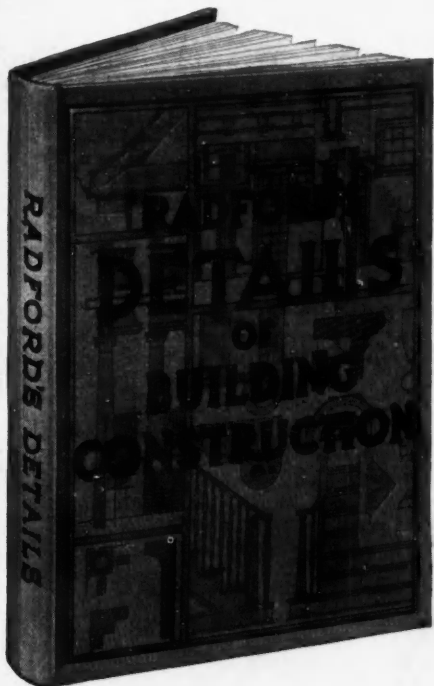


AMERICAN CARPENTER AND BUILDER



THE WORLD'S GREATEST BUILDING PAPER



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RADFORD'S PORTFOLIO OF DETAILS

is Our Newest Book—just from the press. It is without question the biggest, best, most useful and complete Book We have ever issued. ¶ A remarkable collection of Full-Page Detail Drawings, showing clearly Every Feature of approved Building Construction; also Every Style of Interior Trim—including special "Built-in" Cases, Cabinets, Sideboards, Wardrobes, etc. ¶ Every drawing to scale. Each with descriptive text. All points fully Indexed for Ready Reference.

*See Advertising Section for Particulars of
This Big Free Offer*

Do your Friends a Good Turn, too—Spread the News—
Every Carpenter and Builder Will Want This Big, New Book

THE KIND OF SAWS MECHANICS WANT

The complete line of SILVER STEEL SAWS contains over twenty-five different patterns—all made in a range of lengths from 18 inches up and in all points from 4½ to 12.

We have selected four of the most popular patterns, which we wish to show you this month.



This is No. 53. The Blade is of SILVER STEEL, Damaskeened finish, Skew Back. The Perfection Pattern Handle is of thoroughly seasoned applewood, beautifully carved and finished. It retails from \$1.60 to \$2.50 each, according to size.



This is ATKINS No. 51 with old style straight across handle. The Blade is of SILVER STEEL, Damaskeened finish, Skew Back. The Handle is of thoroughly seasoned applewood. This Saw sells from \$1.45 to \$2.15, according to length.



This is ATKINS No. 68, and one of the finest Saws we make. The Blade is of SILVER STEEL and is given our highest mirror polish. Skew Back. Carved and polished applewood handle, Perfection Pattern. This Saw sells from \$1.65 to \$2.50, according to size.



Here is ATKINS No. 66, SILVER STEEL, high mirror polish, Skew Back, apple handle, old style straight across pattern. This is a strictly high class Saw and retails from \$1.60 to \$2.25, according to length.

THE HANDLES

We want to call your particular attention to the difference in the hang of these two handles. Nos. 53 and 68 have the Improved Scientific Perfection Handle. Easiest on the saw arm. Nos. 51 and 66, the old style straight across handle if you prefer it.

ATKINS ALWAYS AHEAD!

Send for our Saw Sense Book or Carpenters Catalog which will tell you about the complete line. It's free upon request. Or send us ten cents to pay postage and we will send you, with our compliments, a substantial nail apron, our little book called "Saw Sense," a monthly time book and other useful information in regard to High Grade Saws.

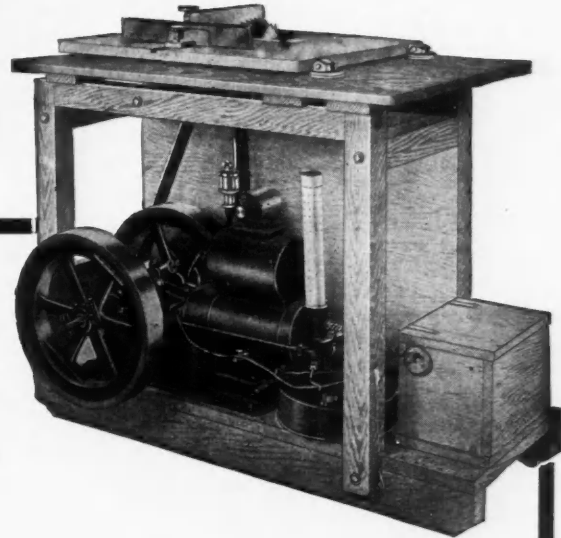
YOUR DEALER SELLS THEM or will order them for you from his wholesale house. If he won't supply you, let us know. Buy one and try it. If it does not run easier, cut faster and hold its edge longer than any other Saw—if it is not more satisfactory than any saw you have ever used before—take it back to your dealer and get your money back or exchange it for a new one.

E. C. ATKINS & CO., Inc.

INDIANAPOLIS, IND.

ARE YOU ALIVE

to the fact that with this Portable Saw Rig on your job, or in your shop, you can do all of your millwork. This outfit is a complete and economical operating mill which requires no line shafts nor large amount of floor space.



A Power Plant Guaranteed to Make You No Trouble



Designed and built to run continuously under full load. Cuts hours to minutes, cuts cost to pennies. Cuts out the wear and tear on muscles. Does away with the man-killing hand saw.

Nine Machines in One

The three horse power water hopper cooled engine pulls 8 inch saws, ripping up to 2 inch lumber and cross cutting 3 inch lumber.

Guaranteed for Life

Write for our attractive folder and testimonials, which give valuable information on our different sizes of Portable Saw Rigs.

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

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

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

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

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

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



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

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

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

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We appreciate small orders as well as large ones

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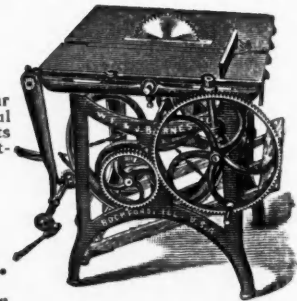
In these days of close competition need the best possible equipment, and this they can have in

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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.

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Little Giant Floor Scraper

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

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

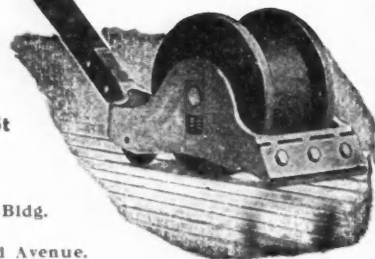
Ask us for our special price on this machine.

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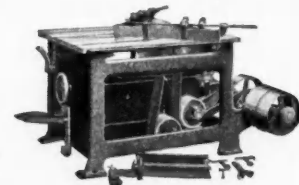


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Combination

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Rip Saw and Dado Machine



The saw is brought into work by a foot treadle, leaving the operator free to use both hands in handling the material, thus greatly increasing the capacity of both workman and machine.

The Head Stock which carries the saw arbor, is mounted on rollers having ball bearings, causing it to move easily and accurately on the ways, reducing the friction, and consequent wear on the machine.

The ways are adjustable for depth of cut, and the countershaft is equipped with a tight and a loose pulley permitting the use of an endless belt so as to run smoothly. Further details will be furnished gladly upon request.

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is the result of years of concentrated effort, brought to present perfection by a practical floor worker and contractor of wide experience and is rigidly guaranteed to suit you.



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Send for the Weber. Try it 5 to 10 days' free. Give it the hardest kind of actual working test. If its work isn't the best you've ever seen, send it back at our expense.

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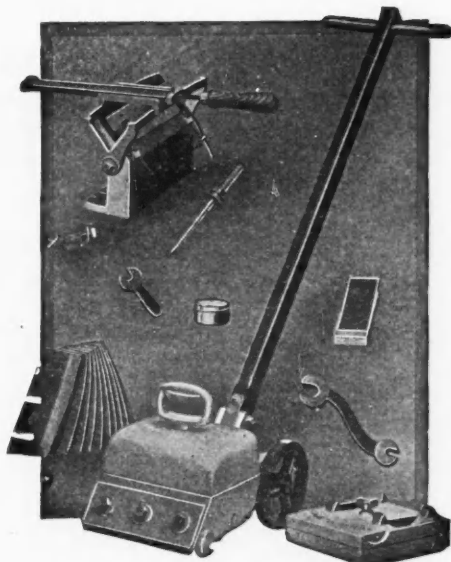


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The WEBER Scrapes Both Ways

Every Obstacle Overcome



The Acme Floor Scraping Outfit.

No more floor scraping worries. No more unnecessary loss of time or money when the *Acme Floor Scraping Outfit* is on the job. One man and the *Acme* can do the work of four men using hand scrapers. Think of the saving of time this means to you. If you use the outfit on one good sized floor scraping job, you have saved enough in labor to pay for the machines.

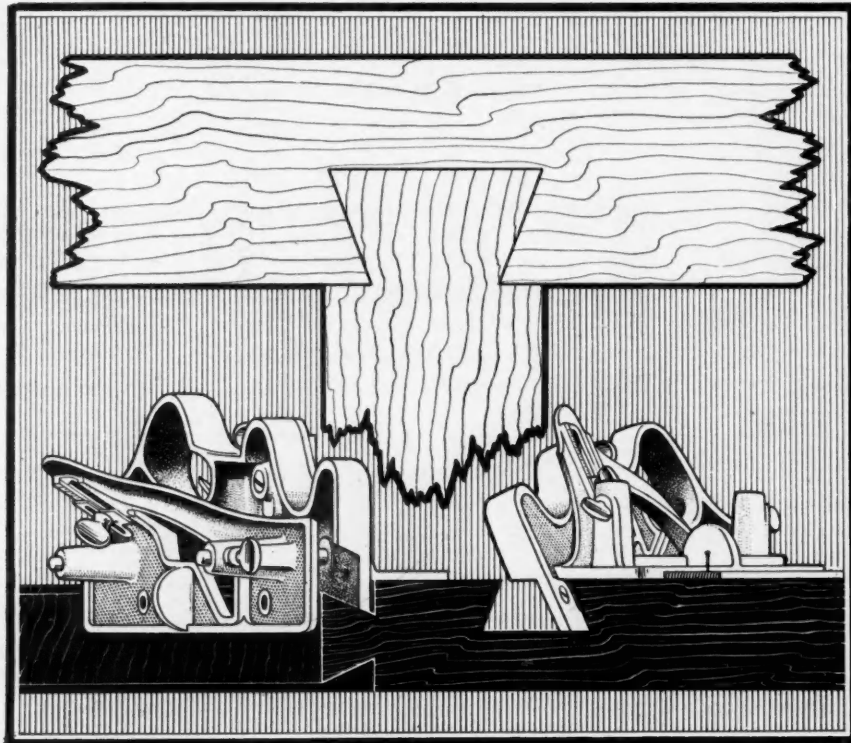
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If you want my booklet describing this outfit and further particulars, drop me a line to-day and details will be forthcoming by return mail.

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A COMBINATION DOVETAIL TONGUE AND GROOVE PLANE

Something entirely new. A Plane that will at one setting cut a dovetail groove, and in the other setting a dovetail tongue to match.

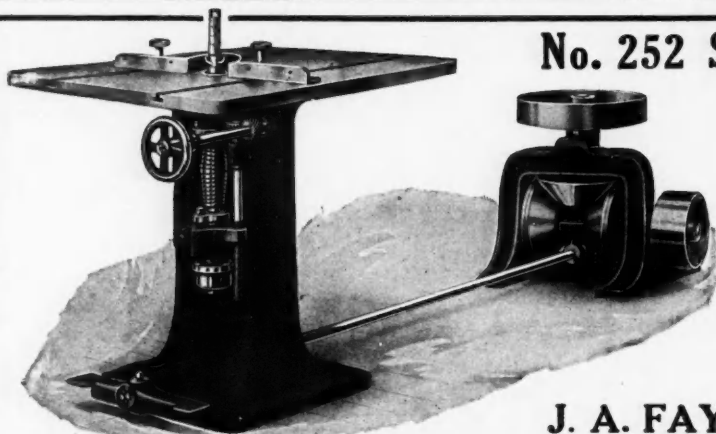
The operation is simple and the accurate and perfect fitting joints obtained both parallel and tapering, will convince the workman of the utility of this unique and original tool.

A most valuable addition to the kit of pattern makers, cabinet makers, carpenters and wood workers in general.

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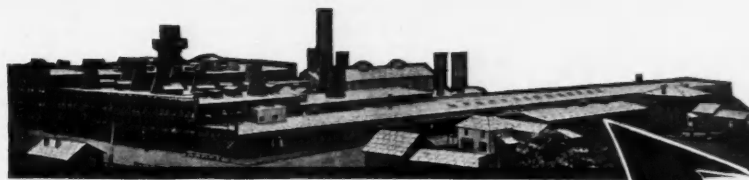
A money-maker in any woodworking shop. Spindle runs 7,000 to 9,000 R. P. M. 50% faster than any other. Result: More work, smoother work and with less danger to the operator.

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For Details of the New High Speed Shapers

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It consists of several layers of Asbestos Felt securely cemented together with alternate layers of pure Trinidad Lake Asphalt—both practically indestructible minerals. No stronger combination of element-resisting materials is possible. There is not a particle of perishable material in

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We can tell you of many buildings—give you the names of the owners—on which this roofing, without any painting or other protection, has withstood the wear and tear for nearly a quarter of a century and is in good condition today. If you wish to protect buildings, at the lowest cost per year, from fire and all weathers; from heat in summer and cold in winter, get J-M Asbestos Roofing from your dealer. Sold direct where we have no dealer.

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So that you can see the curious rock which yields the long, soft, pliable, yet practically indestructible fibres from which we make J-M Asbestos Roofing, Theater Curtains, Stove Mats, Fire-Brick Cement and hundreds of other Asbestos Products; we'll send you a sample of the Asbestos Rock just as it comes from our mines—the largest in the world. Write our nearest Branch today for sample, and we'll also send you a sample of J-M Roofing and our handsomely illustrated catalog No. 303.



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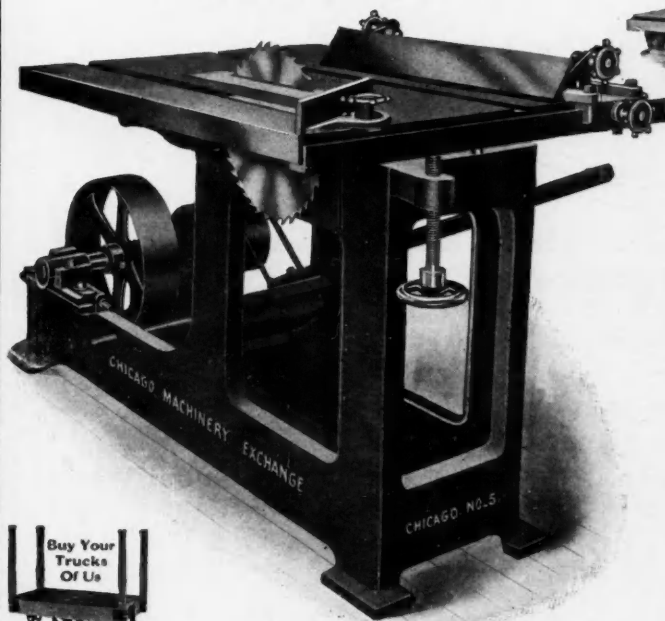
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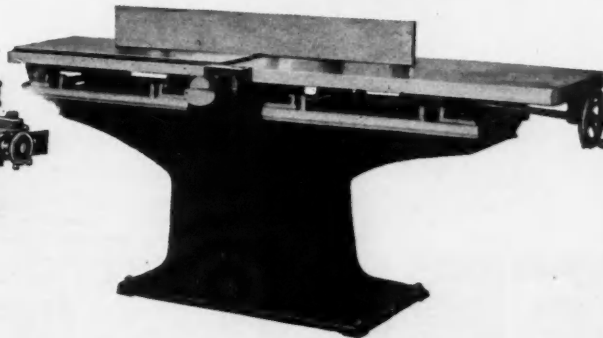
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Chicago No. 5 Combination Saw Table



MACHINE No. 2
Chicago 12-Inch Jointer and Planer



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

These Two Machines

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

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

THEY ARE ALWAYS READY FOR WORK.

(Not so with the Universal Wood Workers.)



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

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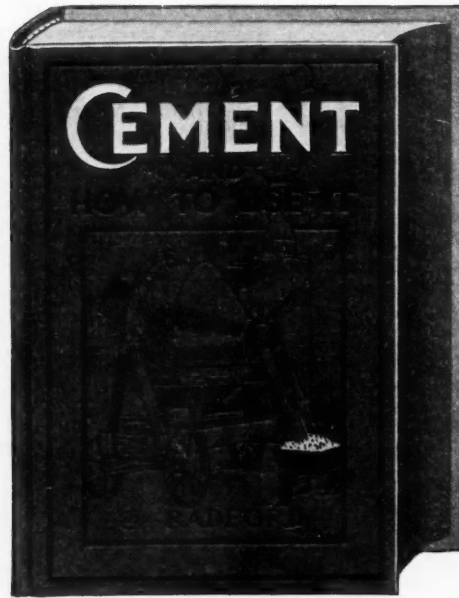
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"Cement and How to Use It" is a big, practical, up-to-the-minute book for the cement manufacturer, dealer and user, as well as the architect, draftsman, construction man, contractor, builder, carpenter and prospective home owner. This book contains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



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

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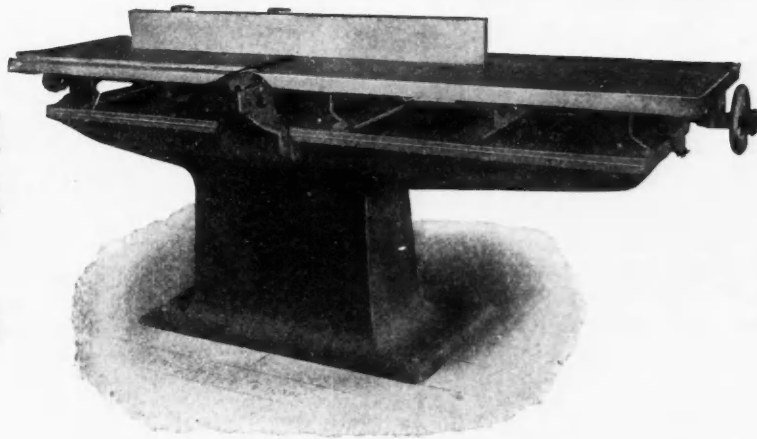
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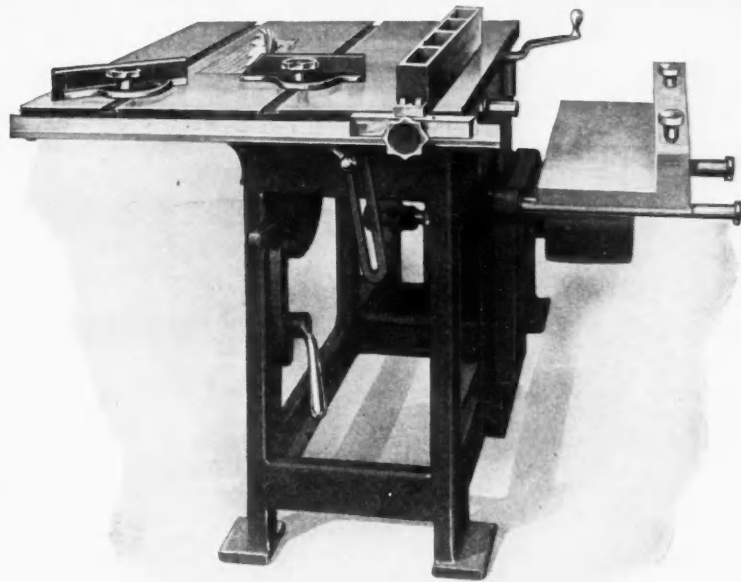
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Tilting Table, Saw Table
with Raising and Lowering
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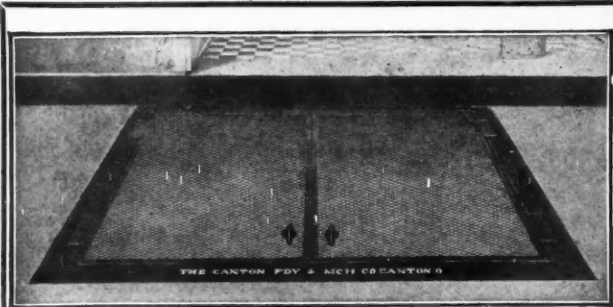
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We include in the above price countershafts, one pair Jointer Knives, one 14-inch Rip Saw, one 14-inch Cut-off Saw. All Gauges shown in picture.

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

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

Our Solid Iron and Steel Doors

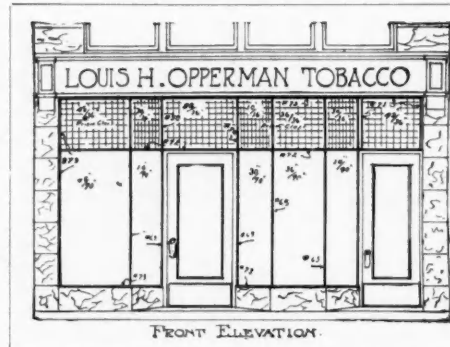
are specified by the best Architects. They are always flush, firm and neat. No obstructions to stomp the toes. When open, passers-by are protected. Can be locked from either side. Illuminated Doors also furnished.

Made in 45 Sizes.

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is given to display windows that are built with the Petz Bar. No more moisture or frost on your window panes. Strongly made, this method of store front construction gives the most pleasing results on account of its strength, lightness, firmness and ease of construction. If you have had trouble with other bars, it will pay you to investigate the Petz. No more broken glass with this bar.

Tell us the nature of the work contemplated and we will tell you the type of bar to use, with prices and full specifications. Write for our book: "Modern Store Front Construction." It will throw new light on this important question.

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

Per pair, 1 foot.....	\$2 70
" 1 1/2 foot.....	2 85
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These clamps have steel bars and screws and malleable iron parts.
The New Adjustable and Perfection Clamps are made in the following lengths and sizes:
2 1/2, 3, 4 and 5 foot have 1 1/2 x 1/2 inch bars.
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Joiners' Clamps—1, 1 1/2, and 2 foot have hand-wheels for rapid work, 1 1/2 x 3-16 inch bars.
In ordering parts always make sketch, to avoid delay.

Hargrave's New Adjustable SPECIAL Clamp.



Hargrave's Perfection SPECIAL Clamp.



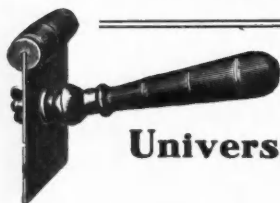
Hargrave's Joiners' SPECIAL Clamp.



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THE CINCINNATI TOOL CO.,

CINCINNATI, O., U. S. A.



STARRETT

Universal Scraper

Eight sharp cutting edges. Instantly adjusted by ball joint connection. Blade may be instantly set at any angle. Neatest and best scraper made.

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

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No. 108 Automatic Drill

The design of this Drill embraces all the features which our many years experience in the manufacture of such tools has shown to be desirable. It is made from selected materials and its construction is first class in every respect.

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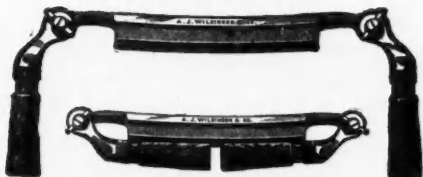
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THE FOLDING DRAW KNIFE

It's the Draw Knife for close packing
Takes but little room in your kit;
"Out of sight", or very nearly
And all the workmen say it's "It".

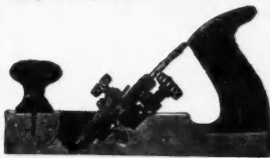


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The Only Self-Setting Plane

Over 25 years ago we commenced to make the Self-Setting Planes. They are shewed in every state and Canada. Thousands of carpenters use them doing work easier, better, quicker, saving time, trouble and temper.



Every issue of this paper has had our ad. in it. If not sold in your town, we will send you a Beech wood plane on trial on receipt of one dollar less than list price, and if you return it at our expense within 30 days of receipt we will refund your money. If you want more than one we will allow you dealers' discount.

In writing, if you mention this paper and send us the addresses of 10 plane users—no matter where they live—we will send you a carpenters' hard tough pencil. If you send us a 2-cent stamp we will send you two pencils.

Remember this trial will cost you nothing if you return the plane at our expense, as per circular. We will not knowingly send to consumers where our planes are being sold. This offer is good while this ad. appears.

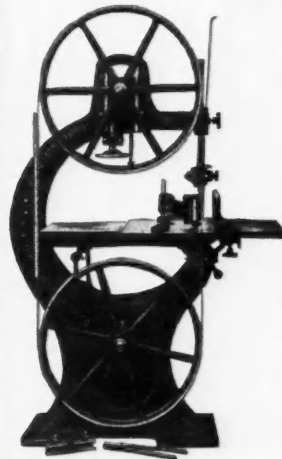
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GAGE TOOL CO., Vineland, N. J.

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Secrets of Successful
Band Sawing by

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



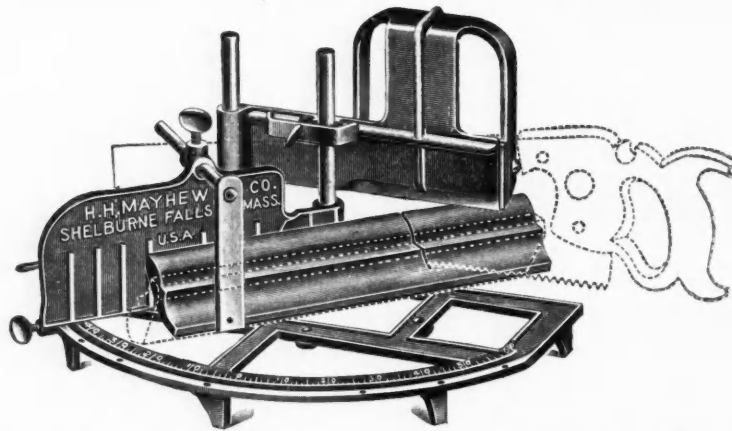
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Send for a copy before
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We illustrate fifteen
new model machines.
Here is one, \$95 net,
complete with all im-
provements as shown in
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machine to show economy in the general wear
and breakage of saws **here you are.** Our
catalog will tell you all about it.

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MAYHEW 60° MITRE BOX



This box embodies more distinctive features than any other made
 Designed for Simplicity, Accuracy, and Durability.
 Strictly a right hand tool for mitering.
 Box embodies a new feature in reversing the principle commonly used on other boxes.
 Any of three saws may be used — Panel — Hand or Back saw.
 Saw guide adjustable for any thickness of saw.

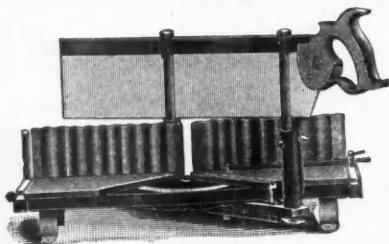
Extreme mitre to 60° without makeshift. May be used as a stationary or pivot box by use of the pin posts.
 In mitering duplicate cuts there is no restriction on length.
 Will cut compound mitre.
 Parts take down into space 10x10x4 inches.
 Weight 15 lbs. complete.
 Box contains full directions for use.

PRICE EACH, \$10.00

H. H. MAYHEW COMPANY, SHELburne FALLS, MASS.

GOODELL MITRE BOX

Made of STEEL - Cannot Break



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

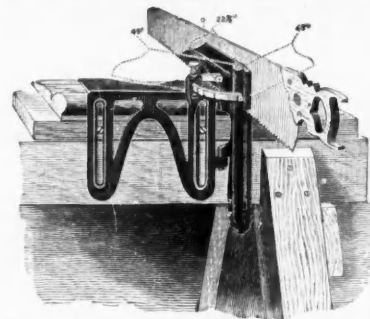
GOODELL MFG. CO., Greenfield Mass.

"SEAVEY" Mitre Box



MEETS EVERY REQUIREMENT

Cuts any Angle



Weights 2 Pounds

Portable — can be carried in the Tool Kit.

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

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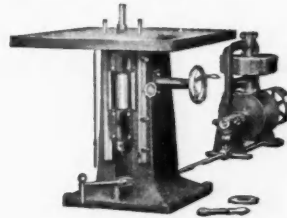
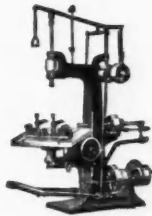
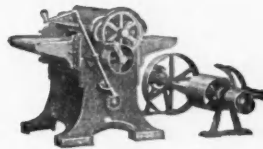
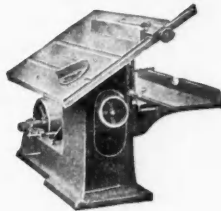
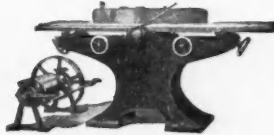
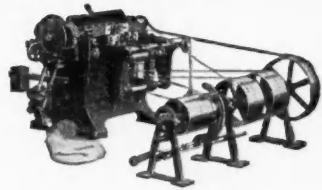
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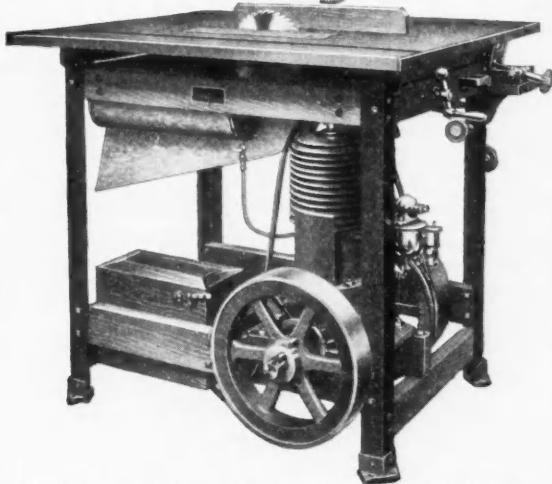
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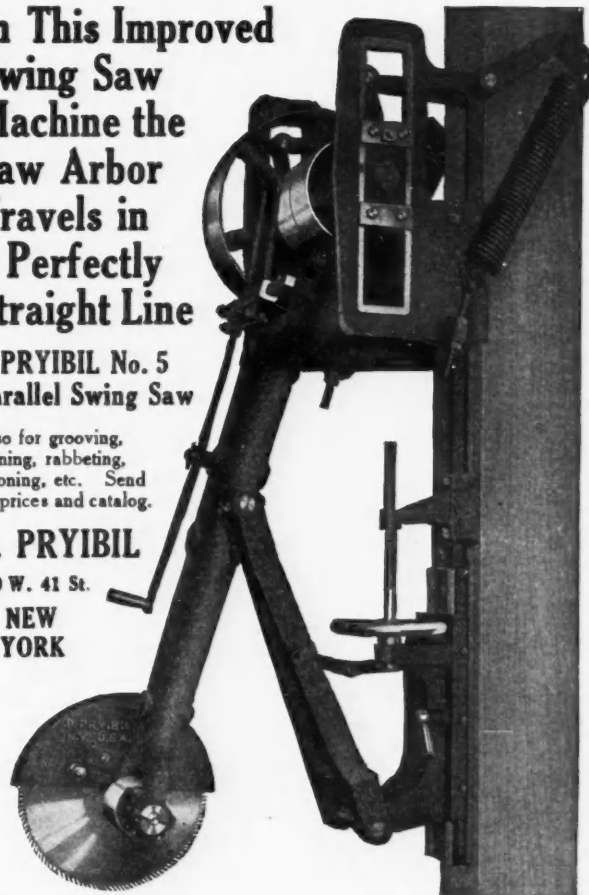
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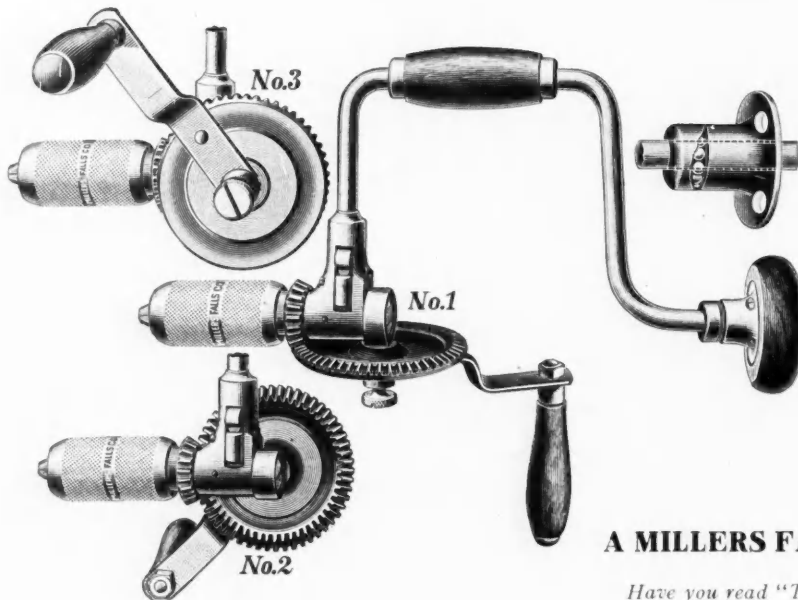
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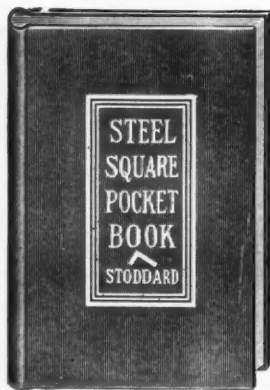
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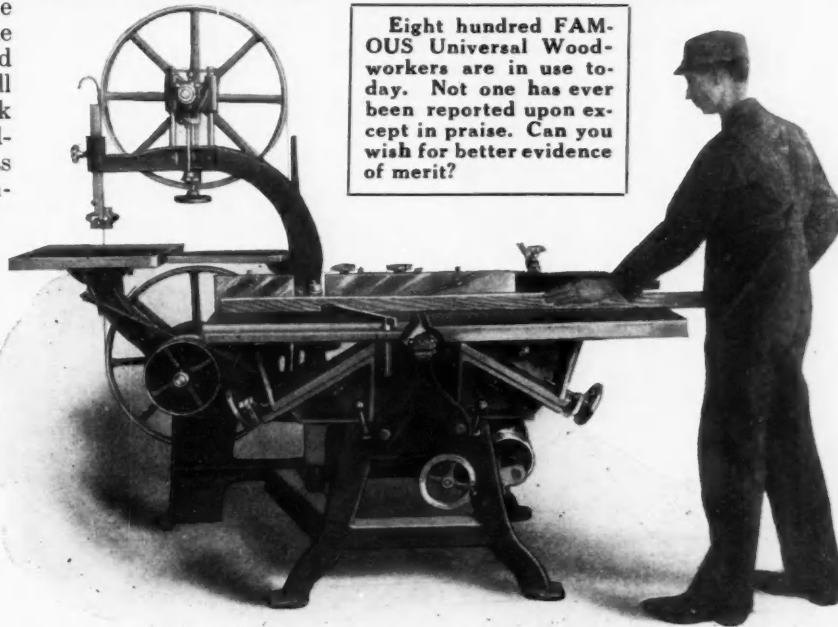
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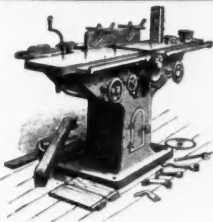
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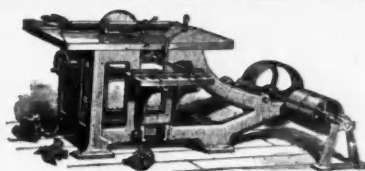
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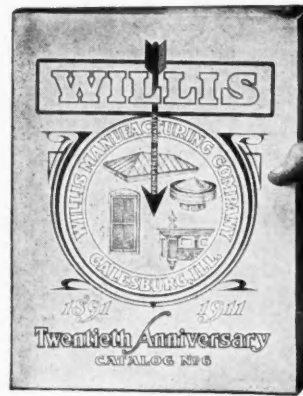


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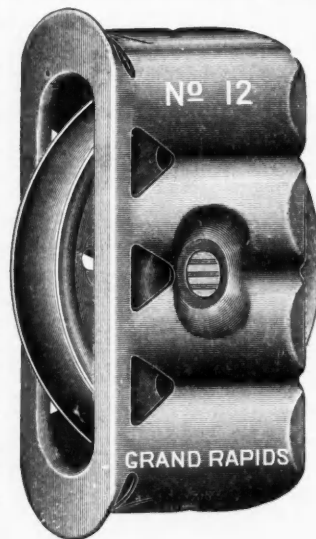


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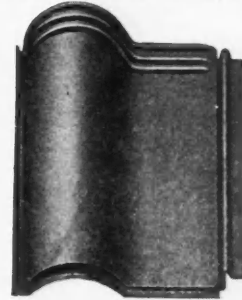
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Is being advertised in the leading magazines and is now known to thousands of home builders and owners everywhere. Wherever it has been used it has made a decided "hit" because it shows off to good advantage on the roof and has numerous points of superiority over any other style of roofing.

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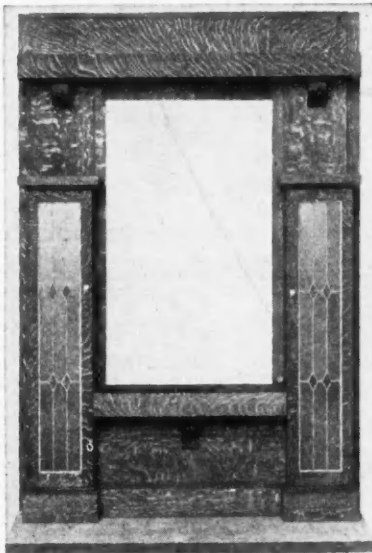
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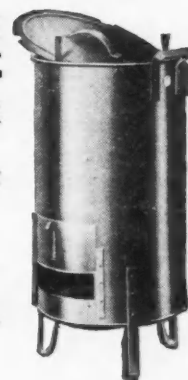
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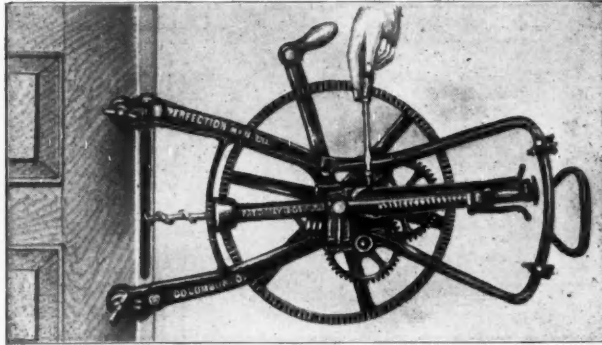
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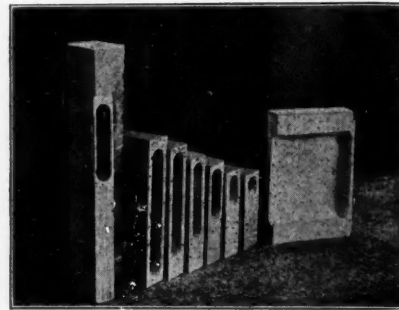


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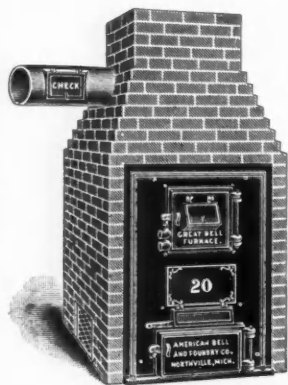
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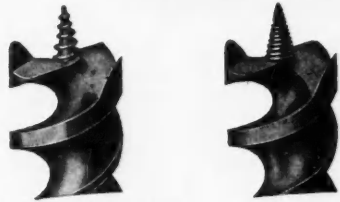
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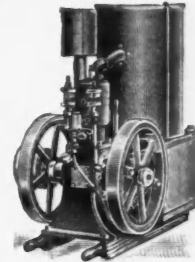
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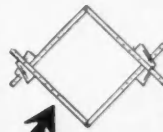


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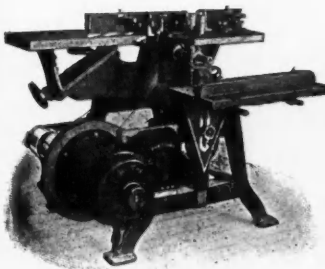
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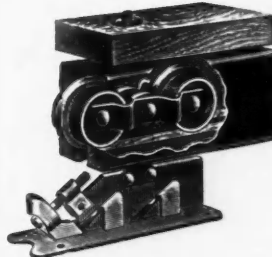
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ELEVATORS**

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Mechanically Correct

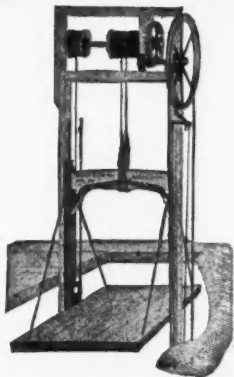
Dumb Waiters, Carriage and Store Elevators, Sidewalk Hoists, Etc., Etc.

