring and mortising are of the most simple and durable character and require little or no attention.

Circular matter fully illustrating and describing machine can be obtained from the H. B. Smith Machine Company of Smithville, New Jersey.



Asbestone

Here is an article that we think will be appreciated by every reader of this paper. Asbestone is a guaranteed fireproof, sanitary, durable material for floors, base and wainscoting. Asbestone is easy to walk on. Its decorative qualities are peculiarly distinctive inasmuch as there is no end to the diversified schemes that may be used. Asbestone is versatile



Post Office at Mansfield, Ohio, Showing Fine Asbestone Work

and adaptable. It can be laid over an old wooden floor if desired, thus transforming a worn-out, practically useless floor to one of great utility and beauty.

In such buildings as schools, colleges, churches, public buildings of all kinds in fact, residences etc., Asbestone is an ideal material to use for the floors, base and wainscoting. The sanitary idea of Asbestone should appeal directly to all builders. Architects realize this and are specifying it for use in hospitals where the very best of sanitary arrangements are demanded.

The use of Asbestone is true economy. It may cost more to install, that is, its first cost may be higher, but when its fireproof, sanitary qualities are taken into consideration, its reality costs no more than wooden construction.

The Asbestone booklet will be sent to any builder or reader of the AMERICAN CARPENTER AND BUILDER. (Address Franklyn R. Muller, Dept. H., Chicago.) This shows buildings of various type in which Asbestone has been used. It is extremely interesting. Write for it. It is yours for the asking.

At Last! A Practical Small Refrigerating and Ice-Making Machine for Domestic Uses

We are now prepared to furnish the Audiffren-Singrun Refrigerating Machine in sizes to meet the requirements for cooling refrigerators, cooling drinking water, and making ice in residences, apartment houses, hotels, hospitals, office buildings, restaurants, factories, etc.

That this machine has long since passed the experimental stage and can safely be recommended by you, is proven by the fact that over eight hundred of them are in daily operation in Europe, many of them having been in use for over five years without repairs. The refrigerant cannot escape, so recharging is never necessary.



Audiffren-Singrun Refrigerating Machine

has no joints, valves, gauges or stuffing boxes, and no connections to leak. Anyone can easily operate it—all that is necessary is to keep this machine supplied with water and power. And it can be operated by electric motor, gas or gasoline motor, steam, oil or hot air engine, or any other available power.

It is cheaper to use this machine than ice. It keeps food in better condition due to the lower temperatures and dryer air produced. Does away with the slime, dirt and unsanitary conditions caused by ice. It is absolutely safe.

Write our nearest Branch for Catalog No. 50

H. W. JOHNS-MANVILLE CO.

Albany
Baltimore
Boston
Buffalo

Chicago
Cincinnati
Cleveland
Dallas

Detroit
Indianapolis
Kansas City
Los Angeles

Louisville
Milwaukee
Minneapolis
New Orleans

New York
Omaha
Philadelphia
Pittsburgh

San Francisco
Seattle
St. Louis
Syracuse

Toronto

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

Montreal

Winnipeg

Vancouver

1785

When Writing Advertisers Please Mention the American Carpenter and Builder.

This hits you, Mr. Carpenter,
 even stronger than it does your customer,
BECAUSE YOU UNDERSTAND SO WELL

How
 much
 it means
 to be able
 to get
**ALL
 THE
 White
 (Norway)
 Pine
 you
 want!**
**GET
 THE
 BOOK**

ONE OF THESE IS COMING YOUR WAY, TOO.

JUST PUT YOUR NAME ON A CARD TODAY—MENTION WHY YOU CARE—
 AND "WHY—WHEN—WHITE PINE"—FULL OF VITAL LUMBER FACTS—
 WILL GO TO YOUR ADDRESS AT ONCE. BUY YOUR LUMBER BY IT.

BUY NO LUMBER TILL YOUR COPY COMES!

Send for it—Don't wait!



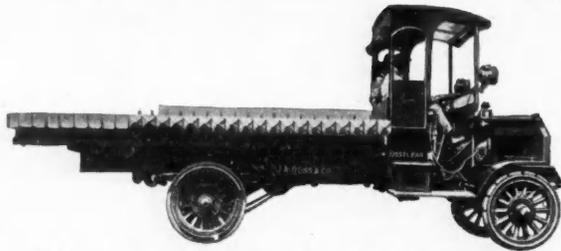
WE WILL GLADLY GIVE PERSONAL COUNSEL—HELPFUL IN YOUR OWN CASE.
 Anyhow, WRITE US before you buy ANY lumber—for any purpose. DO IT TODAY. This matter of
 WHAT WOOD is best for the given case is much more important than many realize. Our reply will be
 PROMPT and CANDID—and the booklet is ready and will reach you by return mail. WRITE NOW.

NORTHERN PINE Manufacturers' Association

1119 Lumber Exchange

Minneapolis, Minnesota

When Writing Advertisers Please Mention the American Carpenter and Builder.



This three-ton KisselKar Truck in the service of the Ross Contracting Co. of Chicago, covers 100 miles daily. Weight of load shown, 10,500 pounds.

Reaching the limit of haulage efficiency

Every year an appalling number of horses die in harness.

They collapse from overwork, from insecure footing, from extremes of weather.

Delivery is delayed, time and money lost, general traffic impeded.

A KisselKar Truck will take on the task of three to five horse teams—substituting machine precision for animal lack of precision, reliability for uncertainty.

Weather conditions will not affect it—no exhaustion from heat—no ills from exposure to cold.

KISSELKAR TRUCKS

1500 lb.—1—2—3—4 and 5 Tons

KisselKar Trucks are the strongest, sturdiest and simplest of all trucks—the most enduring and the most economical.

Vanadium anti-fatigue steel used—the toughest and most resilient steel ever put into a truck chassis; the Kissel engine—the most responsive and powerful of motors; lock on differential locking both rear wheels together when traction is needed to pull one wheel out of a bad place; four speeds; lighter fuel consumption; easiest control; bodies built specially for any business.

A perfect service organization clinches KisselKar supremacy. Factory-trained experts in KisselKar construction—with a complete stock of replacements—are ready night and day in all principal cities to relieve owners of mechanical care.

Send for free truck portfolio.

Kissel Motor Car Co., 546 Kissel Ave., Hartford, Wis.
Branches: New York, Minneapolis, Chicago, Milwaukee, Los Angeles, Dallas, Boston, St. Paul, Kansas City.

KisselKar Service Stations
and Agencies at over 200 leading points throughout United States

A Nifty Tool Outfit

As we are all interested in tools and tool outfits, a brief description of a tool outfit that is meeting with considerable favor among the carpenters will not be amiss.

The set and case illustrated here—C. E. Jennings & Company's tool outfit No. 61, containing 26 warranted tools is the one we have reference to.

A particular feature of this number 61 outfit is that sixteen of the twenty-six tools may be used in the universal tool holder which is contained in this case and which in the accompanying illustration of the open case, can be seen near

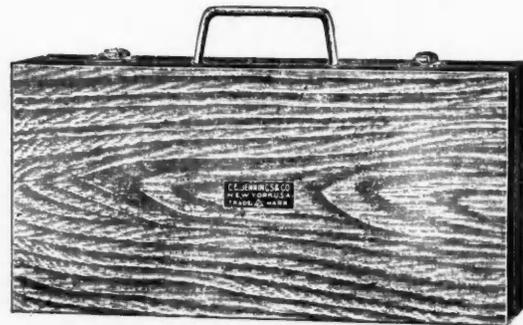


Illustration of Tool Outfit No. 61 closed

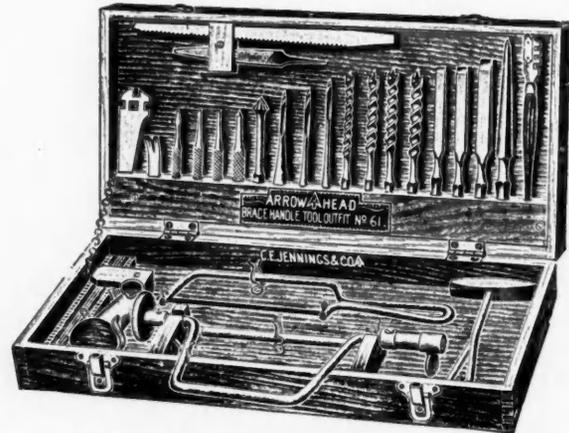


Illustration of Tool Outfit No. 61 open

the lower left hand corner. The outside dimensions of the case of this number 61 outfit are (closed) 16¾ by 8 by 3 inches. The weight of the case, with equipment, is about 6 lbs. As can be seen from the cut, the brace also forms the handle of the case.

The Jennings Company have lately put out a new tool chest catalog and in it are described the many various tool chests and cabinets, and tool outfits they manufacture. This company are extensive makers of carpenters' saw and tool equipment. Particulars concerning their entire line, catalogs, etc., can be had by writing them, C. E. Jennings and Company, 42 Murray Street, New York City.



Chicago Spring Butts in Highest Buildings

Three of the highest buildings in the world—the Woolworth Building, 55 stories, 750 feet in height; the Metropolitan Tower, 45 stories, 710 feet in height and the Bankers Trust Building 39 stories, 535 feet in height; all located in New York City—are equipped exclusively with the Chicago Triplex spring butt hinges.

This information comes from the company manufacturing these hinges—the Chicago Spring Butt Company—and they accompany the news with a copy of their latest

When Writing Advertisers Please Mention the American Carpenter and Builder.

ORR & LOCKETT
Established 1872 **L HARDWARE CO.**

This advertisement is directed at contractors who do not realize what our forty years of experience and tremendous buying power means to the man who uses

Contractors Tools and Supplies

In the first place, we carry the largest and most complete line of tools and supplies for carpenters, cement workers, wood workers, electrical workers, masons, etc., in the country. This means that contractors can buy anything needed for the whole job at our store and save time and expense of "shopping around" and placing scattered orders.

In the second place, we are not bound to a single line or brand of tools that vary in quality. We buy saws of the best saw maker, trowels of the leading trowel manufacturer. We seldom fill an order with one line of goods exclusively and the result is no weak link in our shipments anywhere.

The variety of our stock is shown by the fact that you can buy practically any tool advertised in this magazine at our store and find it on the shelves ready for you to take away with you. We can always ship your order at once and our forty years of success is your guarantee that our goods stand upon honor.

**GIVE US YOUR NEXT ORDER FOR TOOLS
AND SUPPLIES AND LET US SHOW YOU.**

ORR & LOCKETT
Established 1872 **L HARDWARE CO.**
14-16 W. Randolph Street, CHICAGO, ILL.

When Writing Advertisers Please Mention the American Carpenter and Builder.

catalog—C 29—which both illustrates and describes their complete and varied line of spring hinges, and in which contractors, builders and architects can find the hinges adapted to their particular requirements.

The catalog gives valuable information in regard to specifying spring hinges and also as to the specifying of lavatory hinges and fittings. A copy of this C 29 catalog can be had by addressing the Chicago Spring Butt Company at either their Chicago or New York offices.



The Making of Disston Machine Knives

"Disston Machine Knives" is the title of a new booklet the Henry Disston and Sons Company of Philadelphia, Pa., have issued. It is devoted to a complete explanation of the manufacturing process of Disston machine knives from the making of the steel in crucibles to the sharpening and tempering of the finished knife.

Disston machine knives have been made and in use for over a quarter of a century. There are probably mighty few carpenters or shop workers who have not made use of some particular Disston knife.

To produce good knives three important things are necessary, good steel, good temper and good workmanship; and these three essentials the Disston people incorporate into each one of the knives they make. The fact that the Disston machine knife department regardless of the numerous additions and enlargements from year to year is constantly working to its full capacity shows that the popularity of Disston machine knives is steadily and surely growing.



"A Bit of History"

That is what the H. H. Mayhew Company of Shelburne Falls, Mass., call their latest booklet, which is both des-

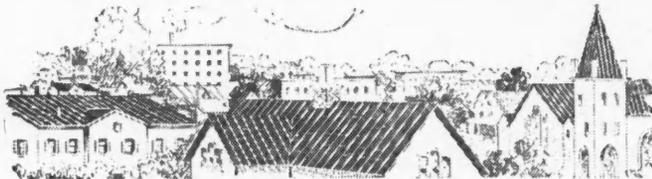
criptive of their plant and its location as well as of some of the mechanics' tools they manufacture.

From this booklet we gather the following concerning the present Mayhew company. "It was in the year 1856 that H. S. Shepardson with imported steel and a few workmen from the old country skilled in the art of forging and tempering began the manufacture of the bit familiarly known as the German Bit. Previously these bits had all been imported and Mr. Shepardson was the pioneer of this industry in America. Later other tools of kindred nature were added, all of the same high grade of material and workmanship. These were placed on the market under the now well known Shepardson brand. The Shepardson trade mark has been retained by the successors to the business, the H. H. Mayhew company, and is shown on all of the original Shepardson tools, while the latter patterns which are placed on the market from time to time bear the Mayhew trade mark. Either of these distinguished marks on a tool is an absolute guarantee to the purchaser that it is of superior workmanship and of the best material. The steel used is still imported, as experience and many experiments have demonstrated that, while there are many good tool steels produced in this country, there is greater uniformity year in and year out and more reliable results are obtained with the foreign steel.

"Hand work still predominates throughout the H. H. Mayhew company shops. The various tools are still forged by the old-time hand methods which produce a fineness and toughness in the tool which cannot be obtained by the "hurry up" methods of the factory that strives for quantity rather than quality. In the finishing process, where machinery can be employed without detriment to the quality of the tool, the latest and most up-to-date machines are used. The hardening and tempering are now done by electrically heated furnaces, insuring both correct and uniform results—a most important item in tool making. The watchword of the H. H. Mayhew



32 POUNDS COATING



40 POUNDS COATING
A. S. & T. P. CO.

It is to Your Advantage

to specify exclusively for our

Copper Bearing Open Hearth Roofing Tin

Subsequent developments will vindicate your judgment.

Soft and pliable.

Thoroughly and evenly coated.

Fireproof—durable—reasonable in cost.

Write for full information on our high grade Terne Plates, Apollo Best Bloom Galvanized Sheets, Formed Products, etc. Send for our new Pocket Reference Book, and Weight Cards—Valuable to every builder.

American Sheet and Tin Plate Company

General Offices: Frick Building, Pittsburgh, Pa.

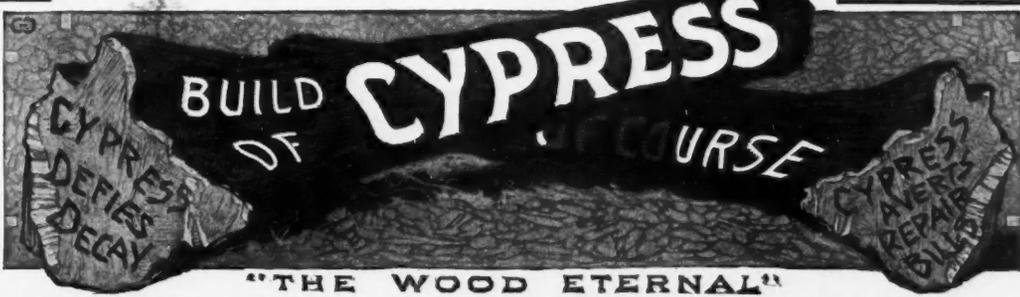
DISTRICT SALES OFFICES:

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.

WHEN YOU BUILD (WHATEVER YOU BUILD) BUILD "FOR KEEPS"!

This is BUY-ING Time



See that you get Cypress and "No Substitutes"



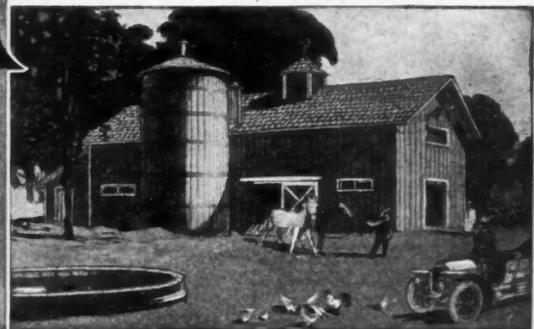
WRITE TODAY for Vol. 9 of the CYPRESS Pocket Library telling about Cypress siding—and why.



VOL. 7 (Cypress Pocket Library) is "the most valuable SHINGLE book ever printed." Yours by mail on request.



CYPRESS —"the only GREENHOUSE Wood"—or for Pergolas, Trellises, etc. Ask greenhouse men. Get Vol. 3.



FARM and Country Home Improvements of Cypress never "run down." Vol. 22 covers Tanks and Silos also. Get it.



VOL. 31 is an eye-opener on Cypress for INTERIORS. Superb grain. Easy to work. No pitch. The book proves.



EVERY FOOT of every Porch, Sleeping Balcony or Fence should be CYPRESS. Vol. 16 covers it. Write today.

Let our "BUILDERS' DEPARTMENT" help YOU. Our entire resources are at your service with Reliable Counsel
SOUTHERN CYPRESS MANUFACTURERS' ASSOCIATION
1216 HIBERNIA BANK BUILDING, NEW ORLEANS, LA.

INSIST ON CYPRESS AT YOUR LOCAL DEALER'S. IF HE HASN'T IT, LET US KNOW IMMEDIATELY
"CYPRESS—AND NO SUBSTITUTES"

CROSBY CHICAGO

When Writing Advertisers Please Mention the American Carpenter and Builder.

Grand Rapids Hard Wall Plasters

Keep Your Plastering Profits In YOUR Pocket

When deciding the plastering question for your jobs just ask yourself—"Should I use a heavy, cracky, lime mortar plaster that I'll have to be constantly repairing and that will, in a short time, eat up all my profit—or should I use a G. R. Hard Wall Plaster that is guaranteed to give permanent satisfaction—that will need no repairing—that will allow me to keep all my profit from the job in my pocket?"

Further—consider the added fact of doing a job that will be at all times entirely satisfactory to the owner or renter.

Poor plastering has queered more than one good building job. Don't let poor plastering have the opportunity to damage any of YOUR jobs.

Use Grand Rapids Hard Wall Plasters and you can be certain that every bit of plastering work you do is satisfactory—there'll be no repairing or refixing of any sort—all of your profit will stay in YOUR pocket.

G. R.—Climax Wood Mortar

is being 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. It's density prevents vermin. It is not affected by water. It is durable, flexible and pliable. It is plastic and very easy to spread—any plasterer can apply it. It is adhesive and permanent. It does not contain one particle of sand.

G. R.—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. It contains no chemicals, acids or any vegetable matter.

A Set of Plastering Books—FREE

Perhaps you're not quite certain as to just what hard wall plastering is. We have a set of books we will send you absolutely FREE that will fully explain hard wall plastering to you, besides telling you in detail about our Hard Wall Plasters—Climax Wood Mortar—Hercules Wall Plaster—Superior Fiber Plaster—Gypsum Wall Plaster and Sackett Plaster Board. With this set we also send you our room measurement booklet—from it you can tell at a glance the number of square yards in a room.

No Contractor or Builder can afford NOT TO KNOW ALL ABOUT G. R. Hard Wall Plasters. Get in touch with us right away—get your set of books, full particulars and the name of your nearest G. R. dealer. Just drop us a card saying—"I'm interested in G. R. Hard Wall Plasters." We'll show you how and why you can give better plastering results—also make more money—through using them.

GRAND RAPIDS PLASTER CO.
GRAND RADIDS, MICH.



"Remember the
TRADE MARK"

GRAND RAPIDS
PLASTER COMPANY
GRAND RAPIDS, MICHIGAN

N. B. We solicit inquiries from Michigan, Ohio, Indiana, Illinois, Wisconsin, Kentucky, Tennessee, West Virginia, and Pittsburgh districts, Pa., only. Freight rates will not permit shipment to other territory.

company shops is quality and their aim is to produce the best tools for the best mechanics."