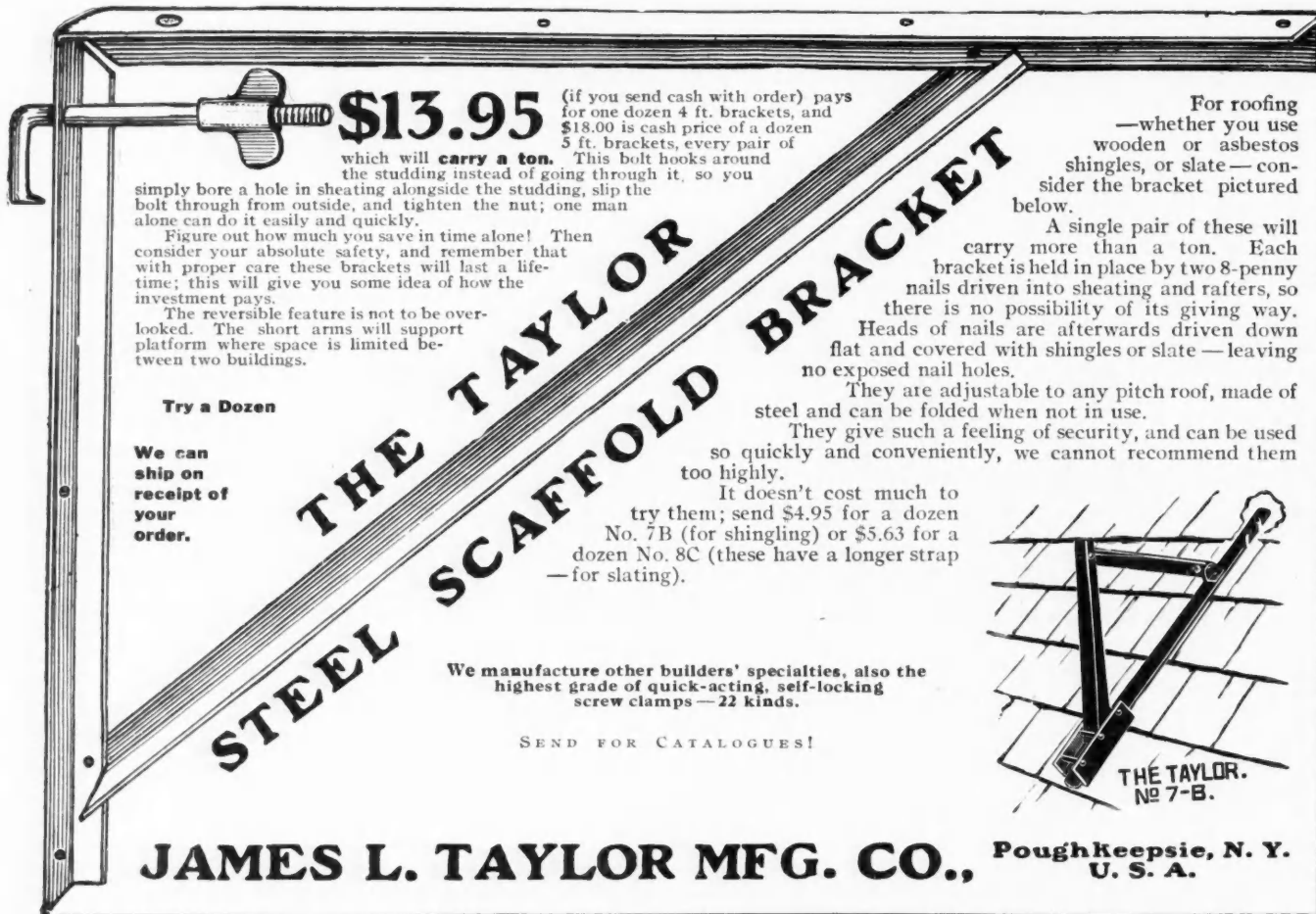
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We can ship on receipt of your order.

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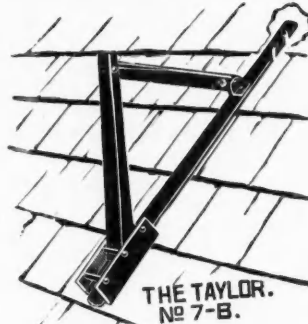
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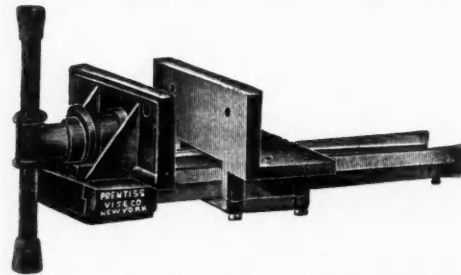


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Some builders buy a Dumb Waiter Outfit and then build the enclosure to fit it. Others build the enclosure and then build or buy the Dumb Waiter to fit the enclosure.

The Sedgwick Machine Works carry in stock catalogue sizes of Dumb Waiter and Hand Power Elevator Outfits for prompt shipment (within twenty-four hours of receiving order) and make up promptly special sizes when stock sizes cannot be used. They sell complete outfits or any dumb waiter material wanted and every builder should keep their catalogue for ready reference, as it contains much valuable information resulting from their fifty years' experience as specialists in Dumb Waiters and Hand Power Elevators. Catalogue "K" sent free on request to Sedgwick Machine Works, 128 Liberty Street, New York.

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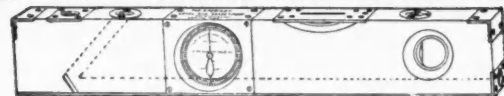
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TRADE **FOX** MARK



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

**Bench and
Floor Type**

"Universal"

**Wood
Trimmers**

**To Meet Every
Demand**



Height of Cut - - 4"
 Width of Cut - - 8"
 Size Bed - - 7 1/2"x17 1/2"
 Weight - - - 32 lbs.
 Price - - - \$22.50
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EVERY PATTERN SHOP, INTERIOR FINISH MILL, FURNITURE FACTORY, and others doing work requiring **perfect glue joints** and **angles** should have our Trimmers or Miter Machines to produce the best results.

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

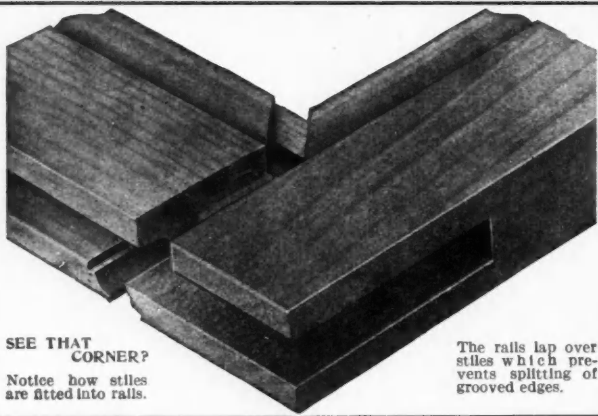


We have had a Chemist experimenting for years to originate a purity of steel with a fine grain and tough body that would stand up under such a fearless warranty as we place on our "GREYHOUND" brand of saws. We now have it. We know its worth as well as its value. As workers of steel we understand it.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

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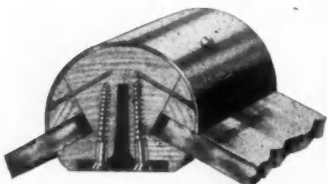
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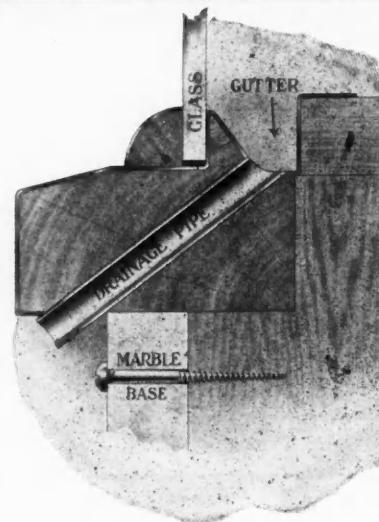
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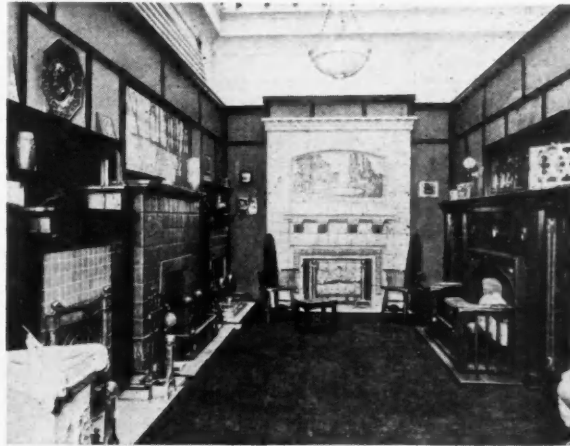
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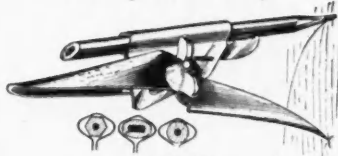
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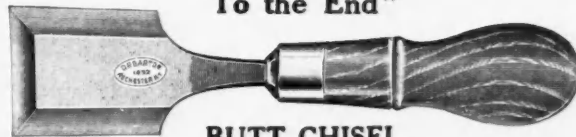
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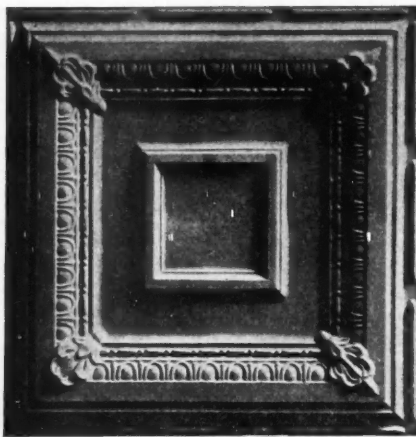


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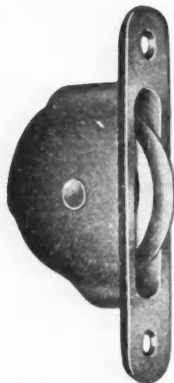
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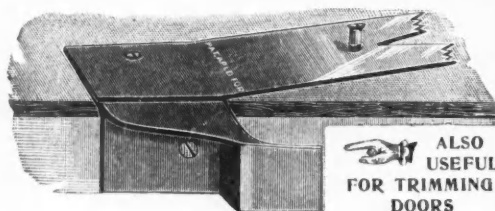
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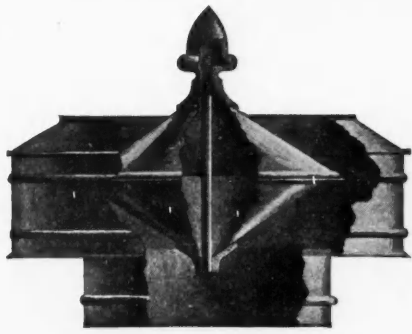


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Pat. April 25th, 1911

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If your dealer does not handle our goods and will not order them for you write us. We have something to offer. We prepay express.

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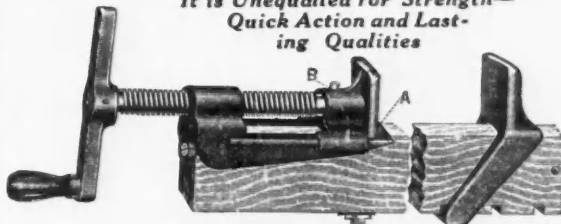
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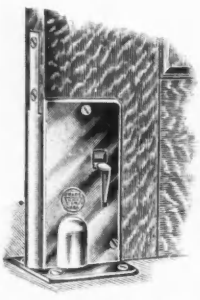
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Chicago "Relax" Spring Hinges

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Chicago Spring Butt Company.

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SIX INCH SOLID LAP
SAFEGUARD
Granite ROOFING

A six inch lap is better than a three inch lap. It gives better protection against leaks and permits nailing down on the under sheet only, so that no nail heads appear on the surface. Otherwise this is the same Granite Roofing that we have sold for 26 years for use on great factories. It is immune from damage by coal smoke or cinders, and it has a sea grit surface which makes painting entirely needless. Behind it is a reputation that has Passed the Quarter Century Mark.

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We have just issued a booklet called "Saw Points" that will show you the proper way to care for your Saw. Every user of a saw should know how to care for it, as a saw won't saw unless it is properly set. A saw will render poor service if not kept in good condition and a saw, to obtain the best results with the least possible effort, must be properly set and sharpened. Send a postal for our booklet No. 9, "Saw Points." It will tell the correct method of using the Morrill Saw Set.

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Building Paper**

American Carpenter and Builder

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

Published on the first day of each month by

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VOL. XII.

OCTOBER, 1911.

No. 1

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"Harmony Committee" to Pass on Plans

A PLAN that is worth considering and possibly worth trying is to be adopted in a suburb of Los Angeles, to insure harmonious building.

The present unsatisfactory method of attempting to secure the best artistic effects in exclusive tracts by means of a high building restriction is to be discarded for a more novel scheme.

This is no less than a "harmony committee," to be composed of the property owners; and this committee will critically scrutinize each others architectural plans and make such suggestions as are expected to bring about a unified theme of beauty.

As quickly as a person buys a lot he becomes a mem-

ber of the committee. He submits his plan for a home, and this is studied over to see whether it will harmonize with the central scheme of making this resident tract much like world-famous parks in Europe. Any jarring element of architecture will be pointed out and, presumably, altered. There is a desire not to have a discordant feature in any of the houses.

"The adoption of building restrictions was for the purpose of securing a certain standard of type," said the promoter of the idea, "but this has never been satisfactory. It is unfortunate, but true that wealth and taste are not always concomitants. All too frequently the man who makes the most lavish display of wealth when he builds his home erects only an eye-sore to others. Now, it is proposed to obviate this. We believe that it is better to have a tasty, artistic \$10,000 house on an exclusive building tract than a \$30,000 conceit that jars the nerves."

Fall Painting

THE chief reasons why "Fall is the Best Time to Paint" have never been better stated than in the "Five Reasons for Fall Painting," issued some years ago by the Educational Bureau of the Paint Manufacturers Association:

"1. In the Fall, the surface is thoroughly dry. During the Spring a surface which needs repainting is sure to contain moisture and dampness or frost, and it cannot be successfully painted until it has thoroughly dried out.

"2. When the wood is dry, it absorbs more of the paint; the paint penetrates deeper into the wood, therefore gets a firmer hold on it, giving the paint coating greater tenacity or holding qualities.

"3. Paint cannot be as successfully applied in damp, cloudy or unsettled weather, as in warm, sunny weather. In the Fall the weather is more settled and uniform and is warmer, therefore it is an excellent time for painting.

"4. A house needs its protecting coat of paint more in the Winter months than at any other time. A house in need of painting should never be allowed to go over the Winter without this protection.

"5. It is easier to keep the Winter's moisture and dampness out by applying a coat of paint in the Fall, when the surface is dry, than it is to get moisture or dampness out of the wood if you want to apply a coat of paint in the Spring.

"Moral: Paint in the Fall, and be sure of best results."

Unless the prophets of the paint trade are mistaken, the whole trade is going to enjoy a record-breaking business this Fall. Last Fall and Spring prices were increased on account of the higher cost of oil and other raw materials. It would be foolish to try and "dope out" how high or how low oil will go this Fall—but the prospects are encouraging. Property owners who have gambled on the price of oil going down are now realizing that paint is necessary insurance and they're going to paint this Fall regardless of price.

Use of Odd Lengths

THE investigation carried on last year by the U. S. Department of Agriculture, cooperating with the lumber manufacturers in the South, to determine the saving that can be effected by using odd lengths of lumber as well as even, has begun to bear fruit. That investigation showed that a material saving was practicable, and at a recent meeting of a southern lumber manufacturers' association the fact was brought out that a beginning has been made in putting the new plan into practice, and that an increase in the sale of odd lengths is anticipated for the near future.

It was formerly the custom, and generally is so still, to sell lumber in even lengths only. Waste resulted from cutting off the ends of odd lengths to make them even. A considerable percentage of a sawmill's output is defective. That is, boards have bad knots, decayed spots, or split ends, and the defective parts are cut out. To make an even length of what remains, it is often necessary to cut off a foot of good wood with the bad, and it is wasted. The practice of marketing odd lengths, as well as even is meant to lessen this waste. The sale of odd lengths of lumber will frequently lessen waste in the woods also; for example, a log may be cut fifteen feet long, which following the old custom, would be cut only fourteen, and the extra foot would be left in the woods.

The introduction of odd lengths meets with opposition from many builders who are prejudiced in favor of even lengths simply because they have never used any other kind. Nevertheless, there are many places in which odd lengths are more economical than even ones—for instance, where nine-foot studding is used. Following former custom, the ends must be cut from even lengths to make the timbers fit. Some manufacturers of flooring successfully sell odd and even lengths, thus lessening the waste in the woods, at the mill, and in the construction of buildings.



ONE reason some people can't rest is because they don't work enough to become tired.

The Bias Puppy

Once I had a little dog
Named Elias,
And I think that he was cut
On the bias.
There was something wrong,—at least,
Running north he pointed east—
Such a slanting little beast
Was Elias!—*Success.*

May the Example Spread

"Why does that woman always put her chin in her hands when she is in deep thought?" "To hold her mouth closed so she won't interrupt herself."

In the Gloaming

"Henry, tell me the old, old story."
"Well, it was this way. Our team was doing fine until the seventh inning, and then our pitcher blew up."—*Washington Herald.*

The Queerest Ones

"I suppose," said the city man, "there are some queer characters around an old village like this."
"You'll find a good many," admitted the native, "when the hotels fill up."—*Louisville Courier-Journal.*

Best He Knew

Old Rocksey—It seems to me you could do better than to come here asking for my daughter's hand.
Impecune—I don't see how I could, sir. I wouldn't earn as much money as she is worth if I worked a hundred years.—*Lippincott's.*

The Old Story

"Had every cent taken last night. Woke up hearing some one in the room. Reached under the pillow for my revolver, but didn't shoot."
"Why didn't you?"
"I'd probably be a widower if I had."—*Judge.*

Going Down

A series of revival services were being held in a western city and placards giving notice of the services were posted in conspicuous places, says Lippincott's. One day the following notice was displayed: "Hell, Its Location and Absolute Certainty. Thomas Jones, baritone soloist, will sing, 'Tell Mother I'll Be There.'"

\$3,500,000 to Train Boys to Become Carpenters and Builders

By Arthur L. Williston

Principal Wentworth Institute

TWO courses are usually open to the young man who stops his studies at the grammar school period and asks himself in all seriousness what he is going to do for a living. He must either follow in the footsteps of his father or grandfather, if they were carpenters, builders or mechanics, and apprentice himself to some neighbor as an errand boy in a shop, or he will make a systematic study of the opportunities of trade school education in a practical and business-like way lay the foundation for his career. In either case, like seven of every eight boys in the United States, he faces life with an average of less than an eighth grade education.

In this article we shall not deal with apprentices or the success which accrues from being connected with some first-class workman who has learned his trade of carpentry and building in the hard school of experience; rather do we commend those who have won out so well in spite of the handicaps which a system of apprenticeship offers.

The question at hand is what would be the results

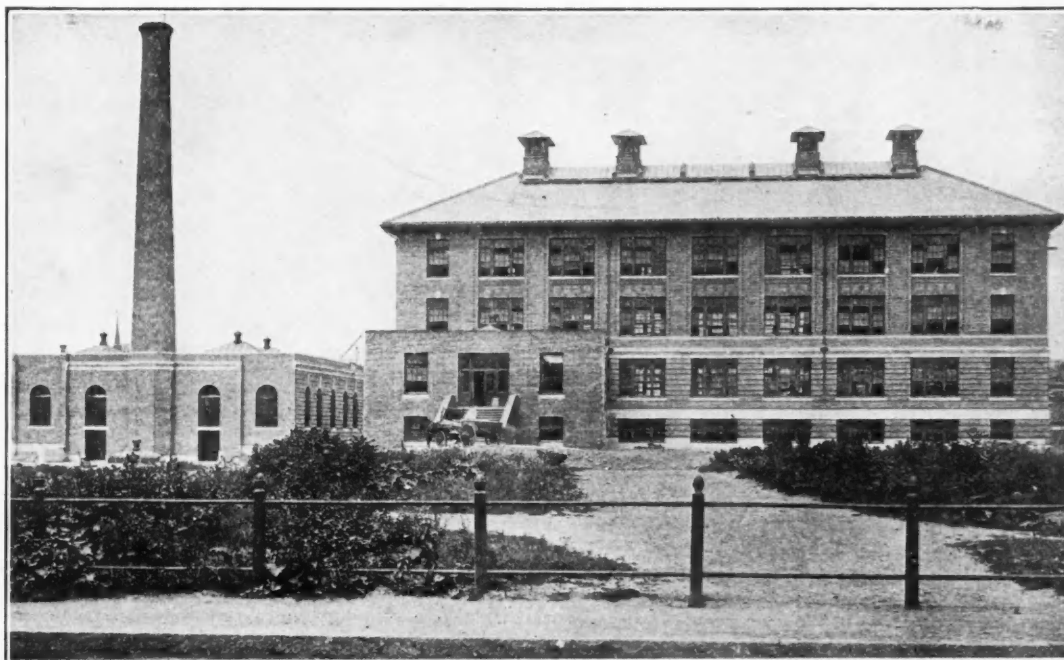


Principal A. L. Williston

if these boys were trained in the technical schools provided free by many of the states? What would they earn as they go along through life and how would they stand in competition with thousands of skilled workmen? Would not a system of education which would insure a young man certainty of reaching a position where he might have regular employment at the maximum wages be of incalculable value inasmuch as it saves time and brings that young man to an ample wage-earning capacity at an end of a comparatively short period of study?

These are the important questions which the board of directors of Wentworth Institute, of Boston, have been considering and are now putting into practice in their new institution. Let it be understood at once, however,

that they do not expect to replace practical experience at trade, which measure is necessary before one can become a thoroughly competent mechanic. But what they do aim to accomplish is to materially shorten the time required for the young man of average intelligence to lay a secure foundation so that when he comes into actual contact with work his ad-



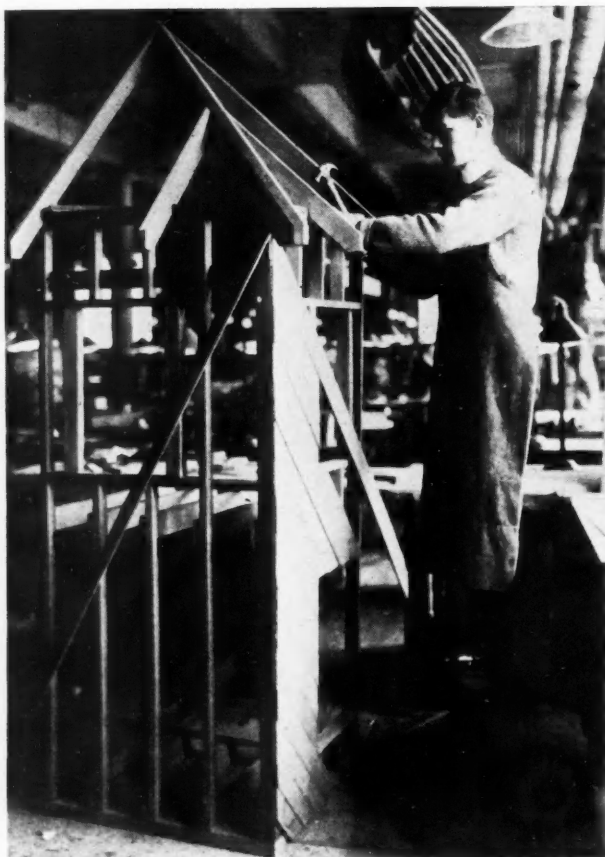
The Initial Buildings of Wentworth Institute

vancement will be more rapid than he possibly could have secured under apprenticeship methods. On the other hand, those who already occupy positions of importance in factories, wood-working mills or big furniture concerns, who feel that their progress is slow, may, by applying themselves according to the systematized methods of this unusual school, prepare to fill positions as foremen and superintendents.

Founder of the School

Arioch Wentworth, former owner of one of the largest marble industries in the United States and a resident of Boston, first exploited the idea of an institute founded along these lines. So interested was he in the project that at his death he bequeathed the sum of \$3,500,000 to build this unique educational institution. A corporation was formed in 1904, and the purpose to which this school was to be put is found in Mr. Wentworth's own words "education in the mechanical arts."

Wishing to leave the principal of the endowment unimpaired the trustees waited until last October before breaking ground for the erection of the buildings and in this way have utilized only the income from Mr. Wentworth's legacy. The school opens its doors the latter part of September. Particular attention was given to the building of the foundry and the main shop building, which is 145 feet by 49 feet. In this building, which is five stories high, windows occupy two-thirds of the wall space, thus insuring to the occupants the maximum amount of light. In this build-



To Teach Carpentry and Roof Framing

ing also is located the carpenter shop, pattern shop, machine shop, blacksmith shop, plumbing shop and electric wiring room. Other space here is utilized for smaller shops used in the list of courses in applied science; and ample space for thorough demonstrations of electrical appliances, power plant operation and building instruction are also available. Extending to



Practice in Woodturning

the South of the larger building is a small wing containing administrative offices and further, the power house 80 feet square. Outside the equipment the buildings have cost \$250,000, and as yet form but a small part of the original plan of the architects.

As the instruction in this school is designed to cultivate intelligence while at the same time it gives the students skill and dexterity in the handling of tools, the training, whether in long courses of two years or the shorter ones of a year, is aimed directly at the development of the reasoning faculties. Men will be taught to think and find relations of the objects of thought with an immediate awareness of those relations. In every case methods which give a superficial knowledge or a trifling familiarity with details of the building trade arts will be avoided and a student's success must depend upon his personal initiative. Both day and evening courses are available; the evening courses following practically the same order as the day. For a more business-like working out of this educational system, the day courses of instruction will be of two types, the short one-year of the apprenticeship grade and the two-year course for those who already have a certain amount of actual experience or wood-working training.

There are special studies in Carpentry and Building, including shop practice in carpentry and building, joinery, roof framing and stair building, woodturning and mill work; architectural drafting and wood working details; practical mechanics, roof trusses and transmission of power as applied to wood-working machinery; practical talks and laboratory demonstrations; and, practical mathematics, shop computation and estimating from plans and specifications.

Shop Practice in Carpentry and Building

While a good many young workmen consider themselves "handy with tools" few can take an architect's blue print, lay out work from it and successfully run up even the framework for a building. This is one of the first things taught in the school in an effort to familiarize the prospective carpenter with the designs of the architect. The making of doors, window frames, sashes and blinds, the laying of floors, the mitering and coping and bending at unusual angles alike are taught as tests of the builder's skill. Instruction in shop practice and building has coupled with a lecture on the methods to be followed. An illustration of the method might be as follows: Supposing Mr. A. is about to build a barn on his premises. To begin with the student will have to learn Mr. A's idea. He consults him, jots down notes as to length, breadth, height, etc., discusses various kinds of wood and the interior arrangements, number of stalls, feed bins, harness closets, drainage features, etc. In fact, he learns all that he can as to just exactly what sort of a barn Mr. A. wishes. The student then lays out a plan, drafts the elevations and makes many detail drawings of doors and windows or special parts of the building until he has a complete set of working drawings such as are supplied by architects to builders. When the drawings are complete he goes to the shop and selects the woods for uprights, beams, scaffolds,

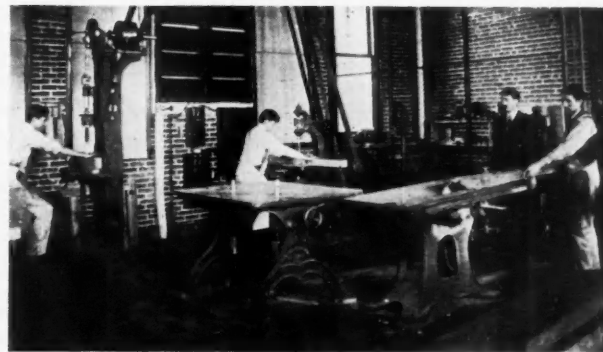


Working out Spiral Handrail for Colonial Stair

etc. Meantime, the student has listened to a lecture on the properties of different woods, their defects, methods of seasoning and the qualities required for the different purposes.

He begins at the laying of the sills, floor stringers and uprights, and at the same time he is being impressed by the instructor as to the exact

reason why each beam or upright is so placed. The advantage over the apprentice system is demonstrated when the young carpenter not only knows how to do a certain thing, but why he does it. When the building is boarded in and the roof completed, the door and window frame inserted and finished, the student takes up the interior arrangement. During these various stages he has consulted the plumber and learned the position of drains, water pipes, etc., and why they are



Machine Woodworking Department

so placed. In this manner the student continues until he has mastered the details from the first drawing to the finished building.

In architectural drafting and the reading of blue prints the instruction is designed to teach the workmen how to interpret rapidly the drawings of architects and builders, and to work from them with confidence rather than to turn out architectural draftsmen. The same methods pursued in builders' offices where they lay out full-size work from scale drawings will be followed. The student will also be required to make a sufficient number of scale drawings to enable him to understand the different views and their relation to each other. Any young man, therefore, who is anxious to take up the wood-working trades or who is desirous of bettering his position will find in Wentworth Institute new and thorough systems of instruction. Students are also taught to make rough sketches of cabinets, pieces of furniture or other features pertaining to the trade.

Under the system of instruction in the Wentworth Institute a student will be required to estimate quantities of material from architects' plans and specifications, and in addition to this will have to make out bills of materials for work done in the shops, with proper allowances for finish, waste, etc. He will also have to figure up all costs and keep actual account of every detail. Work here will include at the same time a variety of useful and practical computations on subjects immediately related to the instructions which the students are receiving in the shops and laboratories. Under the apprentice system young men were trained to give "rough estimates" of what a certain piece of carpentry would cost. No man can afford to guess what his profits are going to be or take chances with a piece of first-class wood-work.

BETTER BUILDING

WHY AND HOW



LAST month on the Front Cover we had something to say about Better Building. The campaign was launched against Cheapness in Building Construction—which is all too common; and the case was put for Quality—since it results mutually in Profits and in Satisfaction, both to the Builder and to the Owner.

Now we want to take up this Better Building proposition more in detail.

We believe that we are absolutely right when we say, "To Build Well is the Only Real Economy." We believe the facts and figures will prove this. We propose to find out.

Skilled investigators are making a careful study of each of the important lines of materials that enter into the building, finishing and equipping of a modern house. Each month one of these will be discussed in this department. Hardwood doors and trim; builders hardware; paints and varnishes; modern plumbing, heating and lighting equipment; grates and mantels; roofings; foundations and waterproofed basements; insulated construction; etc., etc., are some of the lines to be considered, taking up both the materials themselves and the best practice in construction and installation.

What have been your experiences in connection with any of these? Will you write and tell us? And are you with us in this Better Building Campaign?—Editor.

The Economy of Hardwood Doors

ONE of the surest gauges of the suitability of any commodity for the purpose intended is the measure of its popularity. Take it with hardwood doors, for instance. The fact that they are now insisted upon as a matter of course in the cities and towns where they have been introduced, and that architects, owners and builders alike unite in recommending them to their friends who are about to build, is certain proof that they are highly satisfactory and are considered a good investment.

Without much noise, blowing of trumpets, or brass band parading of any kind, the hardwood veneered door is making more progress today than any other one article manufactured from wood. It is increasing in volume steadily and continuously at such a rate that it is doubtful if anyone can keep up with it, even to the point of making a correct record of its progress.

The explanation of this remarkable progress is to be found in the fact that the builders of modest homes have taken to hardwood doors. They cost only a little more than the solid pine doors. When a prospective home builder goes into some newly finished home and sees hardwood doors, the pine doors are no longer attractive and he wants hardwood doors immediately.

The aim of every home builder is to have the interior of his home rich, beautiful and harmonious at a small expense. These desirable requirements are determined by the kind of furniture and woodwork in the various rooms. Doors are the most conspicuous

furniture in a room. If they are common, old-style, and poorly finished, no matter how beautiful and valuable the rest of the furniture may be, the room will lack harmony and have a cheap appearance.

Such a house is a poor investment. The demand for it when offered for sale or rent is strictly limited; for most people today want hardwood.

The quality of the entrance and doorways of a home reflect the personal taste of the owner. When you choose doors substantially made by high-grade cabinet workers, designed correctly and adapted to the general style of architecture of your building, you create an effect which makes a favorable impression, strong, pleasing and lasting. The door looks well; "it is a source of beauty forever;" the door hangs true so that the opening and shutting of it is a real pleasure; the door shows no signs of wear or weather; it is solid and honest—an artistic and useful door which does credit to its surroundings and gives a tone of refinement by its satiny, rich finish.

Thus it comes about that the economy of modern hardwood doors arises first from the satisfaction and pleasure they produce which brings them into great demand by renters and buyers. As one speculative builder, operating in one of the Chicago suburbs, expressed it, "Yes, we use nothing but hardwood doors. If they were twice as expensive as they are we would still consider them a good investment; for the buyers will have 'em."

The nice part about it is, too, that they are not—compared with ordinary cheap doors—expensive. The leading hardwood door manufacturers have developed the business on such an immense scale that they are able to turn out this high-grade hardwood product at practically the same cost as the poorer soft woods.

An example of the progressive, wide-awake business policy of these hardwood door manufacturers, which policy is now bringing their products within the reach of all, was recently in evidence. It appeared that the enormous demand for a certain well-known brand of veneered doors in large cities was not being duplicated in the country and small towns on account of the lack of confidence in the painters to properly stain and finish the hardwood doors and trim. This manufacturer accordingly announced to the trade that he would establish a complete finishing department and give to the rural and small city buyer an opportunity to secure his doors and all kinds of interior trim, stained and shellacked, ready for varnish.

Millwork stained and shellacked ready for varnish can be handled in exactly the same manner as in the white, and requires no more labor or expense at the building. This manufacturer considered it a privilege and pleasure to extend, in this manner, to the small city and rural home builder an opportunity to beautify his residence or cottage on a par with the artistic in-

teriors of city dwellings at a cost easily within the reach of all.

The hardwood door of today is usually a veneered door. Now and then may be found a solid door, but these are exceptions and are made to order to satisfy a sentimental rather than a structural requirement. There are doors with thin hardwood veneer, some with thick hardwood veneer, doors with plain hardwood veneer and doors with extremely fancy veneer very carefully matched and artistically finished.

The standard door is veneered with hardwood veneer one-eighth of an inch thick. In the fancy door, taking mahogany and other figured woods, thin veneer is used, because it is not practical to get it in the standard thickness of the door stock. Also, there is a disposition now in building doors for outside, to use a heavy veneer. Some of it is made as thick as one-fourth of an inch on the theory that it will resist the moisture better and there will not be any likelihood of veneer peeling off, a thing which sometimes happens when thin veneer is used and the door is exposed to the weather on the outside.

In the veneer door manufacturing world proper, birch is the first wood that became conspicuous in the making of the hardwood door. Then came oak, and now we have gum, and the rivalry among these three popular native woods promises to be quite lively in the future.

The Verdict of Our Readers

Hardwood Brings Satisfaction

To the Editor: Thornville, Ohio.

In reference to your article in September number on hardwood doors and finish, will say that I find that the builder who uses hardwood is as a rule better pleased with the job.

I am with you in the Better Building Campaign. And would be glad to receive any advertising literature or instructions from the advertising committee of this movement, if you can hand them my name.

WALTER C. STOLTZ,
Contractor and Builder.

O. K.—If Standard Make Doors

To the Editor: Grinnell, Iowa.

I read with interest your announcement of a Campaign for Better Buildings and the more extensive use of hardwood doors and trim. Will say I am glad to learn you have taken this up, for as a builder of 27 years experience, I know that there is plenty of room for improvement of work done both in the mill and on the job.

I note that you are quite an advocate of veneered doors. So am I, if honest workmanship and good material are employed in their construction. But I am sorry that all veneered doors are not so made.

Now, to back up the above statement, will say I at one time finished up a dwelling in which all doors on first floor were oak veneered. One of them went wrong; the veneering loosened up and we then removed it. Could then plain see the sham make-up of the core. Now this core was built up of any length stuff—some not more than 6 inches long, and

of very near as many different kinds of wood, and that too, the very poorest kind, being shaky, some sappy and some full of knots and resin. And the bottom rail, the bottom piece at that, was made of two pieces—one knotty yellow pine and one piece of basewood—both woods which rot very quickly when exposed to dampness and wet. This was an outside door, too; and furthermore, the pieces, while being of different kinds of wood, did not fit together by $\frac{1}{4}$ inch or more, leaving a bad gap to collect dirt and dampness, and thereby hastening the destruction of the door.

Now, the bottom piece of bottom rail should be good, sound material and of one piece; and this piece as well as entire bottom of door should be thoroughly painted with two coats of good lead and oil. This is most always neglected and the door will absorb moisture. Veneering will then loosen and the lower rail rot, and will sooner or later result in serious damage to the door. All of which could have been prevented by using honest material and a little paint.

Now, the door which I refer to was not made by an exclusive door factory, but by a general planing mill concern, that furnished the mill work complete for the building in question. The balance of the doors bore the name "Morgan" and were much superior, both in material and workmanship. Now, I might also mention I have also used the "Korelock" door and have found it a good, reliable door.

Now, while I have found some veneered doors quite unsatisfactory, I do not wish to be understood as condemning all veneered doors, for if properly designed and honestly built there is none better. But like every good thing, the veneered door business is imposed upon by the unscrupulous

manufacturer who, at the sacrifice of quality, will build up the case of any old thing and with their inferior goods enter in competition with the honest manufacturer.

And quite often they will find a retail dealer who will help them palm off their bogus goods on the building public.

G. J. SHUSTER,
Designer and Builder.

Honesty in House Building

To the Editor:

Chicago, Ill.

The attitude of the home-buying public toward honesty in house building and along the lines of your Better Building Campaign is thus graphically displayed by the enclosed clipping from a recent number of *House Beautiful*.

"No layman should buy a house without its first being examined by a competent architect," declared an authority on being asked to sympathize with a friend whose recently purchased, newly-built suburban home necessitated extensive and expensive repairs. It was one of several dozen attractive houses making up a little colony in Westchester and called, say, Ashley-Burton Manor or some equally high-sounding name, for high-sounding names go far towards selling real estate. There was no doubt as to the picturesqueness of the houses in question; they had the appearance of having been designed individually. To be convinced of their merits one had only to glance at an old, contractor-built row of twenty narrow little peaked wooden houses, which, all connecting, all precisely alike, and flush with the street, stretched their dreary ugliness just beyond the 'Manor's' sacred precincts, and which, so prospective purchasers were told, were soon to be pulled down. Meanwhile they acted as a most convincing foil for the newly completed concrete and shingle 'cottages de luxe' offered for sale. How could young couples in search of a 'nest' probe beneath that surface attractiveness of 'English' brick fireplaces, chestnut wainscoting and ceiling beams, small panel and broad muntined windows, and the ubiquitous pergola? Or, if the more cautious had misgivings, were not these quieted by the builder's assurance that his brother, who designed the houses, 'was formerly with McKim, Mead & White.' Such an assertion, to those who know nothing of the large floating army of inferior architects taken on temporarily by every large firm in a rush season, is convincing. Perhaps it still consoles the residents of 'Ashley-Burton Manor' as they contemplate cracked walls that were papered before the plaster had dried out; fireplaces too shallow to permit of a draught; wainscoting all shrunken; because the wood was unseasoned; front bedrooms icy in winter because they were

built over verandas without the precaution of felt flooring, or on pergolas prone because they were planted in only a foot or less of earth.