At this present time the company's manufacturing includes a very general line of bits, countersinks, gimlets, braces, screw driver bits, burring tools, bit extensions, screw drivers for every purpose, punches, nail sets, etc., etc.

Readers interested in "A Bit of History" can obtain a copy of this attractive little booklet through addressing the H. H. Mayhew Company, at Shelburne Falls, Mass.

✦ Metal Lath Silos

The above is the title of a little booklet which the North Western Expanded Metal Company of Chicago, have recently issued. The matter contained in this booklet was reprinted from Cement Silo Construction as published by the extension department of the Kansas State Agricultural College. It is a detailed description of the method of construction of a metal-lath cement silo.

The foundation, the inside scaffold, the construction of the form for door opening, the erecting of the 2x4 studding, the placing of gas pipe in door form, placing of metal lath, extra wire reinforcement, closing door form on inside, placing bolts to hold the plate to the wall, placing bolts to hold the chute, the inside and outside plastering and construction of roof are all fully dealt with in a thoroughly understandable manner.

Particularly interesting is that section describing the placing of the metal lath. "The twenty-four-gauge expanded metal or metal lath is used in the construction of this silo. It comes in bundles, each bundle usually containing nine strips, eight feet long and eighteen inches wide. A bundle of this size contains twelve square yards and weighs forty and one-half pounds. This metal lath is tacked to the inside of the studding with doublepointed tacks. The work of placing it should begin at the top, starting at the door post. The end of the first strip should be passed through the opening in the side of the door box and bent around the gas-pipe already in place. Each strip of lath should be tacked first in the middle; the workman should go from that place toward the end, and should, as the tacks are driven, push out the lath so that it naturally takes the form of the circle. The end of the second piece should be lapped at least three inches on the piece already placed. So continue until the gas-pipe on the other side of the door is reached.

"Where the ends of the lath pass the hooks of the rods across the door, it will be necessary to split the end back about four inches, so that it can be bent around the gas-pipe properly. It is very important that the end passing around the gas-pipe be long enough to encircle it completely. Two workmen are needed to do this work to good advantage, and more men can be used if they are available. The different rounds of the lath should lap from a quarter to a half inch, and in case any bagging is seen the edges must be wired together with light wire. This will prevent a great deal of annoyance to the plasterers in placing the first coat of plaster. Whenever it becomes necessary to splice the ends between studding, the splices must be carefully wired together. When the ends are spliced on the studding and lapped three inches, this wiring is not necessary. This expanded metal lath has a right and wrong side, and the best results are secured if the material is so placed that the slant of the mesh is downward when looked at from the inside. If, when the bottom is reached, the lath does not come out even, which is usually the case, the last round may be left full width in case there is enough lath to allow this. Care taken in getting this lath smoothly placed and carefully wired will mean the saving of money later, since the plasterers can

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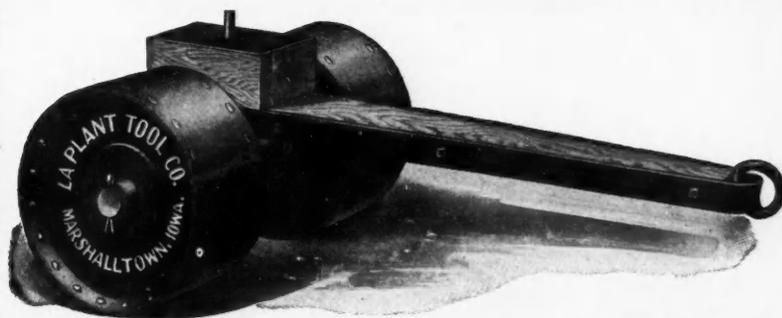
Put Utility Wall Board on right over the studding—Do away with all the muss and dirt and bother of lath and plaster—And you will have walls and ceilings that will last as long as the house stands.

UTILITY WALL BOARD

is a strong, durable fibre board—It is put together with two insulations of natural water proof asphalt, rolled under tremendous pressure into one solid compact sheet and surfaced on both sides with special moisture proofing. It will not warp or crack or shrink—It may be decorated in any style desired—It is very durable—and less expensive than lath and plaster—Use it in new construction—or in repair work—Put it on over old, cracked plaster if you wish.

There is a sample here for you—if you write

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

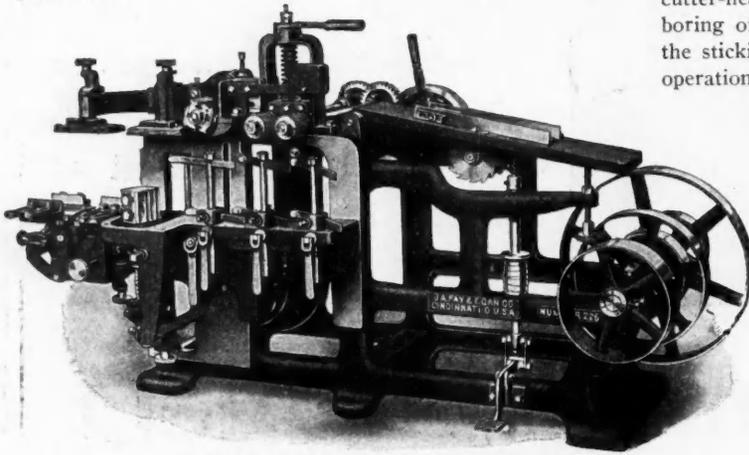
When Writing Advertisers Please Mention the American Carpenter and Builder.

make better headway where this work has been properly done.

By writing to the North Western Expanded Metal Company, 903 Old Colony Building, Chicago, Ill., any reader of the AMERICAN CARPENTER AND BUILDER can secure a copy of this Metal Lath Silos booklet.

Sash and Door Sticker

The up-to-date carpenter-contractor, of course, operates his own wood shop, and as the making of sash and doors form a great part of his work, he must have a first-class sash and door sticker.



Fay & Egan's 226 Sash and Door Sticker

The No. 226, illustrated herewith, will meet his requirements in every particular. It is a thoroughly successful machine for this work, and will effect great savings in time and labor

over methods formerly employed, or by getting the work done at the mills.

For instance, sticking the sash stiles, and plowing and boring for the sash cord is done at the same time, one operator doing the work that heretofore has required two machines and two operators to accomplish successfully.

The stile is first moved along the table over the grooving saw, cutting the groove to the proper length, and then the boring is accomplished by means of a foot treadle raising the boring bit into the stile to the proper depth. The work being performed, the stile is passed under the feed rolls and cutter-heads, and properly dressed. Since the plowing and boring of one stile is done while another is passed through the sticking machine, there is no delay in combining the two operations. The time and labor thus saved is self-evident, and the work is perfect.

The construction of the machine also deserves mention. It has a strong, substantial frame, made long to give good length to the belts; the top rolls raise to stop feed, eliminating the necessity of setting the belt for each cut when door stiles are molded part way only; spring pressures to the feed rolls, furnishing an even pressure at all times, graduated according to the thickness of the stock being worked; treadle at side of machine convenient to operator at all times; chip breaker, pressures and platen after lower head swing back to give quick and easy access to all heads; grooving saw spindle runs in long, self-lubricating bearings.

Any further information may be had upon application to the manufacturers, J. A. Fay & Egan Co., 545-565 West Front Street, Cincinnati, Ohio.

HERE IS THE ANSWER How to Keep Busy in Cold Weather *Bestwall* Solves The Problem *Bestwall*

The Winter Building Material—Fire Proof Wall Board (Not Made of Wood Pulp or Paper)

An improved construction over lath and plaster. Use it for the entire house. No panel strips necessary over the joints. Apply any kind of decoration; wall paper, burlap, paint or kalsomine.

TRADE PRICES TO CARPENTERS



The photograph shows two progressive carpenters who have contracted to finish an entire building with Bestwall Fire Proof Wall Board.

This building is now finished and we shall be pleased to send illustrations, upon request, showing rooms completed without the use of panel strips over the joints.

You can find plenty of ways to increase your business in winter by writing to us.

BESTWALL MANUFACTURING COMPANY 1247 First National Bank Building, Chicago

Warehouses: Cleveland, O.; St. Louis, Mo.; Kansas City, Mo.; Lincoln, Neb. California Bestwall Company, Rialto Building, San Francisco

When Writing Advertisers Please Mention the American Carpenter and Builder.



Stanley's Ball Bearing BUTTS

INSURE
PERFECTLY HUNG DOORS

Friction is eliminated by the steel bearings, and the door swings smoothly and softly without creaking or binding. These butts have

NON-RISING PINS

which will not work out of the joint.
Write for artistic and instructive booklet "Properly Hung Doors."

THE STANLEY WORKS
Department "A" NEW BRITAIN, CONN.



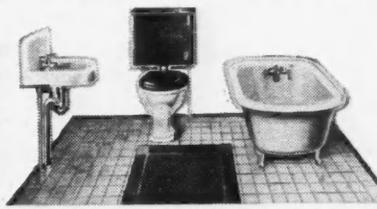

Install Your Own Heating Plant

Builders, contractors and home owners—my big new book tells you how to install modern heating plant or your own water system. New money-saving method. Steam or hot water heating plants. You can easily install one of my modern heating plants from the complete simplified plans and instructions furnished to you free. The saving is enormous. Write today for my great free book.

HOW TO SAVE ON ALL MATERIAL

My method for saving on all materials is a revelation even to the most experienced contractors and builders. Get this free book and see for yourself. My amazing low prices will prove to you my method is a blessing to every builder and home owner.

Gibbons New Method



Every home, even the smallest cottage, can now have running water or a heating plant. Churches, halls and schools can have these improvements at a low cost. My free book explains all. Write for it today.

BOOK FREE My new book gives you greater buying power than your local dealer. Thousands of things illustrated and prices. 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. 2414 Dayton, Ohio

FIFTY-EIGHT YEARS "WOLFF QUALITY"



For every public and private sanitary service, Wolff's goods will prove a highly satisfactory choice. This means a great deal to your business, since by dealing with Wolff, you have immediate command of every kind of sanitary supply which any ordinary or special problem may require.

We have successfully solved these problems in most of the buildings along the world famous boulevard, Michigan Ave., in Chicago and the goods are giving universal satisfaction.

ESTABLISHED 1855

BRANCHES

DENVER, COLO.
TRENTON, N. J.
OMAHA, NEB.
MINNEAPOLIS, MINN.
DALLAS, TEXAS
ROCHESTER, N. Y.

L. Wolff Manufacturing Co.

PLUMBING GOODS EXCLUSIVELY
The only complete line made by any one firm

General Offices - - - 601-627 W. Lake St.
Showrooms - - - 111 N. Dearborn St.

CHICAGO

BRANCH OFFICES

ST. LOUIS, MO.
WASHINGTON, D. C.
CLEVELAND, OHIO
CINCINNATI, OHIO
SAN FRANCISCO, CAL.
KANSAS CITY, MO.
SALT LAKE CITY, UTAH

When Writing Advertisers Please Mention the American Carpenter and Builder.

WHO WILL MAKE THE PROFIT ON YOUR JOB— The Lumber Dealers' Combine or YOU?

When you hustle after that contract—and get it—you do it to make money. You do all the work, take all the responsibility and risk and yet **Hand the Lumber Dealers 40% to 60% More Than the REAL PRICE of Your Materials**—good dollars that you **should** add to your profits.

You know that every time lumber is handled it adds to its cost. Have you ever figured how many times your lumber and millwork is handled after it leaves the mill—before you get it? The wholesaler, the jobber, the commission man, the salesman and the retail dealer all handle it. These five handlings don't improve the lumber, but they **do** add 40% to 60% to the mill prices. When you buy from the dealers you waste \$40 to \$60 of every \$100, for you can save this money and turn it into actual profit.

When you buy direct from our mills you are guaranteed better materials, grade for grade, than trust or combine standards. With immense stocks at our 6 mills and seven trans-continental railroads to ship over, all shipments are made complete within 24 to 48 hours. There are no shortages to hold up work and waste your money.

It is the absolute control of material and methods and the cutting out of the middlemen with their profits that enable us to sell direct to you at prices which will save you 40% to 60% on your lumber, sash, doors, shingles and millwork. We log and haul our own timber and manufacture it in our mills. We have no expensive yards scattered throughout the country, no outside profits to pay. Think of what this saving means to you in increased profits.

You are protected by our iron-clad guarantee to return your money if you are not entirely satisfied with our materials.

Send us your plans, your house bills or material lists and let us figure the cost of your materials. We pay the freight! See how much more profit you can make when you buy direct from our mills.

Do it now, before the building rush begins!

Send in the Coupon Today.

**HEWITT-LEA-FUNCK CO.,
623 First Ave., Seattle, Wash.**

I enclose stamps for lumber list quoting prices laid down at my station.

Name.....
Address.....
Occupation.....

Why Use Acetylene

By J. T. Earl

Vice Pres. Davis Acetylene Co., Elkhart, Ind.

These are the claims we make for acetylene—that it is the best light; that it is the most sanitary light; that it preserves the eyesight; that it obviates the most distasteful drudgery, and that it is much safer and more convenient than oil or gasoline.

The reasons for its use can be elaborated almost endlessly and with entire truth. While it has been developing constantly for the past ten years there are still many persons who



Typical Village or Country Home—Acetylene Lighted

are not familiar with its merits. They do not know that it is in use in thousands of country homes and that these homes are as conveniently and much better lighted than the average city home, yet this is true.

Acetylene produces the nearest resemblance to sunlight that exists. Colors can be matched by it nearly, if not quite as well, as by daylight. It does not give the red glow of the electric lamp or the ghastly glare of the incandescent mantle.

What is more distasteful than the daily care of kerosene lamps? The ill-smelling oil, the charred wicks, the grimy chimneys that are always breaking, and the constant care and trouble to keep them supplied can all be obviated by the use of acetylene. Think of this daily drudgery and poor results as compared with charging of an acetylene generator once a month.

Acetylene can be used for cooking purposes and as it can be readily generated in a cottage as well as in the largest building, there is every reason why its use should continue to spread with increasing rapidity. It is the universal testimony of all who have used it in connection with good generating apparatus properly cared for, that they could not be induced to return to the old methods of illumination.

The Davis Acetylene Company, 90 Crawford St., Elkhart, Indiana, has an inviting proposition to offer not only to those who may need an efficient system of lighting for their own use but also to contractors, carpenters and builders who can make money selling and installing outfits as described above during the winter months when business in their regular line is naturally quiet. Their advertisement appears in another column and they will be glad to give any one full information without in any way obligating them.



Memphis Union Stock Yards

The Memphis Union Stock Yards recently completed at Memphis Tenn., and shown in the accompanying illustration,

When Writing Advertisers Please Mention the American Carpenter and Builder.



SEBCO Expansion Bolts

For fastening fixtures to walls or floors where ordinary screws will not hold. When screw is inserted the shield expands with each turn, making it impossible for screw to work loose or pull out.

A working sample free for the asking, also our catalogue that will show you a way to do better work.

STAR EXPANSION BOLT CO.

Catalogue Dept. 5R

147-149 Cedar St. NEW YORK CITY
120 W. Lake St., CHICAGO



THE PROBLEM OF THE WALL

is the title of an attractive booklet about interior decorations—how to treat the walls of every room in the house to secure the most beautiful and appropriate effects. It tells about

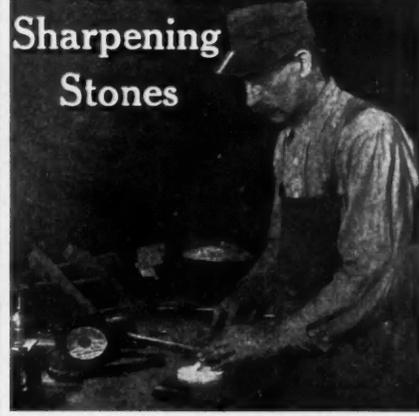
JOHNSTON'S DULL KOTE PAINT

the wonderfully beautiful and washable finish now so extensively used in the homes of all classes. It contains color card and illustrative suggestions. It describes the sanitary, economical, and durable qualities; its advantages over wall papers, kalsomines and other finishes.

Get it from your dealer (free) or

THE R. F. JOHNSTON PAINT CO.
Pearl and Main Streets, Cincinnati, Ohio

Carborundum Sharpening Stones



Are found on the benches and in the tool kits of more good carpenters than any other sharpening stones sold—and why—it's because a good carpenter appreciates the value of a good sharpening stone—one that will give a tool a keen, smooth edge quickly.



The Carborundum Stone is positively uniform—it won't fill or glaze—

wonderfully durable—it cuts the edge on the tool. Carborundum is the most remarkable of all sharpening materials.

Carborundum Stone No. 107, 4 inches in diameter,	\$1.00
Quartered Oak Box Holder,	.50
Carborundum Stone No. 108, 8x2x1,	1.25
Carborundum Pocket Stone in leather case,	.35

*At your hardware dealers
or direct*

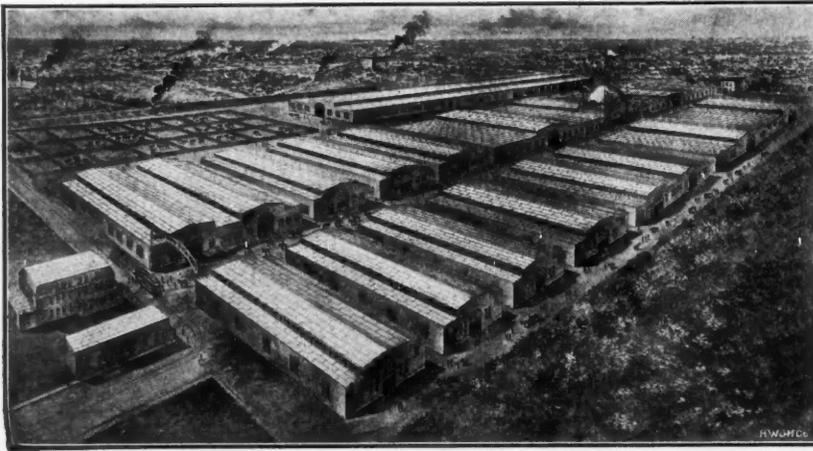
The Carborundum Company

Niagara Falls, N. Y.

New York Chicago Boston
Philadelphia Pittsburgh Cincinnati
Cleveland Milwaukee Grand Rapids
London, Eng.



When Writing Advertisers Please Mention the American Carpenter and Builder.



New Union Stock Yards Recently Completed at Memphis, Tenn.

are generally considered to be the most modern and up-to-date stock yards in the world.

About 20,000 horses and mules were sold annually in the city of Memphis before the erection of these stock yards, nearly all of them at retail. With the completion of the new structure and the wholesale trade which it is estimated that this will bring, the annual sales will undoubtedly run 60,000 to 80,000 head.

The stock yards comprise the auction and commission stables which have a capacity of 2000 horses and mules, a private mule barn with a capacity of over 8000 head and an auction pavillion arranged for the selling of from 500 to 1000 horses and mares throughout the week

One of the important features which had to be arranged

for in the construction of these stock yards was the covering of some 400,000 square feet of the buildings with a durable fireproof roofing.

As the buildings were situated along side a railroad, the fire risk was believed to be too great for any inflammable roofing, and, on account of the space to be covered, a roofing unduly high in cost or that necessitated painting or graveling or any considerable amount of repairs or renewals was considered impracticable. After thorough investigation of roofings that were claimed to meet these requirements, the J-M Asbestos Roofing made by the H. W. Johns-Manville Co., New York, was selected; in consequence, all the buildings were covered with this roofing.

This fabric is made of pure, long-fibred asbestos (stone) felt, securely cemented together with a combination of Trinidad Lake and other natural asphalt—two indestructible minerals. Approximately 400,000 square feet were necessary, which area amounts to about 10 acres.

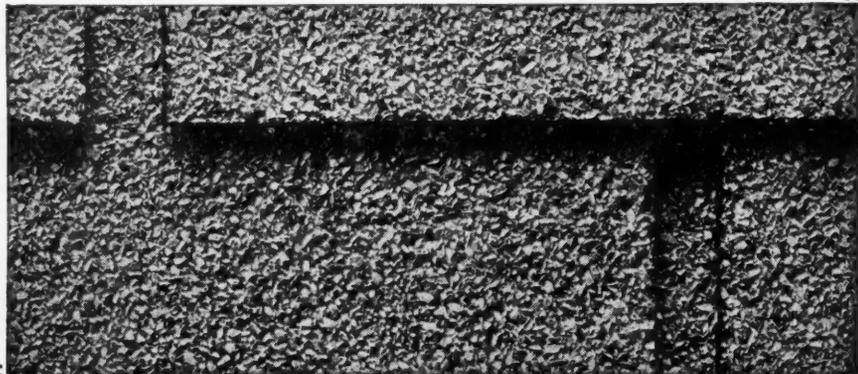
It is estimated that these new stock yards will effect an enormous saving between buyers and jobbers in the horse and mule business. The stock will be shipped direct to the yard by the raisers, instead of being sent to some other wholesale market re-sold to come to Memphis. This will cut out an average additional expense of about \$200 per car load, by approximating \$10 per head, and with the sixty to eighty thousand head it is expected will be handled in a year, the saving approximates three-quarters of a million dollars annually.

Forget all we have said about this remarkable roofing—Write for a free sample—you'll get it by return mail—Test it out for yourself—If it is all we say it is—you ought to know it.—

FLEXATILE ASPHALT SHINGLES

Are beautiful in appearance—They are fire resisting—Almost Everlasting—They are easily and quickly laid—are more economical than wood shingles and a lot more satisfactory—Surface is chipped slate or granite in natural colors of red and green and weather has no effect on them—they're great—

This Cut Shows the surface of Flexatile Shingles—Beautiful, Convenient, Durable.



Don't fail to write for that
Sample

**The Heppes
Company**

1010 Forty-fifth St.,
CHICAGO, ILL.

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Granite

TRADE MARK

ROOFING



SIX INCH SOLID LAP

SAFECLARD

Granite

ROOFING

A six-inch lap is better than a three-inch lap. It gives better protection against leaks and permits nailing down on the under sheet only, so that no nail heads appear on the surface. Otherwise this is the same Granite Roofing that we have sold for 26 years for use on great factories. It is immune from damage by coal smoke or cinders, and it has a sea grit surface which makes painting entirely needless. Behind it is a reputation that has Passed the Quarter Century Mark.

EASTERN GRANITE ROOFING CO.
19 Battery Place, New York

Chicago Pittsburgh



Vincent Methodist Episcopal Church, Nutley, N. J. Roofed with Asbestos "Century" Shingles by the late Olive Newcome Elliot, Architect, and the Republic General Contracting Co., Contractors—both of New York City. Reproduced from an Artist's Drawing.

Asbestos "Century" Shingles

"The Roof that Outlives the Building"

THERE ought to be some nice business in your section in replacing worn out roofs with Asbestos "Century" Shingles.

Through the advertising pages of *Country Life in America*, *Keith's Magazine* and *House and Garden*, we are suggesting to property owners that they consult you about it—soon, so that you can plan to take care of their work.

Write our nearest Branch Office for information about Asbestos "Century" Shingles—and Booklet, "Everlasting 1912."

Keasbey & Mattison Company, Factors
Ambler, Pennsylvania
Branch Offices in Principal Cities of the United States

MONTROSS METAL SHINGLES



You Can Make Money Selling the Best Roofing

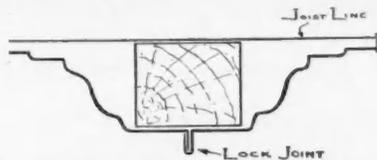
When we say Montross Metal Shingles are the best—we are prepared to PROVE it to you, in a way that you can prove it to your customers.

Write us at once for testimonials from people who have actually used these shingles 32 years. Let us send you our catalog illustrating designs suitable for every building and explaining how they are fire, lightning and storm proof; how our patent side-lock allows for expansion and contraction; how they are easily laid without soldering.

Don't pass up this good thing—act NOW.

Montross Metal Shingle Co., 2nd and Erie St., Camden, N. J.

METAL CEILING



See that Joint?

The Acme of perfect construction. Don't nail or slip the joints. Lock them. Full information in catalogue E.

S. KEIGHLEY METAL CEILING & MFG. CO.
PITTSBURGH, PA.

LET US GIVE YOU THIS TRANSPARENT CELLULOID TRIANGLE

It is 4 inch size, 30°+60° angles. Lowest retail price, 25 cents. Absolutely essential to everyone who draws. We make this offer to introduce our new catalogue showing

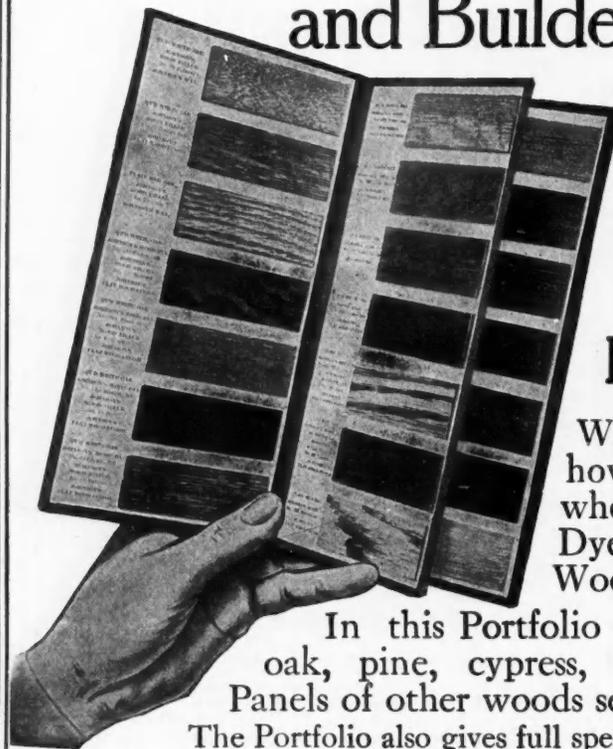
SPAULDING'S NEW CARRYING CASES AND COMPLETE OUTFITS

for carpenters, builders, designers, architects, engineers and students—compact, durable and convenient. Spaulding's Carrying Cases are made light and strong. They provide well arranged compartments, including space for drawing board and T square. Handled like a suit case; unique, practical, inexpensive. Outfits include all necessary equipment. If you draw, send us five 2-cents stamps today to pay postage and get the free triangle and the catalogue.

SPAULDING PRINT PAPER CO., 49 Federal Street, Boston

When Writing Advertisers Please Mention the American Carpenter and Builder.

Every Architect, Contractor
and Builder Should Have This



PORTFOLIO of WOOD PANELS

Let Us Send You One FREE

With it you can show your clients just how their woodwork and floors will look when finished with Johnson's Wood Dye, Prepared Wax, Under-Lac, Flat Wood Finish, etc.

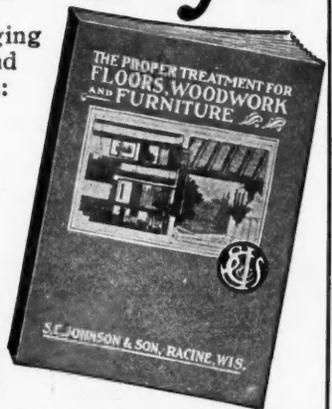
In this Portfolio the Johnson Finishes are shown on oak, pine, cypress, birch, gum, chestnut, maple, etc. Panels of other woods sent on request.

The Portfolio also gives full specifications and instructions as well as covering capacities. Any good painter can successfully use Johnson's Artistic Wood Finishes. Secure one of these portfolios at once to show your clients—from it prospective builders can easily select the finish for their floors and woodwork.

Johnson's Wood Dye

is a dye in every sense of the word—it *penetrates* deeply—into the wood, bringing out its natural beauty *without raising the grain*. It dries in thirty minutes and does not smudge or rub off. It is made in sixteen beautiful shades, as follows:

- | | | |
|-----------------------|---------------------------|-----------------------|
| No. 125 Light Oak | No. 128 Light Mahogany | No. 121 Moss Green |
| No. 123 Dark Oak | No. 129 Dark Mahogany | No. 122 Forest Green |
| No. 125 Mission Oak | No. 127 Ex. Dark Mahogany | No. 172 Flemish Oak |
| No. 140 Early English | No. 130 Weathered Oak | No. 178 Brown Flemish |
| No. 110 Bog Oak | No. 131 Brown Weathered | No. 120 Fumed Oak |
| | No. 132 Green Weathered | |



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Please send
FREE Portfolio
of Wood Panels and
1913 Book, Edition ACB12

The 1913 edition ACB12 of our book "The Proper Treatment for Floors, Woodwork and Furniture" is just off the press. Send for it today. It far surpasses all previous editions. It is full of valuable ideas and information for everyone interested in the proper finishing of wood. Its practical suggestions may mean money to you.

Name.....

Address.....

Business.....

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

When Writing Advertisers Please Mention the American Carpenter and Builder.

Generous Samples FREE To Builders, Architects, Contractors



LET us send you free samples of Johnson's Flat Wood Finish and Johnson's Wood Dye, also a copy of our Instruction Book Edition A. C. B. 12. Architects, Contractors, Painters and Home Owners are enthusiastic over the results obtained and the big saving made possible with them.

Johnson's Under-Lac

is a superior substitute for shellac or varnish. It forms a thin, elastic, spirit finish which will not chip, mar or scratch. It dries hard in less than an hour. We recommend its use where a higher gloss is desired than the wax finish. It is unsurpassed for first-coater under varnish.

Johnson's Flat Wood Finish

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

This flat wood finish opens a new field for the contractor and builder. By the use of Johnson's Flat Wood Finish, you can make estimates on hand-rubbed effects that will land the contract every time—give your customer perfect satisfaction—and make you a good profit besides.

Don't fail to secure Instruction Book Edition No. A. C. B. 12 and samples at once. If your dealer isn't supplied, write us and we will send them direct on receipt of postal or coupon.

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

"The Wood Finishing Authorities"

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Johnson
& Son,
Racine, Wis.

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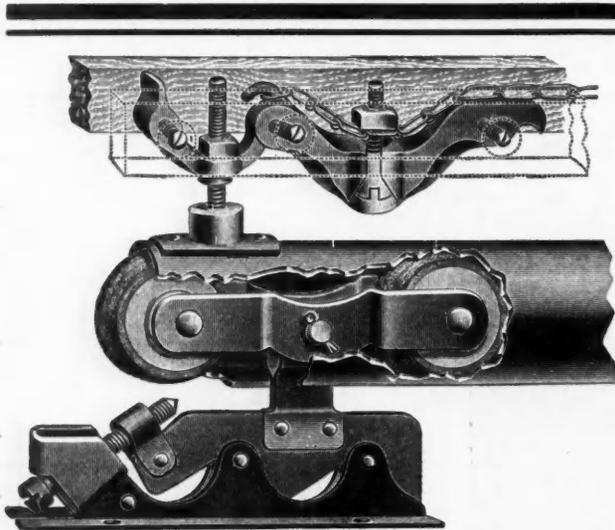


Fig. 404

Correctly Hung Doors are the Last Touch of Perfection

Cannon Ball Hangers insure *permanent* satisfaction. Both hanger and track easily adjustable with an ordinary screw driver, and both are instantly accessible from the center of the door opening, allowing either end of track to be raised or lowered as desired.

The CANNON BALL House Door Hanger

Specially formed wheels with roller bearings—wide tread—leather covered. Frictionless, noiseless, practically indestructible. Steel hanger and plate for attaching to door.

Track of 14 gauge steel, 2¼ in. inside diameter, slotted ¼ in. on under side.

Furnished complete with two-piece hardwood header. Write today for Special Circular and full particulars.

Hunt, Helm, Ferris & Co.
6599 Hunt St. Harvard, Illinois

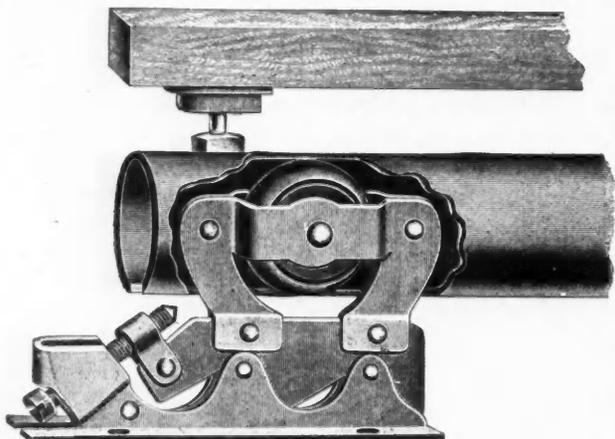


Fig. 468

The Carpenter Laying Oak Flooring

By W. L. Claffey

Generally at this time of the year, outside carpentry work is nearing completion and the average carpenter usually turns his thoughts to indoor work for the winter season.

Oak Flooring, ¾-inch thickness, for covering old pine floors, offers profitable and agreeable work for any carpenter. All that is necessary is to go to a lumber dealer who carries ¾-inch oak flooring, get a few pieces for samples and the booklet that is published by the different oak flooring manufacturers. A supply of these is usually on hand at most the dealers, who are very glad to give them away to any carpenter or contractor. This booklet tells all that is worth knowing about measuring room space, laying, nailing, scraping and finishing. A little study on this Oak Flooring Booklet will soon put you in a position, with the aid of prices from the dealer, to go out and solicit jobs in old homes.

No Special Training Required

The average carpenter can lay oak flooring successfully from the very start. It needs some care, just like any kind of work of its class. A full knowledge of all the oak flooring grades, the different thicknesses and widths both in the plain and quartered oak flooring is very necessary. Any dealer who carries oak flooring stock would be very pleased to give any carpenter or contractor co-operation along this line. The laying of the thin oak flooring over old pine floors has proven very lucrative to many of the regular floor layers during the winter season.

Many dealers usually offer special prices, or some satisfactory arrangement, with carpenters or contractors, who have a desire to do this work during the slack season.

Oak flooring, due to its excellent color and figure, will harmonize with any kind of interior trim or any kind of decoration. Real estate dealers when advertising homes for rent or for sale always emphasize oak flooring, if it is used. They know that it will bring a better class of tenants besides assuring better rents. The owner recognizes the value of oak flooring as it will increase any building anywhere from 10% to 20% when selling.

Finishing an Oak Floor

As a rule carpenters do not make a practice of finishing oak floors. Their work usually ceases after the scraping process, but there is no reason why they cannot finish up the floor and make a complete job themselves. Any paint and varnish house will send books free for the asking on the subject of finish. There are a number of different kinds of finish. The wax finish, should it wear out in spots can be very easily replenished by the housekeeper. However, the finishing is a matter of taste. Some prefer the varnish while others would rather have the wax.

In nearly every city there are now a number of flooring specialists who make a specialty of doing nothing else but laying and finishing oak floors both in parquetry and plain strips. These experts were all at one time carpenters but saw the opportunity of bettering themselves by making a specialty of laying oak flooring. Any carpenter, with a fair amount of intelligence, by getting a knowledge of the different grades and prices at any lumber yard, can go out and secure jobs.

The best season of the year for laying ¾-inch oak flooring over old soft floors in old homes is during the winter time. The logic of this is that the old floors are dry and usually in the best condition to receive an upper floor. All ¾-inch oak flooring is tongued, grooved and end matched and when laid it has all the appearance of 13/16-inch stock and an expert could not tell the difference.

One of the most laborious parts of the work is the scrap-

When Writing Advertisers Please Mention the American Carpenter and Builder.

Ceilings That Pay—



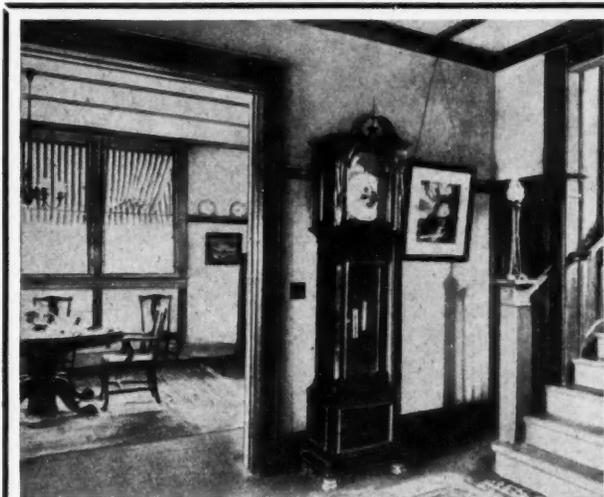
Every Carpenter and Builder who uses Brooklyn Metal Ceilings and sidewalls knows that each finished job means satisfaction.

Our products are popular in every community because of their attractive designs, superior quality and durability. Metal ceilings are being used in the best of factory, store and home construction.

The first cost is low, the finished job presents a pleasing, clean, sanitary appearance and this is why you should write for full particulars to

Brooklyn Metal Ceiling Co.

288 Greene Avenue - BROOKLYN, N. Y.



*Your Customer
will be delighted with*

Roberds Ideal Wall Board

It makes such a beautiful interior finish at such a reasonable cost. It can be painted, papered or tinted and lasts forever. It never gets shabby, never cracks, peels, chips or warps and is proof against vermin, heat, cold, fire and moisture.

Roberds Ideal Wall Board comes in sheets all ready to be nailed to the studding. Your cheapest man can apply it without previous experience. No muss, no confusion, no delay and no disappointment.

Our special proposition to carpenters and builders is unusually attractive. Write for it today and we will send you full particulars, samples, prices, catalog and testimonials from other contractors.

The Roberds Mfg. Company

100 Railroad Street :: MARION, INDIANA

**IT'S up to you to be the man
at the top instead of the
man with the dinner pail.**

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

The LIGHTNING ESTIMATOR

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

The New Sixth Edition of the LIGHTNING ESTIMATOR

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

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

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

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

BRADT PUBLISHING CO.

1260 Michigan Avenue

JACKSON, MICH.

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ing on the floor; but with the advent of floor surfacing machines, this irksome task is done away with. It is a common practice for several or more carpenters to cooperate and buy a floor surfacing machine. In this way the machine will very soon pay for itself and the arrangement is usually satisfactory.

In laying $\frac{3}{8}$ -inch oak flooring over old soft pine floors it is very necessary to hammer all nails and plane off the high spots, otherwise it would make a very bad foundation for a thin flooring.

Nature has given a peculiar favor to this very excellent and substantial of American hardwoods. Its very name stands for durability and when made into flooring its natural beauty stands unexcelled. Quality, distinctiveness and durability are prime requisites. Oak flooring combines all three in high degree.



Changes in the Officers and Board of Directors of the Jos. Dixon Crucible Co.

At the regular monthly meeting of the Board of Directors of the Joseph Dixon Crucible Co., Jersey City, N. J., held Monday, October 21st, the following changes in the officers and Board of Directors were made on account of the death of Vice President, William H. Corbin.

Mr. George E. Long, former Treasurer was elected Vice President to succeed Mr. Corbin; Mr. J. H. Schermerhorn, former Assistant Secretary and Assistant Treasurer was elected to membership in the Board of Directors and Treasurer of the Company. Mr. Albert Norris was elected to the office of Assistant Secretary and Assistant Treasurer.