"A few—but only a few—of the colony have discovered that for the entire collection of thirty or forty houses, only three or four different plans were used, the rest being merely variations of these—a difference of material, or a veranda on the side instead of the front, or the house placed endwise instead of lengthwise to the street, or some other treatment that disguises its close relationship to its neighbor, yet to the knowing, proclaims the whole scheme a contractor's job. The 'Manor,' in short, is simply a degree better in the way of jerry-building, than the frankly commercial 'row' beyond (for of course this eyesore has not been and probably never will be removed, unless by 'act of God or the Nation's enemies'). Meanwhile those purchasers who have grown tired of rebuilding their homes and would like to sell cannot find a customer, because the original developer of the property still goes on erecting houses equally pretty in the neighborhood and offering them, as well he may considering the discounts and 'rake-offs' allowed to contractors, at a price that would mean great loss to the man who has, since acquiring his place, spent a large sum in making it habitable. It is too bad that the commendable ambition to 'own your own home' should be taken advantage of in this cruel way, but it might have been avoided had intending purchasers hired an architect to go over the house first and report on its honesty of construction and quality of the material. Indeed, if contractors knew that their work would be submitted to such an examination before purchase, the knowledge could not fail to force them into more scrupulous methods."

CHAS. P. RAWSON,
Architect.

Like Stand for Better Building

To the Editor:

Chicago, Ill.

We desire to congratulate you most sincerely on the improved tone of your last issue. We believe that any efforts you may make towards brick construction will be to the benefit of the entire country, not alone to the property owner but to the builder, as well, because it will leave an entire line of creditable jobs to his credit, which will not become eyesores as the years go by. Better construction in buildings means less insurance, less loss of property and life from fire and more permanent realty values. You have our best wishes for your success.

INTERNAT. BRICK & CLAY PRODUCTS EXPO. CO.
By F. L. HOPLEY, SEC.

Importance of Building Contractor "In Community Development

OUR esteemed contemporary, the *American Lumberman*, has been effectively campaigning under the slogan "There's No Place Like Home" to encourage local building and community development through local resources. The local newspapers in many sections of the country have taken up the idea; and reports reach us that good results are being accomplished. Civic pride has been touched; and this has caused the overhauling and repair of old buildings. Also home building has been urged—with a resulting noticeable increase in the amount of business done by the carpenters and builders and by the lumber and material dealers.

All of which is at it should be, and deserves our highest praise.

Somewhat along the line of our own stand in the *AMERICAN CARPENTER AND BUILDER* for "Better Building" and touching the important position occupied by the carpenter-contractor in the building world today, this leading lumber paper presents the following:

"Of all the influences that promote home buying and home building the local contractor must be acknowledged to be, if not actually the most important, at least among the most important. Comparatively few dwellings are constructed by day work and the confusion that arises in the building of those few is so great that the owners seldom care to repeat their experiences. The logical tendency seems to be toward placing substantially all important construction work in the hands of contractors skilled and experienced in the work.

Building a Business in Itself

"The owner who undertakes to hire his own masons, carpenters, plasterers and painters soon discovers that the mere keeping an adequate force of men at work requires his undivided time; whereas, the contractor, having many jobs going on at all times, is able to shift his workmen from one job to another as the progress of the work requires. This advantage possessed by the contractor inures to the benefit of the workmen, in that they are given steady employment, which they are not sure of when they work for the owner himself. Anyone who has noted the expedition with which a competent contractor puts up a building as compared with the unsystematic manner in which an owner carries on his own construction work realizes the advantages of letting the contract for whatever construction work he may have to be done.

Contractor Can Encourage Construction

"Besides the advantages the contractor has in performing construction work itself, he is in a position to promote and influence construction work. Everybody has seen 'additions' made to villages, towns and cities which never went beyond the platting. People will not build just because land is laid off into building lots. On the contrary, hundreds of people, though living in rented houses, buy lots and allow them to remain vacant for years, partly because they do not know the great advantage of an improved lot over a vacant, and partly because they do not know that generally if they own the lot in fee they can borrow money to erect a house on it. Sometimes, perhaps often, speculators buy lots in an addition with purpose to hold them vacant until they have been enhanced in value by the constructing of houses on adjoining lots. This speculation not infrequently totally defeats the purpose of the person who makes the addition; his intention being, presumably, to encourage the building up of a residence section.

"All of these difficulties are obviated by the contractor who either owns the land that is divided into town lots, or who has such a working agreement with the owner as to admit of his constructing dwellings on the lots and selling both houses and lots when he can find purchasers. It is in this direction that the contractor can do the most efficient work in promoting home building in his locality, at the same time taking to himself not only the profits on the labor of his various artisans but another profit on the sale of the house itself.

"The possibilities in this form of real estate promotion are limitless, and they are open to the contractor as to no other person. There may be contractors that have not the capital requisite to undertake this method of promoting building. But for such it should be possible to effect some kind of working arrangement with the local lumberman that will operate to the pecuniary benefit of both.

"However numerous may be the difficulties to be encountered, the interests of the lumberman and contractors are in all essentials identical, and they should be able in all cases to agree upon plans that will enable the lumberman to furnish the contractor lumber to construct all the houses that he can find purchasers for on satisfactory terms.

"The contractor who builds houses to sell is in a position to advertise extensively and if he is wide-awake and enterprising in his methods he will get more gratuitous advertising than anybody else. If a pleased customer is the best advertisement the building contractor has the opportunity to profit by this form of advertising. When a family once has bought a home all of its members see the folly of paying rent and they immediately become missionaries among their friends to induce them to build. What more natural than that they should build near by? In fact, what more natural than to buy of the same contractor? This 'endless chain' of results that follow from the construction and sale of a single home inevitably works to the benefit of the contractor. He not only sells more houses but he is enabled to sell them at higher prices.

Building Stimulates Building

"Moreover, building in one section of a town stimulates building in other sections, and the enterprising contractor cares little in what sections he undertakes construction. It does even more than stimulate construction—it stimulates repairing and remodeling of old houses. Let the contractor put up a few modern houses and some owners of old fashioned houses will want to sell their old and buy modern houses; others will want to remodel their houses, and all in all the contractor is the one man who gets the work coming and going.

"Real estate activity is contagious, as all observers will testify. When real estate is active the contractor's harvest is near. Whatever influence, therefore, the contractor is able to wield to promote activity in real estate will redound to his pecuniary benefit.

"It will be seen from what has been said that the avenues open to the contractor are almost innumerable, and that the opportunities for promoting his business are practically limitless. Given the requisite knowledge of the contracting business and the requisite capital—though with the former present the latter should be readily available—all that is required in addition is advertising. No advertising medium is better than the local paper for that purpose. But if in addition every vacant lot in the home town has a large sign-board bearing an announcement that Contractor Jones will build a home for someone on it, people in that town soon will know that Jones is there, they will think about building homes if they haven't them already, and ultimately Jones will reap an abundant harvest from the advertising seed thus sown."

PLANING MILL WORK

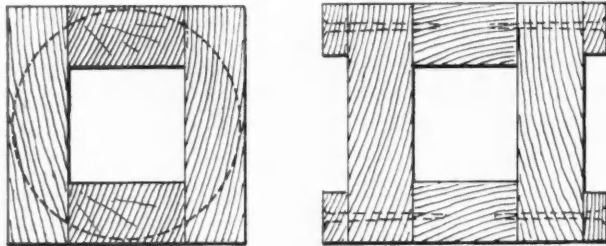
More Shop Kinks

NUMEROUS PRACTICAL HELPS, HINTS AND IDEAS ON MILL WORKING, CABINET MAKING AND CARPENTRY WORK FROM THE EXPERIENCE OF A SHOP FOREMAN

By William C. Jasbury

A GAIN I will "come back" and try to keep up the good work with a few woodworker's ideas.

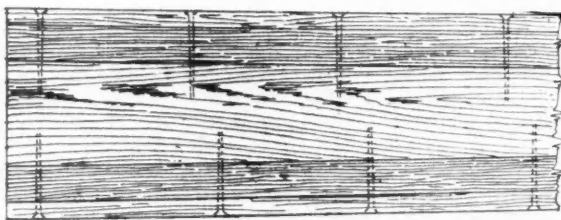
To Construct Columns. In the course of my work, I have to make many columns for interior and exterior; the exterior columns are usually staved, but for columns with 10-inch diameter, or



Box Column Before Turning;—Screw Substitute

under, I box them up. Now, this takes a number of hand screws and if there are many columns to make, I run short of screws, so here is my emergency method.

First, joint the sides to the required size and shape; glue together, then nail strips, or waste edgings along the sides near the edge of the wide sides, using big-headed nails. The heads pull the

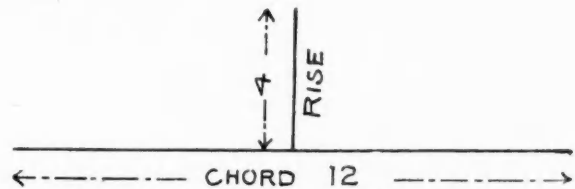


Side View of Column Showing Strips Nailed on

joints together. Then after good and dry, I rip off the strips and pull out the nails.

Suitable for Carving. Nearly all piano carvings are made of hazel or gum wood, because it cuts both ways of the grain under the carvers tool. When carvers work by piece work they must have a fair show.

To Find the Radius. Many times mechanics have no little amount of work trying to find a radius center; take for instance the case where you have the chord and rise to find the radius. Mathematically I have found this rule a good one and not hard to memorize.

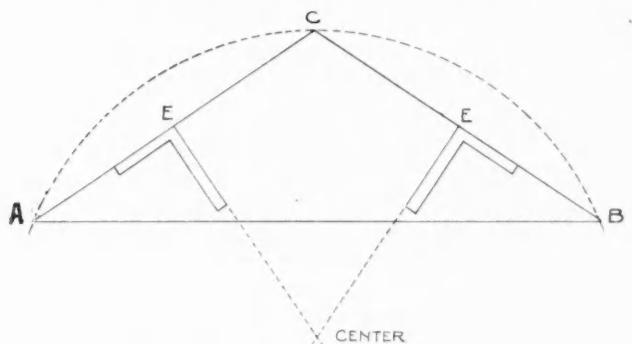


Chord and Rise Given; to Find Center of Circle

Square half the chord, $6 \times 6 = 36$,
Square the rise, $4 \times 4 = 16$,
Add these two, $36 + 16 = 52$,
Divide by rise, $52 \div 4 = 13$.

One-half of this gives radius, $13 \div 2 = 6\frac{1}{2}$,—Answer. This saves a lot of guess work trying with a rod and driving nails at different places trying to find the radius center.

The Same by a Steel Square Method. Draw a line from A to C and C to B and bisect these lines at center, as at E and place the steel square as shown

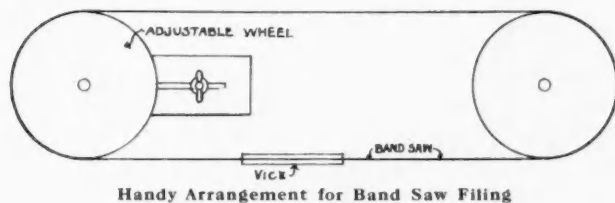


Chord and Rise Given;—to Find Center with Steel Square

on both sides and continue the line from the blades as shown; where these lines cross will be the radius point. A B C are the given points in the first place.

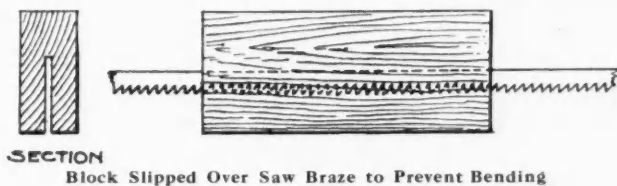
To File Band Saws. A good scheme for filing band saws is to have a pair of wood wheels eighteen inches

in diameter, one at each end of the bench, one adjustable and the other fixed, stretch the saw over these, then as you file the length of the vise, you can just



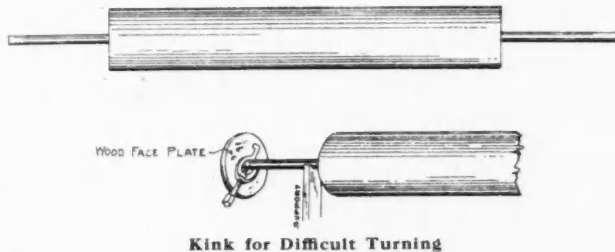
give the saw a pull to another spot. This saves doubling up the saw.

I find it a good plan to have a small piece of wood with a kerf in same to slip over the braze on a band saw when taking off the machine for filing, etc., as the



saw is always soft at the braze and the block keeps it from bending.

Overcoming a Difficulty. Sometime ago I had some rolls, or drums to turn that were 8 inches in diameter and 10 feet long with a 2-inch steel shaft through the center projecting 18 inches at each end. In order to fasten these in the wood lathe, the only



kind a planing mill has, I had to use two point centers, one for the head stock and one for the tail stock. Then I borrowed a dog (lathe) from a machine shop, slipped the dog on the shaft and screwed a wood face plate on the mandrel of lathe with a hole in the face for the arm of the dog. Then while roughing off the drum, I found that the bearings were so far apart that the drum chattered, so that I could not work it. I then put a spruce support under the shaft at each end to carry the weight of the drum and merely used the centers to hold it in the lathe.

Speaking about planing mill accidents. I know a cutoff man who had his balance weight on a swing saw over his head. It came loose and fell on his shoulder, putting him in bed for three weeks.

I saw a fellow running an old fashioned (iron) C. B. Rogers Railway cutoff saw; the weight (used to pull back the saw) dropped on the driving pulley while in motion. It broke the entire machine into small

pieces, so that it had to be gathered up into the shop baskets and carried out to the scrap pile and the operator never got a scratch.

The same fellow and I had a freak happening once. I was up on a ladder trying to put on a belt on a large pulley, while shaft was running. He was on the floor holding the belt on the pulley of a large wood table rip saw. The belt got wrapped around the shaft at the other end and got caught between the pulley and the saw table and as the shaft revolved, it wound the belt around it and lifted the saw table from the floor, all the way up to the ceiling and hung there when the engine was shut down. I got a fall from the ladder and all hands laughed. Can you beat it?

Concrete Form Work

Concrete has come to be almost the universal foundation material, especially for frame houses. Generally, too, it calls for some false work for the building of forms by the carpenter at least up to the ground level. Some foundation walls are made monolithic all the way up, but no matter whether they are solid all the way up or only to the grade level, they call for quite a lot of forms, and this in turn calls for the use generally of some of the lumber that must go into the building.

There are two common practices. One is to use sheathing lumber and some of the studding and the other is to use a smaller quantity of studding and use some of the joist stock for boarding instead of the sheathing lumber.

It should be remembered that there is considerable pressure against this false work by the concrete when it is being rammed in, and it saves framing to use two-inch stock from the joists. Of course, it messes up the stock. It does this, no matter whether one uses joist stock or sheathing. It makes it disagreeable to work afterwards, because of the grit, and also spoils its appearance.

Where sheathing is used one must put upright framing at least every two feet and preferably every 16 inches. Where joist stock is used for the boxing one can hold it with framing every three or four feet. This effects quite a saving in the quantity of studding it is required to use and also in the work of framing up.

If one has enough of the second story and attic joists to do the false work, it is better to use these than the first floor joists, for after they are put up they are covered over top and bottom and concealed, whereas the basement joists are exposed and the concrete sticking to them spoils their appearance somewhat.

Every builder should figure, too, on a certain amount of waste due to this foundation false work, because even though the lumber is used afterward there is some waste in cutting up and some waste incident to splitting, and there will be all told quite a percentage of waste in sheathing and in framing.

BRICK AND TILE WORK

Brick Veneer Construction

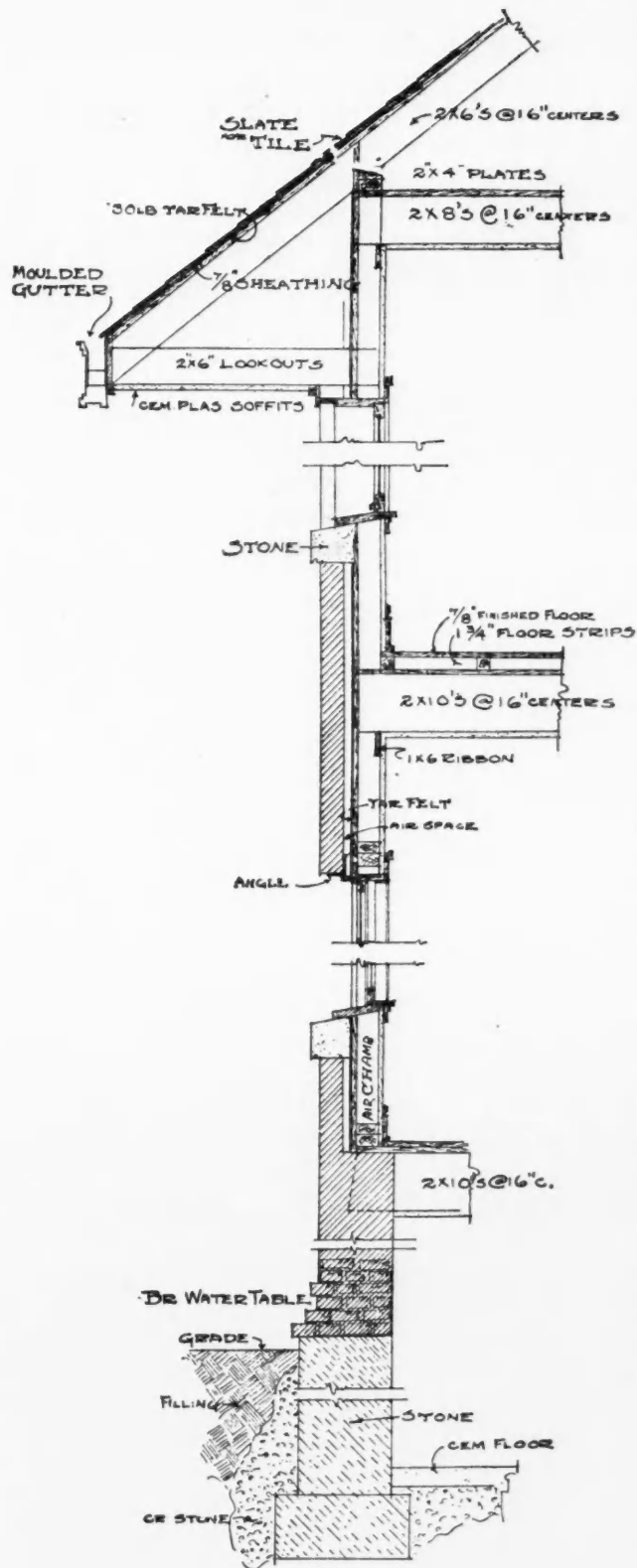
DETAILS OF AN IMPROVED METHOD IN USE BY ONE OF THE FOREMOST CHICAGO SPECULATIVE BUILDERS

IN MANY sections of the country a form of construction which is growing more or less in popularity, especially in connection with dwelling houses, is that in which there is an outside covering of brick over an ordinary frame structure, and commonly termed "brick veneer." The advantages of this construction when properly used are many, but prominent among them is the fact that it makes a warmer house in winter, while cooler in summer and a drier and more healthy house withal. In combination with a

slate, tile or other fire-resisting roof and well cemented eaves and soffits, and proper fire guards, brick veneer construction makes a semi-fireproof building and brings the rate of insurance on ordinary dwelling houses down to practically the same as a solid brick structure. It also makes a building much lighter than is the case where the walls are of solid brick and as a consequence they are not so liable to settle unevenly. This form of construction also has the advantage of being somewhat less expensive than the ordinary brick.



Fine Residence of Brick Veneer, Showing Present Tendency Toward the Colonial Style



Approved Brick Veneer Construction, as Used by a Prominent Chicago Builder

In the detail presented herewith, which represents a typical section of brick veneer construction, it will be noted that certain changes from the ordinary methods heretofore followed are indicated. The construction shown represents that which is being used in and about the city of Chicago by the C. H. Thompson Co., of

that place, and embodies many features which their experience as builders has demonstrated as desirable. Instead of using ordinary tar paper or building paper between the sheathing and the brick, a heavy tar felt is substituted, and instead of placing the brick directly against the sheathing, or very near to it, an air space, ranging from 1 inch to 1½ inches is left between the sheathing and the inner edge of the brick.

Again, the walls are solid from the grade line to the top of the first floor joist, whereas the average builder is prone to start the brick veneering from the grade line and run the frame work down to grade. In building the walls solid up to the first floor joist and putting in brick center walls an even bearing is assured with very little settlement for the entire first floor of joists. The balance of the house in actual carrying construction rests on 2 by 4's—those through the center of the house carrying spans of joist running from the top of the first floor joist, as shown in the accompanying section, to the attic, so that if the 2 by 4 studs in the outside walls shrink in length, the 2 by 4's in the inner walls will equalize this in their shrinkage.

The reason a brick veneer house is warmer than a solid brick building is due to the fact that there are two air spaces between the outside weather and the inner walls. It is the wisdom of ages that hollow walls are far warmer than solid walls and that an air space does more toward giving warmer rooms in winter and cooler rooms in summer than a solid wall with no air space.

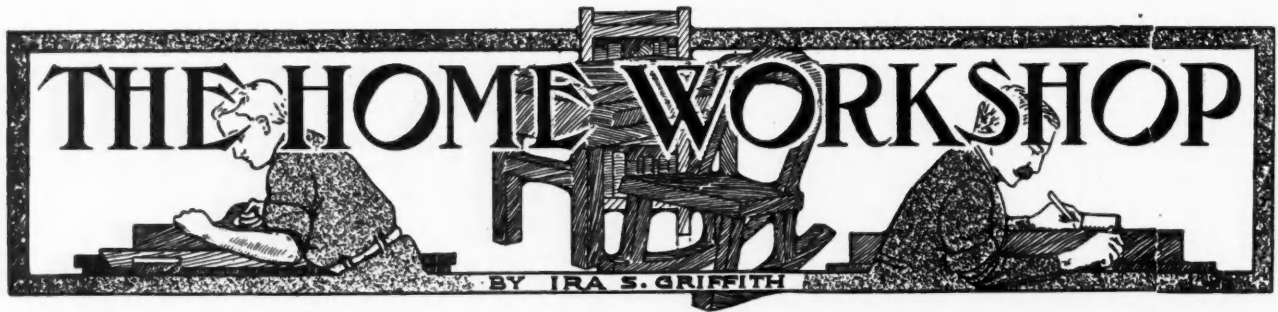
The veneering carries no weight whatsoever, as it all rests on the 2 by 4's. There is said to be less danger from saltpeter and free lime than in a solid brick building. Another favorable point is that with a brick veneer building it is much more economical than in the case of a solid brick building to make the breaks, bays and corners which may be necessary. A mason is apt to figure double footage for every break or corner placed on a solid brick building, where he will not on a brick veneer house. In connection with the work which the company named has been and is now doing in Birchwood and other suburbs of Chicago, probably half of the houses are brick veneer, while very few have walls constructed of solid brick.

“Dont’s” For Home Builders

Don’t invest in cheap plumbing and lavatory fittings. If you do you’ll soon discover it to be the most “expensive” economy you ever tried.

Don’t plan a wonderful variety of color schemes in decorating when the consistent use of simple color combination gives far more pleasing and decorative results.

Don’t forget that rooms designed after simple, straight lines lend themselves more easily to decoration, prove more sanitary and are less tiresome to live in than badly arranged rooms.



Arts Craft Bedstead and Screen

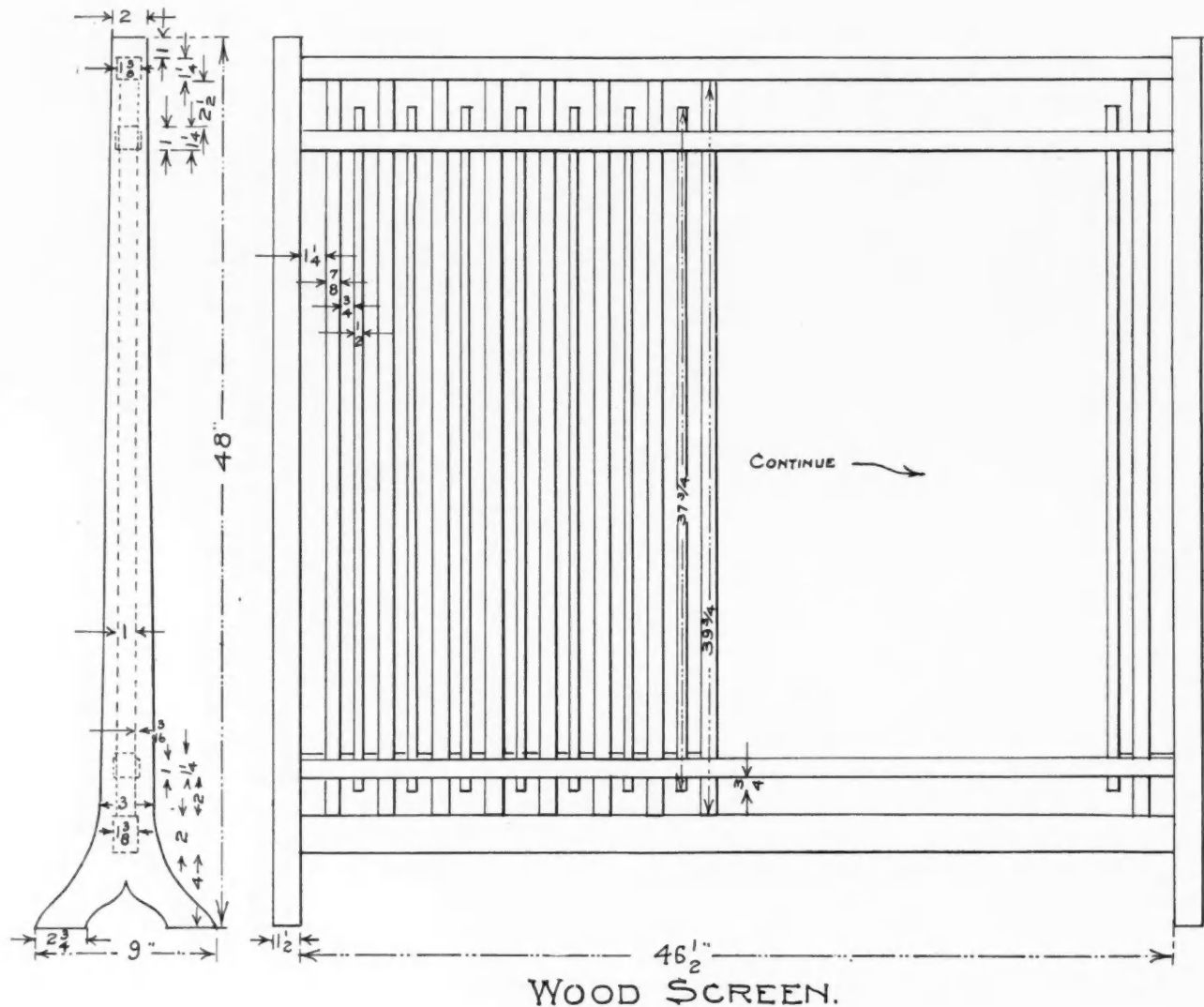
[WORKING DRAWINGS AND COMPLETE DETAILED DIRECTIONS FOR MAKING AND FINISHING THE PIECES OF FURNITURE SHOWN IN THE PHOTO

WE GIVE dimensions and drawings of two pieces of sufficient difficulty to tax the ability of the young mechanic. Their construction is not intricate but the screen will require some patience. The table and the chair in the foreground of the picture will be found dimensioned in previous numbers of the magazine should they be wanted.

Well seasoned quarter-sawed white oak will work up nicely into these pieces. For the screen there will be needed the following:

STOCK BILL FOR SCREEN.

Posts, 2 pieces, $1\frac{1}{2}$ by 3 by 49 inches, S-2-S.
 Additional material for feet, 4 pieces, $1\frac{1}{2}$ by $3\frac{1}{2}$ by 7 inches, S-2-S.
 Lowest rail, 1 piece, $1\frac{3}{8}$ by 2 by 48 inches, S-4-S.
 Second rail, 1 piece, 1 by $1\frac{1}{4}$ by 48 inches, S-4-S.
 Highest rail, 1 piece, $1\frac{1}{4}$ by $1\frac{3}{8}$ by 48 inches, S-4-S.
 Second rail, 1 piece, 1 by $1\frac{1}{4}$ by 48 inches, S-4-S.
 Facings for second rails, 4 pieces, $\frac{3}{16}$ by 1 by 47 inches, S-4-S.
 Verticals, 16 pieces, $\frac{7}{8}$ by 1 by $40\frac{1}{2}$ inches, S-4-S.
 Light verticals, 15 pieces, $\frac{1}{2}$ by 1 by $38\frac{1}{2}$ inches, S-4-S.



The first thing to do will be to shape the posts as indicated in the working drawing. When the required slant has been planed, the blocks necessary to build out the feet so that the shape specified can be got should be glued and clamped in place. Select the grain and place it so that it matches that of the post proper. When the glue has hardened these feet are to be shaped.

While the glue is hardening on the posts, the rails may be got ready. Saw them to length and tenon them so that they may be fastened to the posts.

Next, cut the larger verticals to length allowing enough so that their ends may be let in to the top and

Arts Craft Bedstead

The bed is described as rather massive. If desired, these dimensions can be so modified as to give a lighter effect.

STOCK BILL FOR BEDSTEAD.

Posts, 2 pieces, 3 by 3 by 55 inches, S-4-S.
 Posts, 2 pieces, 3 by 3 by 47 inches, S-4-S.
 Side rails, 2 pieces, 1 by 5½ by 76 inches, S-4-S.
 Stead rails, 2 pieces, 1 by 7 by 39 inches, S-4-S.
 Stead rails, 2 pieces, 1 by 4 by 39 inches, S-4-S.
 Stead rails, 2 pieces, 1¼ by 3¼ by 39 inches, S-4-S.
 Stead rails, 1 piece, 1 by 3¼ by 39 inches, S-4-S.
 Slats, 14 pieces, ¾ by 2¼ by 20½ inches, S-4-S.



Boys' Room Furnished with Arts Craft Pieces that can be made in the Home Workshop
 COMPLETE DETAILED DIRECTIONS AND WORKING DRAWINGS FOR THE SCREEN AND BEDS ARE GIVEN

bottom rails somewhat, three-eighths of an inch. It is intended that these verticals shall be halved into the second rails which they cross. Make this halving and fit the parts together before laying out the mortises in the top and bottom rails into which the ends of the verticals are to be let.

When the halving has been done and the ends of the verticals let into the rails and the rails tenoned into the posts, the facings may be placed so as to cover the lap joints as indicated in the drawing.

It is intended that the back side of the screen shall have fastened thereto a panel of some non-transparent textile. If for a boy's room, as the one in the picture, it may have some appropriate design placed upon the screen.

The finish which will be described for the bedstead will be equally appropriate for this screen.

Square the lower ends of the posts, measure the lengths and then shape the tops as shown. Cut the rails to length. The side rails are not to be tenoned into the posts, but are to be so worked that metal fastenings, such as are used on wood beds, may be attached. The rails for foot and head are to be tenoned well into the posts. The slat will need to be tenoned into the cross rails.

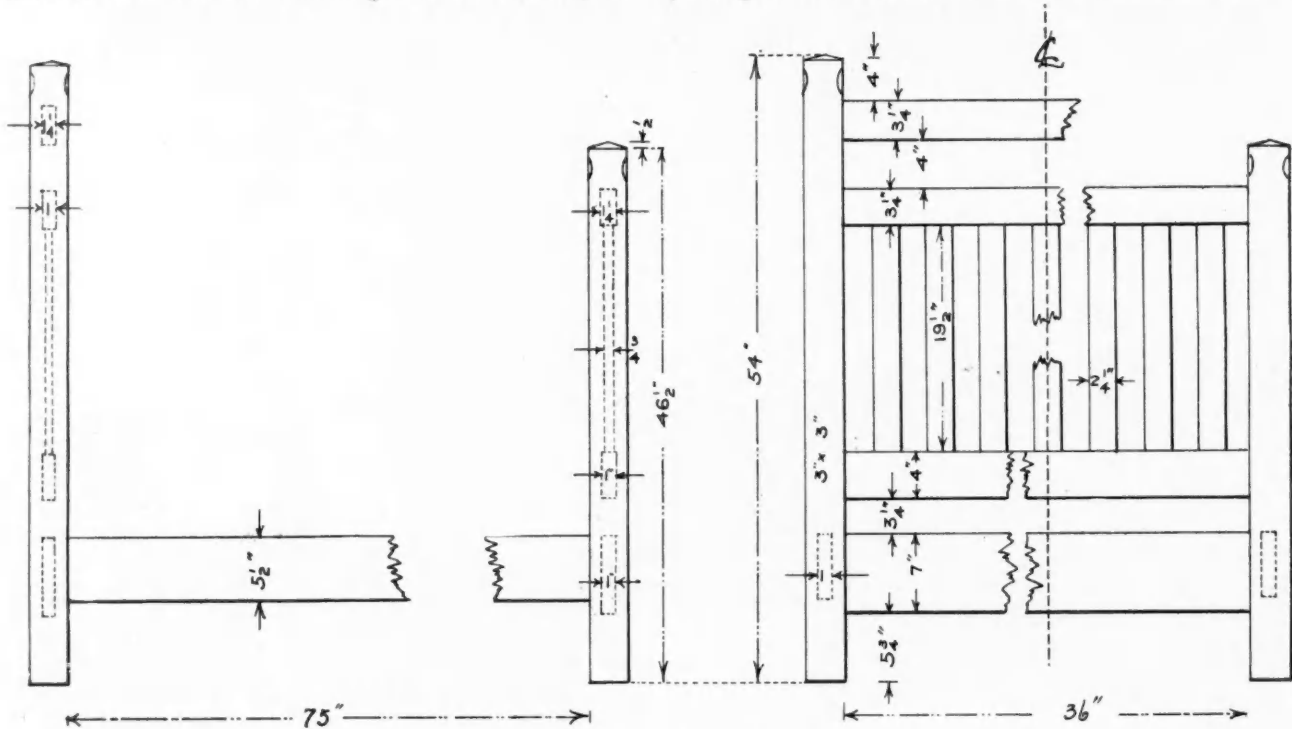
In laying off the mortises it will be well to set the posts up in the positions they are to have relative to one another. Mark the approximate locations of the mortises, as with penciled circle. After this has been done the posts may be taken down and placed side by side on the bench and the accurate measurements be made without danger of misplacing the different mortises.

When the glue of different parts has set, the surplus

should be carefully removed preparatory to applying the finish. It is a subject for debate as to just how much in the way of preparing for the finish should be done before assembling the parts. Some workers prefer to do all scraping and sanding after the parts are put together; others prefer to do quite a little of this kind of work before assembling. Whichever way is

over night, apply a coat of orange shellac. Sand this lightly then apply several coats of some good rubbing varnish. The first coats of this varnish should be rubbed with curled hair or hair cloth and the last with powdered pumice stone and raw linseed oil or crude oil.

Other effects may be produced in a similar manner by using different stains and a filler to match the stain



ARTS CRAFT BED STEAD

followed, all the surplus glue must be removed and the parts left smooth and clean.

How to Finish

An appropriate finish is obtained as follows: Put on a coat of brown Flemish stain. Allow this to stand until it is dry, then sandpaper it lightly with number 00 paper. For a nice job this sanding may well be done though the stain is other than water. A water stain will take much sanding but even the other stains are helped by a little judicious sanding. The next step will depend upon what the owner wants. If he wants a contrasty effect, that is, if he wants the flakes of the quartering to stand out from the background strongly, he should apply a very thin coat of shellac next. The shellac being thin does not fill the grain so as to interfere with the filler which is soon to be applied, but it does seal the pores of the high-lights, the flakes, so that the stain in the filler will not discolor them. If the soft effects, such as are so often desired in mission and arts craft furniture, are wanted no shellac should be used here, allowing the stain of the filler to tone down the high-lights into the background color.

If shellac has been used, sand it lightly with fine paper. The next step consists in applying a filler colored to match the stain, but of darker tone. The manner of applying filler is indicated on can.

When the filler has hardened, which usually takes

used. The finish produced by the stain suggested is what is known as Brown Flemish. Most Flemish stains are quite intense as to color. This produces a pretty dark, almost black, effect. Many people prefer the lighter Flemish. This can be got by diluting the stain. If water stain, add more water. If oil, add more turps. If spirit, add more alcohol.

Why Do Men Fail?

Sometimes because they are rascals, but more often from one or more of these reasons: Oversmartness; unwillingness to labor and wait; acting from policy rather than from principle; undue haste to get rich; want of punctuality; incorrect views of the great end and aim of life; idleness, shirking of hard work; giving undue attention to affairs outside of regular business; a desire to take things easy; want of a thorough knowledge of business; lack of enterprise; living beyond one's means; going into business too young; fast living—bodily, mentally, spiritually; dishonesty in little things, as well as great; lack of attention to details; having no definite object; disposition to float down stream rather than to row up; lack of appreciation of the golden opportunities of life; mistakes in the choice of employment; too many irons in the fire; lack of judgment in giving credit; unwillingness to begin at foot of ladder and climb.



Putting up Interior Trim

SOME SUGGESTIONS FOR INTERIOR FINISHING—TWO FULL PAGE DRAWINGS TO SCALE SHOWING DETAILS OF BOTH ELABORATE AND SIMPLE TRIM

THE manner in which inside finish is put up varies with the quality of work desired, and also greatly affects the appearance of the work, particularly when it is stained or finished in its natural color. In painted and other ordinary work, the different parts of the finish are simply nailed to the wall or grounds, and to the edge of the frame. The heads of these nails are sunk beneath the surface of the wood and puttied. In order to conceal the nail holes as much as possible, for they are usually visible even when well puttied and painted, the nails should be driven in the quirks of mouldings when possible. In nailing a hard wood finish, the hole should be bored for the nails in order to prevent splitting.

In ordinary work the finish usually comes in pieces of random lengths of from twelve to sixteen feet. No casing or architrave, however, should ever be spliced, as this is not considered admissible even in the cheapest work. It is well, in order to avoid as much nailing as possible, to have many members of the trim glued together on the bench, and this should be required in all good grades of work.

In order to hasten the completion of a building, and to make the inside finish "stand" better, it is customary to fill the finish before fixing it in place. In good work it is usually painted on the back also.

Excepting in the very cheapest work, the finish should not be put up as it comes from the machine, but should be first smoothed and sandpapered. This, on all plain surfaces, should be done with a smooting plane if of soft wood, and with a scraper if of hard wood. The surface should then be sanded. On moulded work most of the smoothing is done with sand-paper. Most of the woodworking establishments have polishing machines for the smoothing of plain surfaces, and this work is always superior to hand smoothed work, but very little polished finish is ordinarily sent to a building except where the entire finish is worked and put together at the mill.

One of the most important requirements, in the

putting up of the interior finish is, that the joints should be as tight and inconspicuous as possible. There are various joints used in connecting interior finish and fittings. Work is usually said to be butted, mitred, matched, coped, housed, or glued according to the kind of joint used.

A butt joint is the easiest and at the same time the least desirable joint made. It is simply the butting of one piece against the other, and the slightest shrinkage will cause the joint to open. It is also difficult in making this kind of a joint to keep the two surfaces joined in exactly the same plane.

A mitre joint, used principally in making the exterior angles, is made by beveling the parts joined, so that the plane of the joint bisects the angle. The mitre when skillfully done makes a handsome joint, but is apt to open at the inner edge. To prevent this the joint should be glued, and in the best kind of work it should be doweled.

A tongued and grooved joint is a form of joint in which one edge is grooved and the other has a projecting tongue which fits it. Boards, tongued and grooved are called "matched," and when one edge is beaded they are said to be "matched and beaded."

A coped joint, which is used only in connection with mouldings, is made by cutting the end of one moulding to fit the profile of the other. A coped joint has the advantage over a mitred joint in that the joint does not open as badly in case of shrinkage.

A housed joint is one in which the end or edge of one member is wholly let into a grove in the side of the other. This joint is used principally in stair work.