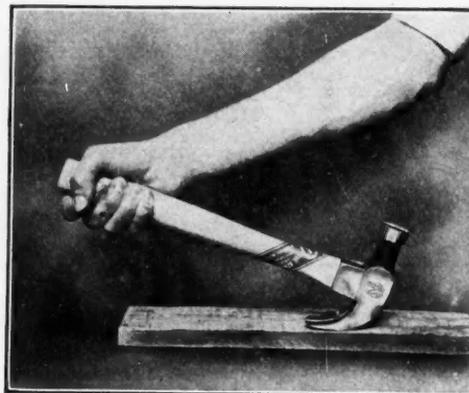


The Atha Nail Hammer with the Grip

Carpenters and builders will be interested in a hammer that pulls headless nails, even cement coated wire nails, from the

toughest oak. This kind of a hammer is the Atha Horseshoe brand, made by the Atha Tool Co., Newark, N. J., illustrated herewith.

The Atha nail hammer grips the shank of the nail and it is bound to come out, even though the nail has no head. These hammers are balanced properly, and are carefully forged at uniform heats from high grade bar steel. They are individually and thoroughly tempered, and are brilliantly



Atha Nail Hammer Pulls Headless Nails

finished. The handles are made from the best obtainable white hickory. In fact, every care has been taken by the manufacturers to put this hammer in a class by itself and to make it the one desirable hammer for particular carpenters and builders.

Look for this Atha Horseshoe Brand hammer at your dealer's. If you cannot find it there, write to the Atha Tool Co., Newark, N. J.

Attention Mill Men!

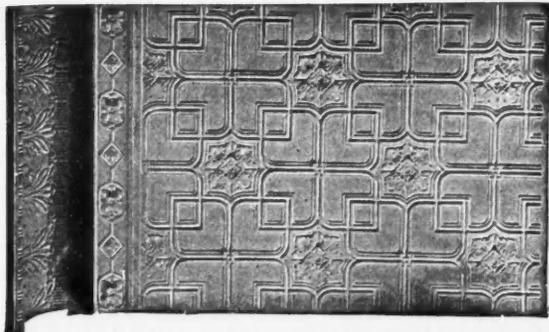
We are making a specialty of built-up work for interior trim, panelled and flush wainscoting, veneered casings, base-boards, etc., in both plain and figured woods.

Can build up to 7' x 16'. Send in your specifications; we would like to quote you.



The F. Eggers Veneer Seating Co., TWO RIVERS, WISCONSIN

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No. 212. A Design in Modern English

Ceilings in **Stamped Steel** for Public or Commercial buildings. Ceilings of modern refined designs for private residences. Tilings in **Steel**, for Bathrooms and Kitchens.

Half the labor of erecting a metal ceiling is strictly Carpenters' work, that is, the scaffolding and furring. Once started, they can finish it as well or better than anyone else. Secure our agency and push them.

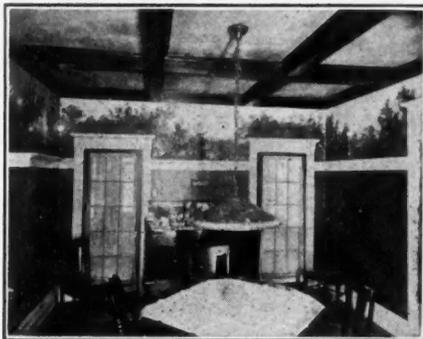
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Northrop, Coburn & Dodge Co.

No. 29 Cherry St. NEW YORK

Be Busy All Winter—Use

PLASTERGON
 TREATED WOOD FIBRE
WALL-BOARD



Carpenters and builders using Plastergon wall board are always busy. The adaptability of Plastergon is unlimited—it's used extensively in new and old cottages, mansions, offices, garages and factories. It's moisture proof: keeps out the winter cold, the summer heat. By using Plastergon you do the decorating beautifully, artistically and quickly.

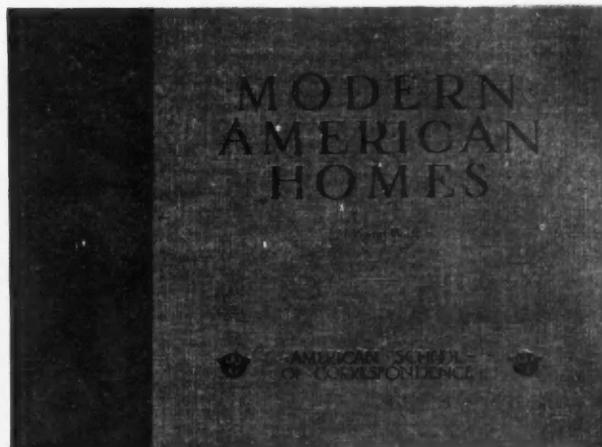
You Can Guarantee Every Job

Plastergon is the only wall board treated—we guarantee every panel. You can't afford to risk your reputation as a builder through defective material. Write our service department—they'll aid you to get business—tell you new uses for Plastergon—suggest decorative schemes.

Plastergon lasts as long as the building. It costs less than lath and plaster—and no up-keep expense, no wall paper needed. Write us to-day—freely, we want to co-operate with you. You'll keep busy all winter with Plastergon. Every job advertises you.

PLASTERGON WALL BOARD CO., Dept. A, TONAWANDA, N. Y.

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If your dealer does not have the particular book of this series that you want, ask him to order it for you or order it direct from us. Any book ordered direct will be sent postpaid upon receipt of price and may be returned after a five-day examination if not suited to your needs in every way. Upon its receipt we will refund your money promptly.

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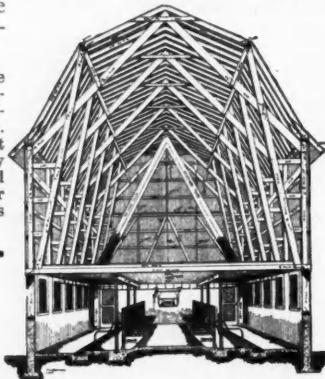


The world's greatest dairy barn expert will help you make more money.

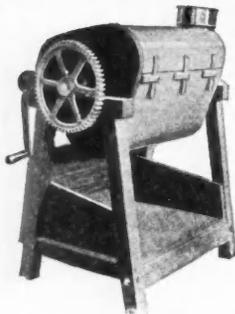
He has written a book about essential features of dairy barns; plank frames; King system of ventilation; proper width and arrangement; lighting; stable floors; site, size, appearance, design, drainage and equipment; with floor plans. He also makes a special offer of complete working blueprints of dairy barns of various types and sizes, and tells how you may secure free the help of our architectural department.

Simply answer these few questions and "Helpful Hints for Barn Builders" will be mailed free. For whom do you expect to build or remodel dairy barns? (Give names and addresses.) When? For how many cows? Address

James Mfg. Co.
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Barn Equipment)
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Mix with a Mixer



With mixers selling at the present prices, no one doing concrete work wants to be without one.

Hand mixing is slow, expensive and wasteful. Laborers are often hard to get.

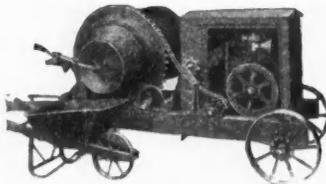
Machine mixing is faster, cheaper and much more thorough.

Our hand mixers sell from \$24.00 (like cut) to \$75.00 each; three sizes.

Power Mixers (like cut) sell from \$300 up; five sizes. Equipped with side loaders, automatic water tanks, friction clutches, and all up-to-date conveniences. Capacity a batch a minute.

Our \$300 mixer is the ideal machine for the country contractor. Weight, 1500 lbs. Wide gauge. Can be moved anywhere. The only machine of its kind made.

Ask about this machine when writing or come to the cement shows and see it on exhibit.



LANSING CO., 606 Cedar Street **Lansing, Mich.**

Agents Everywhere

Santa Claus to Adopt Quick Delivery

"Santa Claus will stable the proverbial reindeer and travel mostly in a motor truck this year," says president George A. Kissel of the Kissel Motor Car Company. "From time immemorial this jolly old holiday visitor has been keeping sleepy-eyed parents awake half the night to show him where to distribute the good things for the kiddies. He got around the best he could but reindeer, along with horses, can cover just so much ground and that's all. They won't do when there is a lot of delivery to be accomplished quickly.

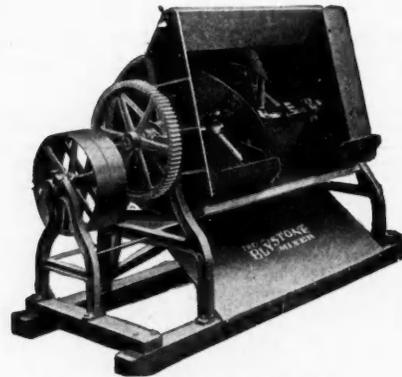
"Retail merchants now generally recognize the economy and utility of motor delivery, but if there is a particular time of the year that they recognize it most, it is at the holiday time. It is then that those who depend on horses, as against the motor, are sadly handicapped. A power wagon that can cover the same distance that three to six teams can do, is so obvious an aid to business that no one dealing in holiday wares can fail to appreciate it. And the increased satisfaction to customers through faster service is of inestimable value in creating confidence and building up prestige."

These are words of sound advice. They apply just as well to contractors and builders as to other business men.



Blystone have "Pepper Pot"—also Mixers

The Blystone Machinery Company of Cambridge Springs, Pa., manufacturers of the well known and successful Blystone mixers are now issuing each month a four page news bulletin which they term "The Pepper



Blystone Batch Mixer

Pot." This interesting sheet contains notes concerning the latest Blystone "doings" and other information of both a serious and a lighter view.

Blystone mixers have a particular interest for the contractor and builder in as much as they have proven just as efficient for mixing mortar and plaster as for concrete.

Cardinal points of the Blystone include, filling and discharging while in motion, no clumsy charging or discharging apparatus to get out of order, the mixer being all open and the contents always in view while being mixed, mixer is easily and quickly cleaned and can be easily moved from place to place.

This Blystone batch mixer mixes thoroughly and quickly. The material is turned forty times in one minute. Mixing is accomplished through the reverse spiral paddle system.

Blystone mixers can be furnished mounted on skids or portable hand trucks and equipped for power belt operating, or with gasoline engine power equipment.

The Blystone Machinery Company issue a very complete catalog detailing their mixer in every respect. A copy of this catalog will be mailed upon request. Write the Blystone Machinery Company, 19 Carpenter St. Cambridge Springs, Pa.

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 New Haven, Conn.
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*It has the best American record
 None other makes so good a roof
 or lasts as long*

**MERCHANT'S
 IC
 OLD METHOD**

*That's the reason
 Merchant's Iron Co.
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Schacht - Will Cut Down Your Hauling Expenses

All your hauling now being done by horses and wagons, can be easily handled by the Schacht Auto Truck, at a saving of 20% to 40%. There is no reason in the world why you should deprive yourself of this additional saving.

The Schacht 1 to 4 Ton Truck has no equal for carrying light or heavy loads. The expert workmanship, and superior materials used in the construction of the Schacht, are features which insure reliability and dependability.

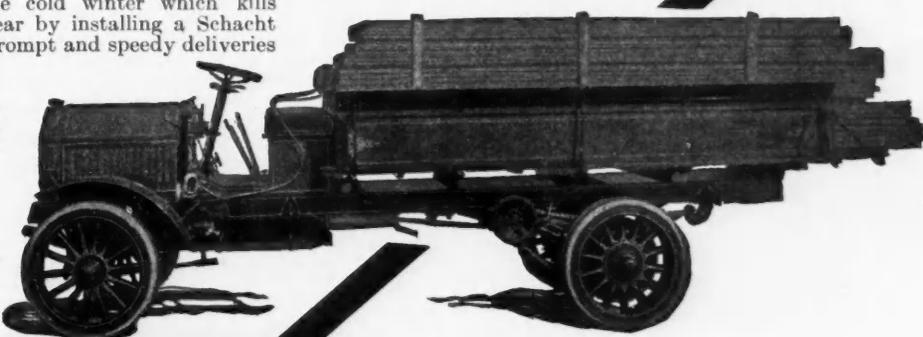
Its speed of 10 to 18 miles per hour makes you sure of prompt deliveries at all times, regardless of weather conditions. The added cost of feeding, shoeing and harnessing horses is eliminated.

Every carpenter, contractor and builder should lose no time investigating this time-saving and money-making truck. Remember the coming winter with its deep snows and icy payments will be a great handicap to you, if you do your hauling with horses and wagon. Serious damage to your horses and delayed deliveries may result in a serious loss to you.

Insure yourself against the cold winter which kills thousands of horses each year by installing a Schacht truck now, and be sure of prompt and speedy deliveries at a reduced cost.

Write us at once for our free illustrated booklet, containing full information regarding the "Schacht." Address

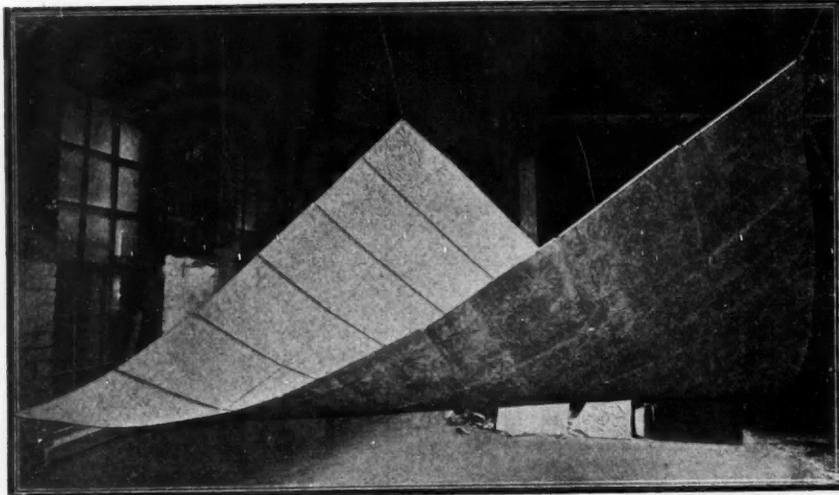
**SCHACHT
 MOTOR CAR CO.**
 2846 Spring Grove Ave.
 CINCINNATI, OHIO



When Writing Advertisers Please Mention the American Carpenter and Builder.

The Keighley Lock Joint Ceilings

In the accompanying illustration will be seen a section of the S. Keighley Metal Ceiling and Manufacturing Company's lock joint steel ceiling held up by the corners, the seams or



Interesting Severe Test of S. Keighley Metal Ceiling and Mfg. Co.'s Lock Joint Steel Ceiling

joints withstanding the strain put upon them without being nailed, wired, tired or otherwise supported. Such a seam can be made absolutely dust proof.

This company are large manufacturers of metal ceilings and make the lap joint type as well as the lock joint hold fast ceiling previously referred to. Their catalog E, explaining their ceilings in detail, may be had by addressing the company. S. Keighly Metal Ceiling and Manufacturing Company at Pittsburgh, Pa.

A Good Man for the Place

For the past six weeks the Board of Directors and officers of Luther Grinder Mfg. Co., Milwaukee, Wis., have been working to find the right man to fill the office of Treasurer and Superintendent made vacant by the death of Mr. Jas. M. Thompson.

We believe that Edwin B. Bartlett, the man whom they have settled on is one of the best they could possibly find for the work. He has for a number of years been acting as Assistant Superintendent for the A. O. Smith Co., of Milwaukee, a large manufacturing concern of automobile parts. He is a university man, having also had a technical training in mechanical engineering. Mr. Bartlett is a young man with plenty of energy and an education and experience that make him highly suitable for the office of superintendent. He is now treasurer of the company and a member of the Board of Directors.

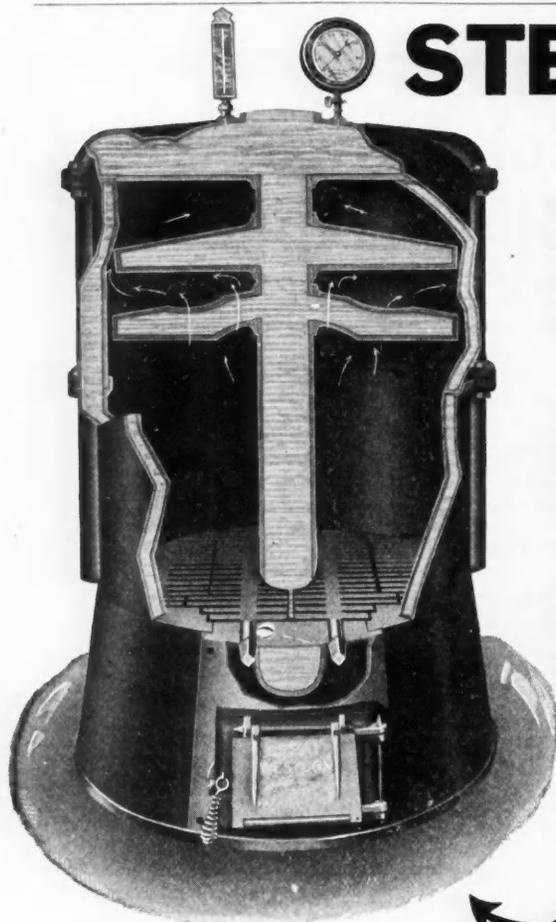


An Interesting Monthly to Read

We are just in receipt of a very interesting copy of Cortright's *Metal Shingle Advocate*.

This is a monthly publication issued in the interests of good roofs, and we suggest that you write for a copy of the *Advocate*, if you are contemplating re-roofing or building a new property. It is free, and sent postpaid.

Write to Cortright Metal Roofing Co., 50 North 23rd Street, Philadelphia, Pa.



STERLING

HOT WATER HEATER

¶ Hot Water is recognized as the very best system for heating any home. True, it costs a mere trifle more to install but it saves that extra cost very quickly in economy of fuel consumption.
 ¶ Hot Water heat is steady, satisfying, clean—and it's healthful, too.
 ¶ The Sterling System is unbelievably simple and this simplicity is a source of great economy to the purchaser.

Not an Expense but Real Economy

¶ Durability and up-keep considered, The Sterling System is really cheaper than any hot air or stove heat. That means much to your clients, Contractors and Builders. It means a great deal to and for you, too.
 ¶ Heat economy and satisfaction are wanted in every home. You can be sure of true heat satisfaction in every building in which you install The Sterling System.

Easily Installed in New or Old Buildings

¶ Owing to its simple construction it can be readily installed in a building already built. It requires very little room indeed. Anyone, almost, who can handle tools can install the Sterling as we send complete heating plans absolutely Free. These plans are made by competent heating engineers.

Contractors and Builders

THE STERLING SYSTEM is just what you have been looking for. Our book—"The House of Perpetual Summer"—is something you ought to have. It will pay you dividends. Send for it today. Don't neglect to find out about THE STERLING SYSTEM before installing any particular heating equipment.

CONSUMERS' HEATING COMPANY
 MARSHALLTOWN, IOWA

When Writing Advertisers Please Mention the American Carpenter and Builder.

The Bovee Furnaces



are 40% less in Price than other Furnaces by actual test measurement

The size of the FIRE POT MEASURES the FUEL CONSUMING CAPACITY of any furnace.

The size of the COMBUSTION CHAMBER and radiator surface determines the HEATING CAPACITY of FUEL CONSUMED.

The large combustion chamber on the BOVEE FURNACE SAVES ONE-HALF OF THE FUEL required by other furnaces. Compare the measurements of the Bovee Furnace with that of other furnaces upon which you may have price quotations and SEE FOR YOURSELF that we are SAVING YOU ABOUT ONE-HALF ON COST and an equal amount on fuel.

A furnace with small RADIATING SURFACE requires MORE FUEL than one having large radiating surface. The only way to crowd a small furnace is by allowing the heat to pass out of the chimney, making a draft and losing more than one-half the heat.

MEASUREMENTS

	Diameter of Fire Pot	Diameter of Combustion Chamber	Diameter of Return-Circulating Radiator	Diameter of Casing
No. 40 Economy	21 inches	32 inches	30 inches	40 inches
No. 45 "	23 "	34 "	30 "	45 "
No. 50 "	25 "	36 "	30 "	48 "
No. 55 "	28 "	40 "	36 "	50 "
No. 60 "	32 "	44 "	39 "	54 "
No. 65 "	36 "	48 "	39 "	58 "
No. 1 Horizontal	24x36	30x36	18x36	34x42
No. 2 "	24x38	30x48	18x48	34x56
No. 3 "	24x48	32x48	18x48	36x56
No. 4 "	28x48	34x48	18x48	38x58

Compare first the size of our furnaces with the actual size of other makes—then compare prices, remembering that an article well bought is one-half paid for.