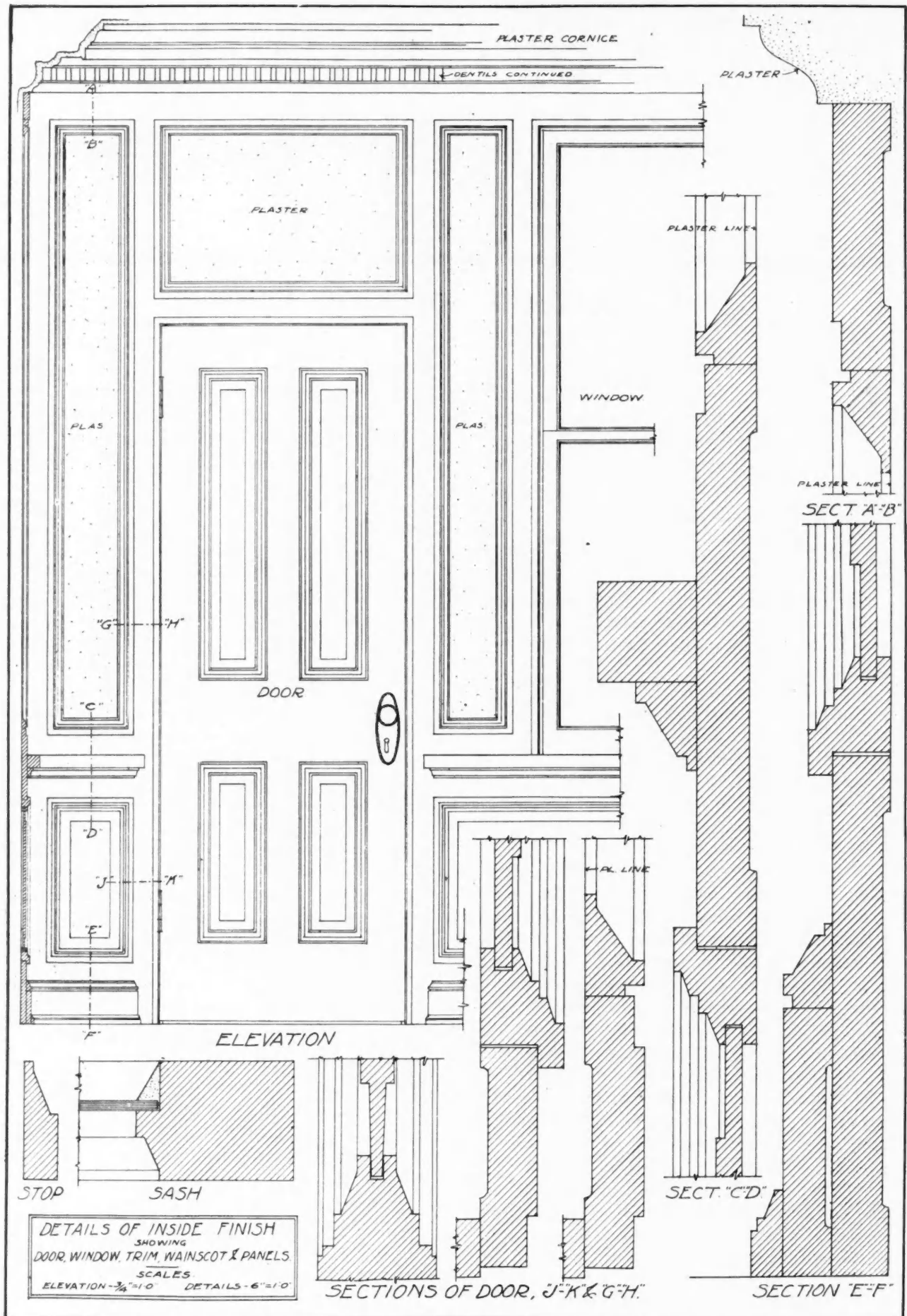
Many joints in the better grades of work are made by gluing the connected parts together, and where possible by gluing blocks of wood into the re-entering angle.

Two Styles of Trim Detailed

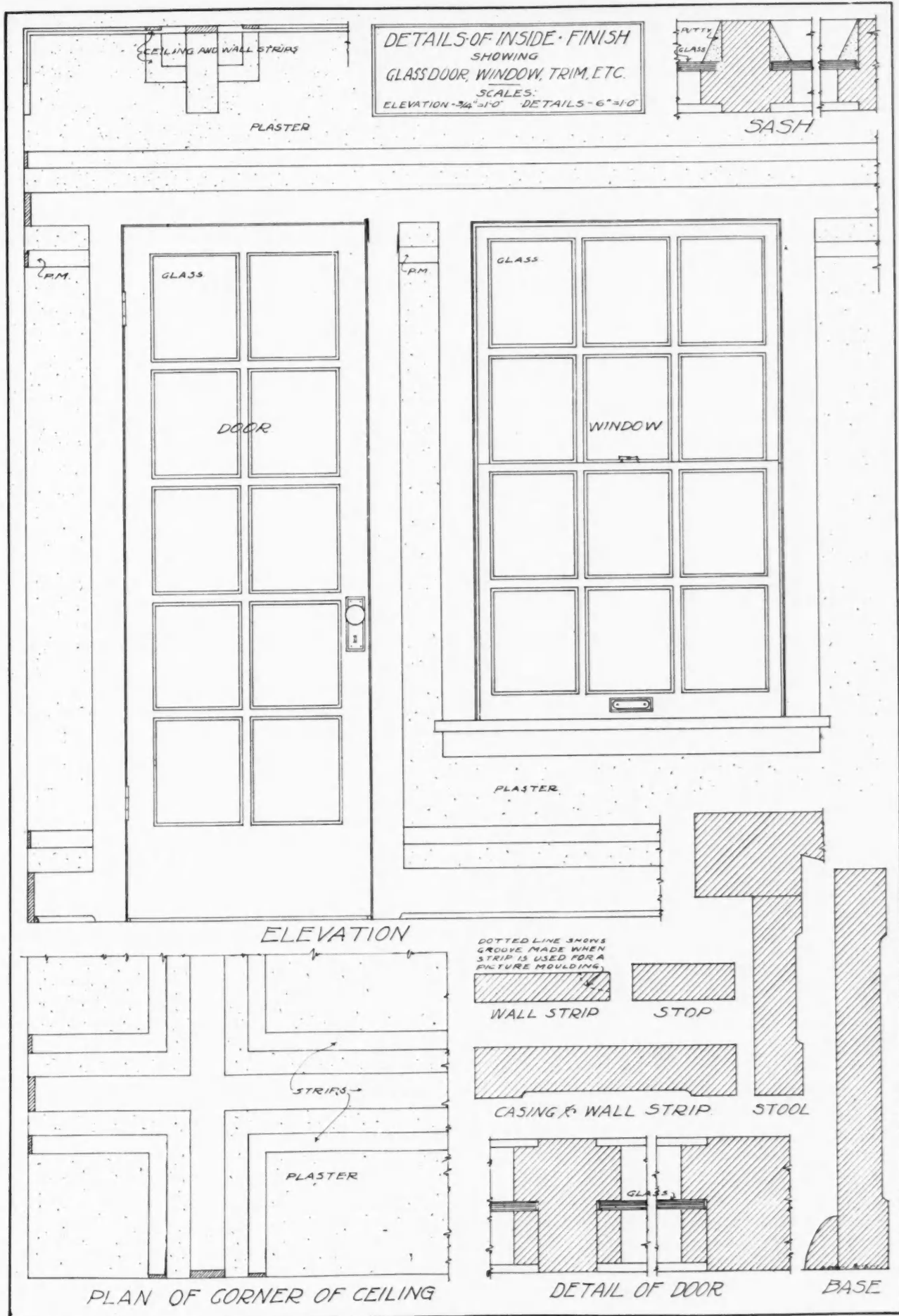
We show this month two complete schemes for in-

(Continued to Page 47)

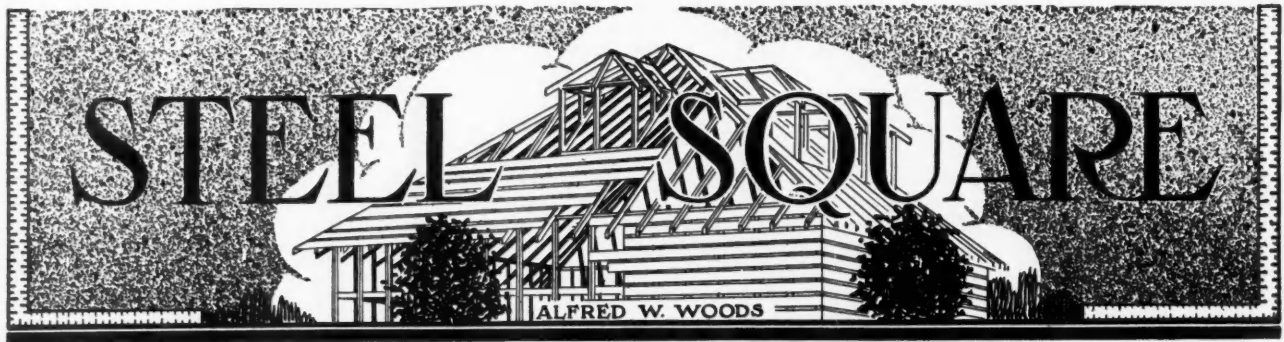
FULL PAGE PLATES SHOWING COMPLETE DETAILS ARE PRESENTED ON THE TWO PAGES FOLLOWING



ELABORATE INTERIOR TRIM FORMING WALL PANELS



"BUNGALOW" OR FLAT-MOULD INTERIOR FINISH



Practical Uses of the Steel Square

ILLUSTRATING PITCH BY SQUARE AND CIRCULAR MEASURE—OBTAINING CUTS FOR DIFFERENT PITCHES WITH SAME SET OF FIGURES

BEFORE starting to frame a roof, two things must be definitely settled on before the actual work of taking the measurements and the cutting of timbers can be begun. These are the run and the rise. Every carpenter knows this, and knowing these two factors, he has a basis from which to proceed with the work. He has a good start and here is where trouble begins, because the subject branches out into seemingly innumerable problems that sooner or later get beyond the average man, and he gives it up and looks to some one else to do the thinking and reckoning part and is content to do as directed by the "Boss."

The subject is a perplexing one and for that reason it should prove all the more interesting; but if the would-be learner starts off on the right track, these vexing little problems that come up naturally solve themselves because he has mastered the cause and effect.

Our mission is to illustrate the subject by the use of the steel square. To begin with, it is a mixed question. We say mixed, because the cuts contained in the

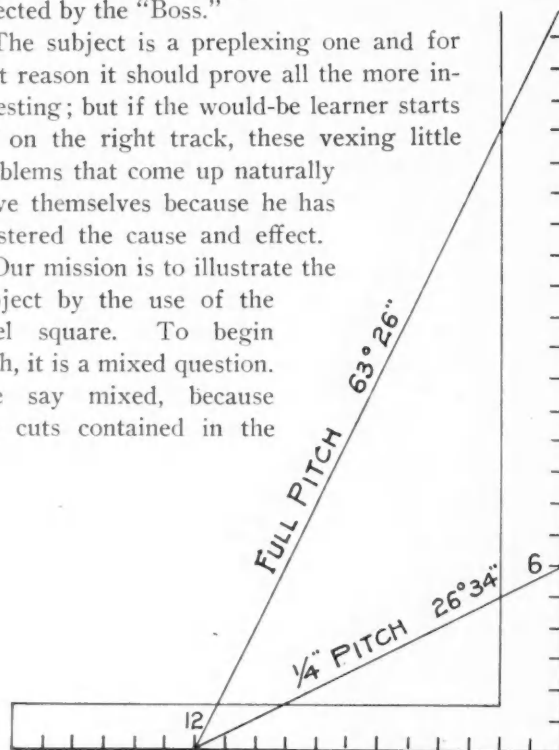


FIG. 1.

roof are partly derived from circular measure and partly from the square measure. The side cuts are from the former because they partake of angles contained in circular work—as for instance, the miter for a square corner is at 45 degrees from the edge

of the plate, for the pentagon it is at 36 degrees, for the hexagon it is at 30 degrees, etc. To obtain the angle with the use of the steel square involves a problem that runs into fractions; (save for the square corner). It is not necessary, however, that the figures to obtain these cuts should be committed to memory; but the parts that they represent should be and the figures to obtain the cuts can be found later.

The side cut of jacks and hips are derived from these angles (miters); but when it comes to the seat and plumb cuts, the angles are lost sight of in degrees and are reckoned from square measure, or as rise given the roof in feet and inches. This has become the established custom, presumably because it obviates the use of fractions of inches, as it is much easier to remember the rise as so many inches rise to the foot in the run of the rafter. The pitch given the roof is arrived at by the proportion of the rise to that of the width of the gable, as $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{2}$ pitch, etc.

A simple way to reckon the pitch in connection with the steel square is to let 12 on the tongue represent the run and the blade the span; then whatever rise is desired in inches to the foot, just think what proportion those inches are to the length of the blade (24); thus 6 inches is $\frac{1}{4}$ of 24 or $\frac{1}{4}$ pitch; 8 is $\frac{1}{3}$, etc.

From this it will be seen that the pitch like some fellows (we will not say carpenters) will get full sometimes and this occurs in the case of the pitch at 24, and then must start over again. And when the rise reaches 48, the pitch is full again and so on getting full and full again. But there is this about it; as the pitch gets full and starts out on another high old time, the straighter up it stands, while it is the other way with the fellow who gets full and keeps on getting full till he is down and out; but with the pitch, it stands up straighter and straighter, but it can never stand straight up. See?

Here is an interesting little problem shown in Fig. 1. 12 and 6 represent the $\frac{1}{4}$ pitch. This also represents the full pitch because it is of the same proportion but reversed on the square. Therefore, 12 and 6 will give the seat and plumb cuts for either pitch and of course 12 and 24 will give the same results.

In reference to the pitch in circular measure, the $\frac{1}{4}$

pitch has a rise of 26 degrees and 34 minutes and the full pitch has a rise of 63 degrees and 26 minutes and the sum of the two equals 90 degrees or straight up, which is no pitch at all.

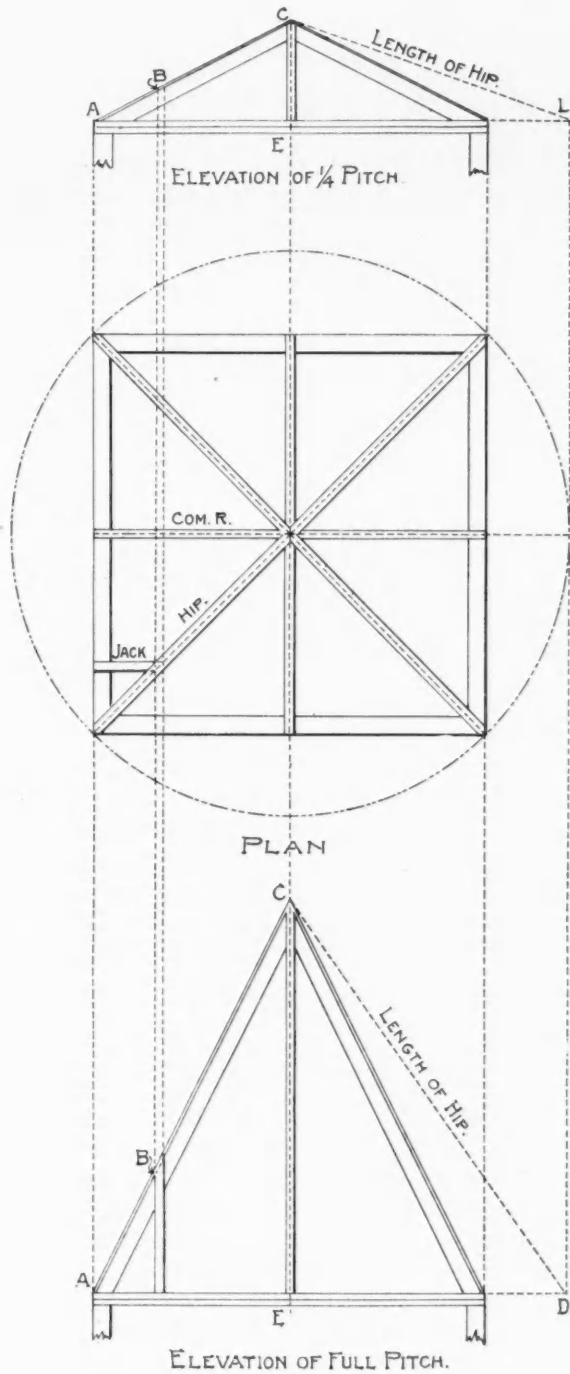


FIG. 2.

In Fig. 2 is shown an illustration of these pitches in connection with the plan of the roof. The dotted lines from the plan to the elevations clearly illustrate the points of measurements in either case. Thus AC in either elevation represents the length of the common rafter, AB the length of the jack, CD the length of the hip and CE the rise of the roof.

(To be continued next month.)

Putting Up Interior Trim

(Continued from page 43.)

terior finish. Each scheme is illustrated by an elevation of a door and window together with the accompanying trim, etc., drawn to the scale of three-quarters of an inch equals one foot; and by details of each important part of the finish drawn to the scale of six inches equal one foot.

The first plate shows an elaborate finish, consisting of wainscoting and a continuous trim forming wall panels. All woodwork and the plaster ceiling and cornice in work of this kind, are preferably painted white. The wall panels may be hung with any desired wall covering.

The second plate illustrates a plain trim appropriate for a bungalow type of house. The exposed plaster between the strips should be tinted, preferably all in one color, and all woodwork should be stained and finished dull.

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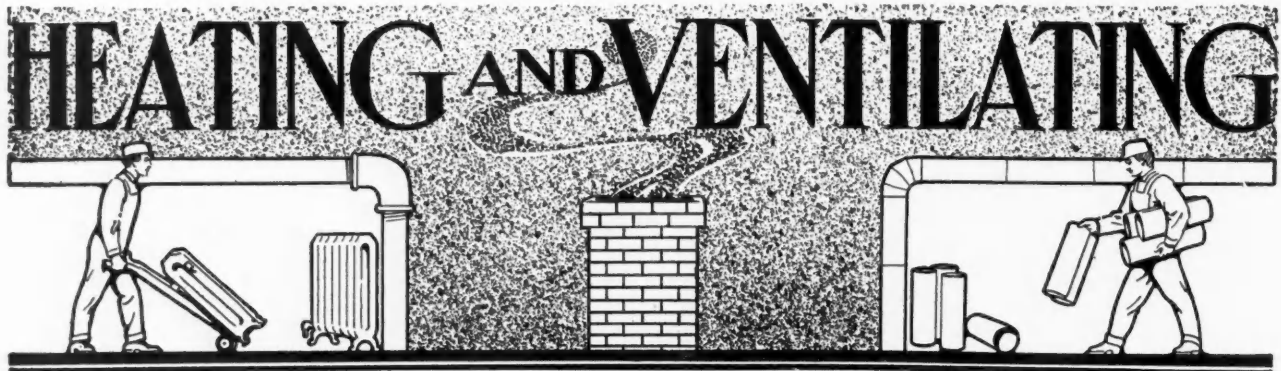
Destroying a Wooden Bridge by Electricity

An interesting use of electricity was recently demonstrated in England, reports the *Scientific American*, where a wooden bridge was cut down by means of electrically heated wires. The bridge had been condemned and was to be replaced by a steel structure supported on the old masonry piers and abutments. Three weeks was allowed in which to dismantle the woodwork, but it proved impossible to accomplish the work in so short a time without the use of dynamite or fire, which undoubtedly would have injured the masonry. Finally an electrician proposed to destroy the bridge by the use of electricity. Each span of the bridge contained twenty-seven planks, and it was proposed to cut them so that they would drop into the water simultaneously, clear of the piers. The structure was wired and sufficient current was employed to bring the wires to a cherry red. An hour and forty minutes after the current was applied, the first span was cut and fell into the water. The operation was begun at 5 o'clock in the morning, and at 2 o'clock at night the structure had been demolished without injuring the masonry.

+

How Long Should It Dry?

How long should a coat of outside paint be allowed to dry before applying the next coat? A master painter says his rule is to let it stand ten days or more, according to the weather. In this time the paint becomes hard-dry, making a good surface for the succeeding coat. If the paint is not dry enough the surface is soft, and does not give a good foundation for a durable finishing coat. He never allows any turpentine or other spreaders to go in outside paint, saying that this would be adulteration, and that it will make the paint brittle.



What Type Of Heating?

A COMPARISON OF THE THREE KINDS

THIS is a problem that faces every house builder, and also any owner who must replace a worn-out furnace. Each of the three forms of heating most used at present, hot water, steam and hot air, has its enthusiastic adherents, but there are some special cases in which each system appears to have arguments in its favor over the others. Charles K. Farrington discusses the subject most interestingly in "House and Garden" as follows:

The Hot Air Furnace

A man whose business was building houses and then renting them told me that he would not use steam or hot water in any of them. This was not because he did not highly value these forms of heat, but he had found by costly experience that if these systems were carelessly or improperly managed (as is too frequently the case in rented houses), they would be damaged far beyond what hot air plants would be under similar misuse. Here a certain heat seems best, not because it is considered superior, but on account of local conditions; and in any home where no thought or supervision can be given the furnace by the occupants, whether they be the owners or not, by all means put in a hot air heater, and let it be of sufficient size to properly heat the house.

By this I do not wish to give the impression that there is anything difficult or complicated in the management of a steam or hot water heater, for this is far from being the case, and anyone can easily learn to care for them, but their construction is such that if they are misused, they will be more likely to be injured than will a hot air one. For example, the writer knows of a hot air furnace which has an automatic attachment for opening or closing the draft and damper according to the state of the fire. But the occupant of the house (who was also the owner) would on cold winter days detach this arrangement and open the draft wide, and also a large door underneath, which was only intended to be used for taking out the ashes. This he did simply because he desired as much heat as possible in a hurry. Such treatment was very injurious to the heating system, and warnings had to be given him that a continuance of such practice would be likely to

prove costly. I have seen steam furnaces which were abused in a similar manner, and have known fires to be lighted in both steam and hot water heaters with no water in the boilers. But where steam and hot water heaters are managed with a small amount of care, they are very desirable for house heating in the average home.

It is well to use a hot air heater when a sufficient amount of hot air cannot easily be obtained from outside. This is a strong point in favor of the hot air system, as it constantly supplies fresh air without bringing the chill of outdoors into the house.

Steam Versus Hot Water

We will now suppose that a person decides to use either a hot water or a steam furnace; what are their good points? It is possible to heat a house well with steam no matter how cold the weather may be, if the heater is large enough, and it will also heat up rapidly in the mornings after the fire has been cleaned, and the draft and damper adjusted; but a steam heater requires more attention than a hot water furnace does. I have found from careful observation that it is necessary to coal a steam furnace on an average of every two hours when heat is needed in cold weather. This is caused by its construction; for you cannot obtain steam without draft, and when you have the draft open you must burn coal in large quantities, and yet it is not possible to put a large amount on at one time, for if you do you will cause the steam pressure to fall; so the only practical way seems to be to put on coal in moderate amounts at frequent intervals. With a hot water heater, it is possible to put on a far greater quantity at one time, and as heat is obtained without having so much draft on the fire, it can be coaled every five or six hours, even in cold weather. With a steam furnace, if you have a low fire without the draft being opened you will obtain no heat in the radiators, in fact you might as well have no fire; and before steam can be raised you must have a good fire with plenty of draft. As everyone knows, water must be heated to 212 degrees before steam can be generated. But in a hot water heater if the water is heated to only 80 degrees you will obtain

some heat in the radiators, and if the system is well designed and sufficiently large, 140 degrees will heat a house well, even on a cold day. So, remembering this we simply use a very large heating surface in the radiators, and also a heater of large enough capacity always to supply them without being forced.

Radiation Surface

An important consideration is the size of the radiators. When you figure the heating surface of your radiators be sure and have them large enough. Do not be afraid of your being too warm. You can easily and economically regulate this at the furnace by having a large or small fire as required. When you have figured the necessary total heating surface of the radiators add twenty-five per cent for the heating surface of the pipes leading to them, and also twenty-five per cent for a margin of safety on the side of excess of heat. So many people do not figure this last item, and so obtain an outfit which will never be satisfactory. They may be able to heat the house if the fire is continually forced, but only by burning a large amount of coal. Let me give the following examples:

	WELL DESIGNED HEATING PLANT	POORLY PLANNED SYSTEM
Heating surface radiators..	800 feet	800 feet
Heating surface mains.....	200 feet	200 feet
Heating margin of safety excess heat	200 feet none allowed	000 feet
	1200 feet	1000 feet

So for the first example a heater supplying 1,200 feet would be required; but let us suppose that the nearest size made to this was 1,150. Then by all means use the next size above. Always be on the safe side as regards excess heat. The slightly additional cost of the heater will soon be made up in the coal burned. But so many plants are figured according to the second method shown, and they are invariably disappointing. It must be remembered that in a well designed plant it is planned to heat the house by having a large heating surface in the radiators heated by moderately hot water. This allows you to have a much smaller fire than would otherwise be possible, and as I mentioned before, this saves coal and labor. In addition, a large enough heater allows you to put in an additional radiator if you enlarge your house, and also enables you always to warm your home even in bitter cold weather without auxiliary means of heat, which are often expensive and troublesome to maintain.

Whatever heat you use, whether it be hot water, steam or hot air, be sure to figure carefully the size necessary to properly heat your home without forcing the heater. In addition to what I have mentioned about the excessive amount of coal which is burned when the furnace fire is forced, there is another serious objection to doing so, and that is that the iron heating surface will be injured so that it will not readily absorb the heat of the fire. Take the ordinary range lid, for example. People frequently complain that they

can heat their stove lids red hot and yet cannot obtain sufficient heat to cook properly. Of course they cannot; the iron has been overheated and has been ruined for the purpose for which it was intended. It is a serious and costly matter to ruin a furnace in this manner. Better by far pay the slight additional cost of a large enough heater in the beginning.

The Indirect System

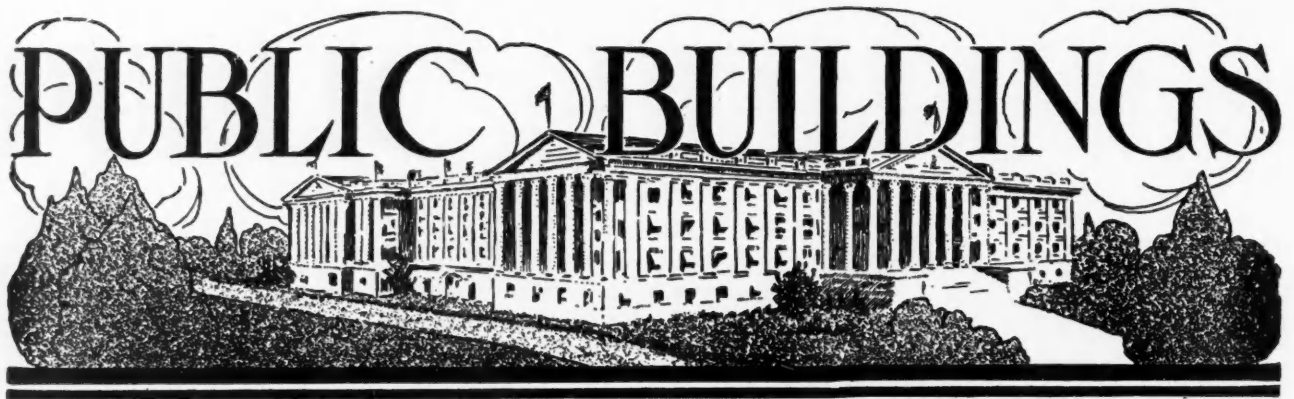
There is still the indirect system to be considered. I will say that in the "direct" the radiators are placed in the rooms they are to heat, while in the "indirect" fresh air is obtained from outside and heated by means of an enclosed coil of pipes or radiator; the warm air then passes through a tin pipe to the room it is to heat, as in a hot air system. This method gives a very pleasant supply of warm air, but it is more expensive to operate, requiring seventy-five per cent larger furnace and seventy-five per cent more heating surface in the radiators with a hot water heater; and fifty per cent more heating surface in the radiators with steam. This system also involves a far greater amount of attention than the direct, for if constant heat is not maintained in the coils or radiators cold air will enter the rooms unless the supply of air from the outside is shut off.

In the average home one finds a constant supply of fresh air entering around the doors and windows, so the direct seems all that should be required, especially if the rooms are thoroughly aired at intervals. In city residences in some cases this is not so, as it is more difficult to obtain ventilation in houses built closely together; and a well constructed hot air furnace may then be used to advantage, if you do not care to install the indirect system to obtain a plentiful supply of fresh air.

The indirect is frequently used for heating churches or public buildings where many people enter at one time, and where much ventilation cannot be secured while they are present because of the danger of putting them in a draft. Steam is usually used for the indirect heat in such buildings, and answers admirably because a steady constant heat is not required; only a large amount for short periods of time, and as there is a janitor to look after the fire when the heat is needed, there is no difficulty with the cold air supply from outside. But in most private residences conditions are entirely different, and a constant supply of heat at an even degree of temperature is what is required.

Relative Expense

This is a much debated subject, but the writer has found that hot water does burn less coal. Of course, now we are speaking of the direct methods. Steam he would place next, and hot air last. Over against this conclusion we must place the fact that the cost of installation and equipment varies in just the reverse order—hot air least and hot water the most expensive.



Design for Town Hall

ARCHITECT'S PERSPECTIVE AND FLOOR PLANS SHOWING THE PROPOSED DESIGN FOR TOWN HALL TO BE BUILT AT DOWNERS GROVE, ILL.

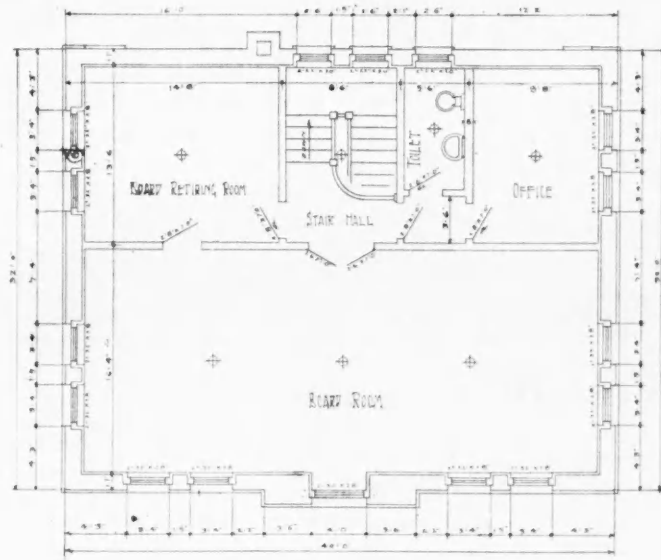
THE town hall illustrated herewith is a building 32 by 40 feet in size, containing two stories and basement. The design is carried out with grey face brick and Bedford cut stone trimmings. The roof specified is either slate or tile. In general appearance, the building is neat, dignified and pleasing to the eye.

The interior furnishes accommodations for the

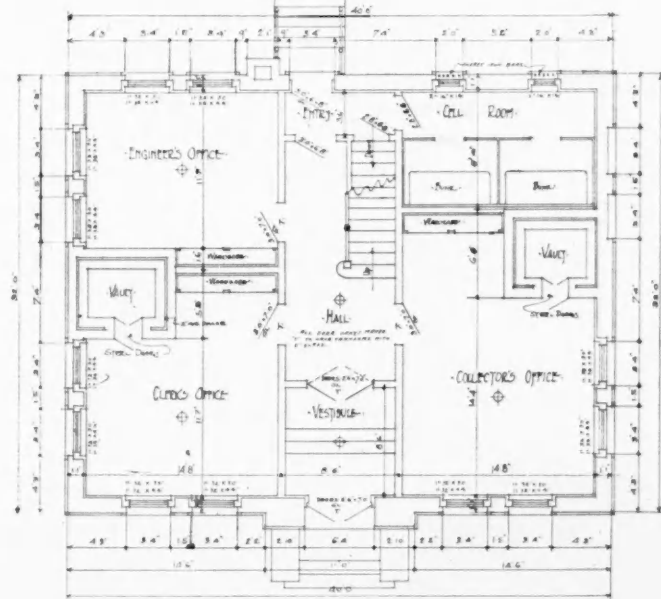
village officials as follows: On the first floor to the right of the central hall is the collector's office—a large well lighted room with fire-proof vault for the safe keeping of records and currency. Immediately across the hall is the clerk's office, somewhat smaller in size but also provided with a fire-proof vault. The city engineer's office occupies the rear corner of the building just back of the clerk's office. The back entrance



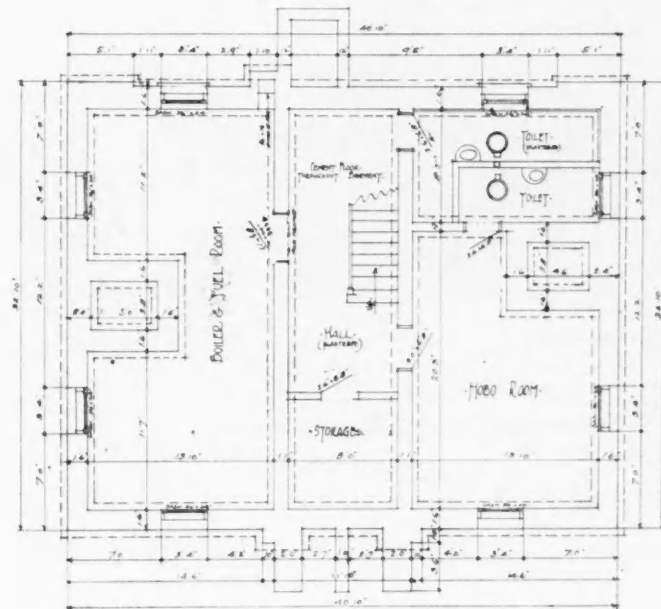
Proposed Town Hall for Downers Grove, Ill., G. W. Ashby, Chicago, Architect



SECOND FLOOR PLAN



FIRST FLOOR PLAN



BASEMENT & FOOTING PLAN

gives direct access to the village lock-up, a two-cell room immediately back of the collector's office on this floor.

On the second floor, half of the space is taken up by the Board room. There is also a smaller room for use by the Board, and an office 9 feet 8 inches by 13 feet 6 inches in size; use not designated.

The basement is finished throughout and has a cement floor. In addition to the usual space for boiler and fuel room, storage room and toilet there is a generous size apartment, known as the "Hobo Room." The use to which this space may be put is suggested by the name.

The handling of the design and arrangement for this Downers Grove town hall furnishes good ideas for similar buildings elsewhere. The plans are by G. W. Ashby, Architect, of Chicago, and show the straightforward, practical lines that characterize all of his work.



Substantial Adherence to Cost in Preparing Plans

An architect brought suit for certain plans and specifications which he alleged that he prepared at the request of the owner of a house for alterations thereon. The plaintiff claimed that nothing was said about what the contemplated alterations should cost until after the plans and specifications were completed. He did not claim that any definite sum had been agreed on as compensation for the plans and specifications, but insisted that he was entitled to recover a fair and reasonable sum as compensation for the work and labor performed and materials furnished in the preparation.

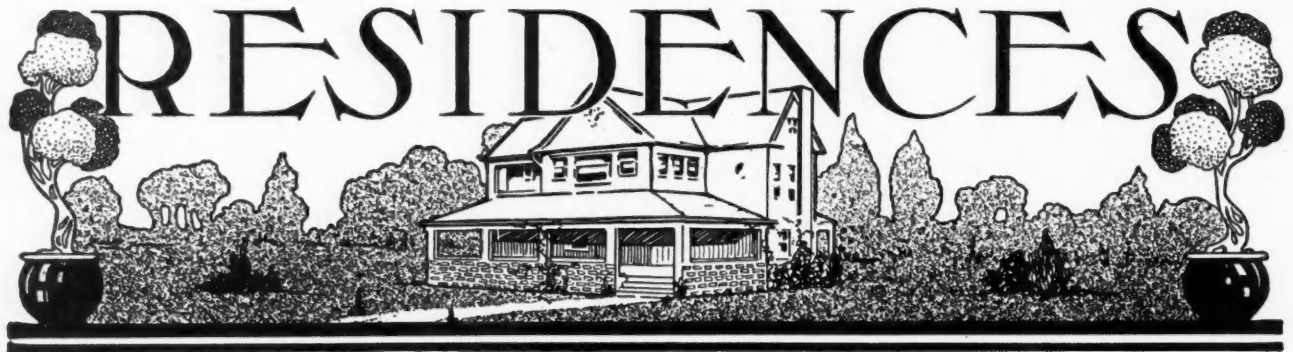
The defense was that it was understood between the parties that the defendant would not be expected to pay for the plans and specifications unless they were accepted. In explanation of this agreement the defendant contended that he informed the plaintiff, before he began his work, that the alterations covered by the plans should not exceed a certain sum. The plans were not used in any way.

The court charged the jury that although the plans were rejected the plaintiff could recover, if the plans substantially conformed to the defendant's directions; but if the plaintiff was employed to furnish plans for alterations not to exceed a certain cost he could not recover for preparing plans for alterations which would have substantially exceeded that sum or for any such work done after receiving notice to limit the cost of the alterations. The jury gave a verdict for the plaintiff. *Brinckle v. England, Delaware Superior Court, 78 All. 638. (J. S.)*



"Did you tell the proprietor of the hotel that the roof over your room leaked?"

"Well, I guess not! He would have charged me extra for a shower bath."



Plans for Neat Five-Room House

PERSPECTIVE AND COMPLETE SET OF ARCHITECT'S DRAWINGS FROM WHICH THIS ATTRACTIVE LITTLE RESIDENCE CAN BE BUILT

IN response to a number of requests for plans for a modest, inexpensive residence that can be built on a narrow village lot, we present the design illustrated on this page and the complete set of working drawings on the five pages following, from which this house can be built. Although this is a residence of small size—a story and a half cottage of five rooms—a great deal of care and study has been given it in the effort to make the interior arrangement as convenient, attractive and home-like as possible.

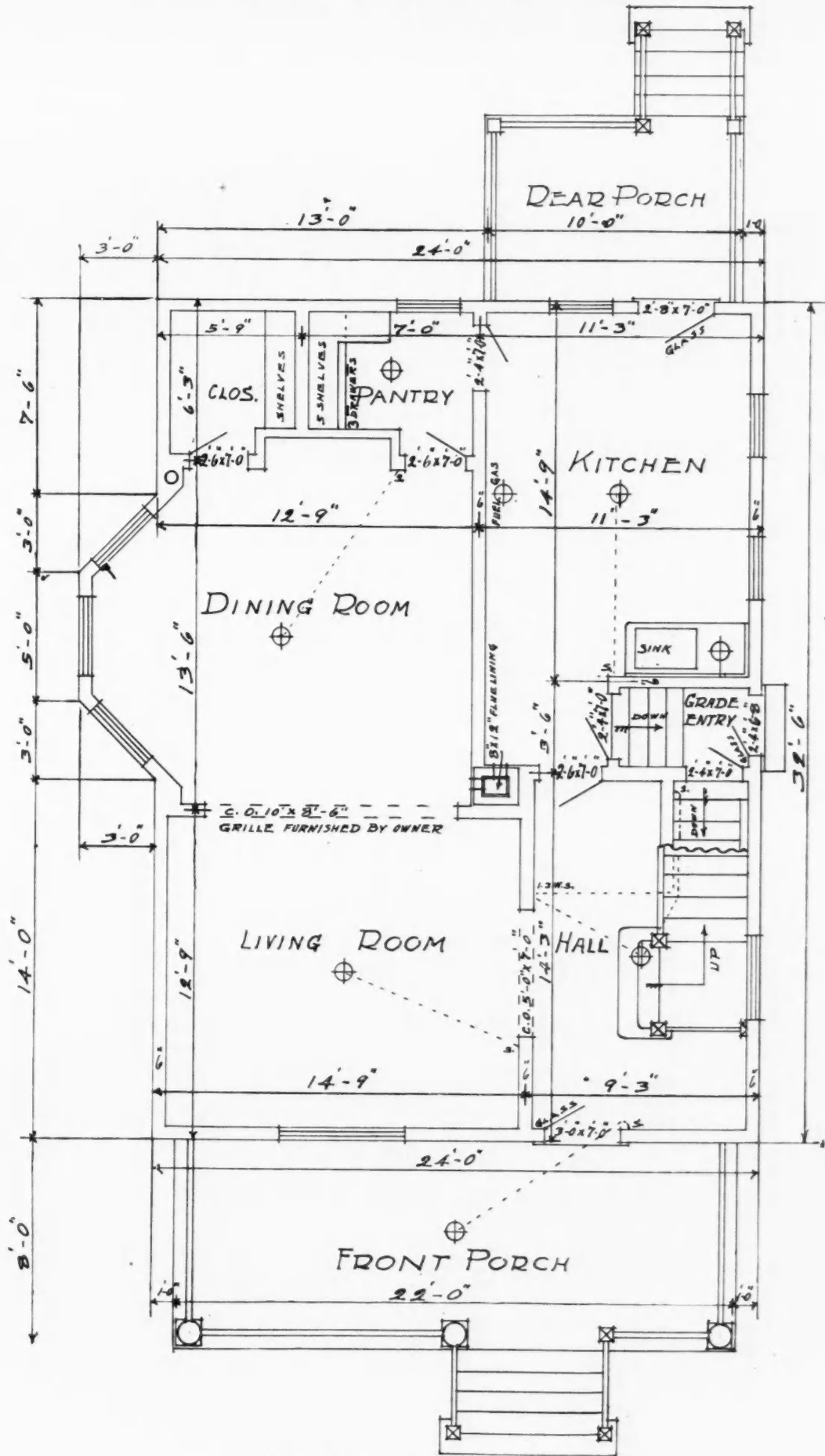
It used to be thought that because a house was to

be of small or medium size almost anything would do, and the result was that the structure was merely the four walls divided up into a certain number of rooms without very much thought as to results. To-day, on the other hand, it is quite the opposite; the small houses can often show their bigger brothers points on completeness of equipment, compactness and convenience of arrangement.