SEND FOR FREE CATALOG

BOVEE FURNACE WORKS, 50 8th St., Waterloo, Iowa

BUY FROM THE MAKER



We have made and sold thousands of steel furnaces in Chicago, and we have sold them everywhere, by mail, direct to contractors, builders and house owners, all over the country, from Maine to China. We don't offer them through dealers, for the DIRECT DEAL with the consumer is the most satisfactory to all concerned. It means BETTER SERVICE—because of the direct interest of the maker in each contract—and it means BETTER PRICES, for the middlemen's profits are cut out.

In buying the Hess Furnace, you needn't have faith. You can buy it now, on trial, and test it before January 1st, 1918. We will deliver it at your station, with all

pipes and registers—freight prepaid.

Set it up and use it. If you're not pleased; not sure you have big value for the price—send it back to us—we paying return charges—and we won't claim one cent from you.

We don't offer you credit, however, for we require the price to be deposited with your local banker when you receive the goods. He holds it till the test is made, subject to the conditions outlined above, and gives it to you or to us, according to the result of the test. You take no risk, and you will save money.

Our furnace is made of steel, EVERY SEAM WELDED, and therefore permanently gas, dust, and smoke-tight. Made in six sizes, and burns any fuel. There is no furnace, better, at any price.

Our 48-page booklet on furnace heating is free. Ask for one. It will give you a lot of useful information on heating.

Hess Warming & Ventilating Co.

920 Tacoma Bldg.

Chicago

We make these beautiful white steel medicine cabinets, cheaper than wood.

Coal Bills Cut More Than 1/2 in this home BY THE UNDERFEED



HERE'S the pictured home of J. C. Garland of Dubuque, Iowa, who KNOWS from cheerful experience that the Underfeed reduces heat expense 1/2 to 2/3, because his own saving on coal cost each winter is \$70.

"For nine years," he writes, "my Underfeed has given perfect heating results even when the temperature was from 5 to 25 degrees below zero."

Carpenters and builders should get better acquainted with Underfeed heating systems, which always ADD to the SELLING or RENTING value of the building.

Two thousand owners of Underfeed furnaces or boilers are listed in "Underfeed Boosters"—a booklet which should be in the hands of every wide-awake carpenter and builder.

THE PECK Williamson Underfeed FURNACES BOILERS

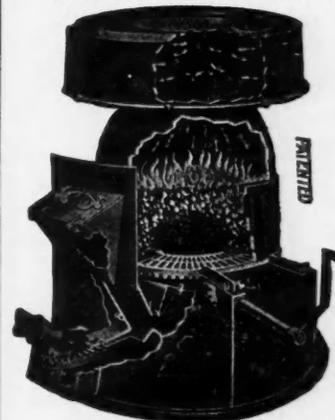
EVERYWHERE Underfeed results are the same—adequate, clean, even heat ALWAYS—at a saving of one-half to two-thirds of usual cost of coal. Let us send you the testimony of 300 Underfeed owners (hard coal users) in Binghamton, N. Y., and 60 (soft coal users) in Fort Wayne, Ind. December magazines and periodicals carry this striking Underfeed message to millions of readers:

"In both Underfeed Furnaces and Boilers, coal is fed from below and burns from the top down. Smoke and gases, therefore, pass up through the fire and are consumed, converting into useful heat the enormous chimney waste of heaters of other types.

"Hottest coals in top-feed heaters are on the grates, far removed from radiating surfaces, whereas in the Underfeed fire is on top in direct contact with the most effective radiating surfaces. All heat is utilized.

"Underfeed heaters (warm air Furnace or hot water or steam Boilers) produce more clean, even heat from the cheaper grades of hard or soft coal, than top-feed heaters produce from most expensive grades—Let us prove this."

Underfeed heaters are adapted for large or small homes, apartment houses, halls, churches, schools, etc. Installed in unit or battery form. Send us your building plans and we will furnish free engineering plans, actual cost of installation and tell you where you can get your Underfeed.



Mr. Carpenter and Mr. Builder, you will add to your own reputation by specifying the Underfeed. Write TODAY for free booklets.

THE PECK-WILLIAMSON CO.
436 W. Fifth Avenue, CINCINNATI, OHIO

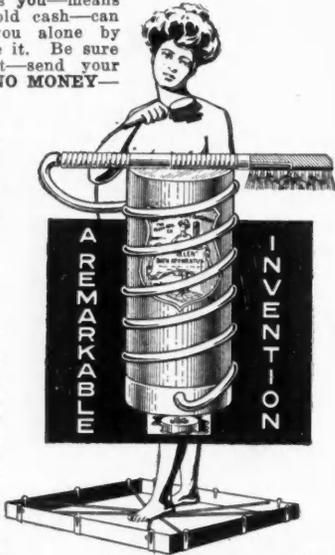
YOU CAN GET

\$500 — 1st Month
\$1000 — 2nd Month
\$1500 — 3rd Month
\$5000 ALTOGETHER

Reader, this offer says you—means you—this money—the cold cash—can be yours. You and you alone by waiting too long can lose it. Be sure we hear from you first—send your name and address—but **NO MONEY**—this very minute.

YOU MAY BE IN-EXPERIENCED OR EMPLOYED OR WITHOUT CAPITAL

—but don't worry—don't find excuses—we can and will fix it for you to get this money. You don't have to wait a month—not even a week—payments can start the first day—and continue daily up to \$500 first month, \$5000 for you altogether. For years we have been quietly picking men from all walks of life, ministers, clerks, farmers, preachers, doctors, lawyers, teachers and so on—enabling them with our co-operation and \$50,000.00 appropriation to get what we here offer and can do for you—\$500 first month, \$5000 altogether. Some of these men you may know—possibly have envied without understanding the reason of their prosperity.



INVESTIGATE AND BE AMAZED Demand absolute proof—accept no other kind. Either we have the best thing that ever happened or we're colossal liars. Ask Schleicher, minister, whether it's true that he received

\$195. TWELVE HOURS AFTER APPOINTMENT

Langley, liveryman, \$115 first day; Rasp, carpenter, \$1685 in 73 days; Beem, solicitor, \$164.24 weekly for 12 weeks; Korstad, farmer, \$2212 in a few weeks; Zimmerman, farmer, \$3856 in 30 days; Stoneman, photographer, \$3841 in 60 days; Juell, clerk, \$6800; Hart, farmer, \$5000; Wilson, cashier, \$3000 in 30 days. Let us refer you to these men, to the U. S. government, to banks, business houses, noted people at home and abroad. Heed this caution from Chas. Starr, of Mich., who writes: "Sorry this field is closed. Should have acted sooner but was skeptical. Your local man's great success has set everybody talking and proves I was a chump. Wonderful what a man can do with a real opportunity." Then read this from Lodewick who acted quickly: "Lucky I answered ad. It's great. Money coming fast." Which will you be, Starr, a victim of "neglected opportunities" or Lodewick, the "early worm." To escape Starr's fate, send your postal this very minute—

SPEND ONE CENT TO MAKE THOUSANDS

Ever hear of Allen's Wonderful Bath Apparatus? If not, listen. Gives every home that long-desired blessing, a modern bathroom with hot and cold running water facilities for only \$6.50. No plumbing—no water works—self heating. Only ten minutes to install. Gives cleansing plus friction, massage and shower baths in any room. Equivalent to any \$200 bathroom. Over 200,000 delighted users. Used by U. S. government.

More remarkable than this invention is our startling plan of universal distribution through special representatives who become virtually profit sharing partners in a business that's immense—exciting—fascinating—dignified—and above all, has enabled them, will enable you to get \$500 first month, \$5000 altogether. Asking to be shown doesn't obligate you one bit. Investigate today by all means.

ALLEN MFG. CO. 3583 ALLEN BLDG., Toledo, Ohio

Increase Your Efficiency

Efficiency after all must be the watch-word, of the carpenter and the contractor. The greater degree of efficiency he possesses, just so much more is he worth—both to himself and to his customers.

The carpenter who has not only a knowledge of building operation but who has also a knowledge of draughtsmanship, is better equipped to handle his business than is the man without such knowledge. A carpenter who can draw plans for buildings is often consulted by the future builder who would otherwise be compelled to consult an architect. His knowledge gives him a prestige that can be obtained in no other way. This knowledge will tend to increase the demand for his services.



Fred W. Dobe

Of course we realize that it is impossible for the vast majority of our readers to attend the schools that teach this branch of learning. However, it is possible for any man to gain a knowledge of draughtsmanship without spending the time or expense incidental to a college course.

"Successful Draughtsmanship" is the title of a little book that will be of great interest to the readers of the AMERICAN CARPENTER AND BUILDER. This book is a short treatise on how to become a successful draughtsman. It is published by Fred W. Dobe, Chief Draughtsman, Engineers Equipment Co., Department 2669, Chicago, Illinois. It explains carefully Mr. Dobe's personal—individual course of instruction.

This book should be of interest not only to those of our readers who are successful builders but also to those who are just starting out in the building world, as draughtsmanship is a mighty good line to follow and a good draughtsman can always command a wage that is maybe just a little better than most other lines. It is a fact that a knowledge of draughtsmanship is an essential to the modern carpenter. If he does not possess this knowledge, his work is more limited than it would otherwise be. Nor is a technical education necessary to the man who desires this knowledge. The main essential is that a man can read and write. These may sound to some like large claims. But send for Mr. Dobe's book and see for yourself, you will find it an inspiration to success in the building and construction world.



An Enthusiastic Van Guilder User

From Mr. Edward J. Cowling of Rockwell, Conn., dealer in concrete machinery and building machinery and building supplies and a concrete construction contractor, we have received a most interesting letter relative to the Van Guilder hollow wall concrete machine.

In part Mr. Cowling writes: "Over a year ago I became interested in the Van Guilder system of double wall concrete buildings. Since then I have put up five buildings and have four more under process of construction. Among these are dwelling houses, store houses, garages and one warehouse 143 feet by 48 feet.

"I have three complete combinations of these machines and two mixers continually employed in this work and our business has increased so rapidly that I have had to refuse contracts, but intend to install an equipment another season large enough to accommodate the demand.

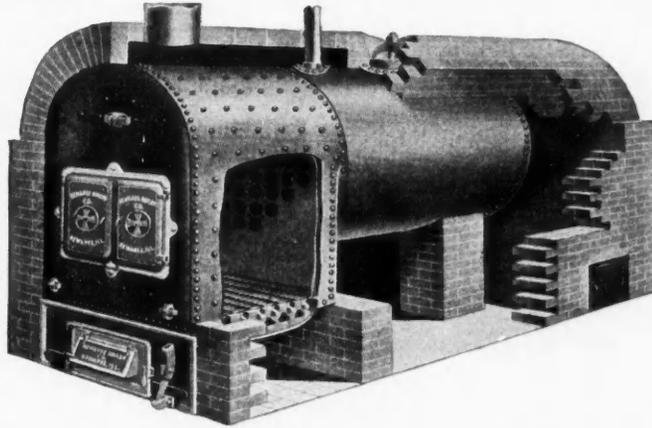
"With but one handling the concrete is placed in the wall and reinforced. This is done with unskilled labor with the exception of the man who handles the machine.

"This system makes an absolutely dry house, as it is practically a house within a house, the air space between the

When Writing Advertisers Please Mention the American Carpenter and Builder.

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

Makes also the only KEWANEE Garbage Burning Water Heaters

Chicago
Salt Lake City

New York
Los Angeles

St. Louis
Toronto, Canada

Kansas City



"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.

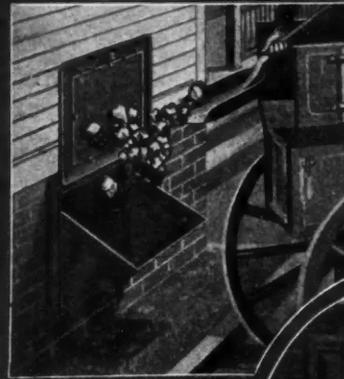
If you are going to build either a house or a hotel, it is worth \$\$\$ to you to get the Gilt Edge catalogue.

Write the manufacturers

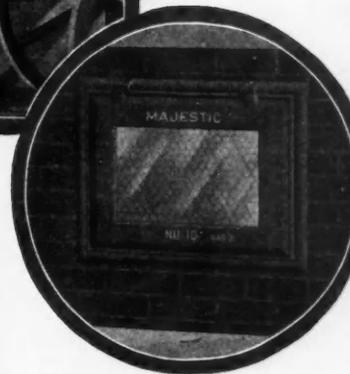
R. J. Schwab & Sons Co.,
295 Clinton Street
MILWAUKEE WIS.



MAJESTIC FOUNDATION COAL CHUTE



- ☐ Protects the building just where most needed — above the opening.
- ☐ The heavy steel hopper catches all the coal.

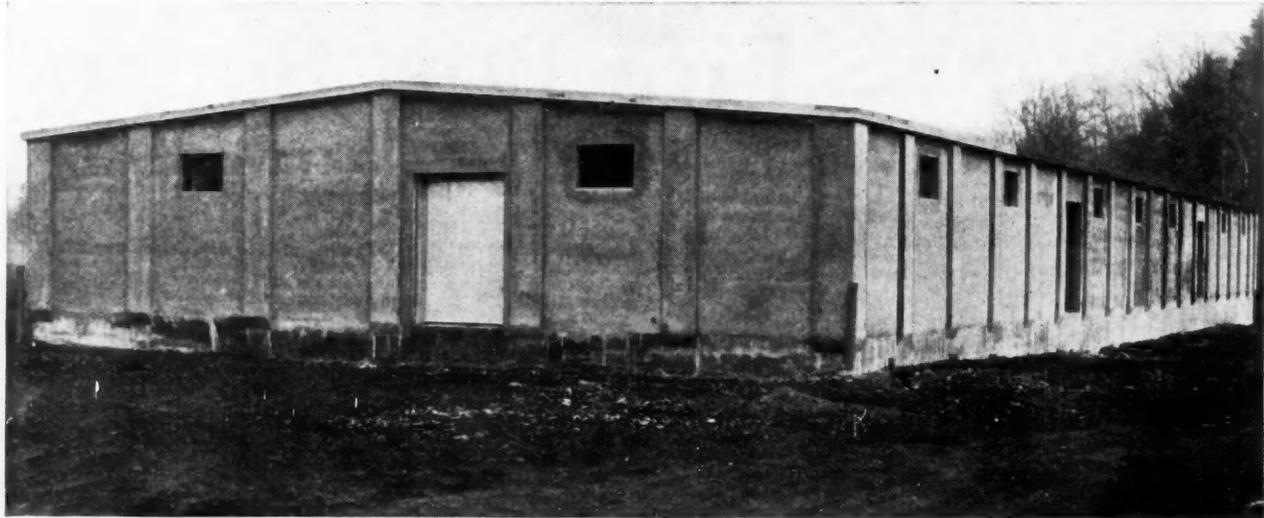


- ☐ When not in use, the hopper lies in the bottom of the chute body.
- ☐ The door locks automatically either open or closed.
- ☐ Strictly burglar-proof
- ☐ With 1/4-inch wire glass or steel panel in door.

Write for circular and address of nearest dealer.

MAJESTIC FURNACE CO.
995 to 1001 Sixth Avenue Huntington, Indiana

When Writing Advertisers Please Mention the American Carpenter and Builder.



Van Guilder System Warehouse, Rockfall, Ct. Built by E. J. Cowling

walls being continuous and uninterrupted all the way around.

"By becoming familiar with this system it will be seen that there is no duplication of labor. The labor that is usually employed in preparing the materials, such as blocks, brick, etc., can be used in erecting the building.

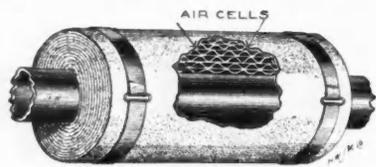
"If there are any who are interested but are skeptical regarding the possibilities of this system they can be convinced by examining these buildings, which are being erected in all parts of the country."

Certain details of construction of the warehouse Mr. Cowling refers to, a photograph of which is shown here, are: one story in height; pilaster 8 feet apart; inside wall

is 6 inches thick; outside wall 4 inches thick; 2½ inch hollow air chamber; number 6 galvanized wire used for horizontal reinforcing; cross ties in wall are of ¼-inch round galvanized wire placed 2½ feet apart. No perpendicular reinforcing was used. The building, with a solid cement floor, is absolutely fireproof.

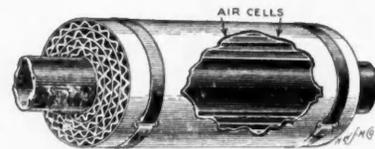
The Van Guilder hollow wall concrete machines and system of continuous air chamber construction, which Mr. Cowling mentions is widely known among builders and is being used extensively at the present time. Full particulars concerning this system, catalogs, etc., may be had from the Van Guilder Hollow Wall Company, 720 Chamber of Commerce Building, Rochester, N. Y.

Why J-M Asbestocel Pipe Covering Is Best



J-M ASBESTOCEL
Air cells run around pipe

For Hot Water and
Low and Medium
Pressure Steam



Ordinary Air-Cell Coverings
Air cells run lengthwise of pipe

Ordinary air-cell coverings are so constructed that the air-chambers run lengthwise of the pipe—note illustration.

In J-M Asbestocel Pipe Covering the air-chambers run around the pipe.

Therefore, in ordinary air-cell coverings, because of the nature of their construction, there are fewer and larger air-chambers and the contained air has more space and freedom for circulation, and their effectiveness for insulating purposes is consequently greatly diminished.

On the other hand, in J-M Asbestocel Pipe Covering the around-the-pipe construction permits us to use more and smaller air-chambers and confine the contained air within a restricted space in which it cannot circulate. Hence this forms a real dead-air insulator—the most effective known.

For hot water and low and medium pressure steam pipes J-M Asbestocel is undoubtedly the ideal covering—a perfect insulator for such purposes. Furthermore, it is far stronger and more durable than ordinary low-pressure coverings.

Ask our nearest Branch for Sample and Booklet

H. W. JOHNS-MANVILLE CO.

Manufacturers of Asbestos
and Magnesia Products

ASBESTOS

Asbestos Roofings, Packings
Electrical Supplies, Etc.

Albany
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Detroit
Indianapolis
Kansas City
Los Angeles

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Minneapolis
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New York
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Philadelphia
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San Francisco
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For Canada:—THE CANADIAN H. W. JOHNS-MANVILLE CO., LIMITED.
Toronto Montreal Winnipeg Vancouver

1021

When Writing Advertisers Please Mention the American Carpenter and Builder.



**USE
Crescent Nails
In Your Roofing Work**

With Crescent Roofing Nails you can put on more roofing in less time than with the old style tin plate and nails—and Crescent Roofing Nails will last much longer.

The stems of Crescent Roofing Nails are riveted both sides of head and they cannot leak as they are in one piece. The heads are thicker than the tin plates, this prevents their rusting out.

The heads of Crescent Roofing Nails are large—they have more bearing on the roofing and this prevents it from tearing off.

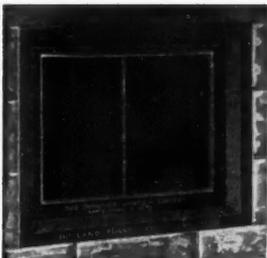
Crescent Roofing Nails have a good true point, which enables the roofer to make straight laps. Their large head prevents them from being driven through the roofing as is the case with the old style roofing nail or wire ringheads.

Crescent Roofing Nails are being extensively used. Be sure YOU use them on your next roofing job—they will save you time and they will give you better satisfaction.