In the accompanying plans, the first floor provides for reception hall, living room, dining-room, kitchen, pantry and large storage closet. The three important



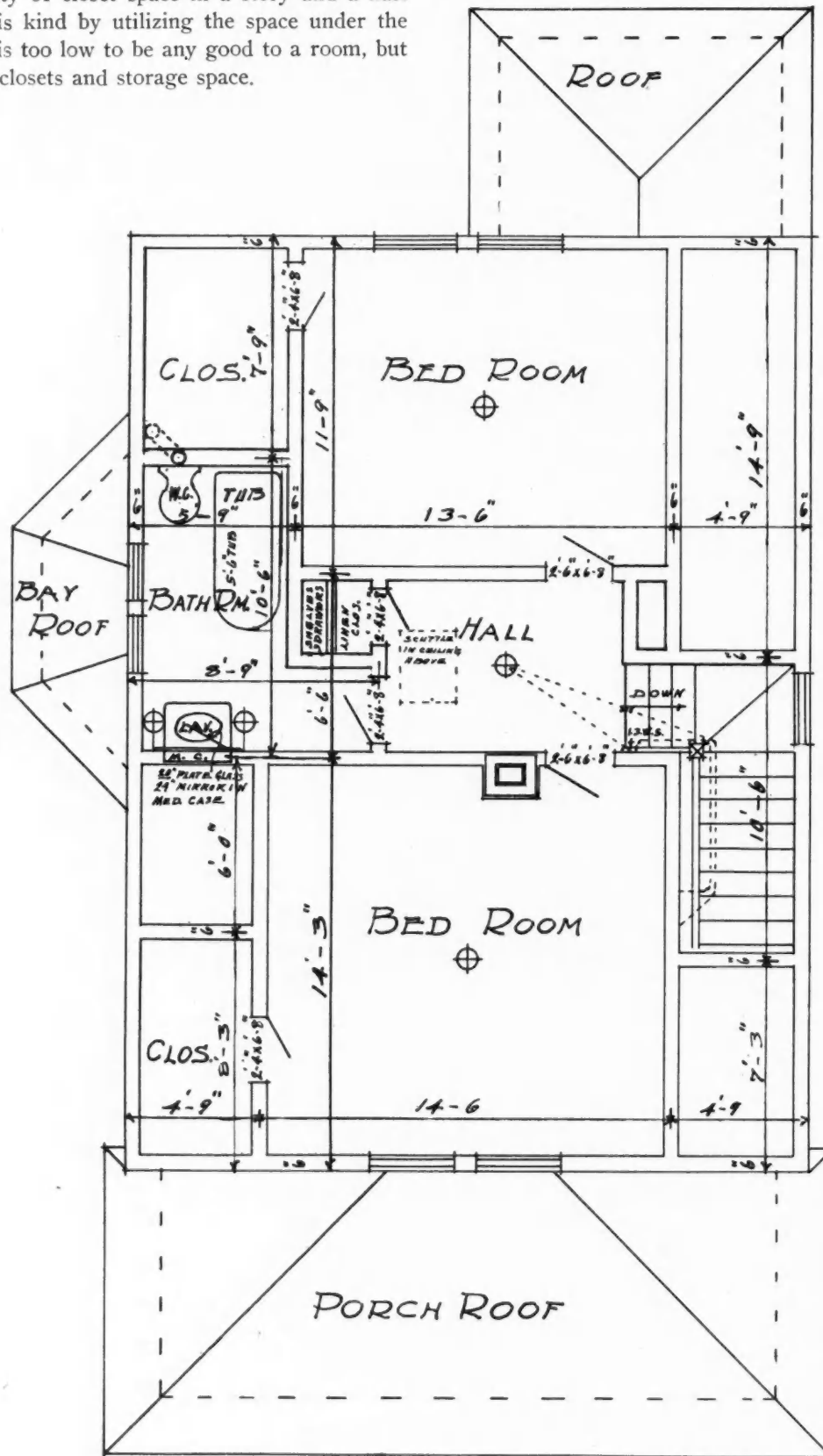
Neat 5-Room Cottage to be Built for Mr. John P. Moeller, Chicago, Ill. Estimated Cost \$2,500.
COMPLETE WORKING DRAWINGS FOR THIS HOUSE ARE PRESENTED ON THE 5 PAGES FOLLOWING.



FIRST FLOOR PLAN
(House Shown on Page 52)

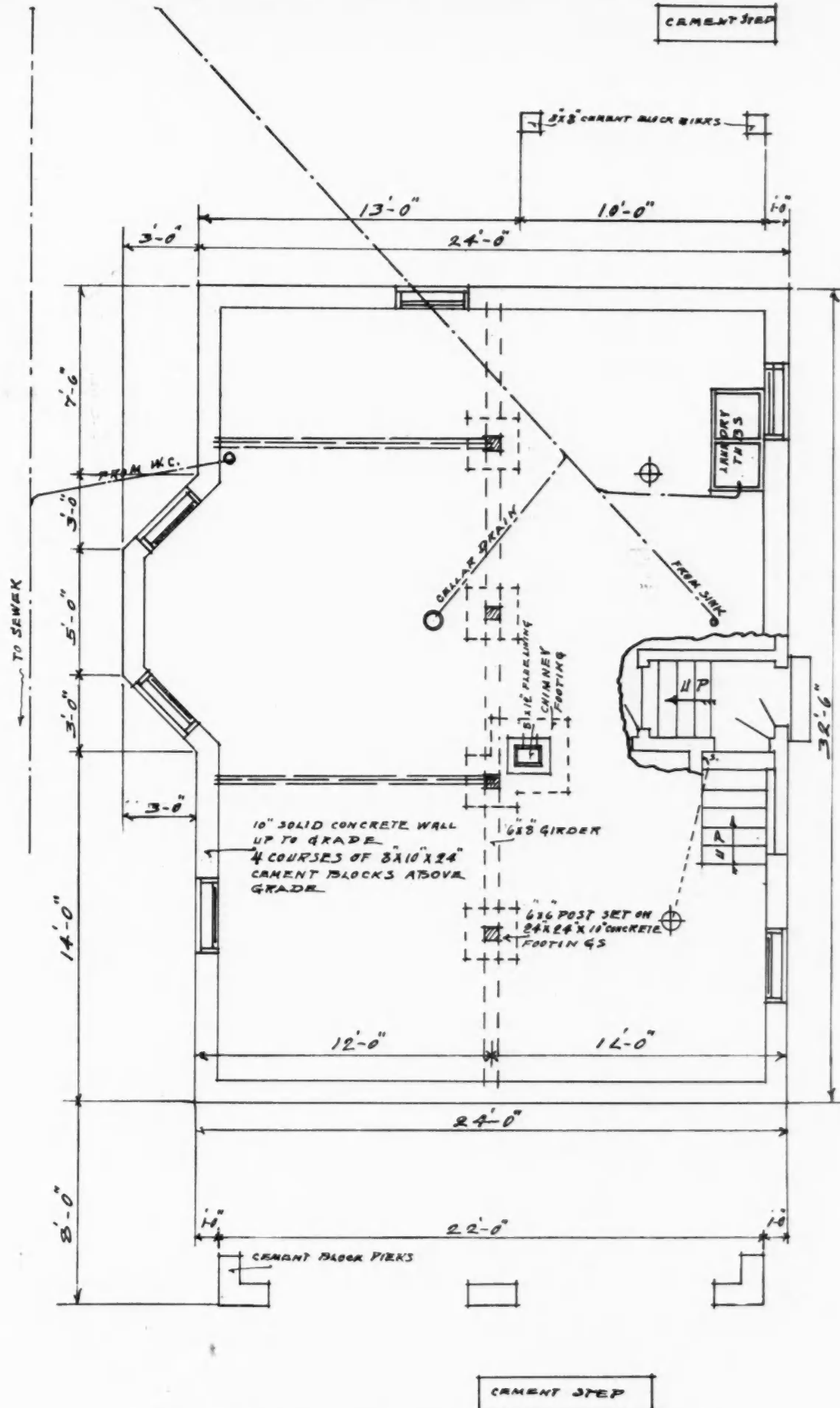
rooms are very attractive, well lighted and nicely arranged with respect to one another. On the second floor there are two good bedrooms and a bathroom. There is plenty of closet space in a story and a half cottage of this kind by utilizing the space under the eaves, which is too low to be any good to a room, but is alright for closets and storage space.

The basement is cemented throughout and is equipped with laundry tubs, heating plant, etc. The estimated cost of this house complete is \$2,500.

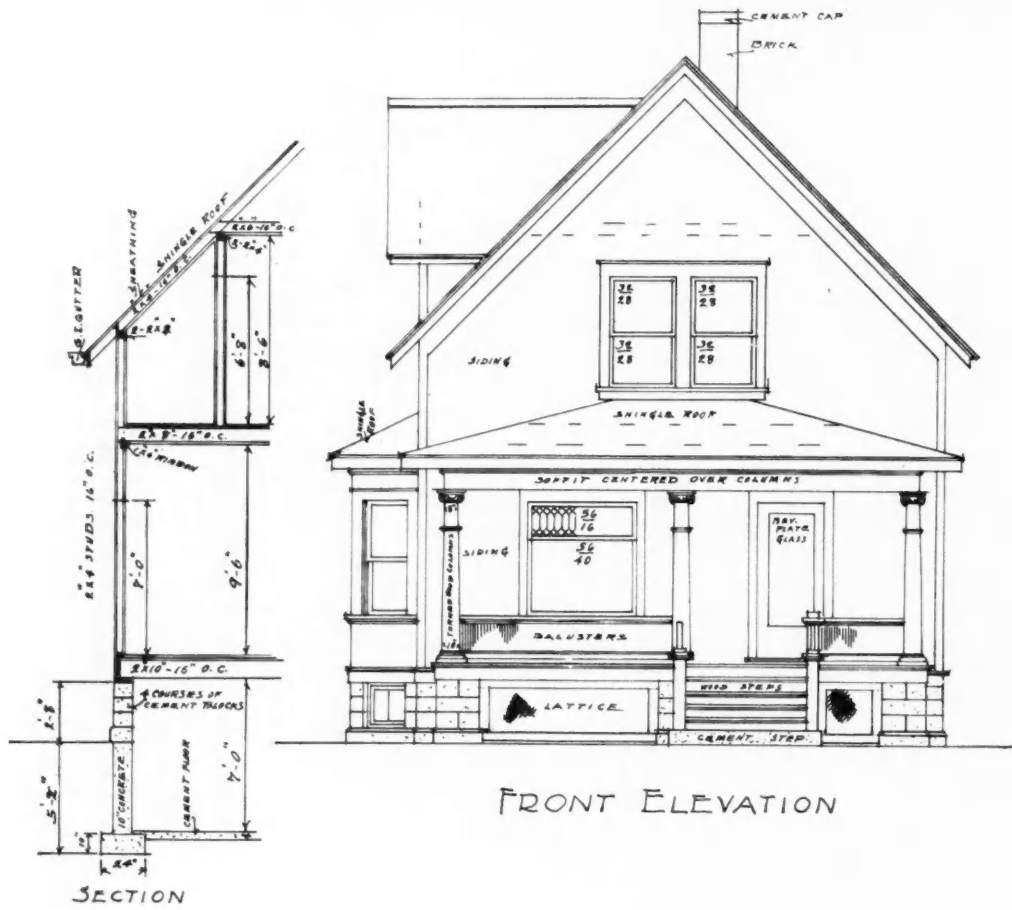


SECOND FLOOR PLAN

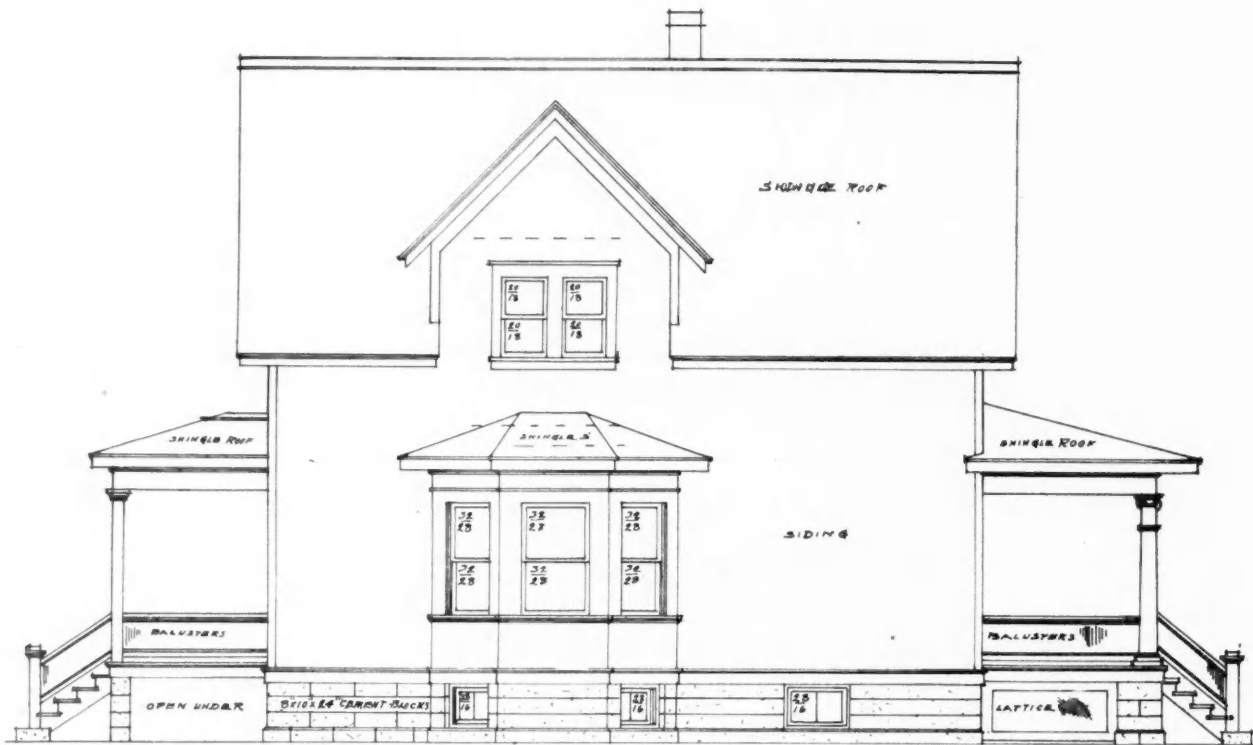
(House Shown on Page 52)



FOUNDATION AND BASEMENT PLAN
(House Shown on Page 52)



FRONT ELEVATION



LEFT SIDE ELEVATION

(House Shown on Page 52)

Decorating Bungalow Walls

In discussing the most favored treatments for the living-room walls in bungalows a well known decorator states that for all first-floor walls they are rough plaster within and without, the upright beams showing topped with a beamed ceiling; wood only and wood alternating with panels of coarse hemp fabrics. Of course these have many variations.

In one of the most stylish one and a half story bungalows near New York the entire lower part is finished with narrow logs which had only the bark stripped off before being oiled and treated with a preservative. Bumps and knot-holes were left on the surface. The logs were laid diagonally to form a three-foot high wainscoting divided from the upper wall with a chair rail composed of a single log. The natural color of the pine is preserved and the hangings, cushions and rugs are of a bronze brown, the former made of antique crash.

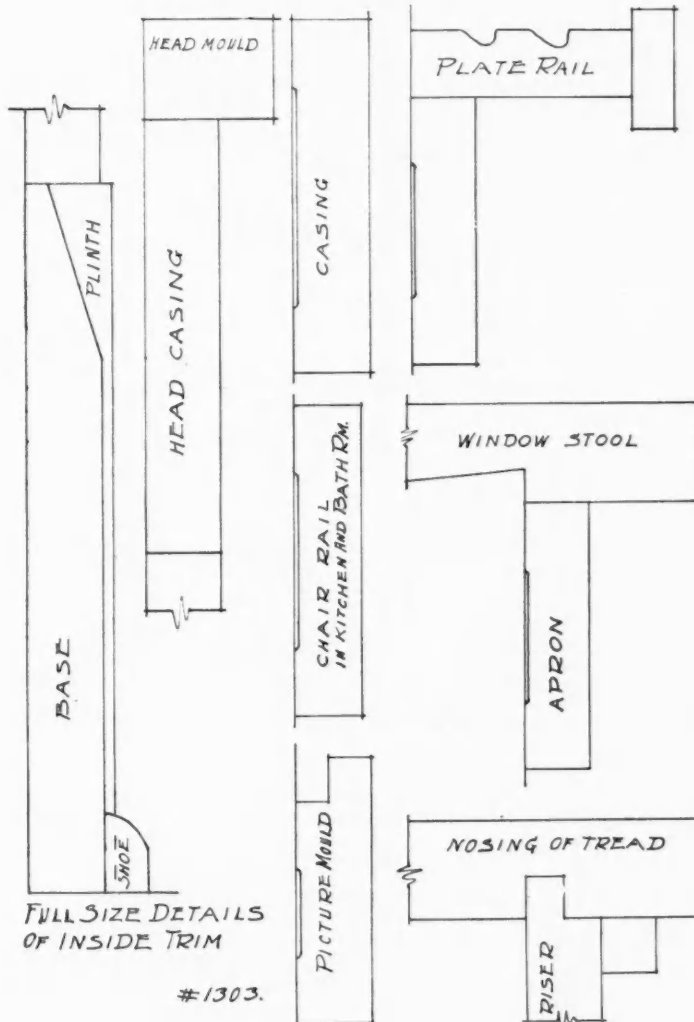
Generally rooms treated in this style cost more than when finished with flat boards arranged to cover beams or which are sheathed up to beams, letting the latter project beyond the flat boards unless indeed the boards are very narrow and arranged in fancy patterns. A variation of the plain board finish has panels of camp cloth, antique crash, burlap or other coarse fabric set between square beams, running from baseboard to ceiling or perhaps stopping at a chair rail which divides three feet of wood work from the fabric.

Figured Japanese paper, as tough as flint, is being used a good deal to panel bungalow walls, also plain Japanese grass cloth, a paper made of three different materials and good for hard wear.

These real Japanese papers, by the way, can be had in imitations costing a third as much and almost as pretty, though not so durable. Burlap, antique crash and other coarse fabrics used on walls are also imitated in wall paper, the colors being faithfully copied.

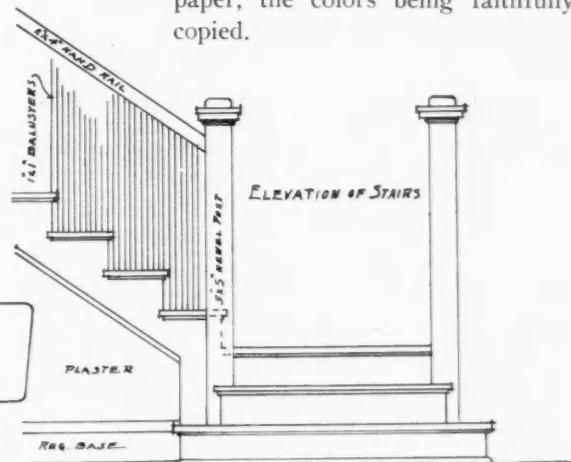


Rear Elevation



FULL SIZE DETAILS OF INSIDE TRIM

#1303.



ELEVATION OF STAIRS

DETAILS OF INTERIOR FINISH

(House Shown on Page 52)



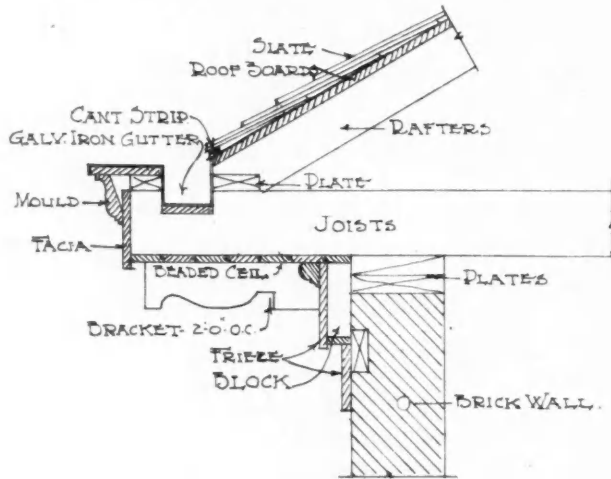
Our Readers are Requested and Urged to Make Free Use of These Columns for the Discussion of all Questions of Interest to Carpenters and Builders

Some Good Questions

To the Editor: Minneapolis, Minn.
I find the AMERICAN CARPENTER AND BUILDER very helpful in many ways, especially so since you began to publish the plates of details. At your earliest opportunity I would like to see details of the following: Cornice for brick house, illustrating use of slate; an English mantel of the Elizabethan period; English plaster and wood ceilings; slip-head windows; chimney pots of terra cotta; and pergolas.

LAWRENCE A. FOURNICE.

Answer: Taking up the first of these questions we present herewith detail drawings showing a good cornice for a brick



Cornice Detail—Brick House with Slate Roof

house, with construction suitable for slate roofing. The drawing is complete in itself and requires no comment.

Each of the other items you mention furnishes a good topic for consideration, and we will be glad to take them up in detail at the earliest opportunity. Suggestions of this kind are very much appreciated. As we have often intimated, we are editing this paper to give the readers what they want as nearly as we can find out what that is.

EDITOR.

Renovating California Pine Floor

To the Editor: Malvern, Pa.
If H. C. Overson, who asks in September number about finishing a "No. 1 California pine (quarter-sawn) dancing floor," which had been oiled and has worn off in places, will scrape off the floor with steel wool, or sandpaper it well, then shellac it, using quite thin shellac, one coat, then sandpaper this lightly and apply a coat of hard floor varnish, which when dry may be waxed, he will have as durable a surface as possible, with wax on it. The wax can of course be renewed frequently, and so keep the floor in good shape. It

will also help keep the varnish under it from abrasion. I would not advise any oil on the floor, not even when new. Oil causes the wood to darken in time, and spoils its color and markings. Better shellac the new pine flooring, then wax it if desired for finish.

A. ASHMUN KELLY.

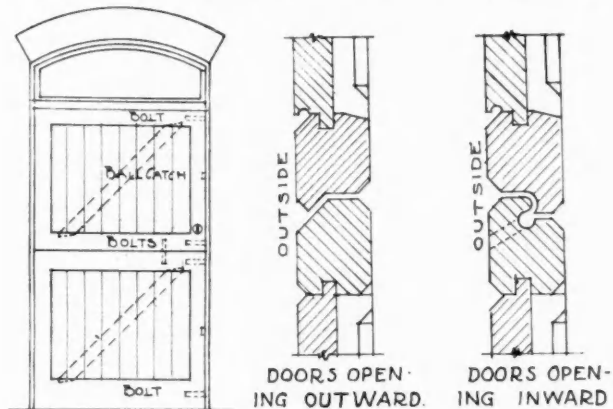
Dutch Doors

To the Editor: New Haven, Conn.
I am asked to build a set of Dutch doors, in connection with remodeling a masonry barn into a studio. I do not know just how they ought to be arranged to be weatherproof. Can you show some detail drawings? I will have to have these doors made special as they are not carried in stock here, although Dutch doors are often wanted.

LAWRENCE PARKER.

Answer: Dutch doors are understood to be those made and hung in two sections. The upper half may be opened while the lower half is still closed and fastened. Locking the upper section fastens both doors.

Dutch doors may swing either out or in. The joint between the two sections is different for each. Two different arrangements are illustrated in the detail sketch; one for an inward opening door, the other for outward opening. The



Dutch Door Showing Details of Meeting Rails

purpose is to provide a weatherproof joint. Your local planing mill can get out this material for you, or you can work it by hand.

EDITOR.

Task Work on Construction

To the Editor: Boston, Mass.
The ultimate aim of scientific management in construction work is the introduction of task work or some similar method of laying out the work so that man will be paid in proportion to the amount of work that he accomplishes. Piece work consists in paying a man a certain price for

the performance of a given job. Differential piece rates are arranged so that a man who does an extra day's labor receives pay not only for the total number of pieces but is given a larger rate per piece.

In task work the time which a man ought to take to do a job when working hard and to the best advantage is fixed in advance and if he accomplishes the work in a fixed time he receives a bonus.

Suppose, for example, it has been found from time study and a combination of the unit times that a carpenter, allowing, say, 30 per cent for unavoidable delays and necessary rest, should make by working hard, a section of form in 9.5 minutes. If he accomplishes the work in this time or less, he should be given for the period, say, 35 per cent more pay than if he were working simply by the day. If his day rate is \$0.50 per hour, his regular pay for 9½ minutes would be 7.9c. Adding 35 per cent would give him a price per form of 10.7c. provided he made an acceptable lot of forms in the specified time. In case he failed to make them within the time, he would receive his ordinary day's pay. If he completed 10 sections in 80 minutes instead of 95 minutes he would be paid his 35 per cent bonus on the full 95 minutes and would at once begin on the next task so that he would receive even higher than the figured rate, and he would have an incentive to work as fast as possible. If any of the forms were imperfect he would receive a smaller rate or else he would be required to repair them in his own time.

For satisfactory task work exact knowledge is necessary of the time required to do each branch of the work and scientific methods must be employed in fixing the tasks.

Great care must be used in setting a rate to be sure that the men can accomplish the work in the given time. If they fail to earn their bonus, they immediately become discouraged. On the other hand if the time given is longer than necessary, the men will earn more than was planned for them and will probably start soldiering so as to prevent their employer from knowing that a wrong task has been set. Accurate fixing of tasks and rates by experienced men is absolutely necessary to success.

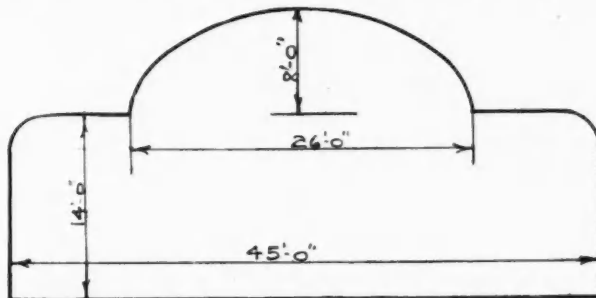
SANFORD E. THOMPSON.

How Improve the Acoustics?

To the Editor:

Spokane, Wash.

I am sending you end elevation of inside of Church Building which I put up last year, the building is 45 by 50 feet—14 foot posts. It is in the old mission style of architecture, built of concrete blocks with pebble dash. You will notice part of the ceiling is ½ ellipse. The roof is trussed so it is



Outline Cross Section of Church Auditorium.
How Can They Stop the Echo?

self supporting, there are no posts. Now what I am getting at, we don't get the acoustic effect we desire. There is an echo. Will someone suggest how to overcome this by wiring; number of wires, position and size of wires, etc.?

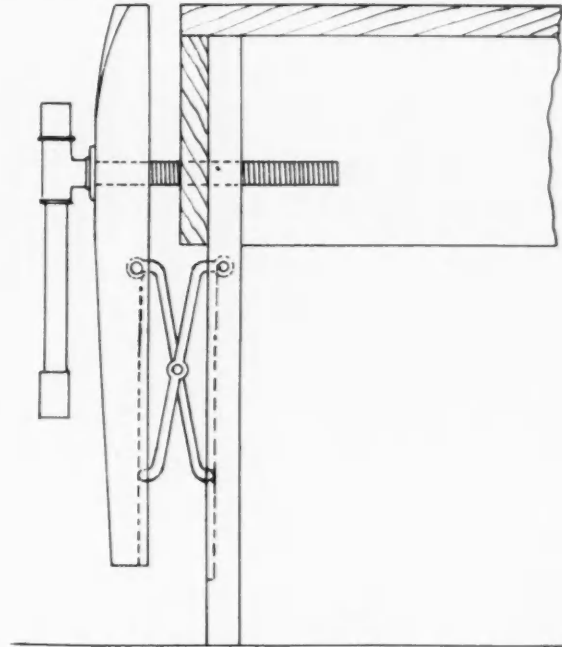
H. WOODSOCK.

Handy Vise Adjuster

To the Editor:

Kellogg, Idaho.

In reference to the suggestion of Albert E. Jewell on a handy vise adjustment, I say, do away with the adjustment



Wrought Iron Shears Keep Vise Jaws Parallel

bar and substitute a pair of shears in vise as shown. The vise will always have parallel jaws and there are no pins to bother with.

There is no patent on this as it has been in use here for fifteen years or more. Any blacksmith can make it.

W. B. HOUGH.

How to Cut Hood Rafters

To the Editor:

Crisfield, Kansas.

I want to build a hood over a hay door. The main rafters start 5 feet to either side of the line directly beneath the comb and meet 6 feet from the end of the barn. The pitch is ½. What figures on the square will cut the main and the jack rafters?

M. L. PITT.

Answer: This question like many others has been answered a number of times through the columns of this journal, but we are always willing to try it again and when possible put the subject in another light; that is, by showing the same by a different illustration, yet arriving at the same result.

But before we start in to illustrate by diagram, let us study what relation the hood rafter has to other parts of the roof. Take for instance, the roof of a T shaped building. Say the main part to be two stories high and on the angle part to be a story and a half high, thereby causing the roof of the latter to lap over onto the roof of the main part, which is formed by valleys framed in the main roof. Now, suppose the main building is removed, leaving the valley rafters and that part of the roof covering same intact with the lower roof.

Now then, look at it. Doesn't that make a pretty good hood? Sure it does, but a rather costly way of getting at it. The point we wish to bring out is, that the valley rests in identically the same position that the so-called hood rafter should rest; and its jacks rest in the same position as valley jacks. There is this about it; of course, the hood rafter instead of having a seat cut, must have a plumb cut to rest against the side of the common rafter; and the backing of the hood should be one way. Otherwise the framing is just the same

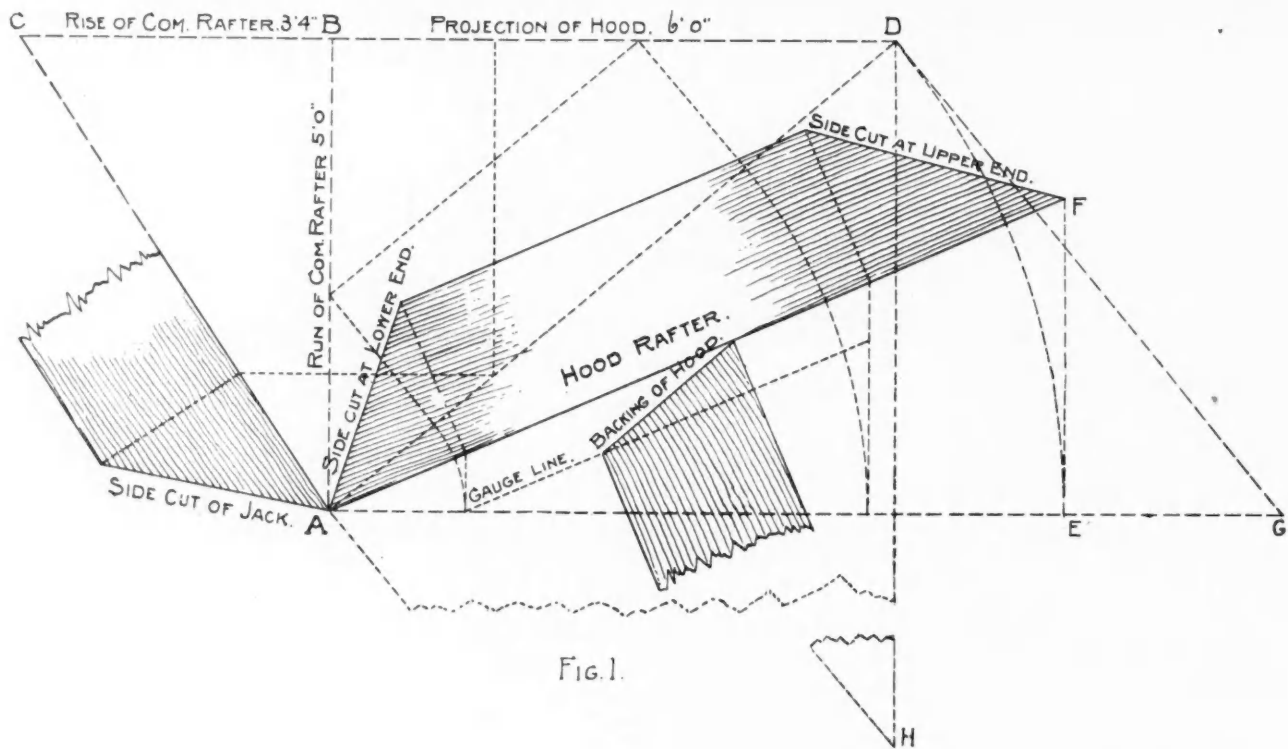


FIG. 1.

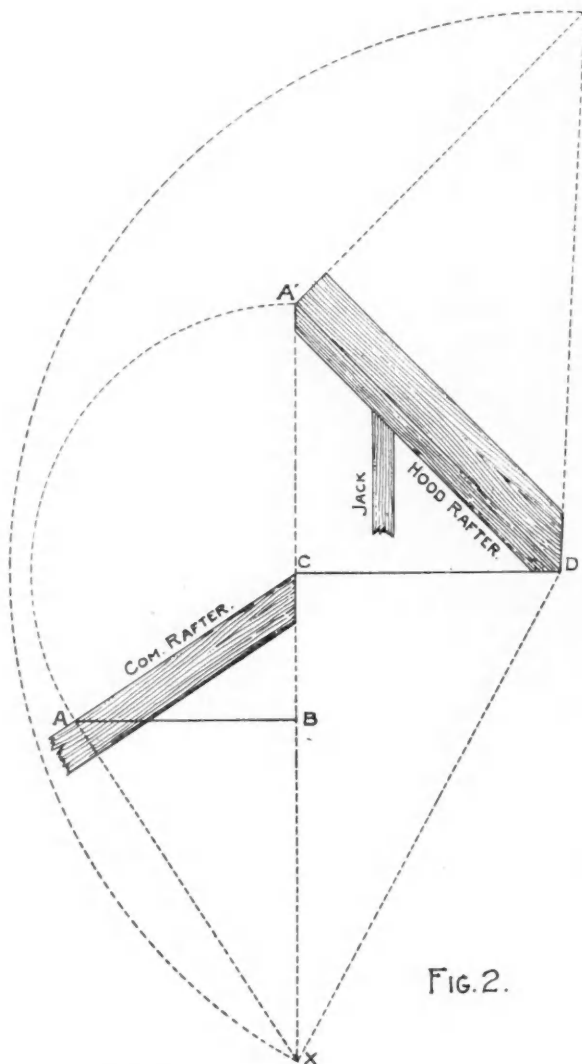


FIG. 2.

Diagram Showing How to Cut Hood Rafters

as for the valley timbers. If the run of the hood and its projection are the same, then the framing will be regular, but if different, as shown in Mr. Pitt's example, then the framing is irregular and must be treated the same as framing the valley for uneven pitches.

Referring to the example in question, see Fig. 1, using a scale of one inch to the foot for the outlines of the plan, we lay off the run of the hood, or common rafter, for same as AB, which is 5 feet 0 inches. Now, since the roof is $\frac{1}{2}$ pitch, that is equal to 8 inch rise to the foot, which in this is equal to 3 feet 4 inch rise of the roof, as from B to C. The line AC represents the length of the common rafter covered by the hood. Next lay off the projection (6 feet 0 inches) as from B to D and the line AD will represent the run of the hood rafter. Now, drop this line down to a level with the starting point, as AE, and erect the rise EF, which must be the same as BC and the line AF will be the length of the hood rafter.

Now, in this diagram, we lay off the full thickness of the rafters, as shown by the dotted lines, and from these we find the cuts by the gravity system, which we trust is sufficiently plain without further explanation. But Mr. Pitt says "Give it to'em on the square." Alright. (Omitting the plumb cuts, taking it for granted that everybody knows that.)

Steel Square Method

For the side cut of jack, take the length of the common rafter (AC) and the projection of the hood (BD) and cut on the former.

For the side cut hood, at the upper end, take the length of the hood (AF) and the tangent (DG) and cut on the former.

Now, if the run and projection were equal in length, the same figures on the square would give the side cut for both ends, but as they are not, it requires other proportions for the lower end as follows:

Take AF as before, but instead of the tangent (DG) take AH (broken off to save space), and cut on the former.

These cuts apply to the unbacked hood which for a first class job should always be done. The angle for this is shown in the diagram.

Now, if the backing should be done before making the side cuts, the above angles would be off because they would lie in a different plane, which of course, would require other figures. In that case take AC; and BD will give both side cuts of the hood; the former the lower and the latter the upper. Note: These are the same proportions as given above for the side cut of the jack.

With hood rafters framed in this way, the sides of same will rest plumb the same as other rafters, which we believe to be the most workmanlike way of doing it, but we know some will differ with us, claiming that the back of the hood rafter should be set in the same plane as the back of the common rafter, thereby requiring no backing of the rafter, but it throws the side of the hood rake shape and this running up at an angle and meeting its mate from the other side, makes an unsightly miter at best and is a real sticker for many to cut by any method.

In Fig. 2 is shown a method for the laying out for the rafters cut in this way. The angles and lengths can be had direct from the diagram. Like letters represent like parts, as shown in Fig. 1. The sides cuts are found with the aid of the steel square, precisely the same as above described for the hood rafter after the same has been backed because the backs lie in the same plane. The face cut of the upper end is found by taking the length of the hood AD and AX and cutting on the former.

A. W. WOODS.

How to Frame the Cornice

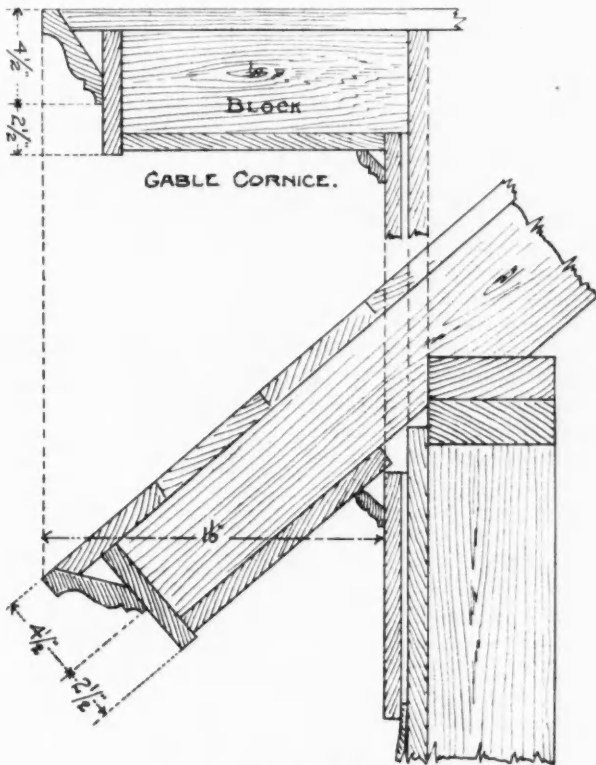
To the Editor:

Brooks, Me.

I would like a method of drafting or laying out the blocking for cornice work for eaves and gables, including the rake and crown moulding. For instance, a building having a 10½-inch rise to the foot and with 16-inch projection; to have 4½-inch crown mould and want to have 2½-inch margin under the crown mould. I want the depth of blocks and detail of rake to match.

C. E. ROBERTS.

Answer: The accompanying illustration will show the



Gable Cornice to Match Eaves

points in question without further explanation.

The carpenter should lay off a full size diagram from which to get his measurements, as he will find it much easier to work than from a small drawing.

EDITOR.

Hole in Roof to Fit Circular Pipe

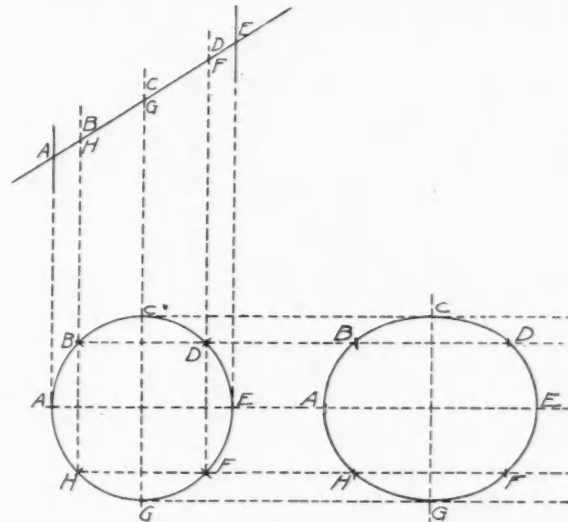
To the Editor:

Benjamin, Texas.