Crescent Roofing Nails are made 1 inch and 1½ inches long.

You can get Crescent Roofing Nails from your supply man. If he should not have them write us for descriptive circular, samples and name of dealer in your locality from whom you can get Crescent Roofing Nails.

**Crescent Brass and Pin Company
DETROIT, MICHIGAN**



**One of These
Ought To Be In
Every Building**

CLOSED—A Real Window

**THE
Window Chute**

should be installed in all your building work. Owners and home builders are demanding the Window-Chute as they have found it is a real necessity.

The Window-Chute can be opened only from the inside. It is absolutely burglar-proof.

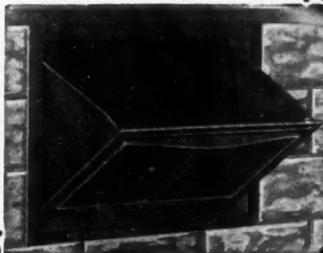
The Window-Chute is a real window, as well as a combination hopper coal chute. CLOSED—it is an ornamental, attractive basement window. OPENED—it is a practical chute. A heavy steel sheet covers and fully protects the glass when chute is in use.

We make the Window-Chute in two sizes—18 and 24 inches wide by 22¼ inches deep.

We will send you FREE our Window-Chute booklet. It should interest every Contractor—Builder—Carpenter. Drop us a line—TODAY—NOW—for YOUR copy.

OPEN—A Perfect Chute

**Holland
Furnace
Company
Holland, Mich.**



When Writing Advertisers Please Mention the American Carpenter and Builder.

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

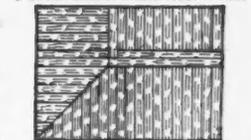
Illustrates 50 up-to-date modern houses and barns ranging in price from \$400.00 up and tells how to secure free blue prints, specifications, itemized bill of materials, complete with price. Our method of furnishing material complete saves 50% in price and 100% in trouble and worry. Get our 2 Great Books 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, 55 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.

F\$838 COR We will furnish complete all lumber, shingles, millwork, hardware, spouting, paint—everything except masonry and labor to build 7-room house. Plans free. A113.



Fancy Flooring
Quarter Sawed White Oak to cover 1 sq. ft. 12c

CHICAGO MILLWORK SUPPLY CO.
1422 W. 37th Street Chicago

Fill in This Coupon Now DATE
Mail It To Us



Chicago Millwork Supply Co.,
1422 W. 37th Street
Chicago, Ill.

Gentlemen—Please send your Books listed below, to—
(If Plan Book is wanted enclose 10c.)

Name.....
Address.....

CATALOG—No. 43 of Building Material
PLAN BOOK—No. 53 House and Barn Plans

New P. S. & W. Tool Catalog 12 B

The Peck, Stow & Wilcox Company of Southington, Conn., Cleveland, Ohio, and New York City have recently issued a new catalog covering their line of mechanics' hand-tools, which we believe is worthy of the attention of our readers.

This catalog, known as 12 B, is a substantial book, well bound and very nicely illustrated and printed. It is of convenient size and shape, being approximately 7 inches wide and 9 3/4 deep; although it contains 152 pages it is not bulky, being only about 1/4 inch thick. This is due to the fact that it is printed upon paper of fairly light weight, although of good quality permitting high grade printing.

The cover design and title page are attractive, and there is a well designed advertisement of the complete P. S. & W. line upon the back cover.

In many ways this catalog shows an advance over most books of this kind:

It is divided into convenient sections devoted respectively to brace and auger bits; chisels, gouges, and drawing knives; steel squares; hatchets and hammers; pliers, wrenches; tinners' hand-shears or snips; and miscellaneous hand tools.

One of the things which impresses one in looking over these pages, is the great extent and variety of the P. S. & W. line. In fact, the makers claim that it is the largest line of mechanics' hand tools offered by any manufacturer.

The various sections are each preceded by a designed title page, and a special introduction calling attention to the interesting features of that particular group of tools.

There is also a general introduction to the book, giving a great deal of useful information to the hardware dealer and mechanic.

This is one of the very few cases to our knowledge where a manufacturer has thus included in his catalogue practical information and selling talk for the benefit of the jobber and

dealer who handle the goods. A strong argument is also included for the advantages of a line of guaranteed tools, each of which bears the trade mark of the manufacturer as a protection to the distributor, dealer and user.

The book is preceded by a complete index and it contains several pages of advertising matter calling attention to other lines manufactured by the Peck, Stow & Wilcox Company.

Among items of special interest are the P. S. & W. Samson Brace with ball-bearing chuck; Samson Solid-Center, Single Twist Auger Bits; P. S. & W. Expansive Auger Bit; the very large and complete line of P. S. & W. Chisels, Gouges and drawing knives; P. S. & W. Rafter-Framing Square, and Samson Take-Down Square; a very extensive line of box-joint and lap-joint pliers and splicing clamps; and a solid-handle wrench made in but three pieces, excepting the wood facing of the handle.

Copies of this catalog will gladly be mailed our readers on request.



BEST BY TEST ASBESTONE

A Guaranteed Fireproof Durable Material for Floors, Base and Wall Coating, Admirably Adapted for Use in Buildings of all kinds.

Banks, Schools, Colleges, Churches, Hospitals, Hotels, Theatres, Court Houses, Clubs, Bathrooms, Residences, Etc.

"Asbestone" is far cheaper than tile, more easily laid and in many other ways it's superior. Can be laid over any base, new or old, either wood or cement. Any color or combination of colors can be used.

Our book on "ASBESTONE" will be sent free.

Post Office at Mansfield, Ohio

FRANKLYN R. MULLER Department H CHICAGO, ILL.

Write today for a sample of
Waterproofed
Bird & Son's Wall Board
Finished in Plain and Quartered Oak

The only board on the market that comes all finished ready to put on the walls. Waterproofed—it is practical and efficient. Requires neither painting nor papering. Can be painted if desired at about one-third the cost necessary to paint other boards.

F. W. Bird & Son
212 River Street
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Established 1795.
Canadian Plant, Hamilton, Ontario

Branch Offices:
New York
Washington, D. C.
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"61" FLOOR VARNISH

PRATT & LAMBERT VARNISHES

ESTABLISHED 63 YEARS

SASH MOUSE

USE the "HAN-COT" Sash Mouse for placing sash cord in window frames.

59 inches long, consisting of fastener, chain and weight. No tying or untying necessary—takes but an instant to insert the cord in the fastener.

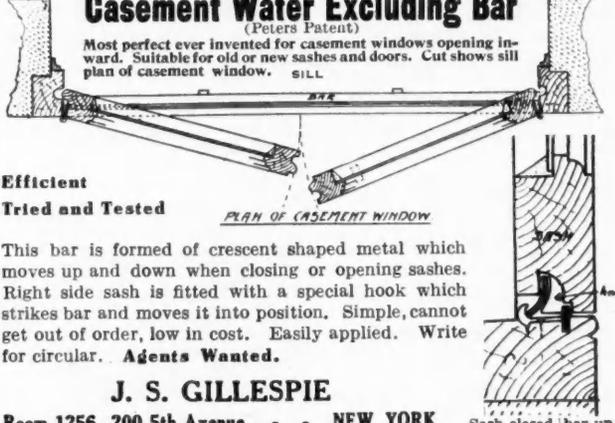
SEND for one NOW—you'll need it on your next job.

Price 30 cents prepaid, or at your dealer's.

HANDLEY & COTTERMAN
Atlas Bld., 164 N. Wabash Ave. CHICAGO

Casement Water Excluding Bar
(Peters Patent)

Most perfect ever invented for casement windows opening inward. Suitable for old or new sashes and doors. Cut shows sill plan of casement window.



Efficient
Tried and Tested

PLAN OF CASEMENT WINDOW

This bar is formed of crescent shaped metal which moves up and down when closing or opening sashes. Right side sash is fitted with a special hook which strikes bar and moves it into position. Simple, cannot get out of order, low in cost. Easily applied. Write for circular. Agents Wanted.

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Room 1256, 200 5th Avenue, - - NEW YORK

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The above cut shows a corner in a display room finished with

DECO VENEER

It is not an imitation. It is made of natural wood of the best quality of both foreign and domestic timbers.

Panels furnished either finished or unfinished. Unfinished panels are sanded ready for the finish. For wainscoting and similar construction, panels with strips, caps and base are furnished ready for installation. No mill work necessary.

Deco is used for wainscoting, window backgrounds, bank and bar fixtures, and all interior decorations where ply veneers are used.

Contractors and builders have found Deco a most satisfactory substitute for old style ply veneers and more economical.

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"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.



Build Your Own Way Up!



EVERY board you saw, every timber you frame, every nail you drive, is building another man's success! Why not build your own way up? Get the knowledge that will promote you higher and higher in your trade—that will make you the contractor—the owner—instead of an ordinary workman. All you need is ambition and training.

Our home study courses give you this knowledge in a short time.

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Our Short, Complete Home Study Courses in Architecture and Building Construction, Architectural Drafting, House Planning, Estimating, General Contracting, etc.

Thorough courses. Students study plans of buildings actually being constructed. Your work approved by leading Chicago contractors and architects. Complete outfits free to students.

Whatever work you are interested in, mark with a cross (X) in the coupon and mail today!

Low tuition. Study at home in leisure hours. Remember, the home study work is the same as in our college day and evening classes. We give both resident and correspondence courses. State which you want.

Chicago Technical College

654 Athenaeum Building Chicago, Illinois

Lay the foundation NOW by mailing this coupon

Chicago Technical College, 654 Athenaeum Bldg., Chicago, Ill. Gentlemen: I have marked with a cross (X) the branch or branches I am interested in. Please tell me how I can qualify for a well-paying position.

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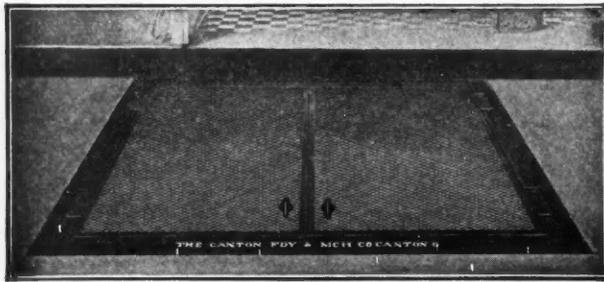
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Resident or Home Study Course

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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

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The Most Complete Book of
ARTIFICIAL MARBLE FORMULAS and INSTRUCTIONS SANITARY FLOORING
Price \$2.50 Prepaid

The money-making possibilities of this rapidly growing industry are unlimited. No machinery required; any carpenter can prepare the regular molds; any boy can compound and mix the ingredients. The process has been reduced to extreme simplicity. We carry in stock at all times a fresh supply of the cementing materials, special fillers and can supply special molds, etc., on short notice. Write for price list. Sample Marbleized tile, 10 cents.

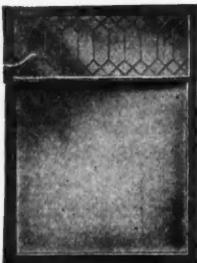
ART. MARBLE SUPPLY & EQUIPMENT CO., 374 Market St., Newark, N. J.

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

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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 1/2 x 7 1/2 in. \$2.77 per 100 lin. ft.

CLEAT
Yellow Pine 3/4 x 1 1/4 in. 36c per 100 lin. ft.



Quarter Round
Yellow Pine 3/4 in., 30c per 100 lin. ft.

Use KEROSENE Engine Free!

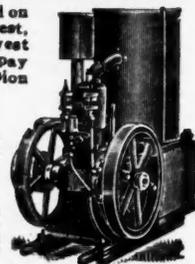
Amazing "DETROIT" Kerosene Engine shipped on 15 days' FREE Trial, proves kerosene cheapest, safest, most powerful fuel. If satisfied, pay lowest price ever given on reliable farm engine; if not, pay nothing. No waste, no evaporation, no explosion from coal oil.

Gasoline Going Up!

Gasoline is 9c to 15c higher than coal oil. Still going up. Two pints of coal oil do work of three pints gasoline.

Amazing "DETROIT"

—only engine running on coal oil successfully: uses alcohol, gasoline and benzine, too. Starts without cranking. Only three moving parts—no cams—no sprockets—no gears—no valves—the utmost in simplicity, power and strength. Mounted on skids. All sizes, 2 to 20 h. p., in stock ready to ship. Engine tested before crating. Cylinders cannot carbonize. Comes all ready to run. Pumps, saws, threshes, churns, separates milk, grinds feed, shells corn, runs home electric light plant. Prices (stripped), \$29.50 up. Sent any place on 15 days' Free Trial. Don't buy an engine till you investigate money-saving, power-saving "DETROIT." Thousands in use. Costs only a postal to find out. If you are first in your neighborhood to write, you get Special Extra-Low Introductory price. Write! (128)



Detroit Engine Works, 495 Bellevue Ave., Detroit, Mich.

A FREE BOOK

On Concrete Machinery

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

It isn't exactly a catalogue because it gives you the cost of making concrete Blocks, Bricks, Porches, and Chimneys. It tells all about the profits in making Drain Tile for farmers. The advantage of drainage, etc.

You ought to have this book if you are interested in concrete. Sixty-four pages of illustrations and interesting reading. Send at once, today, a postal will do.



W. E. DUNN MFG. CO., 4132 Fillmore St., Chicago

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Don't be satisfied for a minute until you have written for a free sample of

Winthrop Asphalt Shingles

A roofing with class and character to it—made of solid asphalt, into the surface of which is rolled under heavy pressure, fine chipped slate or granite.

The appearance is rich and beautiful—colors are red and green—the natural color of the slate or granite—won't fade or wear off.

Winthrop Asphalt Shingles are very durable—easy to lay—fire resisting—light as wood shingles and low in cost.

WINTHROP ASPHALT SHINGLE COMPANY

8 Sixty-First Street
ARGO :: ILL



SPECIFY THE JAHANT DOWN DRAFT FURNACE

ARCHITECTS! BUILDERS! CONTRACTORS!

Don't run risks. It's an established fact that nine-tenths of the time you will be condemned for using poor judgment should you specify a steam or hot water heating system.

The heating requirements of residences, flats, schools, hotels, churches, etc., vary according to climatic conditions, size of building and number of rooms, style of architecture and nature of material used in construction.

The Jahant warm air system costs less and is easier to install than other systems. It is easiest to care for and delivers plenty of heat at a saving of $\frac{1}{4}$ to $\frac{1}{2}$ in fuel bills.

We guarantee the Jahant, make prompt deliveries and prepay all freight.

Our free illustrated book gives general specifications, descriptions and prices. It explains our co-operative policy of furnishing without cost to you, special blue prints and specifications to be submitted with your building plans and tells why it will pay you to specify the Jahant.

THE JAHANT HEATING CO. 85 Mill Street, Arkon, Ohio
Furnace Builders for more than 30 years.

WE SEND BLUE PRINT PLANS—FREE

THE FOLDING DRAW KNIFE

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



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

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

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—56¢ 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.

"Last a Lifetime and Give Satisfaction To the End"



BUTT CHISEL

TRADE MARK



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

THE CELEBRATED BARTON TOOLS

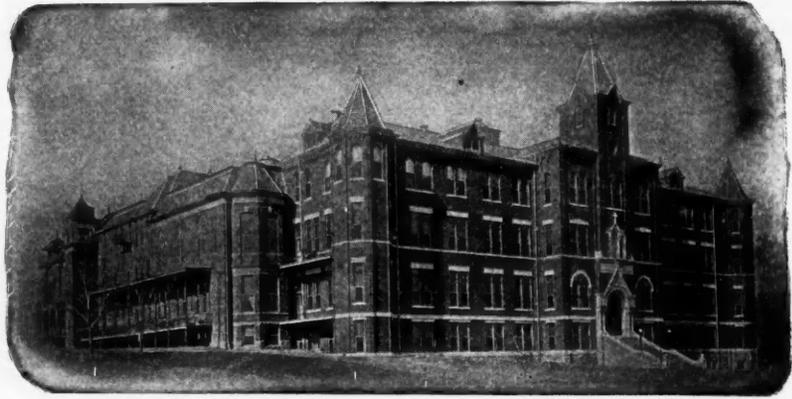
Send direct for catalogue and our free story book, True Stories. Be sure to specify "CARPENTER'S CATALOGUE."

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

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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

Send for This Book
Learn all about the only system of water supply that eliminates the storage of water. That delivers water fresh from the well. The



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

UNITED PUMP & POWER CO.
495 Old Colony Building, CHICAGO

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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.

ROOF SLATES

STRUCTURAL SLATE BLACKBOARDS

E. J. JOHNSON

38 Park Row, New York

Quarry Operator

BLACK, GREEN, PURPLE, RED

Booklet, Samples and Prices on Application

GENUINE BANGOR Roofing Slate
Structural Slate
Blackboards

Large Facilities, Prompt Deliveries

EAST BANGOR CONSOLIDATED SLATE CO. - - - East Bangor, Pa.

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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.



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.



Mr. Contractor, Carpenter or Builder

Here's the Secret of Your Best Success

Of course you don't expect to make a reputation for yourself by using or recommending poor paint. What will count for you is permanent colors, long wear, and good protection from the elements.

In other words—

Lowe Brothers
High Standard
Liquid Paint
*"The Paint of
Performance"*



It's the best paint we know how to make—and we've been making and testing "High Standard" paints for forty years.

For the Interior Walls specify MEL-LOTONE, the modern wall finish. You get the benefit of the absolute satisfaction it will give your customers.

Write for free catalogue, booklets and color cards of these and other 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

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.



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



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

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For Contractors, Builders, Carpenters, Woodworkers, Architects, etc.

than a subscription to a live magazine that will be a constant reminder all through the following year of the giver? As each copy arrives, filled with practical information and with ideas that will save money, time and labor to the fortunate possessor, his gratitude to the thoughtful giver will be deepened and refreshed.

Just at this time we take pleasure in making a Special Holiday Offer to the readers of the AMERICAN CARPENTER AND BUILDER. In addition to sending one year's subscription as a Christmas present we will also send to any reader of this magazine or any friend he may select a copy of any one of eighteen Building, Plan or Cement Books absolutely free, express prepaid. All orders for this Special Holiday Offer should reach us not later than Dec. 20, so we may send the magazine and book in time for Christmas. We repeat the offer:

One Year's Subscription and Choice of 18 Building or Plan Books

It is unnecessary to describe the AMERICAN CARPENTER AND BUILDER to our readers. They all know that it is the best, largest, most widely circulated and most favorably known of any magazine published for the building industry. One year's numbers will make a volume of nearly 2,000 pages, 12 inches high and 9 inches wide, illustrated with thousands of fine half-tone engravings and zinc etchings and containing reading matter from the foremost writers and editors who have made a lifelong study of building and construction.

The books named in combination with this offer are all sold regularly at \$1.00 a copy. They are cloth-bound, with art covers, printed from large, clear type on high-grade enamel, super-calendared or antique book papers, and every one of them is the best book published on its respective subject. Lack of space prevents a description of each book, but we unhesitatingly back up every purchase you make from us with an iron-clad guarantee of "ABSOLUTE SATISFACTION OR MONEY RETURNED."

We will Send the Book You Select Absolutely Free, Express Prepaid

All orders for subscriptions to the AMERICAN CARPENTER AND BUILDER in response to this Special Holiday Offer will include a Building, Plan or Cement Book absolutely free, express prepaid. The coupon below will be your authority to select the book you want sent. Just check the book you want, cut or tear off coupon and mail it to us, together with \$2.00 to pay for a year's subscription to the AMERICAN CARPENTER AND BUILDER, and we will give you or your friend credit for one year's subscription to begin at any time you say and will at once send the book to the address given us, so it will arrive in time for Christmas.