Will you kindly tell me how to put a soil pipe through the roof? The way I do is this. I lay the pitch of roof on the pipe to find length of hole to be cut. Then set dividers and scribe for the ends. This may be proper, but think there is a better way.

JULIUS O'BRIEN.

Answer: If you wish to obtain the exact dimensions of the hole to be cut for a given size of pipe, we would recommend the following scheme. The sketch shows the method to be



Laying Out Elliptical Hole to Fit Circular Pipe

followed. The line ABCDE represents the slant of the roof, while the circle below shows the true size of the pipe. By dividing this circle into an even number of equal parts as shown, and then projecting these points of division upward until they strike the line representing the slant of the roof, and lettering these points on the slant line in a corresponding manner to those below, we have a method whereby we can show the true size of the hole to be cut. This is accomplished by drawing the horizontal dotted lines shown in the figure, and then drawing across them the perpendicular line CG as shown in the right hand figure. From this line CG lay off on each side of its corresponding dotted horizontal line, the true distance CB, CD, GH, GF, GE, and GA, as measured direct from the slanting line. A curve drawn through the ends of these newly laid-off distances, will show the true shape of the hole to be cut for the pipe.

The larger number of divisions into which the circle ABC etc. is divided the nearer will these laid-off distances in the right hand figure show the true shape of the opening for the pipe.

EDITOR.

Comments on Oak Flooring

To the Editor:

Detroit, Mich.

The extent to which oak flooring is being used at the present time in modern residences, lends more than usual interest to the brief mention to some of the characteristics of beautiful and durable wood. For flooring purposes it is considered by authorities on this subject, as the "King of Flooring." It is a wood that will harmonize with any kind of trim, and will do more to tone up a home than any

part of the interior construction. In color it is rich and cheerful. The thin stock $\frac{3}{8}$ " may be laid over old floors, taking the place of carpets without in any way interfering with or disturbing the other woodwork of a room. Or it may be laid in new buildings over a subfloor. It is matched and end-matched so that it can be blind or secret nailed. After being laid it has all the appearance of heavy flooring.

In Detroit a short time ago two duplicate houses were sold, one bringing \$6,000 and one \$5,000. The \$6,000 house was floored with $\frac{3}{8}$ inch stock select plain oak flooring, 2 inch face over an old pine floor at a total cost of \$225. The real estate man who made the deal knew the value of oak flooring, and it surprised the owner to think that he would be able to get such better value for the house that contained oak flooring. The house that brought \$5,000 contained soft pine $3\frac{1}{4}$ inch face floors. This proved such a good investment for the owner that he has now had some other houses that he owns floored with $\frac{3}{8}$ inch stock over old pine floors. Real estate dealers always emphasize oak flooring when they advertise property for sale or for renting, as they are sure that oak flooring will bring better renting and selling values, besides getting a better class of tenants.

Oak flooring is made in two thicknesses, namely $1\frac{3}{16}$ and $\frac{3}{8}$ inch and can be had in four grades in the heavy stock and two grades in the thin stock. Formerly it was considered quite a luxury to have an oak floor. Nowadays a modern home is not considered complete unless oak floors are laid. It is very sanitary and requires but very little care to keep clean.

W. L. CLAFFEY.



Trap-Door Sky-Light

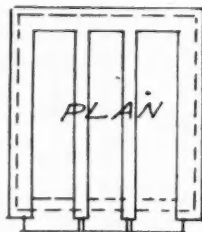
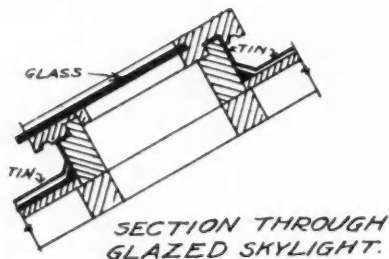
To the Editor:

Canton, Ohio.

What is the proper way to frame a sky-light door in a roof? I want one on the trap-door order, not very large, but rain-proof.

GEORGE THOMPSON.

Answer: The accompanying diagram shows an approved weather-proof arrangement for a small glazed trap-door sky-light that should suit the purpose. The flashing metal is brought well up onto the timbers framing the opening, on all four sides. The plan view shows the glass put in in three



Details of Trap-Door Sky-Light

lights, which makes the window less likely to be broken. A rabbeted joint connects the sash to the frame all the way around. Four-inch wrought iron broad butts hinge the door at the upper edge. An ordinary hook and eye fastener will secure the trap door from the inside.

EDITOR.

Penn. Builders

To the Editor:

Ravine, Pa.

You will find herewith picture of building I put up from one of your designs. You will notice how many changes I made in the construction. It is 38 by 20 by 18 feet high,



Contractor Barr, Clients and Men

and cost \$1,550.00. You will notice my photograph in picture marked X and on my left-hand side you will find my tin-smith, and right in front of the horse head you will find Mr. and Mrs. Boltz and their son, for whom I was putting it up. On the rear porch you will find four of my carpenters, as follows: Chas. Klinger, Pine Grove, Pa.; Robt. Sattizahn, Pine Grove, Pa.; Peter Rumpf, Ravine, Pa.; Jno. Miller, Tremont, Pa. The lumber dealer in the wagon is Chas. Zerbe, Pine Grove, Pa.

The interior of this house is laid out with latest style half-open stairway. This picture shows the east side elevation.

R. BARR.



Cutting Fascia Moulds

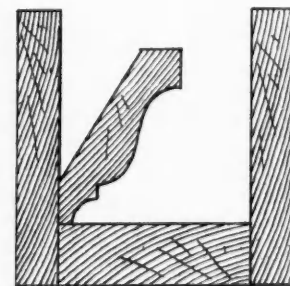
To the Editor:

Benjamin, Texas.

Please tell me through your columns how to make the cut in a miter box for a shingle mould that runs down the fascia of gable and along the fascia of the eave. A SUBSCRIBER.

Answer: Not knowing the conditions referred to and as there are several, we answer as follows:—

If the question refers to the return on a square corner, with the eave fascia at right angles to the pitch, then all that is necessary is to place the mould in the box as shown and cut on the 45 degree angle. On the other hand, if the fascia of the eave is plumb, then the two moulds will not member. Again, if the question refers to a side gable with the fascia of the eave at right angles to the pitch, they will not directly member because their backs are resting at different angles. In this case, it is better to place the moulds as they would naturally come and put in a return which will run to nothing at the top. The bottom edge will be the length of the run in the spring of the mould. The cuts can all be made on the 45 degree angle provided the moulds are placed in the box at the proper angle.



A. W. WOODS.



Plaster-Board

985,207—Patented Feb. 28, 1911, by David E. Roberts, of Fort Dodge, Iowa.

This improved plaster board is so constructed that it will not easily break but will be strong and tough. To this end twine strings such as indicated at (12) are embedded in the

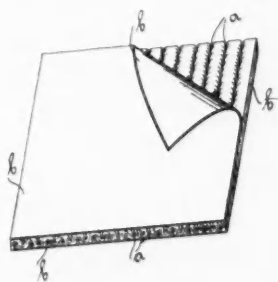


Plaster Board Reinforced with Twine Strings

board, preferably adjacent the edges where the nails are to be driven. These strings serve to reinforce the board and prevent the nails from breaking out.

Reinforced Cardboard and Roofing-Plate

990,299—Patented April 25, 1911, by Hermann Schlisske, of Hanover, Germany.

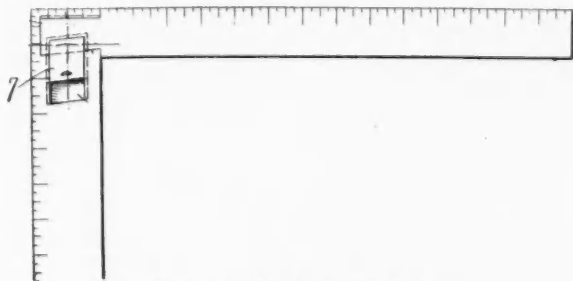


This invention is by a foreigner and it is stated that it relates to an improved board which may be used for packing, roofing, wall and floor covering purposes. The board consists of outside sheets of cardboard (b) with a filling of oiled jute in which metallic reinforcing wires (a) are embedded.

Knockdown Carpenter's Square

991,076—Patented May 2, 1911, by James L. Noble, of Oakland, Calif.

This invention seeks to provide a steel square which may be taken to pieces so as to be more readily packed in a tool kit. A dove-tailed socket and tenon is formed on the respective parts which, after being fitted together, are locked



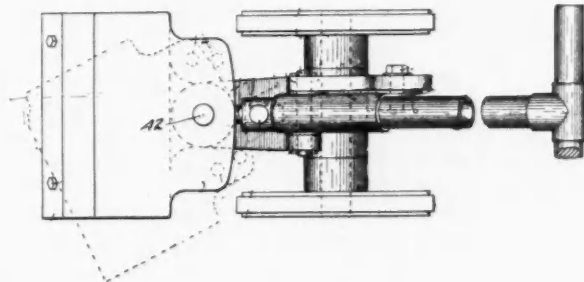
New Type of Knockdown Steel Square

by means of a slide (7) which works in under cut guideways. The inventor claims that this joint produces a perfectly rigid and satisfactory connection.

Scraper with Pivoted Blade, Adjustable

989,726—Patented April 18, 1911, by Peter Rudd, of Chicago, Ill.

The object of this invention is to provide a simple wheeled scraper arranged so that the blade may be angularly adjusted while the device is in operation. To this end the



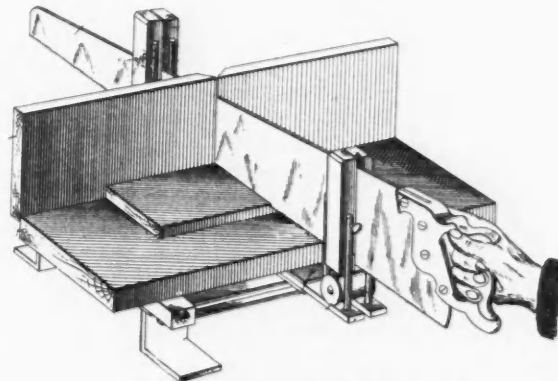
Floor Scraper Blade is Pivoted and can be Turned to Either Side as Indicated

blade is pivoted on a vertical pin 42 and is connected by a crank pin with the handle in such a way that by rotating the handle the blade may be swung to one side or the other as indicated in dotted lines.

Folding Mitre-Box with Wood Posts

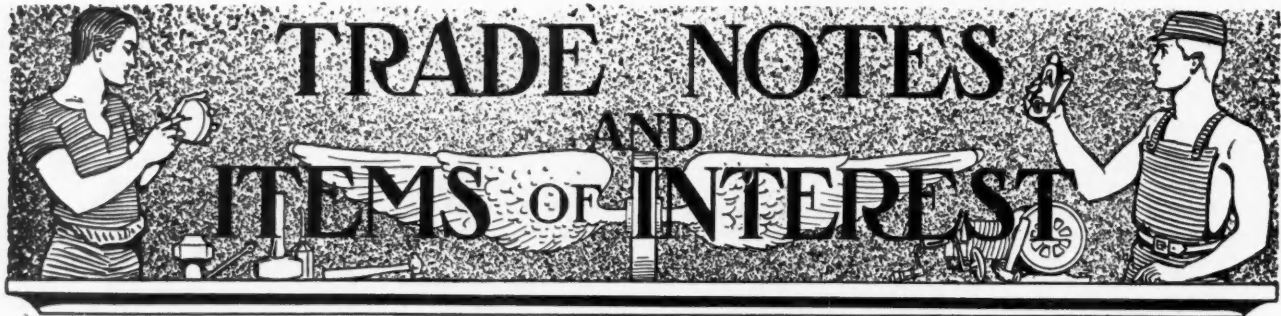
991,947—Patented May 9, 1911, by John A. Campbell, of Boston, Mass.

This improved miter box is provided with wooden guide posts for the saws which are secured between fixed studs so



Saw Guides are Wood and Renewable

as to be readily renewable and detachable. The parts of the box are so arranged that they may be folded into compact form for the purpose of packing.



Secret Closets

If it is true that woman can not keep a secret, there is no use in the world for a secret closet, because every one would know where it was. But there is a use for them, and a very definite one, and probably that proves the contrary.

It is necessary, says Edward E. Hoxie, writing on this interesting subject in "Suburban Life," to have some place for the storage of silverware and jewelry which is ac-

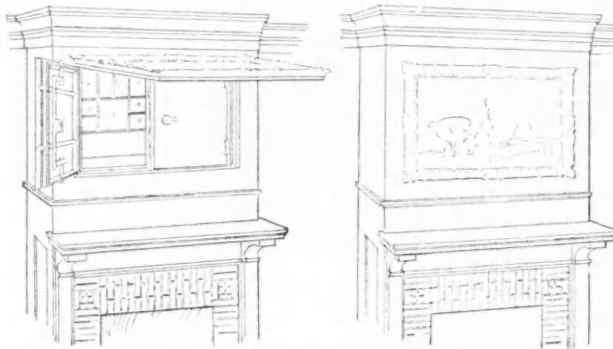


Fig. 1. Fireproof Safe Hidden Behind Painting Mounted on Hinged Panel

cessible after the vaults are closed. And a safe is one way, which, however, is open to the objection that it can be cracked.

A secret closet, if the secret is kept, is free from that objection, because it is difficult to crack a thing which you don't know the location of. If a safe and a secret closet are combined, there is a double security.

Fig. 1 explains a novel secret closet in which the entire closet is a fire proof safe. This closet was used for storing valuable papers, diamonds, jewelry and other small

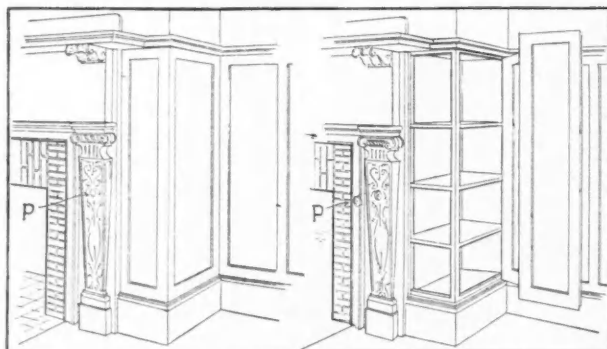


Fig. 2. Secret Mantel Closet—Closed and Open

articles. The picture which covered it was attached to a hinged panel, and this panel could be swung up against the ceiling where it was held by a brace similar to those used in trunk covers.

In one house a secret closet was combined with the mantelpiece, as shown in Fig. 2. In this case the arrange-

ment was such that a small plug in the front of an ornamental pilaster, marked P in the drawing, could be pulled out. When it was removed from its place, a keyhole was uncovered. The view to the left shows how the paneling around the chimney looked when the secret closet was closed and locked.

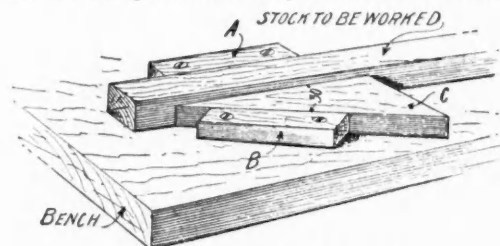
The paneling was then continuous and, the side door being pivoted at the top and bottom, there were no hinges exposed to view and nothing to suggest that the corner was not solid. Any skilled craftsman could construct such a closet, and the only care is to see that the doors are closely fitted, to prevent large cracks which might arouse suspicion.

In the view to the right the door is shown open with the four shelves exposed to view.

The great difficulty in a secret closet is to keep the secret. And the man who builds one will have to devise how this is to be done. He may decide to form a secret society and admit certain members of his own household into a sort of "black hand" arrangement, or he may take other provisions for guarding the hoarding place. But in any case it is well to provide some means whereby, in case of death or other calamity, his executors may be able to find access.

A Simple Vise

The accompanying engraving shows a very handy and easily made vise or clamp contributed by B. Francis Dashiell to the



Idea for Vise Rig for Bench Top

Scientific American. At A is a piece of dressed hardwood 12 inches by 2 inches by 1 inch. It is screwed upon the bench or table top. Another piece B of the same dimensions is screwed on about 8 inches away and at an angle of 30 degrees to A. A triangular piece C with its hypotenuse about 15 inches long is used as a wedge.

The stock that is to be worked is placed up against the piece A, and the wedge C is driven up tightly, thus clamping the stock firmly.

Bent by the Sun

The towering Washington monument, solid as it is, cannot resist the heat of the sun, poured on its southern side on a midsummer's day, without a slight bending of the gigantic shaft which is rendered perceptible by means of a copper wire, 174 feet long, hanging in the center of the structure, and carrying a plummet suspended in a vessel of water. At noon in summer the apex of the

monument, 550 feet above the ground, is shifted, by expansion of the stone, a few hundredths of an inch toward the north. High winds cause perceptible motions of the plummet, and in still weather delicate vibrations of the crust of the earth, otherwise unperceived, are registered by it.

Handy Case of Tools

An improvement in handy carrying cases, that will be appreciated by the carpenter, is the C. E. Jennings' Arrow Head Brace Handle Tool Outfit No. 65, illustrated herewith. The unique feature of this is that the brace acts as a handle for the case. The case itself is the shape and size of an



Tool Case Carried by Brace Handle

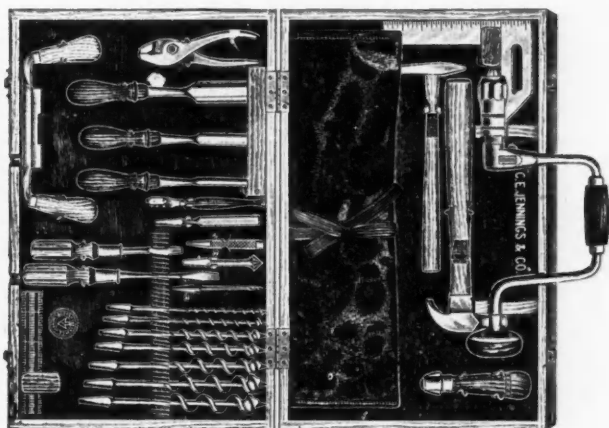
ordinary leather "dresssuit case" and so is easy and convenient to carry by the side.

The case is strongly made of wood trimmed with metal corners and suit case bolts.

This tool outfit case contains forty warranted tools, as illustrated. These include an assortment of auger bits, gimlet bit, chisels, combination pliers, glass cutter, countersink, nail set, screw driver, drawing knife, carpenter's rule, two hammers, ratchet brace, try and mitre square, tool holder with ten tools, and last, but by no means least, set of six saws with take-down handle—the new Garland Adjustable Take-Down Saw Handle and Set recently illustrated in these columns.

This set of saws is contained in the leather case shown in the illustration.

This tool outfit case will be welcomed by carpenters as a



Tool Case Open Showing Assortment

handy means of carrying their tools and keeping them in good order. It is also suitable for camping and outing parties, motor boats, for farmers and for general home use.

The outside dimensions of the case when closed are 21x13½ x4 inches. The net weight is about 19 pounds. C. E. Jennings and Company, 42 Murray St., New York City, will send full information on request.

Bennett's "Plumbing"

We are in receipt of a copy of the third edition of "A Manual of Technical Plumbing and Sanitary Science," by S. Barlow Bennett, Consulting Sanitary Engineer, Newcastle-on-Tyne, England. Mr. Bennett is publishing the book himself. It contains a large amount of information which is, without doubt, extremely useful to all plumbers, builders, sanitary inspectors, architects and surveyors.

The volume embodies the results of the author's many years of practical experience in the trade, as well as in teaching large numbers of students. It deals with every branch of the subject in a clear and thoroughly practical manner.

Felling Trees by Fire

A method of felling spruce trees by fire, which a correspondent, writing to *Popular Mechanics*, says will work, is shown in the sketch. A hole is bored horizontally into the trunk of the tree for about 1 foot, and another hole bored at an angle to meet the first one (Fig. 1). Hot coals are placed at the intersection of the holes so as to ignite the

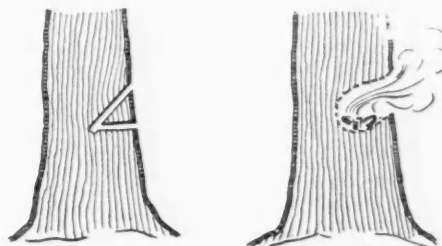


FIG. 1

FIG. 2

Felling a Tree by Use of Fire

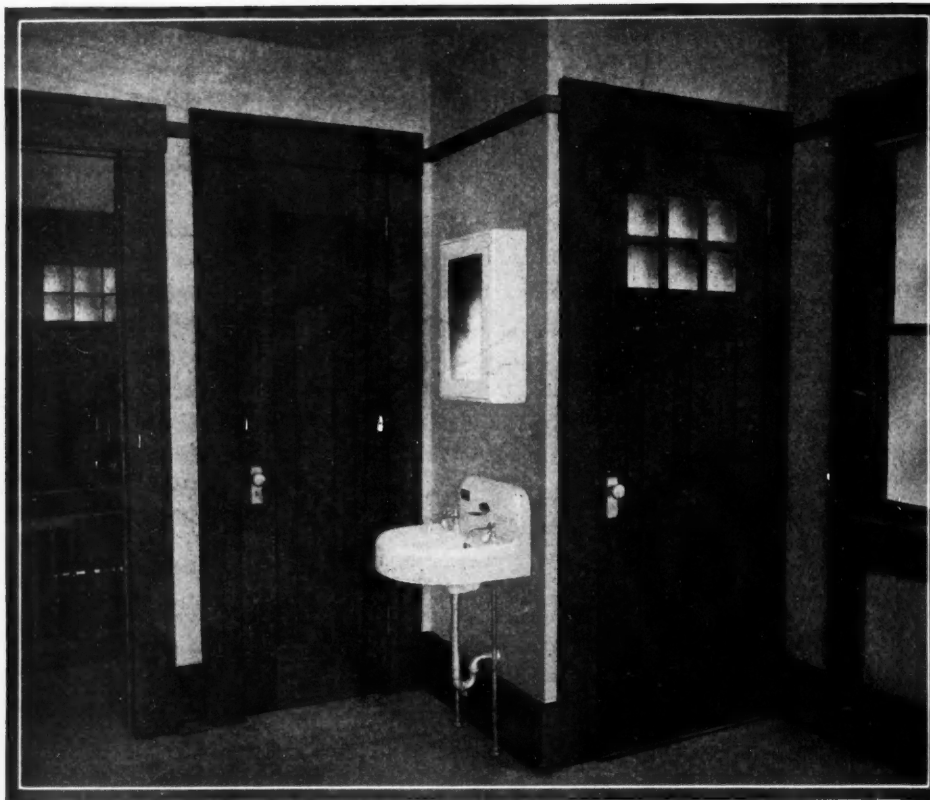
pitch running from the pores. The draft will cause a rapid combustion and in a short time the tree will be burned through, causing it to fall toward the burning side. This method has been tried out near Portland, Oregon.

Red Gum Popular with Builders

Because of the beauty of color and figure and the fact that red gum will give good service, this wood is coming into favor, not only as a material for doors but for the manufacture of other interior trim as well. Its use in this way has been highly developed in New York and Pittsburg, many of the most handsome apartment houses, residences, stores and office buildings having been finished throughout with red gum.

One of the most interesting features, one of decided significance, is that these buildings finished in red gum rank among the best constructed and the most costly in the city.

The old cry that red gum would warp, split, twist and curl is shown to be unreliably founded when material entering into construction of interior trim or doors is properly prepared for use. The use of red gum in Pittsburg began four or five years ago and buildings finished with this material have been subjected to every reasonable test and there has been no deterioration in the doors or trim. It has been shown that degrees of moisture or dryness have produced no greater effect on red gum than they would have on any other wood used under the same conditions.



A Glimpse of the Rich yet Simple Elegance Characterizing the new "Craftsman" Residence of Mr. Fred M. Hill, at Great Neck, L. I., (N. Y.). All the Woodwork you see here is Red Gum

Red gum has been introduced into Europe under the trade names of "Satin Walnut" and "Commercial Circassian Walnut," and is used by English and Continental architects and furniture designers. It is there considered as the natural successor of oak. It is probable that the constantly increasing cost of oak alone would have forced recognition of red gum in the same manner that oak was recognized and used when black walnut became more scarce and expensive. In Chicago a notable instance of the use of red gum for interior finish is the La Salle Hotel, whose architects, Holabird & Roche, specified its use practically throughout.

In using red gum for interior trim, the builder has a choice of many color schemes. Finished in the natural color, it gives a satisfactory effect, since nearly all red gum has a pleasing figure which will be brought out by the filler and varnish. It can be stained successfully and when properly done is very handsome. If different color schemes are desired any of the following stains may be employed with entire success; dark mahogany, Flemish brown, forest green, Mission and Dutch brown. When dark mahogany is used one of the most beautiful colors imaginable is produced. The stain is not sufficiently heavy to entirely eliminate the figure and the result is a dark mahogany finish with the original beautiful figure of the red gum plainly visible. When any of the other stains are employed similarly satisfactory and beautiful results are obtained.

Red gum may be considered as an excellent flooring material. If properly seasoned it will not shrink, and the manufacturer who understands his work will have his wood all shrunk before he sends it through the matching machine. It will not splinter. The wood has no grain, hence one part of the surface offers the same resistance as every other part and the floor wears smooth. Red gum is tough and durable and selected stock can be used for flooring in the most expensive buildings. If finished in the natural color it will make a flooring pleasing to the eye and in every way desirable. As illustrating the desirability of red gum, the floor of the

largest dancing pavilion in the world, situated at Sandusky, Ohio, may be mentioned. It covers an area of more than an acre. A floor as large as this, loaded with hundreds of people, is subjected to the maximum of strain and wear, but after five years of constant use, it is stated, it is as good as the day it was put down. The soil about the pavilion is sandy, and notwithstanding the extraordinary care exercised more or less sand gets on the floor. So far it shows no effect of this additional cause for wear and tear.

One of the greatest points in its favor as beveled siding is that it contains no heavily defined grain, in this respect being on a parity with yellow poplar. Red gum siding is not streaked with pitch nor are the wood cells filled with resinous matter which prevents the boards from absorbing paint.

The builder should bear in mind, however, that red gum siding should be primed as soon as possible after being put in place. This recommendation applies to practically any kind of siding but should be observed particularly when red gum is used.

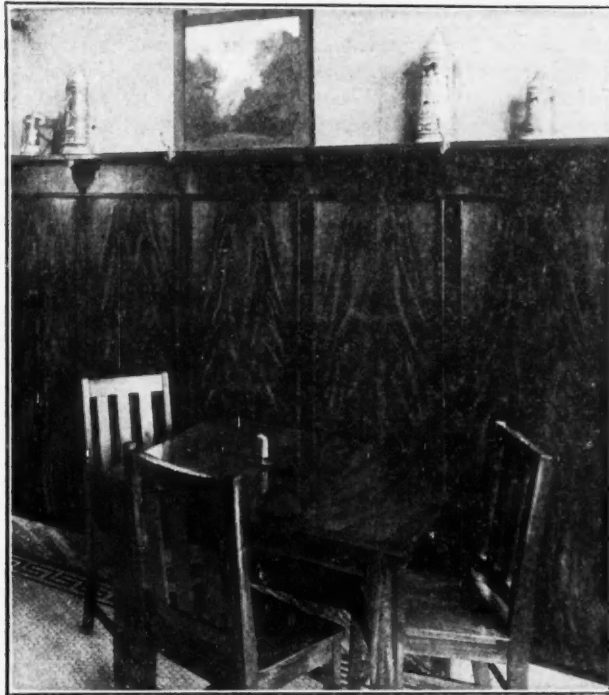
Deco Veneer

One is often impressed, in the progress of trade, with the truth of the old saying that "necessity is the mother of invention." And just as often is it found that invention inspired by necessity produces something in the form of a substitute, superior to the original product. In the line of building construction two splendid illustrations are found in the introduction of steel and concrete.

The latest and most novel development in building materials has been brought out by the Deco-Veneer Company of Indianapolis, which is introducing a product in the form of veneers, the result of two years of experimental



A Sun Room in Circassian Walnut Deco Veneer



Section of Stein Room; Wainscot of Circassian Walnut
Deco-Veneer

development, and which bids fair to revolutionize things in the line of interior construction of a decorative character. The product, which is known as Deco-Veneer, consists of a thin wood veneer, mounted, according to the requirements of its intended usage, on pulp board, asbestos, steel or heavy cardboard, and marketed in the form of panels or sheets in sizes from 12" by 24" to 48" by 144".

The woods used comprise all the domestic and imported varieties in single selections and harmonious combinations of two or more woods.

The manufacturers declare, with some degree of emphasis and pride, that these veneers are but one hundredth of an inch in thickness. The first thought of the woodworker is that this is impossible, but it is in the process of glueing this wafer-like sheet to its base that the secret of the invention lies. It is argued that not only is this a mechanical accomplishment from the veneer cutter's standpoint, but a distinct advantage to the product itself.

Being less than one-third the thickness of ordinary commercial veneers, more than two-thirds of the natural "pull" of such veneers is eliminated, and being single ply provides immunity from the predisposition to "checking."

Yet this product has ample body to withstand the various processes of the finisher and is turned out with a surface showing all the lustre effectiveness of a piano top or the handsomest piece of furniture.

Its field of usefulness embraces all the forms of interior decorative work available to the cabinet maker and woodworker—wainscots, beamed ceilings, door panels, show windows, etc., and its pliability admits it to the field of columns and coves, in general building construction. Mounted on either asbestos or steel it is available in the fire proof districts of the cities and to the decoration of steel railway coaches. It has been demonstrated that this material mounted on either steel or asbestos will withstand the torch blast without creating a flame.

Mounted on cardboard it finds a special market among picture frame manufacturers as mat boards, supplying a domestic made product in competition with the imported article of a similar character.

It is claimed that this new product may be installed in the simplest possible manner, "without the aid of a cabinet maker," for it leaves the mill finished and ready for installation, or sanded and ready for the finisher either before or after installation, as preferred, in sizes according to specification. In order to complete the simplicity of its installation and to guard against barriers which might jeopardize the unbroken harmony of the complete job, its manufacturers furnish panel strips of uniform material and mouldings, the application of which renders possible the secreting of every nail head. Mechanically this product seems complete in every detail.

Considered from an aesthetic point of view, it shows possibilities second to nothing of its kind, such as the reproduction of the same plume in consecutive panels of highly figured woods as mahogany and circassian walnut, together with the almost limitless display of matched figures with invisible joints.

It may be truly said that this new material offers opportunities not only to the decorator but to the wood fancier, within reasonable bounds of cost, such as have heretofore been unrealized.

A finely illustrated booklet and samples will be sent free to readers of the AMERICAN CARPENTER AND BUILDER on request. Address the Deco-Veneer Co., Indianapolis, Ind.

Specialties for Builders

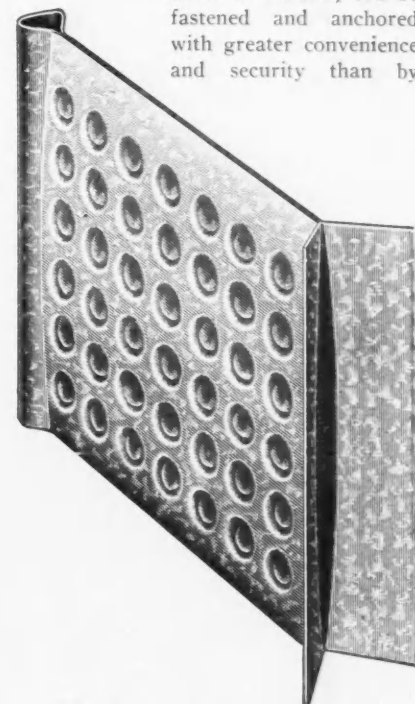
The accompanying cut shows the Niagara Galvanized Wall Plug, made by the Niagara Falls Metal Stamping Works, manufacturers of hardware specialties, Niagara Falls, N. Y. It is built into walls of brick, stone and concrete, and can be placed exactly where wanted. It can be put in place in one-tenth the time it takes to dig out mortar and drive in a wooden plug, and is fourfold more secure. Takes a

nail to perfection, and holds it with unyielding grip. Being galvanized, it will last as long as the building. By its use furring or lathing strips, wall strips, shelf brackets, base boards, window and door frames and casings, and any other attachment to walls, can be

fastened and anchored with greater convenience and security than by



12-Inch
Galvanized
Wall Tie



Niagara Galvanized
Wall Plug

any other means. Every building contractor needs wall plugs and many now use them even when not specified in their contracts.

This Company also make the 12-inch Galvanized Wall Tie illustrated. These come in two widths, 1 3-16-inch and 2 3/8-inch wide respectively called single width and double width. The manufacturers have introduced into these ties principles of the keystone, and, with top and bottom both bedded in mortar nothing but a break can move them in the slightest. They are perfect for use in brick walls, used crosswise or lengthwise where there is danger of cracks or openings occurring in the walls from faulty foundations or any imperfections in mortar or laying.

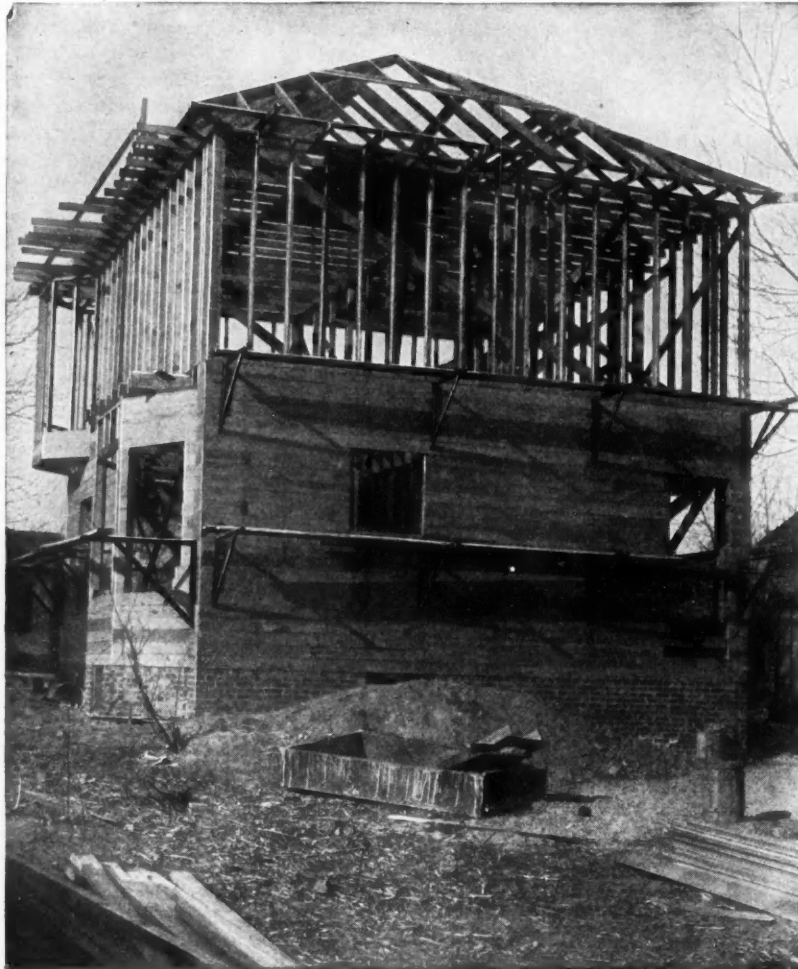
Samples of these builders' specialties, together with full information mailed on request to our readers by the Niagara Falls Metal Stamping Works, Niagara Falls, New York.

A Folding Bracket for Builders

Our readers will be interested to learn of a new folding scaffold bracket made by Richards-Wilcox Mfg. Co., Aurora, Ill. This bracket is made of heavy channel shaped steel, well japanned and jointed. The sway brace prevents any side motion when in use and the hook with tail screw gives additional security when fastened to the 2 by 4 timber.

The folding feature makes this a compact form to carry from one job to another and when not in use these brackets take up so little storage space.

Contractors save considerable in time and labor on their contract work and our readers are requested to write for prices and illustrations to Richards-Wilcox Mfg. Co., Aurora, Illinois,



Folding Scaffold Brackets of the Richards-Wilcox Mfg. Co. in Use

Roberts Doweling Jig

An improved tool which carpenters are finding to be a useful adjunct to their working equipment is the patent doweling jig illustrated. With this tool carpenters can readily make odd doors and screens in their own shop much more economically than they could have them made to order with the added satisfaction of giving the customer a better job. The working parts of the tool are milled true and the finish is full nickel-plated, thus giving it a very attractive appearance. It is made as light as possible, consistent with strength, its actual weight complete being only 1 lb. and 3 oz. The guide for boring dowel holes can be quickly set to the desired position where it is firmly held during the operation, thus making it impossible to bore crooked or for the bit to be diverted. The depth gauge being firmly held on the bit insures the desired depth of hole. The large end is for ordinary boring. The jig takes in any thickness of material up to 3 inch and any size dowel up to 3/4 inch inclusive.

The claim is made by the manufacturer that it is only a question of moments to change from one size guide to another. The tool is constructed entirely of iron and steel, and with care will last a lifetime. The outfit, in addition, to the jig, consists of five different sized guides; namely, 1/4, 5/16, 3/8, 7/16 and 1/2 inch; one clamp hook and one depth gauge, and convenient guide holder.

The Roberts Doweling jig is being placed on the market by the Frazier Co., 404 Coleman Bldg., Philadelphia, Pa. Those interested should write them.

New Traffic Manager for Cement Shows

The Cement Products Exhibition Co., 72 West Adams St., Chicago, has taken a step in the right direction in appointing Mr. F. E. Guy, Frick building, Pittsburg, as traffic manager. Mr. Guy is an expert in transportation matters and should be of great assistance to the exhibitors and to the management in looking after and advising as to the shipping, routing, rating and delivering of exhibits, securing reduced rates from the railroads and so on.

Considerable difficulty has been experienced in past exhibitions by the exhibitors in shipping their exhibits so as to arrive at their destination in time for the opening of the shows at the lowest rates and with the least amount of trouble. This is particularly true of New York on account of the congested and complicated freight handling conditions in that district.

It is the intention of the Cement Products Exhibition Co. to fully inform the exhibitors at the Cement Shows as to the service Mr. Guy is prepared to render in looking after the consigning, routing, shipping and delivering of material for exhibition at the Cement Shows.

Grandfather used to make *honest* shingles out of white oak, with a draw knife. But if grandfather could go through some wood shingle mills *to-day*—well, he'd "throw a fit," that's all!





Where the Big Bargains Come From

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

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

New Bargain Catalog Ready

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

New Plan Books—Just Out

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

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

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

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

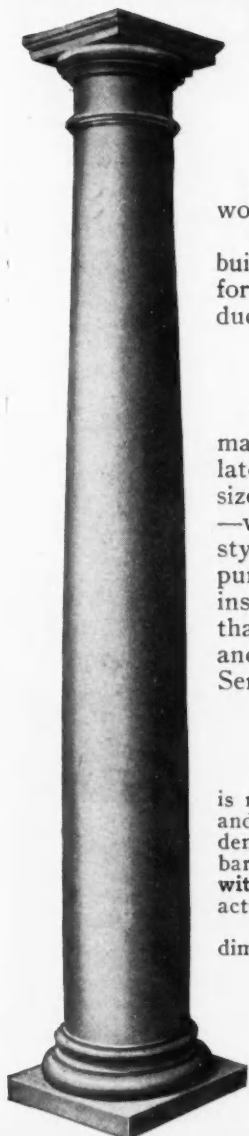
We Can Save You Hundreds of Dollars This Season

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

GORDON-VAN TINE COMPANY

590 Federal Street

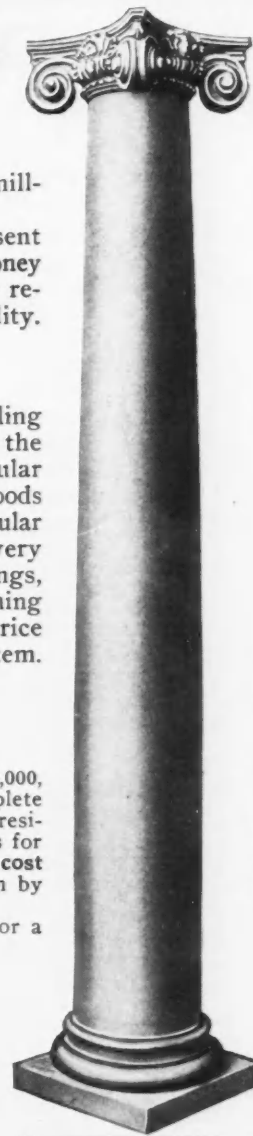
Davenport, Iowa



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

\$163

Dealer's Price, \$3.25



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

\$222

Dealer's Price, \$4.75

"AMERICAN"

TILTING TABLE

BAND SAW



In the design of the "American" Tilting Table Band Saw we have adopted every improvement, every up-to-date time-and-labor-and-money-saving detail, which experience has shown to be requisite to saw success.