Two for the Price of One

You can make two Christmas presents if you wish through this offer. We will send the magazine to one address and the book to another. If this is desired, please be particular in furnishing information. We know you would not want us to make a mistake. Write instructions plainly on a separate sheet if you wish to "split" your order so that there can be no confusion in following your wishes. If you want us to, we will also write a letter from our office to the person or persons to whom you are making the gift, stating that it is through your kindness that they are receiving it. Do not delay. Get your order to us early.

USE THIS COUPON, CHECK THE BOOK YOU WANT--- CUT HERE--- MAIL AT ONCE

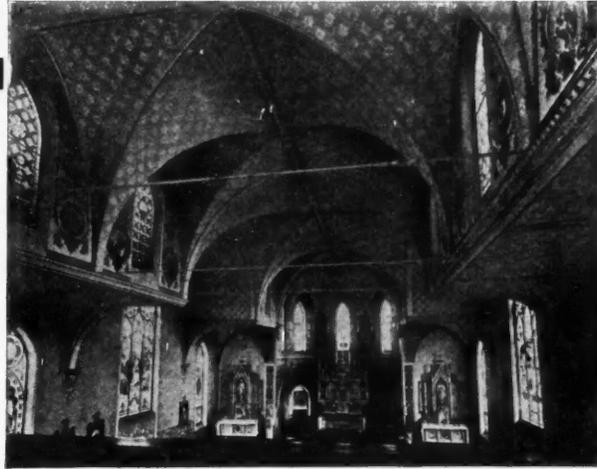
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Enclosed please find \$2.00, for which send to below address, one year's subscription to the American Carpenter and Builder, beginning with 191....., and in addition, send the book I have checked below, absolutely free, express prepaid.

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<input type="checkbox"/> Cement World (1 year's subscription).	<input type="checkbox"/> "Practical Barn Plans."	<input type="checkbox"/> "Practical Carpentry," Vol. 1.
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<input type="checkbox"/> "Framing" (House, Barn and Roof).	<input type="checkbox"/> "Steel Square and Its Uses," Vol. 2.	<input type="checkbox"/> "Ideal Homes."
<input type="checkbox"/> "Artistic Homes."	<input type="checkbox"/> "Stores and Flat Buildings."	<input type="checkbox"/> "American Homes."
<input type="checkbox"/> "Cement Houses and How to Build Them."	<input type="checkbox"/> "Brick Houses and How to Build Them."	<input type="checkbox"/> "Modern Homes."

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

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Here's Some Easy Money You Cannot Afford to Pass Up

If you will handle our Classik Steel Ceiling, orders will come piling in so rapidly that you will be compelled to employ a "CLERICAL FORCE." They are decidedly in advance of others.

The demand is there waiting for some one to supply it.

Hundreds of rich looking combinations are included in the Berger line.



They offer beautiful, deep embossed effects which make competition a very easy matter to overcome.

Write the nearest Berger Branch for catalog and information.

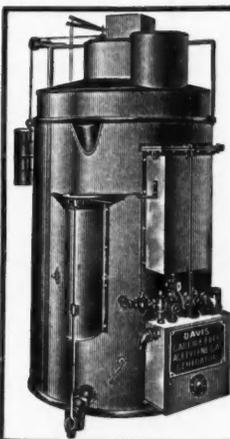
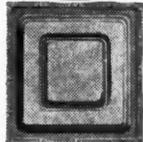
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For the best service address nearest branch.

Also manufacturers of Ferro-Lithic and Multiplex Reinforcing Plates, Metal Lath, Roofing, Eaves Trough and Conductor Pipe, and sheet metal building products of all kinds.



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



KRAOPLATE BLACKBOARD

KRAOPLATE

Will last a lifetime under ordinary school room usage.

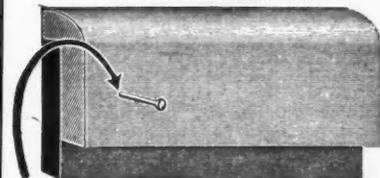
The BEST Composition Blackboard Manufactured

Easily Erected—Most Economical—Absolutely Guaranteed

Write for free sample and prices

Atlas School Supply Co.
1022 Van Buren Street :: Chicago, Ill.

THE DENNIS "CLINCHER" FELT WEATHER STRIP
PATENT PENDING)



NOTE - NAIL PASSES THROUGH BOTH MOULDING AND FELT.

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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.

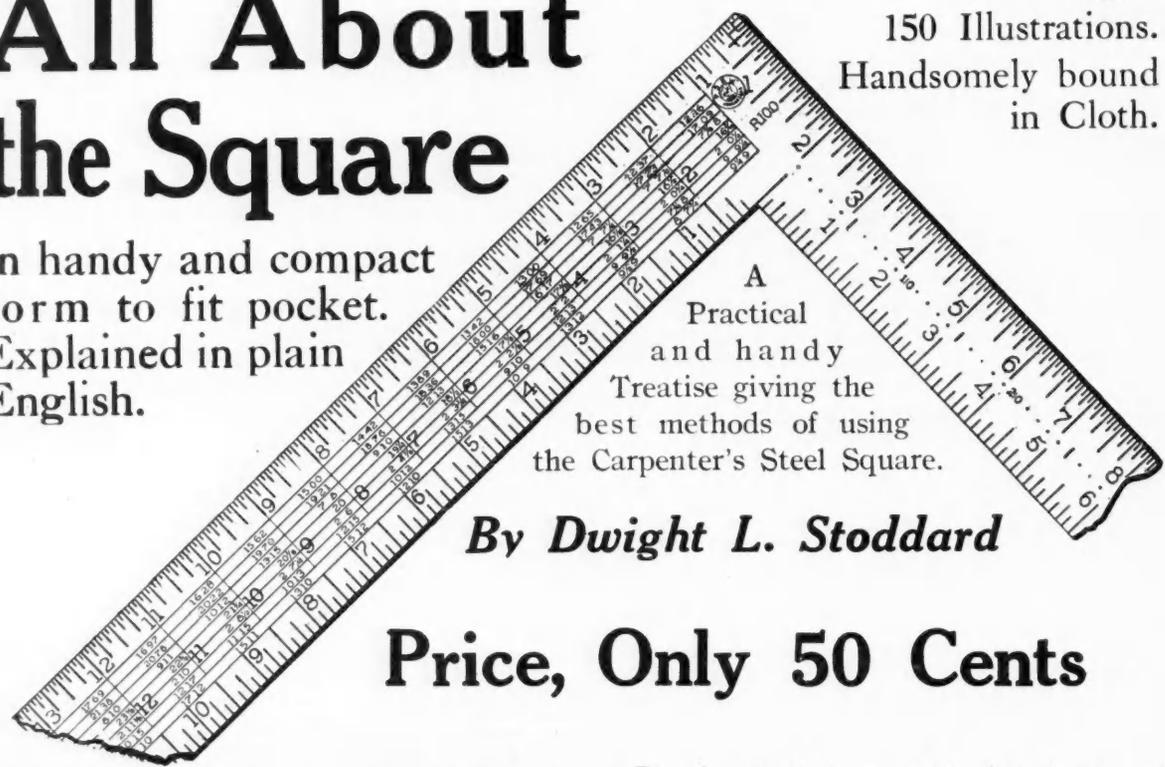
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All About the Square

in handy and compact
form to fit pocket.
Explained in plain
English.

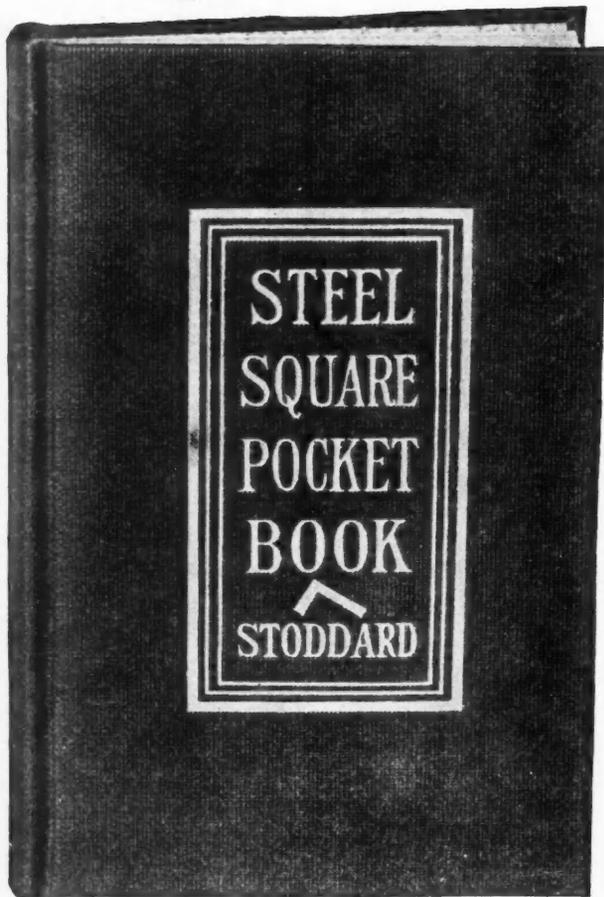
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150 Illustrations.
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and handy
Treatise giving the
best methods of using
the Carpenter's Steel Square.

By Dwight L. Stoddard

Price, Only 50 Cents



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The size of this book enables it to be carried in the pocket, hence the carpenter can always refer to it for the method of finding the different cuts used in roof framing, stair work, hoppers, towers and bicycle tracks, arches, stairs; also directions for describing hexagons, octagons and other polygons, circles, ovals, ellipses, brace measurement, dividing a cone, solving examples in proportion, facia and frieze cuts, besides directions in clear language for solving many other knotty problems by the use of the square.

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handsomely fin-
ished and with
paneled sides.
Furnished with
brass lock, leath-
er handle with
rings for strap to
pass over shoul-
der, metal clasps, metal corners, saw rack for holding
four Saws (the Hand Saws narrow plate), hooks for
Brace and Coping Saw, wood button of Try Square,
partitioned tray for Bits, Chisels and small tools,
space in bottom to hold Planes, Levels, etc.



	Length	Height	Width
Outside dimensions.....	31 1/4 in.	14 in.	6 in.
Inside dimensions.....	30 in.	12 3/4 in.	5 in.
Removable Tray, Inside.....	29 1/4 in.	1 in.	4 1/4 in.

Weight empty, about 14 lbs. Weight with tools, 18 lbs.

This Case is made to take our narrow plate Saws A7 1/2. The No. 340 contains one A7 1/2 Hand Saw, 26-inch; one A7 1/2 Rip Saw, 26-inch, and one Steel Square, No. 18B, a beautifully finished (Gun Metal Finish with Yellow Markings) Square, 18-inch body, 12-inch tongue. It is not made for wide plate Saws and large Square, but enables the mechanic to carry a lighter and smaller case than our No. 35, and a lighter kit of tools. Packed one or more in a crate.

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All men and women in any occupation are now interested in light and should write today for particulars and find out all about our

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System, Stand and Portable Lamps
before you put in lighting plants or lamps of any kind and avoid regrets. They give 150 to 700 Candle Power Shadowless Light, that can be turned up and down like gas.

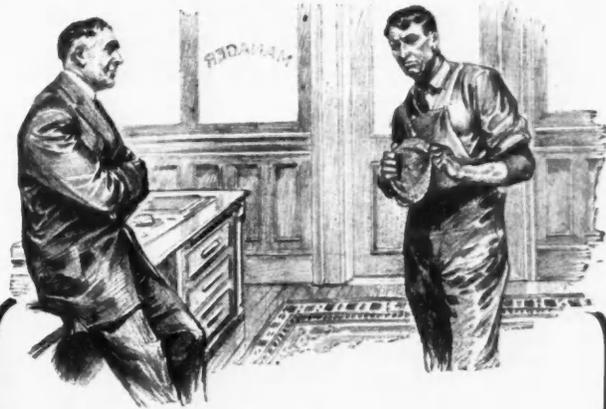
They meet all requirements of Home, Store, Church or business lighting, in or out doors at less than half the cost of kerosene or Electricity, simple enough for anyone to install and operate.

Write for A. C. B. catalog, it tells all about them

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You cannot select any portable building as handsome—none that will give such lasting satisfaction to the owner as the one built by the Pruden System of unit construction.

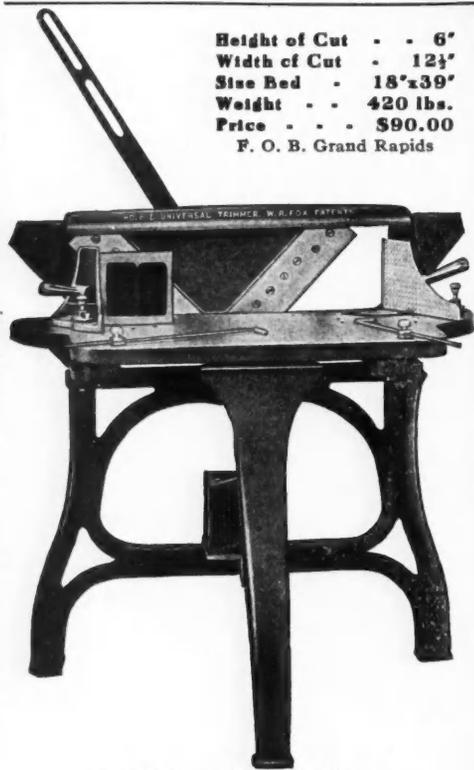
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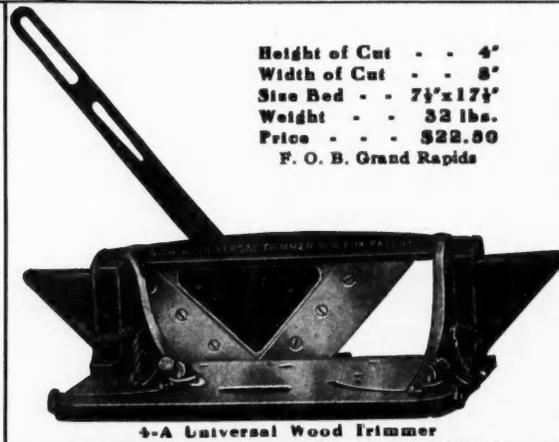


Height of Cut . . . 6'
Width of Cut . . . 12½"
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Weight . . . 420 lbs.
Price . . . \$90.00
F. O. B. Grand Rapids

Bench and Floor Type

Universal Wood Trimmers

To Meet Every Demand



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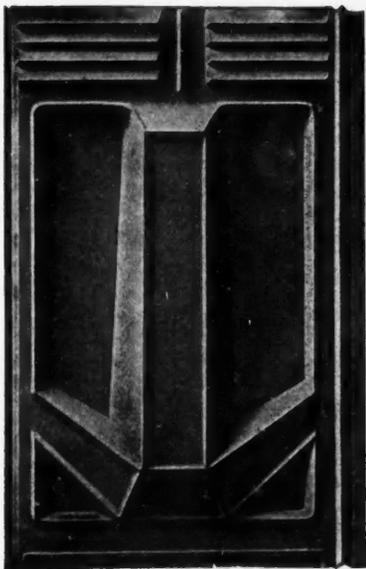
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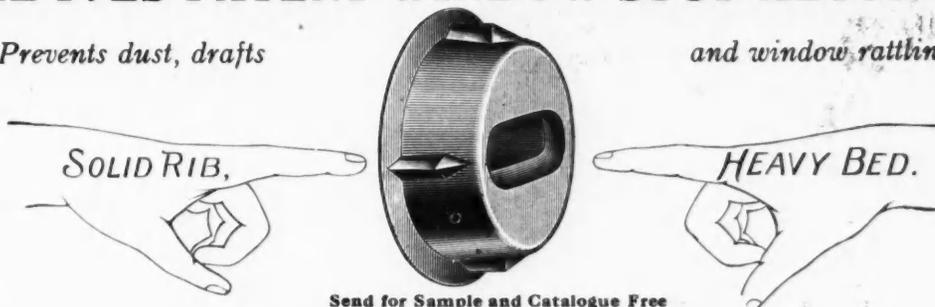
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Canton, Ohio

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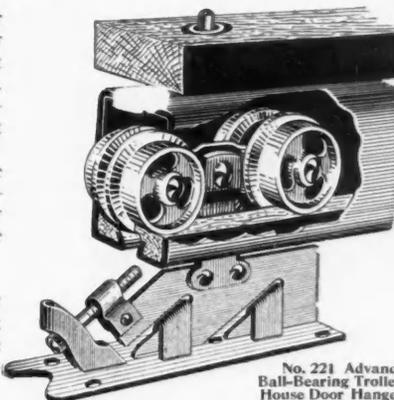
Usually he finds them in perfect working order. For most any door hanger, no matter how slipshod an affair it may be, operates properly when first installed. But mighty few of them stand the “racket,” for heavy sliding doors and settling partitions soon throw them out of kelter.

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Why? Because they are made from the highest quality material by skilled mechanics who strive to make each hanger just a little more perfect in every respect than the one before. They embody every desirable feature and convenience known to the Hanger Makers' Art. Equipped with forged steel yokes, hardened bearings, center hung trucks that distribute the weight evenly over all wheels. Simple but effective adjustments in both Hanger and track to provide for settling. Hard maple runway in steel covered track, clincher type—absolutely noiseless. Hangers or track can be removed at any time after plastering without disturbing walls.