If your experience has been limited to the use of the average band saw, you will know in a moment the value of such a machine as we have made in the "American".

An "American" Band Saw should be in every woodworking shop where the best work at the least cost in the shortest time is the ideal sought.

You can have your choice of two sizes in the "American"—27 or 36 inch—and whichever you buy, you can expect more from it than from any other band saw you ever used.

"Everything for the Sawmill and Woodworking Plant"

AMERICAN SAW MILL MACHINERY CO.

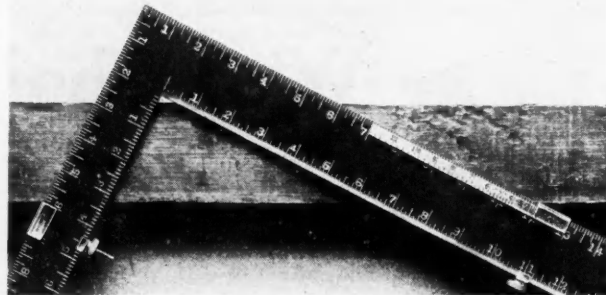
82 Main Street
HACKETTSTOWN,
NEW JERSEY

1655 Hudson Terminal
NEW YORK CITY
NEW YORK

The Tool Guaranteed to Make You a Steel Square Expert

Probably no one tool or instrument is more useful to the carpenter or builder than the steel square. By its use the most difficult problems in framing are easily and accurately solved. The steel square is for this reason found in every tool kit, even though its owner may not fully understand the principals on which it should be used in framing or laying out his work. Complete as the square is, certain manipulations are necessary in laying out even the plainest work.

For many years Mr. John Parkhill of Rochester, Minn., has studied to produce a tool that could be used with the steel square to simplify the problem of its use, and at the same time make for greater accuracy and rapidity of the work with the steel square. The results of his efforts are embodied in his new Pitch Gauge, illustrated herewith.



Parkhill Pitch Gauge Set for Marking Common Rafters

As will be seen it consists of two parts which may be clamped to the square at any point on either the tongue or blade, thereby forming a perfect "fence" for laying out any class of work. Setting can be changed instantly and fixed with thumbscrew. To lay out a common rafter with a rise of 6 in. to the foot for instance, we know it is only necessary to use 12 in. on the blade and 6 in. on the tongue and the line across these marks will give us the length per foot to run. This is shown in the illustration. But it is a more difficult matter to hold the square exactly on these marks while we mark off for one foot, and this is one of the chief limitations of the steel square.

It will be noted that one of these pieces—the gauge proper—has a long extension arm or strip which is graduated with a special series of numbered marks. These marks are the key to the tool, when explained by the simple rules contained in the directions for use, and serve to eliminate all calculations thus enabling any one to quickly mark with mathematical accuracy for any roof pitch, all rafter lengths, cuts, bevels and backing. The series of marks on the Pitch Gauge besides serving to mark the side bevel on jack rafters, bevels on fascia, placher and sheathing, and hopper bevels, also serves to mark length and cuts of irregular hip rafters.

While it might seem that this is too much for such a simple appliance to do, the patentee and manufacturer, Mr. John Parkhill, Rochester, Minnesota, will be glad to explain its use in more detail. The terms on which the gauge is sold permits its return within thirty days, but we believe the gauge is so useful that there will be repeat orders rather than a request for a refund.

Natural Slate Blackboards

The Genuine Franklin Tunnel Hand Rubbed Natural Slate Blackboards, are quarried and manufactured only by the Slatington Slate Co., Slatington, Pa. They are said to be from the hardest slate quarried, and of such fine textures (close grained, not porous) that it is susceptible to a very high polish. They are all extra hand rubbed and are therefore

Put It At Work In Your Shop



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

Stop pedal-pushing and crank-turning! Let the

Fuller & Johnson "Multimotor" Shop Engine

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

**Perfectly Simple
Absolutely Safe**

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

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

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

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

Fuller & Johnson Farm Pump Engine

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

Engine Book Sent Free!

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

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

"Handy as a Pocket
in a Shirt"

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



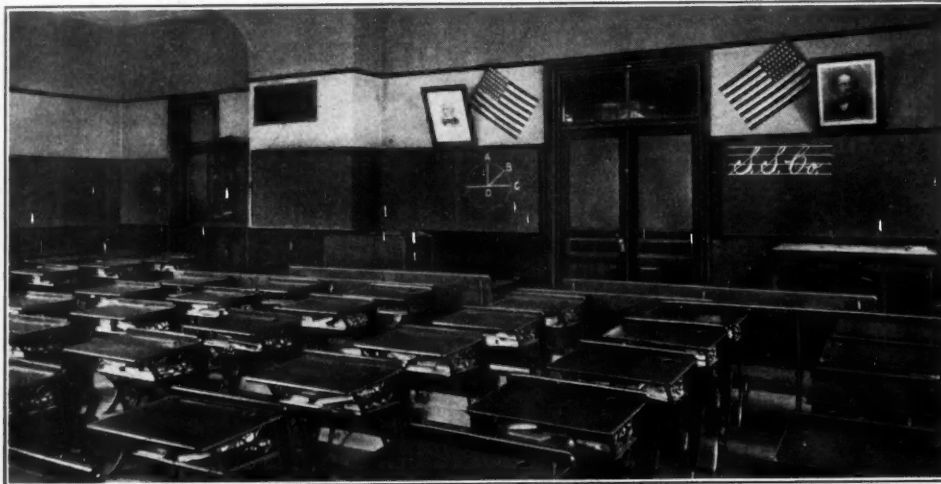
Fuller & Johnson
"MULTIMOTOR"
Works Like Ten Men

FULLER & JOHNSON MFG. CO. 10 Ames Street | Madison, Wis., U. S. A. (Established 1840)

brought to a perfect smooth writing surface, so that a clean white line can be made with the smallest amount of chalk used.

This kind only will retain its polish and finish.

Genuine Franklin Tunnel hand rubbed natural slate blackboards are unsurpassed in the school room for cleanliness, durability, smooth writing surface and uniform lasting color and are superior to any wooden or artificial blackboard ever made.



Modern School Room—Showing installation and finished appearance of the Slatington Slate Co's. Natural Slate Blackboards.

These are the reasons why Genuine Franklin Tunnel hand rubbed natural slate blackboards are in use in thousands of Schools, Colleges and Universities throughout the United States, from the Atlantic to the Pacific and from Mexico to the northern regions of Canada and as far north as Alaska. They are manufactured and finished (hand rubbed) in the most approved manner to give the smoothest, cleanest and best writing surface. The best results are obtained only by the use of hard stones, therefore not fading; but close-grained, fine in texture and susceptible to a high polish.

The blackboard stones are taken out of the earth similar to roofing slate stones. They are sawed and split to any size and then put on a large revolving rubbing bed and rubbed down with sand and water to a perfectly level surface. They are then taken on the finishing table and all hand rubbed smooth and highly polished. All those interested in this subject should write the Slatington Slate Co., Slatington, Pa. They have some interesting and valuable data which will be sent free on request.

A Rapid Cut-Off Saw

Realizing the many advantages of having a small inverted swing cut-off saw in the wood shop, the J. A. Fay & Egan Co., have designed a machine called their No. 223 Inverted Swing Cut-off Saw.

This machine cannot be excelled for rapid cut-off work of all kinds. It occupies small space and accomplishes the work more conveniently than a large machine—a slight pressure on the foot treadle operates this machine—leaving the arms

Quality Is
Economy

*“Does it Pay to do Good Work?
The man who asks that question
is the man who does poor work.”
William McAdoo*

In no other part of the builder's work does *good* work pay such big dividends on the investment as in the finishing. Nowhere else does the best material, dollar for dollar, add half so much to renting or selling value, or half so much to the occupant's pleasure and builder's reputation. No other finishing materials give such elegant results at such low cost as the Varnishes, Colors, Stains, Enamels and Konkreto made by

The Varnish
That Lasts
Longest

Murphy Varnish Company

FRANKLIN MURPHY, President
Associated with Dougall Varnish Company, Limited, Montreal, Canada

NEWARK,
N. J.
CHICAGO,
ILL.



How \$96 was saved on one Coal Bill!

UNDERFEED

THERE is *ever-increasing* profit in *handling* a heating plant that will make a saving like this. Architects and Building Contractors who *specify* the Underfeed Heating Systems—either Warm Air, Steam or Hot Water—are sure to add to

their own reputation, for Underfeed heating buildings always give greatest satisfaction on the score of all-winter-comfort. And the *saving* in the cost of operation is tremendous. T. S. Amidon, Superintendent of The Cream of Wheat Co. at Minneapolis, Minn., *saved \$96 on his last coal bill*. Last fall an Underfeed Hot Water Boiler was installed in his residence, replacing a boiler of another make. Mr. Amidon at the close of winter, wrote:

"Your Underfeed Boiler gave extremely satisfactory results. I heated twenty-one rooms with the boiler, using soft coal screenings costing \$186, and have some of the coal left. Last year it cost me \$282 to heat my house with the other boiler. I have no hesitancy in recommending the Underfeed Boiler as the best and most efficient I know of."

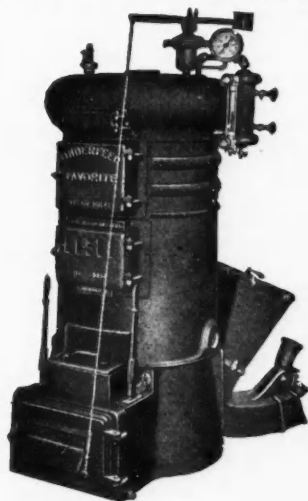
Because of the certainty of tremendously economical maintenance—*clean, even heat at least cost*—the Underfeed is everywhere recognized as the best possible heating *investment*. It insures a *saving of one-half to two-thirds* of coal bills, and ADDS to the renting and selling value of *any* building. Coal is fed from *below* and all fire burns on top.

The Peck-Williamson Underfeed

HEATING SYSTEMS WARM AIR STEAM-HOT WATER FURNACES-BOILERS

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

This illustration shows the Underfeed Boiler



There *are* many thriving Underfeed Agencies today whose pushers began by ordering *one* furnace. Now they are car-lot buyers. We *help* our agents make sales. All inquiries resulting from our *continuous* advertising are at once referred to dealers in the territory from which they come.

We not only stir up prospects, but we help dealers *sell* to them. Plans of our Engineering Corps are FREE.

Pea and buckwheat sizes of hard and soft coal and *cheapest* slack, which would *smother* fire in an ordinary furnace or boiler, yield in the Underfeed as much heat as most expensive coal in other heaters. Moreover, all smoke and gases *must* pass through flames and are consumed. These are greatest aids to saving.

Write TODAY for our 1911 Fall Sales Proposition to Dealers—It will PAY You

Let us send YOUR copy of the Underfeed Furnace Booklet or Boiler Catalog and fac-similes of many testimonials—all FREE.

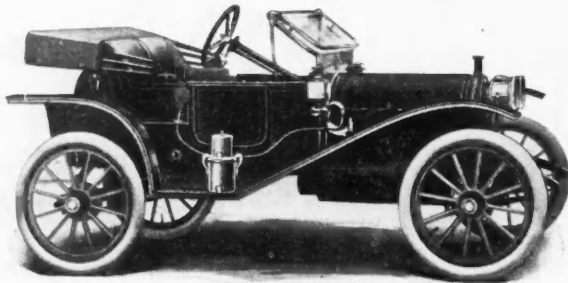
THE PECK-WILLIAMSON CO., 436 W. Fifth St. CINCINNATI, O.

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



TACKLE ANY KIND OF GOING WITH THEIR

Hupmobile



Runabout — \$750 F. O. B. Detroit, including gas lamps and generator, top, windshield, three oil lamps, tools and horn.

Here is one of the most interesting and remarkable accounts ever given of Hupmobile reliability and economy.

It comes from a well-known western contracting firm; and it shows what you could do with a Hupmobile in your own work.

Read it. Pay particular attention to the extraordinary service this car has given; and the low cost of that service.

MARSHALL BROTHERS
CEMENT CONTRACTORS
629 Chamber of Commerce
Phones Main 2209—A-1963

Portland, Ore., Jan. 14, 1911.

Smith-Cleveland Co.,
Agents Hupmobile,
City.

Gentlemen:—

On Feb. 10th, 1910, we purchased car No. 405, Model 1909. By speedometer reading this morning we have traveled 20,764 miles with it during that time; and there is not a rattle in it nor a part that needs replacement. Of course, we have been careful to use plenty of oil and to keep all nuts tightened and bearings adjusted as closely as is possible.

The car has been laid up nine days during that time; seven days of which was on account of a broken shaft replacement. This shaft had been run 12,000 miles and notwithstanding this fact your company replaced it. Other repairs will not amount to \$10. Indeed, upon figuring the total expense of 15,000 miles we found that the car had cost us, for operation and maintenance, a trifle under one and one quarter cents per mile.

We average on monthly runs about 23 miles to the gallon of gasoline and 190 miles per quart of lubricating oil for the engine.

Our work requires the most severe use of the machine, taking us on long runs, many times having to push it as hard as it will turn for many miles. It has never overheated to the extent of giving any trouble. Our business frequently requires driving over newly laid crushed rock, through brush and around unbroken land and we never hesitate about setting out for a point whether it be over mountains, crossing streams, or plugging thru the mud or slush. We have been towed but once and that was when the mud short-circuited the magneto. Since using a-rover this has not occurred.

If this is not enough we can give you facts and figures that will dazzle you on the wonderful performance of this machine. Any other man can get as much as we have if he will but treat his machine even half right.

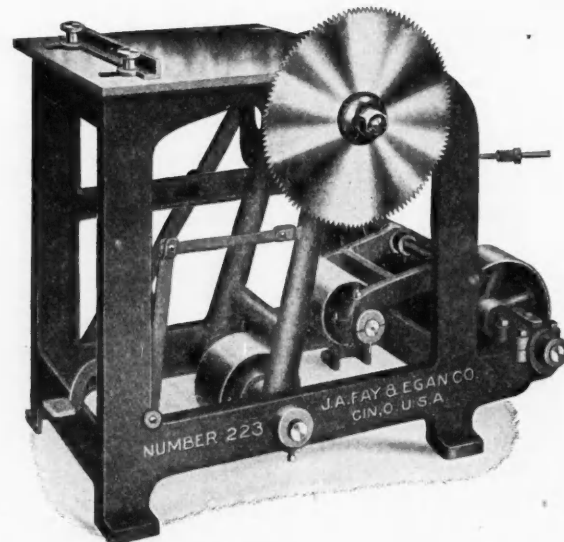
I neglected to say that we are on the second set of tires and that they are good for several thousand miles.

Yours very truly,
MARSHALL BROS.

Surely the least you can do is to investigate a car capable of making this remarkable record.

HUPP MOTOR CAR COMPANY
1255 Jefferson Avenue - - Detroit, Mich.

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN CARPENTER AND BUILDER



J. A. Fay & Egan Co's. No. 223 Inverted Swing Cut-off Saw

entirely free to handle the material being cut.

Simplicity was a feature aimed at in its construction. The saw arbor is mounted on a swinging frame with bearings in the base of the frame. It is operated by a foot treadle as shown in cut and is provided with the manufacturer's special counteracting lever, insuring an easy movement forward and a quick return.

An adjustable stop rod with collars is provided to enable the operator to make the stroke of the saw short or long as his work requires. The collars are cushioned to prevent any jar on return movement of saw.

Arbor bearings are adjustable and the mandrel is the manufacturer's expansion bush type to accommodate varying size holes in saws.

The machine has capacity for cutting off material 1 inch thick up to 20 inches wide, or 4 inches thick by 8 inches wide with regular saw. A 20 inch saw will cut off 6 inches thick by 10 inches wide.

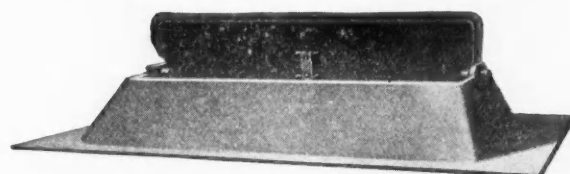
In the carpenter or builder's shop this machine should pay its first cost in two to three weeks on labor saving alone, in addition to doing more accurate work and requiring less power than hand or foot operated machines it will replace.

Further information can be had by addressing the J. A. Fay & Egan Co., 545-565 W. Front St., Cincinnati, Ohio.

"Dome" Damper for Fireplaces

Every carpenter and builder has some time or other been confronted with the question of a smoky fire place. Every owner generally wants the building contractors' advice or guarantee that the fireplace for his house will "work right." Builders everywhere are looking for the newest and best along the line of construction.

The illustration herewith shows the "Dome" damper, which is claimed to be a necessity to a properly constructed fire place. This damper is made by J. H. Bawden & Co., Freehold, N. J., and is furnished in various sizes. The flange forms an arch bar of ample strength to support the weight



"Dome" Damper—That has Made the Smoky Fireplace a Relic of the Past

Make this label your sure and permanent Guide to GOOD VARNISH

Don't let your customers spoil your handiwork by using anything less than the best varnish.

Make it a part of your business to recommend the use of

Berry Brothers' Architectural Varnishes

MEET ALL REQUIREMENTS FOR HIGHEST GRADE FINISHING IN BUILDINGS

TRADE LIQUID GRANITE MARK

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

WOOD LUXEBERRY FINISH

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

ELASTIC INTERIOR FINISH

For interior woodwork exposed to severe wear and finished in full gloss, such as window sills and sash, bathroom and kitchen woodwork, and stands the action of soap and water to an unusual degree.

ELASTIC OUTSIDE FINISH

For front doors and all other surfaces exposed to the weather. Dries dust free in a short time and possesses great durability under the most trying weather conditions.

LUXEBERRY WHITE ENAMEL

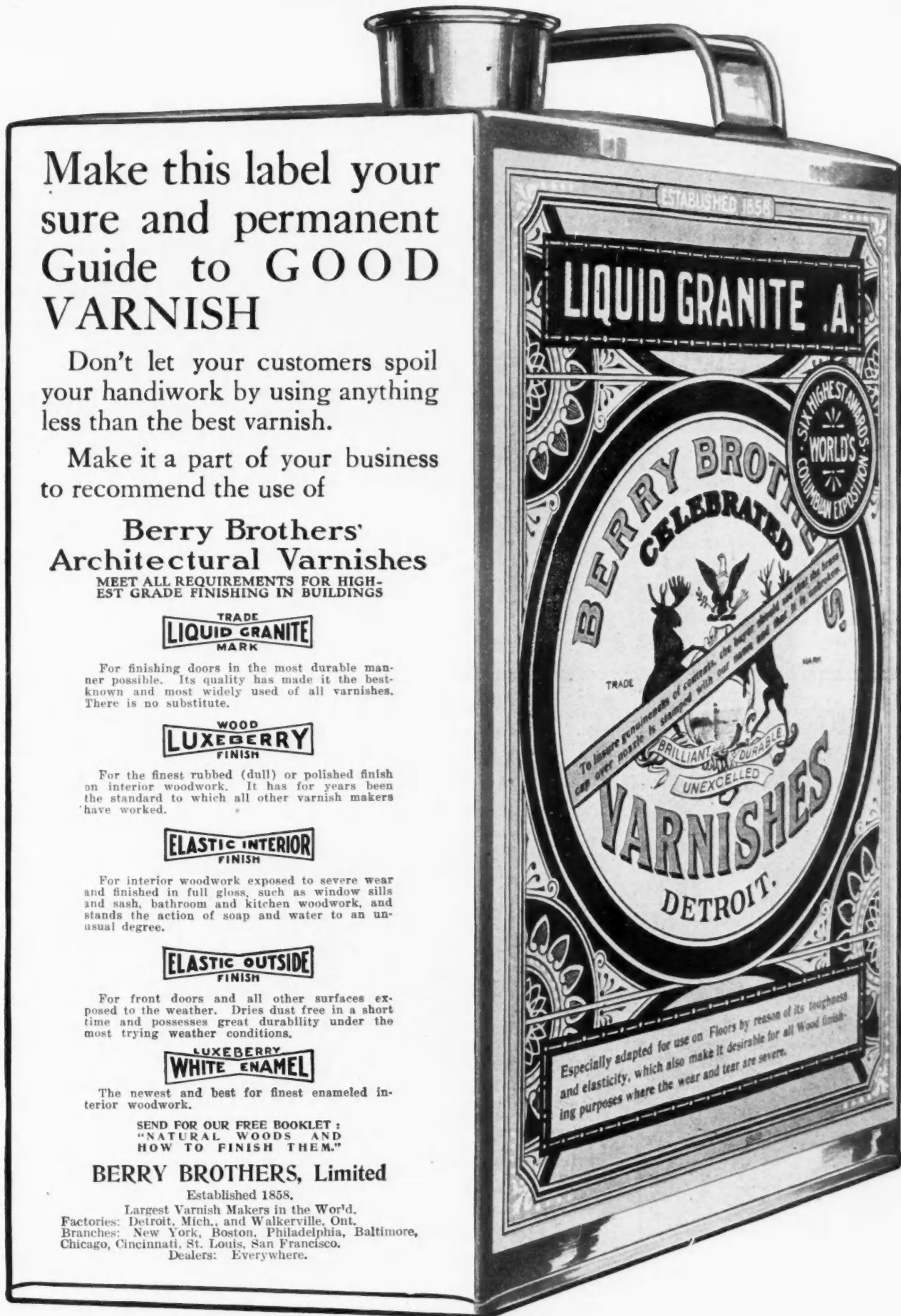
The newest and best for finest enameled interior woodwork.

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

BERRY BROTHERS, Limited

Established 1858.

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



of masonry of the chimney above. The smooth surfaces of the dome are arranged to induce the greatest ease of exit for the gases; and the proportions are scientifically worked out to exclude the fear of a smoky fireplace. The solid valve provides a means of closing the damper to the exclusion of the down-drafts which are so frequent in the warm months, thereby preventing carrying of soot into the room. The "Dome" damper is simplicity itself; a common poker will operate it.

J. H. Bawden & Co. solicit inquiries regarding this damper, its mode of operation, where it can be obtained in your vicinity, etc. This firm manufacture all kinds of fire place equipment, including French cove facings, linings, portables, flat dampers, ash pit doors and ash traps. Write for their catalogue.

Agents Wanted

The Sanitary Supply Company, 356 Allen Building, Toledo, Ohio are looking for live agents to introduce a new labor saving device for the home. This is known as the "Home Comfort," a self-feeding scrubbing and floor drying machine. It is claimed that every house keeper needs one of these machines and that it is only necessary to demonstrate it, showing the ease, rapidity and thoroughness with which floor cleansing is accomplished by its use to make a quick sale.

Exclusive territory is now open for agents, either men or women, who can give whole or part time to the work. The prospect of large earnings is confidently offered. The scrubbing machine itself is an ingenious, interesting device and the whole proposition is well worth investigating.

Antifriction Ball Tip Butts

We want to call attention again to the new Antifriction Ball Tip Butts being offered by the McKinney Manufacturing Com-

pany, Pittsburg, Pa. They are fitted with this company's anti-friction washers which are made of a special metal which this company have developed and perfected after a long series of experiments and severe tests.

There are no delicate parts to these butts to become deranged or lost. They require no adjustment and need no oiling. The claim is made that they permit the heaviest doors to swing easily, freely and noiselessly.

All sizes are equipped with the new non-rising pin, which is another patented feature, eliminating all troubles incident to partially lifted pins.

The McKinney Manufacturing Company make these butts in all standard finishes. They also make strap and T hinges, barn-door hangers and tracks. These items are fully described in their new 1911 catalogue which will be mailed to those interested on request. Address the Company, Department 4, Pittsburg, Pa.

Safety Scaffold Brackets

The manufacturers offer the Wheeler Safety Scaffold Brackets to overcome and do away with accidents as nearly as it is possible in human experience.

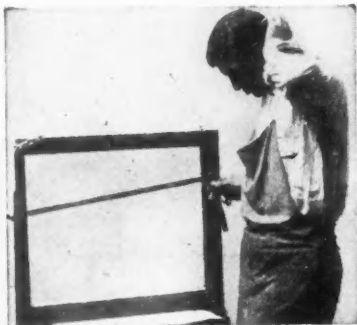
Experience has proven that one man, without assistance, can scaffold an average size house with them in half an hour and can take them down in less time. This means also a large saving in labor.

With these facts considered, it would appear that these brackets are worthy the consideration of every carpenter and contractor.

The American Steel Scaffold Co., 67 McGraw Bldg., Detroit, Mich., makers of these brackets, will no doubt give further information to any who write them.



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



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

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

You will find that once using the



(Patented Dec. 13, 1907).

MASTER SLIDE RULE

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

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

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

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

DAHL MANUFACTURING COMPANY

1 East 42nd Street, NEW YORK CITY

AGENTS WANTED

**“BEST POSSIBLE RESULTS
AT THE LEAST COST”
IS WHAT YOU GET WITH
RED GUM**

(AMERICA'S FINEST HARDWOOD)

IDEAL FOR INTERIOR TRIM

“It is my experience that RED GUM interior trim gives the best possible results at THE LEAST COST,” says MR. GUSTAV STICKLEY, “the father of the CRAFTSMAN movement” in America. Mr. Stickley proves his faith by his works. HE USES GUM to a great extent in hundreds of the beautiful and substantial “Craftsman Houses” all over the east. But THE GREAT WEST is not playing second fiddle in recognizing the remarkable beauty and great security of RED GUM for residence interiors.

Here is a glimpse of the rich yet simple elegance characterizing the new residence of Mr. W. E. McGregor, at Parsons, Kas. ALL THE WOODWORK YOU SEE HERE IS RED GUM.

Why should not your customers do as well, Mr. Carpenter or Contractor, when they build, or when they remodel? Don't wait—investigate RED GUM before the demand of your clients forces the issue. Learn about gum before you need it.

GET A REPUTATION IN YOUR FIELD as

“THE RED GUM AND SAP GUM ENTHUSIAST”

(If you don't somebody else will—it's the trend of the times—and there's money in it for you.)



RED GUM takes ANY FINISH—smoothly, perfectly and WITHOUT FADING.

Natural Finish RED GUM VENEER equals Circassian Walnut—and costs only a fraction as much.

At its present price RED GUM is the most remarkable purchase in the entire hardwood field. INSIST ON IT for interior trim, for carved detail work and for special order furniture.

Write any of the undersigned for samples, prices, and lists of important buildings of ALL TYPES and of all costs, wherein RED GUM has given years of eminent satisfaction, both practical and artistic.

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

PAINÉ LUMBER CO., LTD.

OSHKOSH, WISCONSIN, U. S. A.

These Plants Produce TWO THIRDS of All the



We Make Everything in Mill W

OUR SPECIALTY

Korelock Veneered Doors

Cost but little more than Pine

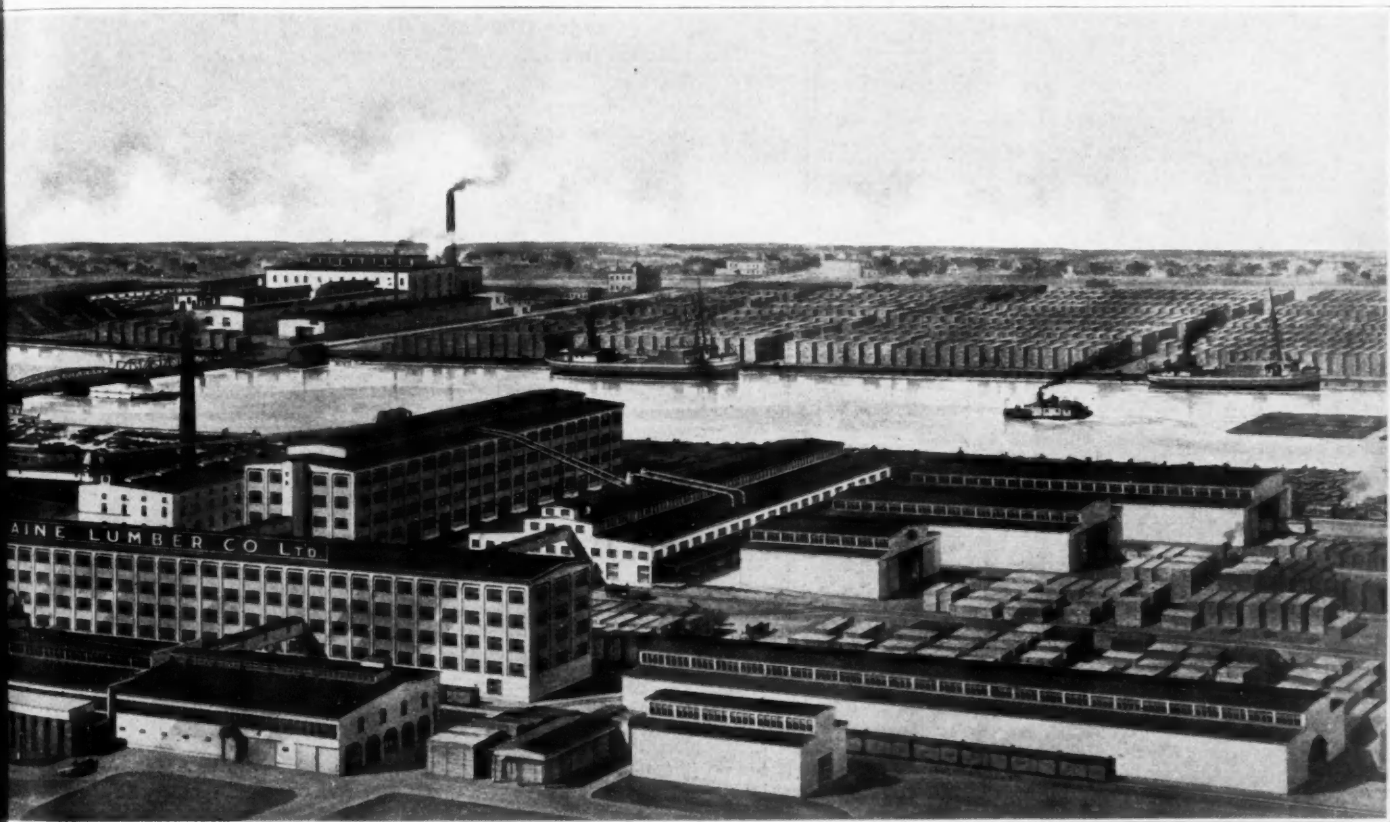
WRITE FOR CATALOGUE A

Whenever you See a Korelock Joint Think of

PAINÉ LUMBER CO., LTD.

OSHKOSH, WISCONSIN, U. S. A.

All the Standard Veneered Doors Used in the World



Work in any Kind of Wood

OUR SPECIALTY

Korelock Veneered Doors

Birch and Oak Doors Ready to Ship

WRITE FOR CATALOGUE A

of Paine Lumber Co.—The Originators



For Best Results

USE

"Little Blue Flag" Varnishes

YOU can avoid all chance of trouble due to improper varnish by always using Lowe Brothers "Little Blue Flag" Varnish—certain to stand up under severest conditions as shown by tests in actual service—proved to give best results, to go farthest, to look best for the longest time. As high in quality as "High Standard" Paint—as economical to use. Then use "Little Blue Flag" Varnish for every purpose.

Write for sample panels, descriptive folder and facts about buildings finished with "Little Blue Flag" products.

The Lowe Brothers Co.

450-452 East Third Street,
DAYTON, OHIO

Boston New York Chicago
 Kansas City



This Engine Saves You 3 Men's Pay 15-Day Free Trial to Prove It

PUT the wonderful **Perfection** portable kerosene engine in your shop—the difference in your pay-roll will soon cover its cost. Never gets sick, discontented or restless—just plugs away day in and day out doing the work of three men with never a complaint. Does a hundred things about the place quicker and better than manual labor could do them.

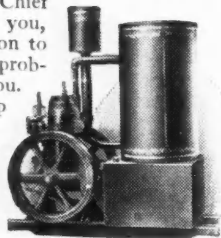
Perfection Portable Kerosene Engine

is the simplest, most compact engine made. That's because it's built by skilled automobile men, with years of engine experience. And the principle is *right*. The kerosene is drawn in a light film through the carburetor, vaporized and having the same energy as gasoline. And kerosene is from 6 to 16 cents cheaper than gasoline. The Perfection works equally well with gasoline, distillate or naphtha. **Call on your nearest dealer today—let him explain our great 15-day free trial offer or write us direct for our big free engine book.** Sizes and types to suit every purpose.

FREE Advice on Power Problems

If you're in doubt about the quantity of power you can use profitably, or the kind of engine to buy, write your questions on a post-card and mail it to our Chief Consulting Engineer. He will give you, absolutely without charge or obligation to you, unprejudiced advice about your problems that may mean a big saving to you. Learn how easy it is to make a cheap transmission layout that will help you to run several machines at once with a single engine. Write today to

Chief Consulting Engineer,
Caille Perfection Motor Company
233 Second Avenue. Detroit, Mich.



How the "General" Manufactures Roofing

This article is printed for the benefit of the man who hasn't time to go through a roofing factory, but still wants to know about roofing. It was written by a customer who accepted the standing invitation of the General Roofing Manufacturing Co., whose plants are at East St. Louis, Ill., Marseilles, Ill., and York, Pa., to go all through any of these factories—from rag department to finished goods warehouse, and see just how the goods are made. He found no "mists and mysteries" connected with the "General's" business.

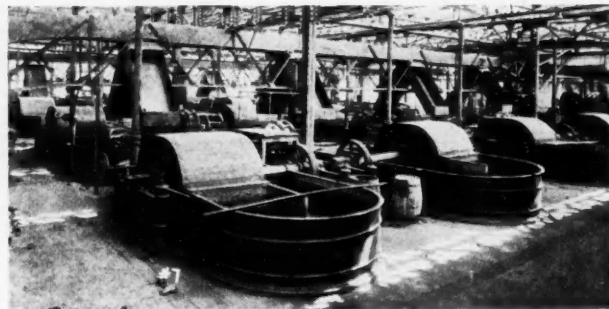
"I had sold various roofings for years, had visited other manufacturers without being shown anything, so decided to accept the 'General's' invitation to bring my order in and see it made. I first visited the Rag and Paper Stock Warehouses of the General Paper Stock Company.

"Rags—Old Rags, Old Rags"

"Can you hear one of the early cries that met your childish ears: 'Rags, old Rags, old Rags,' Here they are, great bales of them gathered from all over the world. Here, these rags are sorted by hundreds of hands. The linens go to the makers of high grade paper, like ledger paper and the highest priced stationery, the fine woolens to the makers of 'shoddy.' The old clothes and coarser stocks are sent to the mills to make roofing felts.

"Now we will cross the Father of Waters and visit Mill No. 1 of the General Roofing Mfg. Company. Let us start over here where the rags and paper stocks are stored.

"In this room you see them cutting the rags up or shredding them into fine pieces, and from there they are carried to the 'beaters,' where they are 'beaten to pulp.' While we are here, just a word about this pulp. It contains all the woolen stock possible and you cannot find any straw in it. The 'General' used no straw in any form. Take a handful of pulp from the beater and squeeze out the water and pull it apart—see the long fibre—that's the kind of pulp that makes good felt for making roofing.



The Beaters Where the Shredded Rags are Worked Down to Felting Pulp

"Hour after hour these ponderous 'beaters' splash along day and night until the contents are ready for the machines. These beaters are shod with steel and weight 15,000 lbs. each, making 135 revolutions per minute.

"While here I wanted to look at the stock they used for making this felt. I learned that it is the same stock as is used by any of the felt mills in the country. Some manufacturers of roofing claim they use 'all wool felt,' or that their roofing is made up of pure wool. This is not a fact. Even low grade wool is worth, say 8 cents a pound unwashed and dirty. There is all the way from 10 to 18 pounds of dry unsaturated felt in a square of roofing, so you would see that it would be impossible to use wool. This country does not produce enough rags for its needs—much must be imported. Uncle Sam stands at the docks and imposes an import duty of 6 cents a pound on all rags brought in containing any appreciable per cent of woolens. Easy problem, isn't it? So when the next man comes along and tells you that his roofing is

HARDWOOD VENEERED DOORS



M. & G. 515



M. & G. 519



M. & G. 512



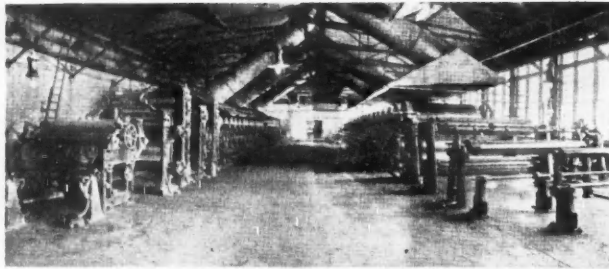
Unselected Birch and Plain Red Oak

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

Write for our Catalogue

MOORE & GALLOWAY LUMBER CO.

FOND DU LAC, WISC.



View of the Great Dry Felt and Sheeting Paper Making Machines at the General Roofing Manufacturing Co. Plants

made from pure wool or woolen rags, get busy and show him where he is wrong. Maybe he don't know any better—his house inflated him and turned him loose with a lot of loose talk.

Making Dry Felt

"From the beaters the pulp goes to the 'Stuff Chests,' which are in the basement and from there is pumped through the screens at the end of the felt machine—here all parts not beaten to the pulp are taken out and the pulp goes down to the cylinder chest. Here it appears to be all water, but at the other end of the machine you will see presently, is a thoroughly dried felt—the sheet is formed by pulp accumulating on the cylinder and it is then taken off and carried from here on a blanket of wool to the driers.

"These driers are big cylinders filled with steam. The felt goes around each one, and by the time it reaches the winding end, it is perfectly dry. It is wound into big rolls 32 inches wide and 30 to 40 inches in diameter and is called dry saturating felt.

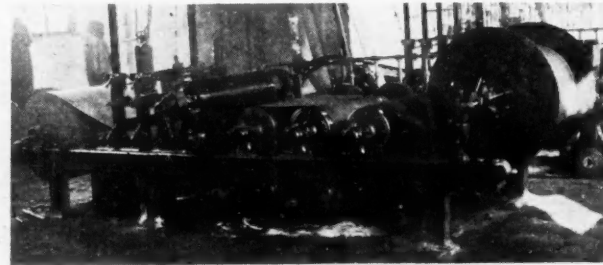
"While in the machine room—here on the south side of the same building is the paper machine, on which are made

the Red Rosins and the other products—exactly the same mechanical process as on the felt mill. These machines turn out about 200 miles of finished product every 24 hours.

Saturating the Dry Felt

"The jumbo roll of dry saturating felt is now carried to the saturating room. Here it is immersed into a tank 8 feet deep filled with saturating asphalt—the base of which is Gilsonite Asphalt. As the felt comes out of the tank it passes through heavy steam heated pressure rolls with a view of driving in all the saturation possible. They use three of these machines at each mill, and they work night and day.

"The saturated roll then goes through the Coating Machine. Here the outer or wearing surface is put on. This is the same material as the saturating, except that is of harder



consistency. The Soapstone or Talc Powder that goes on the roll is for the purpose of keeping it from sticking when it is rolled up for shipment.

"On another machine over there you will note they are using sand and making a sand Coated Roofing. The process and the materials are just the same except sand is used instead of the talc powder.

"CORTRIGHT" REG. U.S. PAT. OFF.

That's our Guarantee
TO YOU

**Contractors
and Builders**

*That You Will Profit By
Handling*

CORTRIGHT
Metal Shingles

With That Stamp

On Each Shingle You Can

assure your customer that the roof you put on will last as long the building, and never need repairs. Our records will prove our statement true.

The man who handles the shingles bearing that stamp is always assured of sales, because—

We create the demand—you get the profit.

It is put there to protect you from unprofitable competition.

The imitator may steal the design, but he dare not steal that sentence, and with that to back you, you'll land your customer every time.

Send for 56 page book, "Concerning that Roof."