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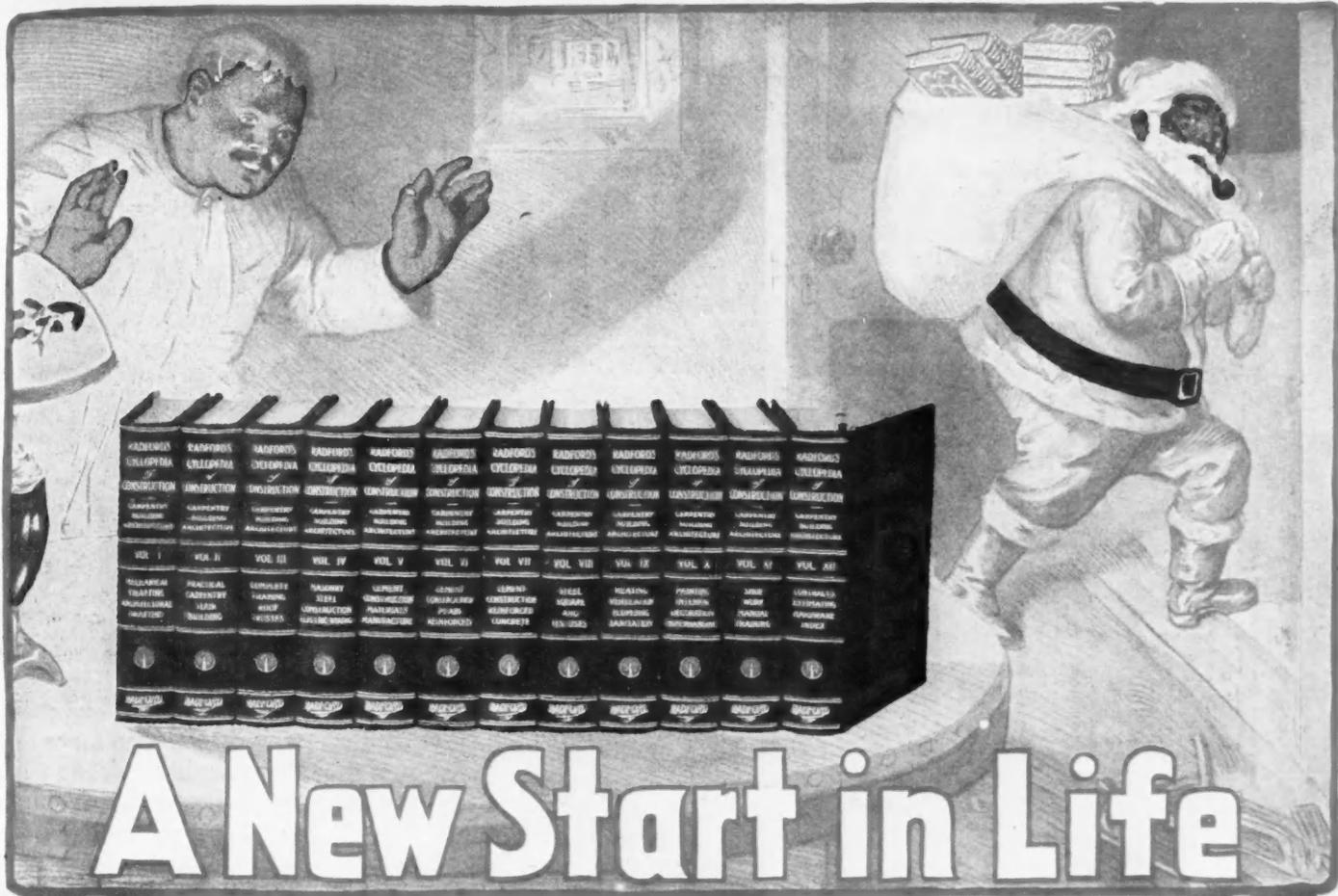
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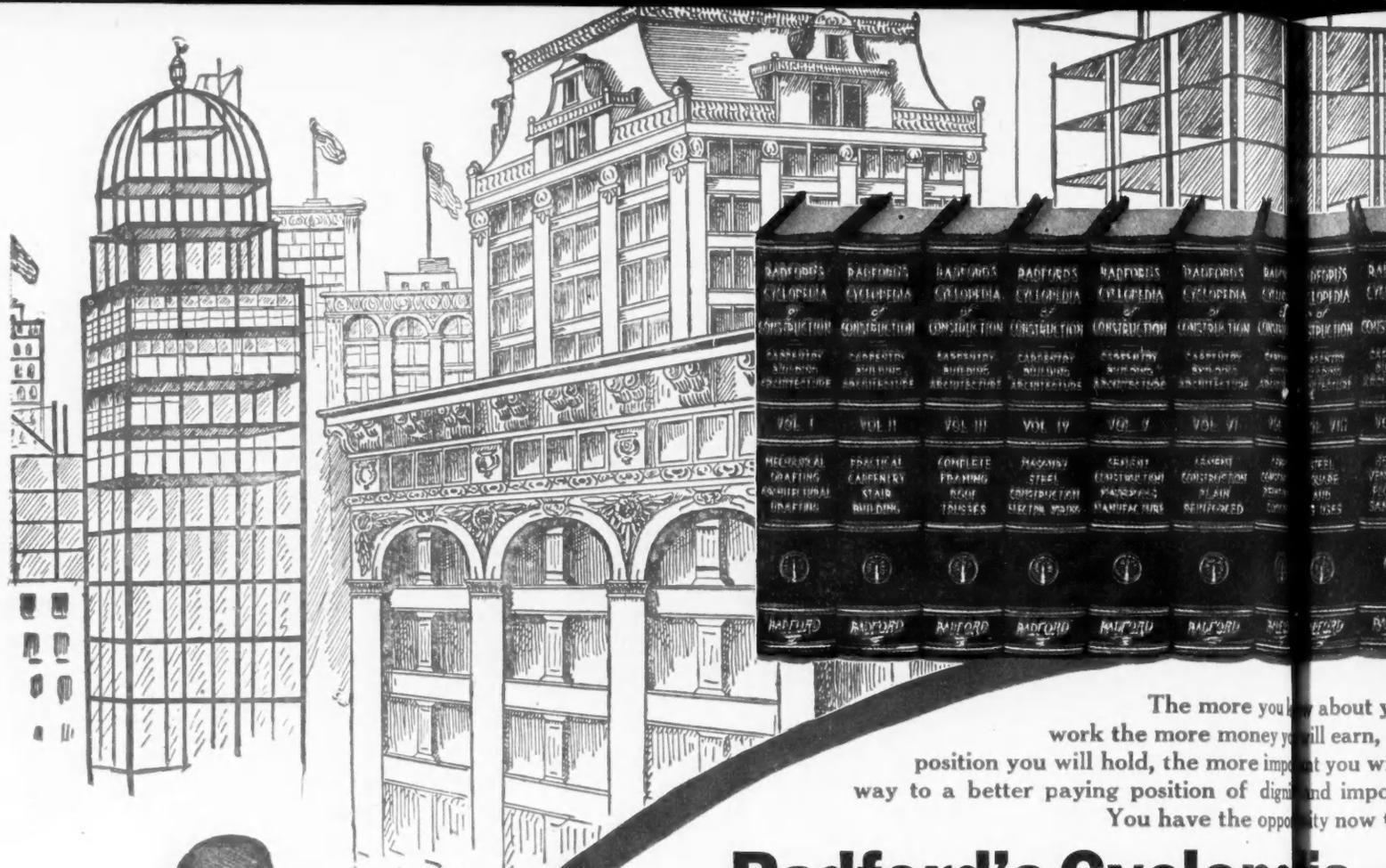
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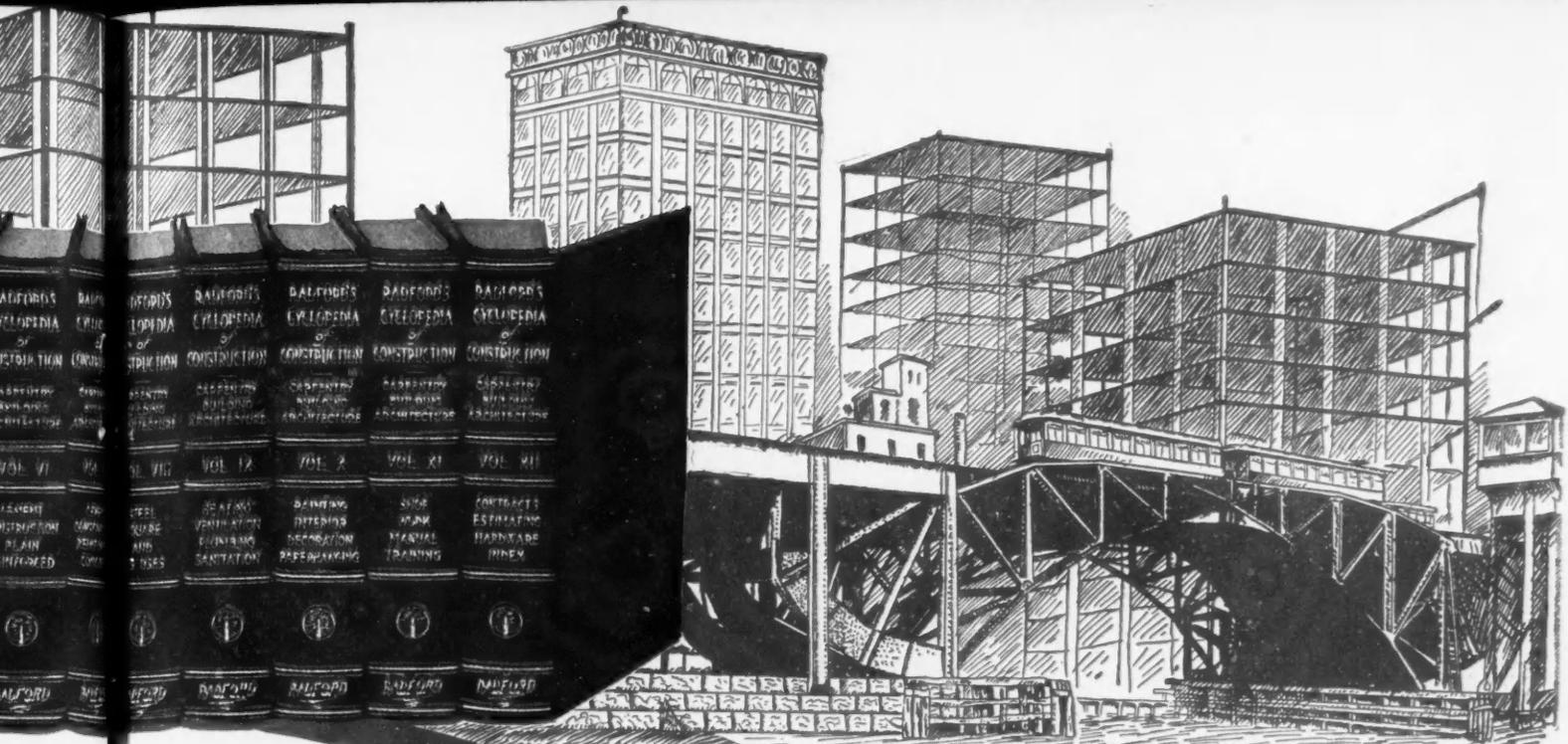
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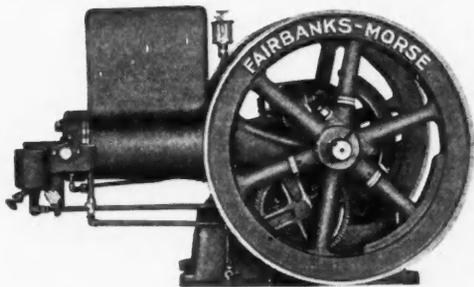
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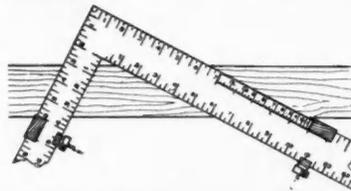
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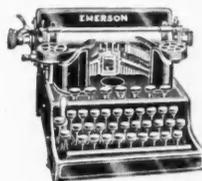
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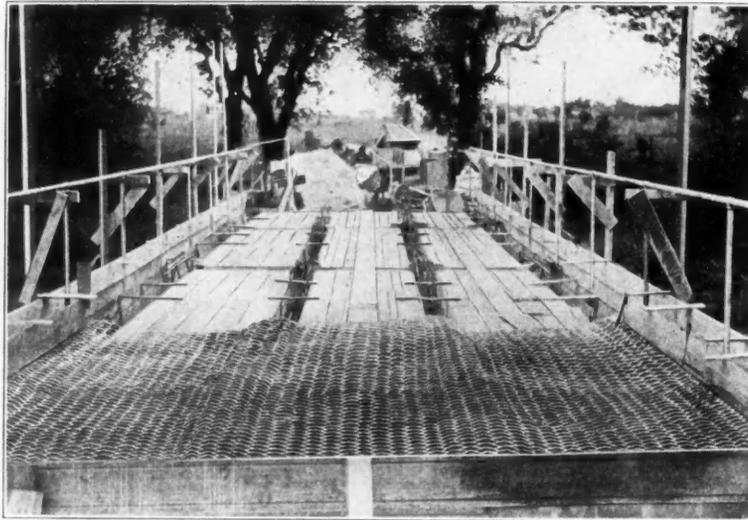


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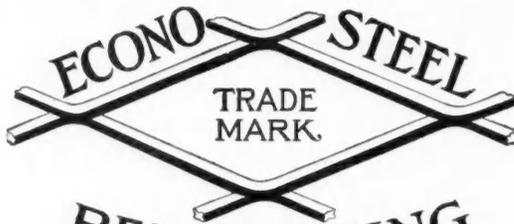
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NOTICE TO ADVERTISERS

Forms for the January number of the American Carpenter and Builder will close promptly on December 20. New Copy, changes and orders for omissions of advertisements must reach our business office, 178 West Jackson Boulevard, Chicago, not later than the above date. If new copy is not received by the 20th of the month preceding date of publication the publishers reserve the right to repeat last advertisement on all unexpired contracts. AMERICAN CARPENTER & BUILDER CO

Build Right Through the Winter

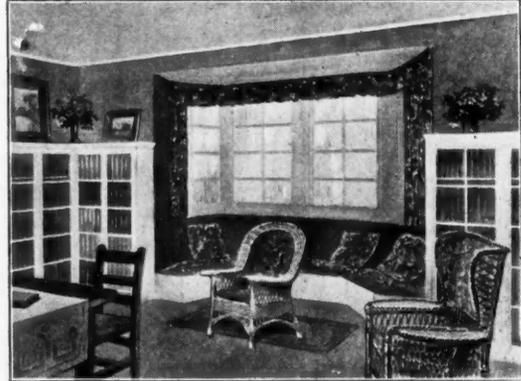
Save a Month's Time and Half Plastering Cost

Don't let the cold weather and damp plaster delay your building. Use Bishopric Wall Board on any building job in any kind of weather. The finer the house or bungalow, the better the owners will be pleased.

You can save a month's time in building a house by using Bishopric Wall Board.

Comes ready to use—goes on dry. Just nail Bishopric Board to bare studding and walls and ceilings are ready at once for paper, paint, kalsomine, burlap or any kind of decoration. Anyone who can drive nails can apply it. Lasts as long as the building.

Bishopric Wall Board costs 50% less to apply than lath and plaster.



BISHOPRIC WALL BOARD

Stays Stiff---Can't Warp

Bishopric Wall Board is the **only** wall board made with lath reinforcing. It is the lath that keeps wall board **stiff**. Kiln-dried dressed lath are imbedded in toughened Asphalt-Mastic under terrific pressure, and a layer of heavy sized fibre board is pressed over the surface. It makes a sound-proof, moisture-proof, fire resisting material that **stays stiff**.

Testimonial Letter

Find enclosed twenty-two dollars (\$22.00) for which ship to G. L. Snapp, Tiona, Pa., freight prepaid, eight (8) squares of Wall Board.

The lot I got before is giving good results. It is O. K.
G. L. SNAPP, Carpenter and Builder, Saybrook, Penn.

\$5,000 Anti-Warp Bond

Bishopric Wall Board will not warp, crack, buckle or pull loose in any climate, winter or summer. This claim is backed by a \$5,000 Anti-Warp Bond guarantee. Every purchaser is protected by this guarantee.

\$2.50 Per 100 Square Feet

Comes in sheets 4 feet square, ready to apply. Price: \$2.50 for 100 square feet; \$6.40 per crate of 16 sheets, 256 square feet. You can nail it to studding and have room ready for decorator the same day.



Write for **FREE**
Book and Big
Sample



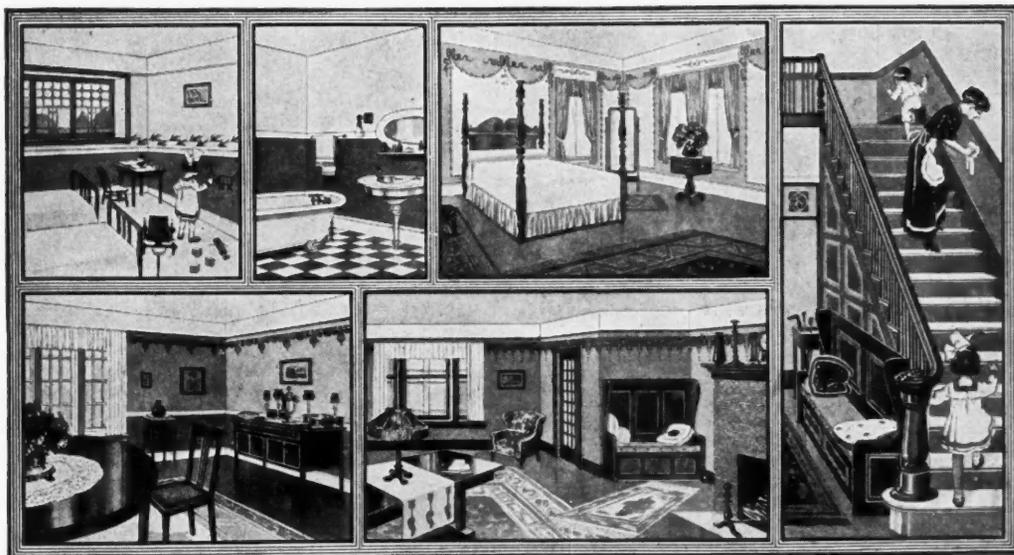
Send for Free Bishopric Book in colors; Big Sample of non-warping, fire-resisting Wall Board, and working, architectural Plan of Model House. They will give you ideas. They may save you money. Enclose 6c for postage and packing. Write today.

The Mastic Wall Board and Roofing Mfg. Co.
446 Este Avenue, CINCINNATI, OHIO

DEALERS: Write for Great Exclusive Agency Proposition.

When Writing Advertisers Please Mention the American Carpenter and Builder.

Don't Figure On 1913 Decorating Jobs Without Working Samples of this Successful Combination



Alabastine

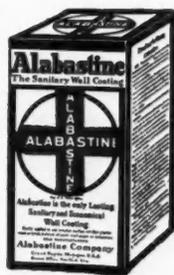
The Beautiful Wall Tint

In dry powder, ready to mix with cold water, applied with a regular 7 or 8-inch wall brush; packed in full 5-lb. packages, in white, tints and colors—also in bulk for large jobs.

Alabastine may be easily washed, if desired, from any surface to which it has been applied.

Alabastine, after being mixed, will remain in working condition for days, does not harden nor set in the bucket.

Full 5-lb. packages; white 50c, regular tints 55c. Also in bulk for large jobs—Hotels, Offices, Schools and Public Buildings.



Alabasco

The Flat Wall Paint

Alabasco is the highest grade, interior flat wall paint produced. It is washable and absolutely dependable. For homes we recommend the use of Alabasco in connection with Alabastine. At a little extra cost Alabasco can be used in places exposed to finger marks—along the stairs, nursery, lower part of bathroom and dining room, also kitchen and cupboards. These exposed places can then be washed with soap and water.

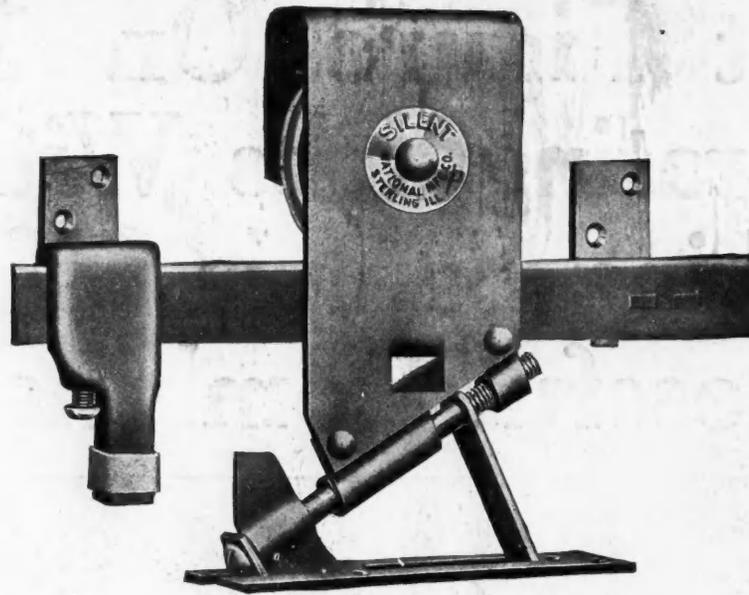
Alabasco comes in the same velvet-like water color tints as Alabastine. Is exquisitely soft and artistic on the walls and, properly applied, does not chip, peel or rub off. Comes in liquid form ready for use.



1913 WORKING SAMPLES FREE

Alabastine Company 749 ACB Grandville Road, - Grand Rapids, Mich.
Desk 49 ACB 105 Water Street, - New York City

When Writing Advertisers Please Mention the American Carpenter and Builder.



“SILENT” PARLOR DOOR HANGERS ARE EASY TO HANG

The most popular feature of this hanger is the ease with which it can be attached to the door. The flexible hinge joint allows the hanger to adjust itself to the top of the door whether square or not. Saves planing top of door to square it up.

Other features are the long adjusting screw with spring-lock nut at the end to keep it from working loose; fibre tread, roller-bearing, noiseless wheels; rubber tipped stop and jump-preventing construction.

Send for our catalog showing proper construction of pocket. Sent free.

NATIONAL MANUFACTURING CO.
STERLING, ILLINOIS