Just sign and mail us the attached Coupon, TODAY

**Cortright Metal Roofing
Company**

**PHILADELPHIA
and CHICAGO**

COUPON

Gentlemen—Send me 56 page book as advertised

Name _____
Street Address _____
City _____ Business _____



Why is Everybody Investigating the Manufacture of Ready Roofings?

GENERAL ROOFING U. S. A.'s

Largest Manufacturer of Roofing and Building Papers

The General Says:—

"I want the facts—all the facts known. I want the 'Mystery' and 'Bunco' eliminated.

"I have the facilities to manufacture the highest grade roofing at the lowest cost—and I want the public to know that when they buy

Weatherproof Compo-Rubber Roofing

they are getting the most durable roofing that can be made—and no extra price charged for 'secret and mysterious claims.'"

If you want to know how reasonable it is in price, it will pay you to investigate. Drop us a line.

A committee of prominent lumber dealers recently visited all the important roofing factories in the United States.

They discovered facts of great value, not only to dealers, but to all users of ready roofings. They have issued a report, "**Ready Roofing Mists and Mysteries**," which tells how roofings are made. It describes the various waterproofing materials used and their comparative merits. The report "shows up" many of the fictitious claims used by some manufacturers as selling arguments, etc.

Every user of roofing materials ought to read this report.

If you are interested, drop a postal to our nearest office and a copy will be mailed you without charge.

GENERAL ROOFING MFG. CO.

MILL No. 3—York, Pa.

MILL No. 2 Marseilles, Ill.

MILL No. 1 E. St. Louis, Ill.

Northwestern Sales Office
Minneapolis

Pacific Coast Sales Office
San Francisco



When your work is a pleasure it is a success. Pleasure comes from Perfect Satisfaction. Why not be a success in your profession and be happy by using Simonds Hand Saws. They prove the Best by Test.

A stranger seeing a carpenter at work on a building noticed that he was using a No. 7½, 26-inch Simonds Hand Saw.

"I see you are using a Simonds Saw," said the stranger.

"Yes."

"How do you like it?"

"Well, I'll tell you. I have been carpentering twenty years and bought that saw four years ago and haven't set it since I had it. It is ground thin on the back and doesn't need setting, which saves half the labor in sharpening it; and it beats anything I ever saw to hold an edge."

What we want is not only Customers but Pleased Customers

**SIMONDS
MANUFACTURING
COMPANY**



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

"The sheet of roofing is now finished and is carried along the carrier to the other end of the room. Here it is wound into one and two square rolls. They are automatically measured to prevent mistakes.

"After the rolls are taken from the machine they are wrapped and sent to the packing room, where the nails and cement are put inside, and where they are capped and labeled. They are then sent into the shipping room, ready for shipment.

"One thing which impressed me greatly was that in all the journey I did not see one backward step; from the platform where I saw the rags rolled from the cars to the other end where I saw the roofing rolled into cars to be sent to all parts of the world.

Facilities

"Their claim of 'facilities' seemed perfectly established. They do it all and do it right. One morning after a big night's run they found their stock of rags absolutely exhausted and telephoned to the General Paper Stock Company to send some over quickly. The rags left St. Louis at 7 o'clock; they were cut, went through the beaters, made into felt; the felt was saturated, made into roofing; trimmings added and in the car before noon. If this would have been some concern without their facilities, who found themselves in this predicament, it would have taken almost 30 days from the time the rags left the rag warehouse until they were in roofing, which would have blocked 'rush' orders. Four or five dollars a ton would have been spent on them for freight, and eight or ten dollars representing two or three middlemen's profits added to their cost. This is why they can sell high grade roofing at the price they do.

"Another item counts—it takes two tons of coal to make one ton of felt—rags are hard to grind up to a pulp—coal here costs as low as 50 cents a ton—in other parts of the country it costs not less than \$3.00 or \$4.00 per ton. It takes just as much coal, but nobody will claim that this high priced coal makes the roofing last longer on a building.

Policy of Doing Business

"Their policy is to sell these goods as a staple instead of a specialty. I believe this is a better policy for the reason that the demand for this class of goods has become so great. The best figures I can get indicate that there are 25 to 30 rolls sold a day where one roll was sold 5 years ago. And why shouldn't it grow? There isn't anything in the building material line where the consumer gets as much for his dollar as he does in this roofing. In almost any part of the country he can buy 2-ply for \$2.00 per square or less, and put it on for 25 cents a square. This roofing if painted once or twice will last from 10 to 15 years. I think their's will last that long without painting.

"They do not claim that high priced roofings are not good roofings—considering the facilities of the manufacturers making these goods, or rather the lack of facilities, their high selling expense, their volume, or lack of volume—the total cost to the manufacturer probably demands high selling prices. They say, 'any manufacturer with our facilities, controlling the mills as we do and making the goods in the volume we manufacture, would be able to sell his goods at the same prices we do, provided he would be satisfied with our margin of profit per square,' and I believe the General is right and the others wrong."

Edwards Pressed Steel Ceilings and Walls for the Ameer of Afghanistan's Palace

Snobbishness is a characteristic of money laden people whose brains have not been developed. You very often hear people tell—with much pride and gusto—of how they were entertained at some prominent man's house—or of the great time they had



10 years ago
this house
was lined
with

COMPO-BOARD
THE MODERN WALL LINING

LAFAYETTE, IND.

About 10 years ago in rebuilding my home, I finished four rooms and a half-round bay window with Compo-Board, and two years ago built two new rooms and used Compo-Board again for interior finish and also a hall partition, which speaks my appreciation of same.

Geo. E. Jenks

Mr. Contractor:

How many houses do you know of that were lined with lath and plaster ten years ago, which have not been patched and mended, or perhaps replastered. The above experience of Mr. Geo. E. Jenks is typical of thousands of other cases where the permanent reliability of Compo-Board has been put to tests of from five to twelve years of actual service as a wall lining.

Compo-Board is quicker to put on, and it lasts longer. It introduces no moisture into the building. It cannot sag or fall off like plaster. When you finish a job with Compo-Board, you are through with it. You do not have to go back a little latter and repair.

COMPO-BOARD WILL HELP YOU GET BUSINESS

Time is the essence of many contracts. In nearly every building put up, you are urged again and again to complete it as soon as possible. Compo-Board will actually help you get business you might otherwise lose, because it will enable you to complete the work quicker than other contractors who might be figuring on lath and plaster. Read this experience from a Philadelphia Contractor:—

"I commenced a job this morning which I got although I was the highest bidder. My bid was accepted on account of being able to complete the work fifteen days sooner than the other contractor, because I am going to use Compo-Board. I have used Compo-Board on cold damp walls and it has given entire satisfaction."

JOHN B. WALLS,
Philadelphia, Pa.

You can work with Compo-Board in all kinds of weather, winter or summer. It enables you to do quick, clean and satisfactory jobs with very little labor expense.

HOW COMPO-BOARD IS MADE

Compo-Board is a composition board. From the illustration of the border of this advertisement, you will see that it has three principal parts, the surface of heavy paper, the wooden core and cement. The paper is special extra hard paper, non-porous, and a non-conductor of heat. The cement is of very great strength, and permanently holds the paper to the slats. The wooden core is made of thoroughly dried slats 1" wide, and put in indiscriminately as to grain, to prevent warping. The whole, after the parts are assembled, is subjected to very heavy pressure and intense heat. It is $\frac{1}{4}$ " thick and will take the place of 1" lumber anywhere. It can be sawed with an ordinary hand saw. It comes in strips 4 feet wide and from one to eighteen feet in length.

SEND FOR SAMPLE AND BOOKLET. You ought to know just what Compo-Board is and how it is made, its surface, its strength, and its adaptability in many ways in which it will save you a great deal of time and secure for you a great many jobs. Send for sample and booklet.

NORTHWESTERN COMPO-BOARD COMPANY

5777 LYNDALE AVE. NORTH,

MINNEAPOLIS, MINN.

at a banquet given in honor of some lord or duke.

These things we know and hear. But to associate and do business with princes and rulers is beyond the dreams of even the most snobbish. However, The Edwards Manufacturing

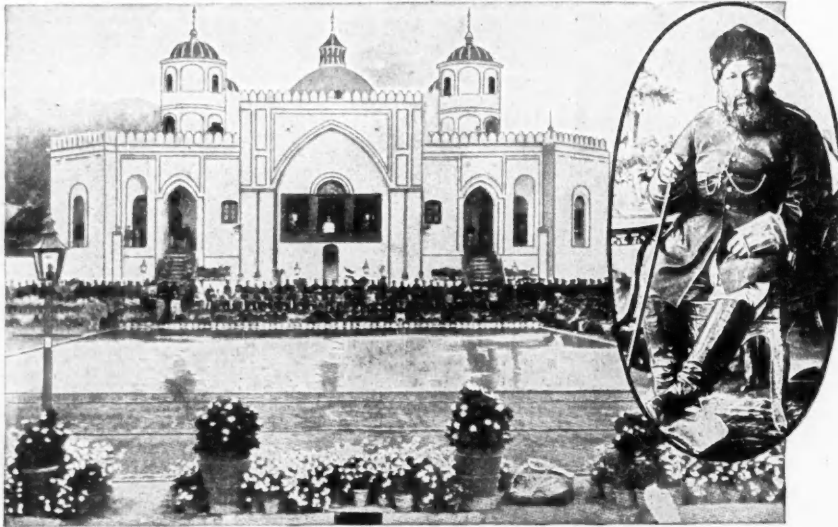
well in a dress suit, they put their entire energies into the manufacturing of products that would be the best on the market.

This rule they claim to be responsible for the success of their business. Their latest achievement was the securing of an order from the Ameer of Afghanistan for pressed steel ceilings and walls for his entire palace at Kabul, an order amounting to a goodly sum.

It would take an artful imagination to trace the relationship between Afghanistan and Cincinnati, but the matter is very simple. The present Ameer, Habibullah, ascended the throne in 1901, at the death of his father. Since his ascendancy the kingdom has undergone a complete change; the Ameer is progressive—he is introducing American people and American customs into his country.

He has lifted Afghanistan from a sleepy, monotonous life into the realms of science and better things. So when the time came to remodel his palace he wanted the best; and from the metal

ceilings and walls brought from the markets of the world he choose the product of The Edwards Manufacturing Company as the most artistic and up-to-date in design, finish and material.



Palace at Kabul, and Habibullah, Ameer of Afghanistan

Co., "Sheet Metal Folks," Cincinnati, Ohio, whose products enjoy a world wide reputation, had the honor of having their metal ceilings and walls specified by one of the most aristocratic and exclusive rulers in the world.

Yet if you step into their place of business you can detect no aloofness, no exclusion, no snobbishness, although their various products are known over the entire civilized globe. Instead of trying to climb the ladder of success by looking

Van Guilder Silo Machine

The firm of Baird Bros. & Davey., Amsterdam, N. Y., was organized in the spring of 1911, to do all kinds of concrete construction work, using the Van Guilder machines. Mr.



A New Corbin Night Latch

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

P & F. CORBIN
New Britain, Conn.

P. & F. CORBIN
of Chicago

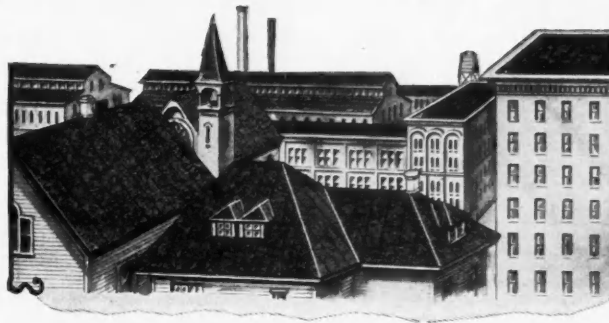
P. & F. CORBIN
of New York

P. & F. CORBIN
Philadelphia

Strength, Beauty and Service

The three necessary elements required in a material of Quality,

For ROOFING and SIDING



Buildings of any kind of Construction—be they new or old, are combined to the greatest extent in

Ready-To-Lay
Burmite
(REG. U. S. PAT. OFF.)

A Flexible-Cement-Burlap Inserted Material for all who **Talk and Want Quality.**

It positively makes good and is **Guaranteed for 10 years without Coating or Painting.**

We couldn't afford to make this statement were it not a fact, any more than you can afford to recommend or use an inferior article for a customer of yours. We know that it is an **honest value for discriminating people**, and invite your closest and most critical investigation of our claims and severest test of "Burmite." Made to meet **Extreme Weather Conditions** in two separate and distinct surfaces, i. e.,

Bird-Sand and "Twolayr" Slate Chips

LASTS LONGER THAN SHINGLES—costs less, lays smoother, looks nicer—requires no paint to preserve it.

Cheap roofing is expensive at any price—must be painted at least three times in the course of from seven to ten years. "Burmite" requires no paint—hence is the most economical to buy. It can be used in any climate—does not dry out—remains flexible always.

Let Us Send You This Booklet,

illustrated with buildings beautifully printed in colors showing effect of "BURMITE" applied as a Roofing and Siding on **Residences, Summer Homes, Cottages, Bungalows, Garages, Barns, etc., AND THIS SET OF SAMPLES**, so that you can compare "BURMITE" with other roofings you've handled—apply your own test in your own way and then let us explain our **Special Service to Dealers and Builders** which will help you to introduce it in your locality.

Dealers in Building Material should write at once for a copy of our "PLAN FOR HELPING YOU GET NEW TRADE AND SELL MORE ROOFING."
Mailed **FREE** of all charges and obligations—**WRITE FOR THEM TODAY.**

Birmingham & Seaman Co.

Roofing Manufacturers

General Offices: 1208-26 Tribune Bldg.
Plant: 56th, Armitage and Grand Avenues
CHICAGO

Distributors of BEAVER BOARD



— USE THIS COUPON —

BERMINGHAM & SEAMAN CO.
Tribune Bldg., CHICAGO

Mail to my address, as above, Samples and Booklet. This places me under no obligations. A. C. & Bldr. 10-11.

Name _____

No. and St. _____

Town _____ State _____

WIN THIS \$1200

Thousands Already Won—Going on Daily
TEN PEOPLE GET \$40,000.00

They Tell You How to Win.

LISTEN! Stoneman (Nebraska photographer) actually received \$1200 one month, \$51.50 in 15 minutes, \$800 in 11 days; Korstad (Minnesota, solicitor) \$2212 in 2 weeks; Sevegne (New York, telegrapher) \$100 daily. Not a fairy tale, fake or humbug, but proven absolutely true by sworn statements. Government patronage, statesmen, judges, bankers, world's famed institutions, local references. Costs nothing to investigate. This gigantic money-making contest no longer controlled by a few—now open to any honest, industrious man or woman. Big money made by mechanics, clerks, farmers, teachers, doctors, lawyers, people from all walks of life. Experience, capital, business training unnecessary. You can own, operate and control same private enterprise that brought Wilson (banker) \$3,000 in 30 days; Rasp (agent) \$1,685 in 73 days; Oviatt (minister) \$4,000; Rogers (surveyor) \$2,800; Juell (clerk) \$6,900; Hoard (doctor) \$2,200; Hart (Carpenter) \$5,000. Schleicher (minister) \$195 first 12 hours. Hundreds sharing similar prosperity—banking money, buying homes, automobiles. Don't wonder. Same appointment should mean same money for you—same power, prominence, dignity, respect, influence. Rise to big earnings, wage freedom, ownership and private monopoly. Knowing the reason dispels all doubt. Wonderful, but true.



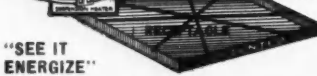
M. Stoneman



M. Juell

STRANGE INVENTION


Strange invention gives every home a bath room for only \$6.50; excels others costing \$200. Abolishes tubs, bowls, buckets, wash rags, sponges. Turns any room into a bath room with hot or cold running water. Think of it! So energizes water, one gallon ample; cleanses almost automatically; no plumbing; no water-works; self-heating. Gives cleansing, friction, massage and shower baths. So simple child can operate. Truly marvelous. A modern home-bathing without drudgery, inconvenience, muss of lugging water, filling tubs, emptying, cleaning, putting away. Could anything be more popular. Think of millions who want bath rooms! At sight people exclaim: "There, there, that's what I've been longing for." Little wonder Wilson sold 102 in 14 days; Hart, (Carpenter) 16 in 3 hours. Think what you could do. Come—fall in line—make a fortune. Don't let another get there first. Your chance now to secure exclusive sale. Devote all or spare time. Means phenomenal earnings; no competition; fascinating, high-grade business. Credit given active distributors. Send no money—investigate first. Send to-day for remarkable offer—it's valuable, but free.



"SEE IT ENERGIZE"

ALLEN MFG. CO.

3406 Allen Bldg., Toledo, O.



Asbestos "Century" Shingle Roof
 Residence Frank C. Childs, Lexington, Mass.

Asbestos "Century" Shingles

"THE ROOF THAT OUTLIVES THE BUILDING"

If you want to give your client the fullest possible use of the top floor of his house you must roof it with Asbestos "Century" Shingles.

It's the only way to avoid the extremes of heat and cold that bother him with the ordinary roofs.

Asbestos "Century" Shingles are very efficient heat insulators. They are made of reinforced concrete, which is celebrated as a non-conductor of heat and cold.

From every consideration, it's worth your while to look into Asbestos "Century" Shingles before recommending a roof, rebuilding or altering.

They are indestructible by weather. They are the best preventative of fire you could give a building. They last forever—without painting or repairs.

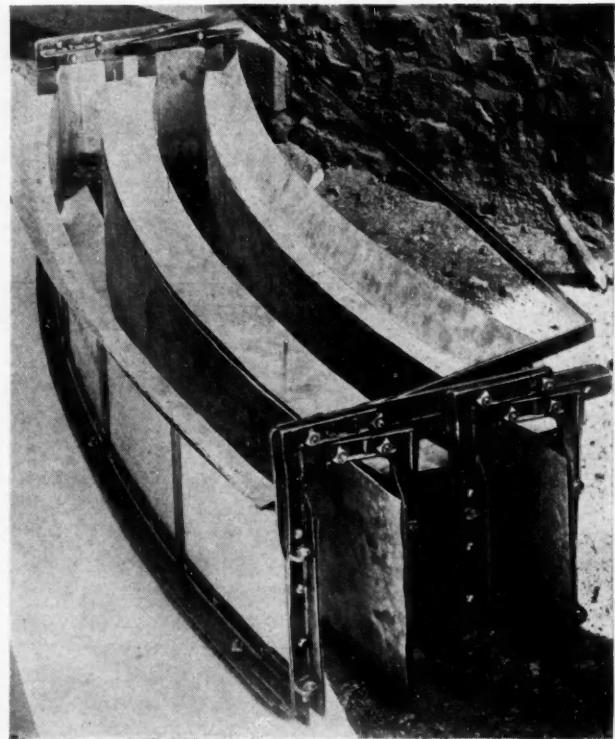
And they cost no more than you expect to pay for a first-class roof.

You can get Asbestos "Century" shingles in shapes to suit any architectural style—in several sizes—and in three colors: Newport Gray (silver gray), Slate (blue-black), and Indian Red. Send for quotations and booklet, "Everlasting 1911." It will settle your roof problems to your great satisfaction.

The Keasbey & Mattison Company, Factors
 AMBLER, PENNSYLVANIA
 Branch Offices in Principal Cities of the United States and London, Eng.

Davey, a prominent building material dealer of Amsterdam, was first attracted to this style of construction at the New York Cement Show, where this machine was originally shown. The firm now operates four machines, two being hollow-wall silo machines.

The Van Guilder silo machine has recently been brought out by the Van Guilder Hollow Wall Co., 717 Chamber of Commerce Bldg., Rochester, N. Y., and is illustrated herewith. It is made in two sizes—for building 10- and 15-ft. inside diameter silos—and makes a silo wall with a continuous air space of 4 inches.



Van Guilder Silo Machine
 Adjustable to various radii; builds wall with dead air space

In the new silo recently built by the Amsterdam firm, the walls are absolutely hollow, and the concrete is reinforced horizontally with steel, 9 inches apart, and with cross-reinforcement every 18 inches apart. Naturally, this system of silo construction, on account of its relatively very low cost, has met with unusual success.

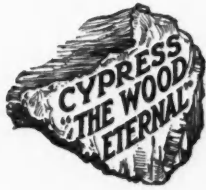
The business of building silos has become a large and growing industry. Silos are now an absolute necessity, particularly in dairy sections.

The work that has been done this first season by Baird Bros. & Davey, at Amsterdam, N. Y., illustrates the various applications of the Van Guilder system, embodying, as it does, all sorts of concrete construction; and also affords an objective demonstration of a new and profitable field of activity, which can be taken advantage of in various sections of the country.

We Take Off Our Hat to the Myers

We always look for something worth while from F. E. Myers & Bro., and are seldom disappointed. This time it is the 50th issue of their catalog—400 pages, and not a "dry" paragraph in it for one who is interested in pumps and other Myers goods.

Hats have also been taken off repeatedly to the Myers goods and to the Myers factory—the factory that turns out a finished Myers implement every half minute of working hours—Myers Water Lifters, Spray Pumps for hand and



U. S. GOVERNMENT REPORT

(Dept. of Agriculture, Forest Service, Bulletin 95.)
issued June 30, 1911, says of



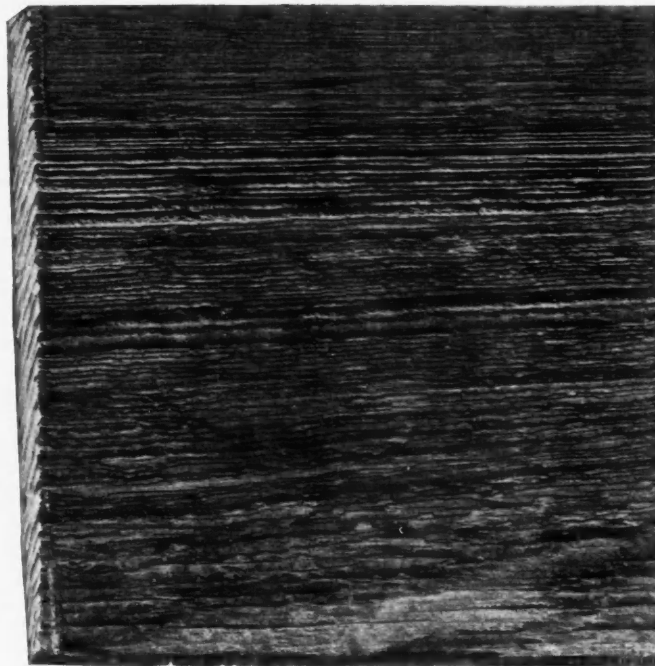
CYPRESS:

**“AS SIDING IT
PRACTICALLY
WEARS OUT
BEFORE IT
DECAYS.”** (From page 44.
U. S. Government
Bulletin 95.)

Same report says “CYPRESS shows paint well and holds it for many years, but lasts a long time without it.”

(You know the conservatism of Government Reports.)

Here's a photograph (straight from the wood) of a piece of Cypress Siding taken from St. Charles College, La., duly attested in writing by the president, Father Maring. Built 1819—Torn down 1910. NOT A TRACE OF ROT. Note that the lower or exposed edge, originally the thicker, has become the thinner by the simple, erosion of nearly a century of rains.



CYPRESS SIDING SOUND AS A DOLLAR after withstanding the tempests of a century and willing to start again! 91 YEARS “ON THE JOB,” WITHOUT EVEN PAINTING, on a church in use till the day it was razed to make room for a larger building, and the CYPRESS LUMBER COMPOSING IT THEN USED AT ONCE to erect a new gymnasium!

THERE'S INVESTMENT VALUE WORTH WHILE!

WRITE TODAY for **VOLUME ONE** of the CYPRESS POCKET LIBRARY, with **Full Text** of OFFICIAL GOVT. REPORT as quoted above. (Sent FREE PROMPTLY on request.)

**“WOOD THAT WILL STAND THE GREENHOUSE TEST
WILL STAND ANYTHING.” ASK FOR VOL. THREE ALSO — FULL OF VITAL FACTS.**

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

Let our “BUILDERS' HELPS DEPARTMENT” help YOU. Our entire resources are at your service with Reliable Counsel
SOUTHERN CYPRESS MANUFACTURERS' ASSOCIATION
1216 HIBERNIA BANK BUILDING, NEW ORLEANS, LA.

INSIST ON CYPRESS AT YOUR LOCAL DEALER'S. IF HE HASN'T IT, LET US KNOW IMMEDIATELY

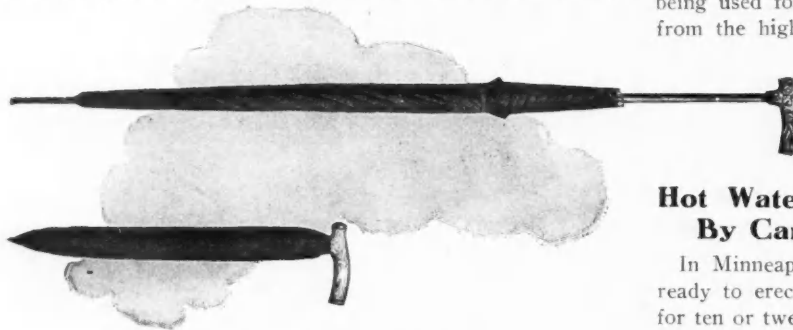
power, Hay Unloading Tools for hay and grain, Door Hangers and Tracks, Hay Rack Clamps, Store Ladders, etc.

These products, as illustrated, described and listed in the catalog, except for a few tools and fixtures, are all their own, patented, put out and popularized by them.

This catalog is being sent out to 30,000 dealers who handle their line; and a copy of it will be sent to any of our readers on request.

A Pocket Umbrella

The Pocket Umbrella Co., of Findlay, Ohio, has recently put on the market a telescoping umbrella that is a real luxury. It telescopes into a compact form of about 15 inches long.



"Pocket" Umbrella Open and Closed

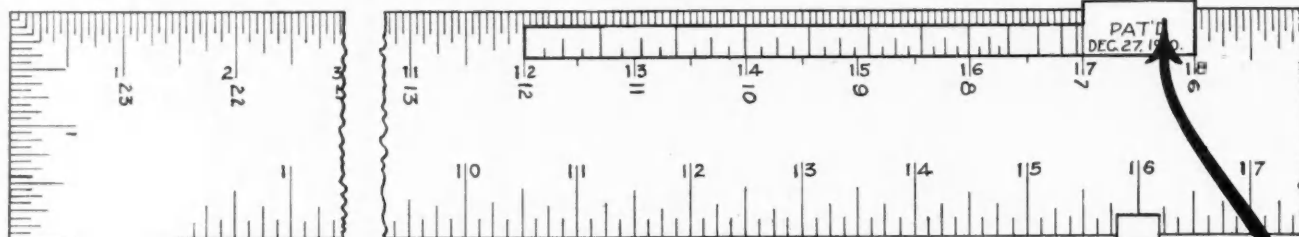
There is no folding necessary or waste of time, but simply squeeze a little spring in the top of the umbrella, and then push in the handle, and the whole umbrella telescopes inside of itself, as you see in the attached picture. When telescoped it does not look bulky, but as a miniature umbrella. (The umbrellas in the picture are the same size, one is open and the other is closed).

This umbrella can be carried in an ordinary small suit case or traveling bag, even in the hip pocket. Of course this is the only umbrella that gives its owner the proper service. When traveling you cannot lose it, but always have it with you. We all agree that such an umbrella has long been needed, there are thousands of traveling men who are willing to pay any price to get an umbrella which they can have with them all of the time. The company seems to understand the importance of an article like this.

Every part of the umbrella is electro-plated which means that the umbrella looks superior to the ordinary one; also it is absolutely rust proof. When the umbrella is open for rain or being used for a walking cane you cannot tell the difference from the high grade ordinary umbrella. Through this umbrella thousands of hats and suits of clothing will be saved every year from being spoiled when caught in showers. In our opinion this umbrella will change the umbrella habit of the nations.

Hot Water Heating Plant Easily Installed By Carpenter or Carpenter's Helper

In Minneapolis is made what is known as a "knock-down ready to erect," hot water heating plant. It has been made for ten or twelve years and its successful and extremely satisfactory service is attested to by thousands of users all over this country and Canada. Mr. Andrews, the inventor, is a mechanical engineer and a man of wide heating experience. He has learned that carpenters are particularly well adapted to the work of installing his systems. No plumbing experience is necessary as all the pipes are cut to fit and threaded. Complete and very easily followed directions accompany each job and usually a carpenters' helper can do all the work of installing, except the very heaviest part.



YOU can Be a Steel Square Expert for \$1.50

I want you to investigate for yourself my new **PARKHILL PITCH GAUGE**, which gives all roof cuts, lengths, and bevels mathematically correct. No approximations as with some other systems. No matter how well you may understand the use of the steel square, my Gauge will shorten your work and make it more accurate. No matter how little you may know about the steel square, my Gauge will make you an Expert.

The Parkhill Pitch Gauge excels all other tools or rules in simplicity and ease of operation. Anyone can use it, and mark any and all cuts for ANY roof pitch—of hundreds—directly on the timbers. Length per foot run and both cuts of common rafters can be had in 6 seconds. Same for hip, also backing in 7 seconds; and in 17 seconds all the following: side bevel on jacks, both bevels on facia, plancher and sheathing. All other cuts with equal ease, including hip joining unequal pitches.

The Parkhill Pitch Gauge and clamp are applied to any steel square. (Illustration shows setting for hip or valley rafters.) Setting can be changed instantly and fixed with thumbscrew. Made of nicked steel. Nothing to break or get out of order. As accurate as the steel square on which it is made to be fastened.

The Parkhill Gauge has no equal also, as a Stair and Brace Gauge.

I want you to try the Parkhill Pitch Gauge. I will send it to you prepaid (in U. S.), with full directions for use, for only \$1.50.

Return in 30 days if not fully satisfied, and get your money back.

ADDRESS,

JOHN PARKHILL - Rochester, Minnesota

**PARKHILL PITCH GAUGE (APPLIED TO ANY STEEL SQUARE)
SOLVES ALL FRAMING PROBLEMS**

Glidden

M. P. Durable Interior— The Varnish

IT is light in color, has wonderful flowing and brushing qualities, and is extremely elastic and durable. It can be rubbed to a dull finish, polished, or left bright, as preferred.

We maintain that it has no equal for finishing the very finest interior trim.

Write us for demonstrating samples and literature on Green Label Varnishes, Stains and Specialties.



The Glidden Varnish Co.

Factories
Cleveland, Ohio
Toronto, Canada

Branch Warehouses
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AGENTS

EXCITEMENT—MONEY!

Wonderful Labor, Time, Drudgery-Saving Household Invention. The Season's Great Hit. A Rip-roaring Success.

A DOLLAR MADE EVERY 5 MINUTES

Experience Unnecessary. "Sold out before breakfast; 6 sales in 30 minutes," writes Hoffman, N. H. "Have 50 sold. Sell in every house," writes Cook, Mich. "Sells on sight. Women all buy. Never had such a cinch," writes McIntyre, Canada, who ordered 1—then 100. Melenson, Kan., closes first day with 20 sales (profit \$27.60). Hundreds men and women actually making a week's wages every day—really banking money, getting independent, buying homes, automobiles. New invention makes it easy for them—should do the same for you. Tremendous sale of the

HOME COMFORT SCRUBBING AND FLOOR DRYING MACHINE

breaks all records. New, popular, irresistible—double your money every sale. Every housewife an eager customer. Really world's greatest labor-saving invention. Read the splendid news! No more back-breaking scrubbing and floor-cleaning days. New marvelous machine displaces hands, old-style brushes, unsanitary rags and hand-disfiguring mops. Vibration does the work. Scrubs, dries floors, cleans, brightens—removes dirt, grease, stains, germs—works like magic. A God-send to women. See the 3 big features! Self-feeding, Self-drying Self-sudsing. Turns scrubbing and floor-cleaning drudgery into neat, easy, quick, pleasant task. Child of 12 can do it the Home Comfort Way. Weight 5 pounds. Sells for \$2.75—lasts for years. Not sold in stores. Well named HOME COMFORT. Truly a never-ending household boon. Pleases, astonishes all. Customers wonder how they ever enjoyed life without it. Mrs. Fedder, Va., writes: "Home Comfort has been a God-send. It's so easy to scrub and clean. Really wonderful how quick it works."


Mrs. A. Johnson, Ida., writes: "I am simply delighted. Robs scrubbing and floor-cleaning of all its hard work and takes so little time. Can clean dirtiest floors with scarcely any effort." H. Pollard III., writes: "No other invention means so much to the home. I am booking orders like lightning. It takes every woman by storm." What woman hasn't been eagerly waiting for the Scrubbing and Floor-cleaning machine? It's here—perfect—selling like wild-fire. Sells for \$2.75—banishes forever woman's worst torture. Make haste—join hands with this gigantic success—make easiest, quickest money of your life. Beat others. Get exclusive territory—make a fortune. Send today for agency and liberal credit terms.

**SCRUBS
DRIES FLOORS
CLEANS
AND
BRIGHTENS**



\$2.75

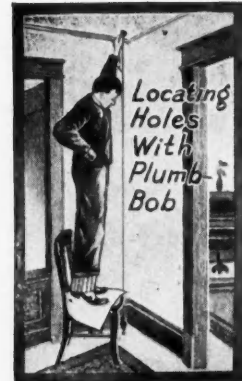
SANITARY SUPPLY CO.
Box 356 Sta. F TOLEDO, O.



Roberts Doweling Jig

A simple, practical, durable and valuable tool for woodworkers.
Insures accurate work.
No special bits.
Price, postpaid, \$3.00. Cash or money order.

THE FRAZIER COMPANY
Sole Distributors
No. 404 Coleman Building
Philadelphia, Pa.



To learn the price, all that is necessary for a contractor or carpenter to do is to send rough diagrams or architect's plans of the building to be heated to the Andrews Heating Co. Their big corps of engineers figure out the size plant to give most efficiency and quote an estimate on the complete job delivered to your station, cut-to-fit, marked and all ready to be screwed together by a carpenter, carpenter's helper or any handy man. The price quoted allows for a very liberal commission to the carpenter or contractor. Or if the contractor



prefers to have the job shipped direct to the owner of the building, and charged to him, the contractor's commission is paid direct from the Andrews office.

The Andrews systems are wonderfully popular because of their group system of piping, the Andrews Regurgitating Safety Valve, the wonderful economy, durability and efficiency of the Andrews Steel Boiler, and because of the fact that each order is designed by heating engineers to give the greatest satisfaction, not merely thrown together in any form to sell.

Hundreds of carpenters and contractors are making good money every year by installing Andrews Plants in their jobs. They are wonderfully good repeat-order bringers and the fact that they are sold on 365 days free trial, guaranteed by bond, makes them easy sellers. Write the Andrews Heating Co., 1198 Heating Bldg., Minneapolis, Minn., for a free estimate on your next job and if you want to learn all about their proposition write today for their big 72 page book, which describes also their several other lines of modern home equipment—any one or all of which can be installed in new or old houses.

Rib-Trus—A Combined Reinforcing and Furring Plate

Rib-Trus has been designed to meet a well defined demand for a satisfactory reinforcing and furring plate. Its development is the result of a long service of tests and experiments by the manufacturers, the Berger Manufacturing Company, of Canton, Ohio. It is especially adapted for roofs and floors,

Keen tools mean faster work—more money made

Save tools—save time—do all work easier, faster, by having your tools always keen. Luther's Mechanics' Special Outfit supplies every sharpening, burnishing and polishing need, makes it the work of only a minute to do the toughest job of sharpening. The outfit consists of the Luther Mechanics' Special Carborundum Grinder with 11 accessories. This is the most complete outfit ever offered, and the most remarkable value.

Luther Tool Grinders

**Will not draw
Temper from steel**

Luther Grinders save and make money for any tool user—save money by saving time and tools, make money by making all work easier and faster because of keen, bright tools.

Carborundum wheels peel steel away in tiny shavings—no danger of drawing temper—no need of hard pressing—no need of cooling with water. The sharp Carborundum crystals cut toughest steel as emery does copper.

**No
need of
cooling
with
water**

6 Months' Free Trial

We offer you a whole half year's free trial of this full outfit to prove in your own shop, on your own tools, how this grinder saves and makes money for you—more than pays for itself in the time you use it free. If after a half year's use you do not firmly believe it is one of the greatest time-saving and work-saving outfits you have ever seen—if you do not believe it is a real money-maker for you, return it to us. No hard feelings on our part, and the six months' use will have cost you nothing. Return the coupon for our six months' Free Trial Offer.

**Built Like a
High Grade Lathe**

Luther Tool Grinders are mechanically perfected—steel and malleable construction, machine cut spur gears, bronze bearings in oil bath, etc.—wheels guaranteed 5 years. Could we possibly make a more generous offer than 6 months absolutely FREE TRIAL of this outfit? A whole half years' chance for you to prove how this outfit saves and makes you money.

Tool rests
and attach-
ment give
proper level



**Hand and
Foot Power**



Return this Coupon for 6 Months' Free Trial Offer

COUPON

LUTHER GRINDER MFG. CO.

105 Stroh Bldg., Milwaukee, Wis.

Please send me free and prepaid your free Carborundum booklets and 6 months' free trial offer on Mechanic's Special Outfit.

Name

Address

Dealer's name

Address

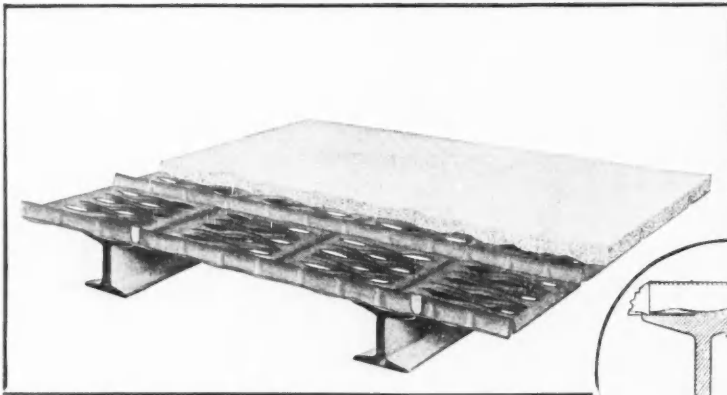
Return the coupon for full description and 6 months' FREE TRIAL OFFER, also free book about the discovery of Carborundum, as printed in McClure's Magazine.

Luther-Grinder Mfg. Co.

105 Stroh Bldg., MILWAUKEE, WIS.

walls, partitions and ceilings, stucco houses—in fact for every purpose for which concrete and plaster may be used. For stucco work it is particularly effective.

In Rib-Trus the manufacturers believe they have evolved a plate that will not only give thorough satisfaction, but one that can be used to advantage where other plates would be



Rib Truss Plate Fastened to Purlins and Partly Concreted

impractical. The results achieved wherever Rib-Trus has been used give ample evidence of the success of this reinforcing plate.

The design of this Rib-Trus plate makes it remarkably stiff and rigid. This is due to the *ribs* and *trus* design of the loops forming the plate. A series of cross beads, 4 inches on centers, run across the plate between the ribs; the loops span between these and are parallel with the ribs.

The ribs act as beams, giving the plate its great rigidity, so that no support or centering is needed on ordinary spans.

When concrete is applied to Rib-Trus it engages the loops in such a manner as to form a perfect lock, and when thoroughly set it is absolutely bonded. Elongation of the plate cannot take place unless the concrete is crushed—a practical impossibility. The concrete on the top of the plate produces a dovetail clinch on the underside, thus locking the plaster from below and forming a homogenous mass thoroughly reinforced by the strength of the plate.

Placing Rib-Trus plates in position is easy and rapid on account of their width and uniformity, and the fact that no false work or centering is required. The special clips for fastening the plates to the purlins are provided. These are easily adjusted, and there are no nuts or bolts to bother with; and all the work can be done from above, thus making the application of Rib-Trus plates an extremely simple matter. When the plates are in position the ribs rest against the sheathing or studs, doing away with the necessity of special furring strips.



An illustrated booklet on Rib-Trus may be had by addressing the manufacturers, The Berger Manufacturing Company, of Canton, Ohio.

Improvements

An improved Nail Set, Prick and Center Punch has been placed on the market by The Braunsdorf-Mueller Co., of Elizabeth, N. J.

The old features of the round knurled body are added to by



OAK FLOORING

Beautiful :: Economical :: Durable

Every builder, owner and investor should insist on OAK FLOORING, because it possesses all the qualities that tend to make it known as the rightful King of Flooring.

Any truthful landlord will tell you that OAK FLOORING increases the renting and selling values of any building more than any other part of the construction.

A home is half furnished when laid with OAK FLOORING. It imparts an air of refinement and elegance. It is rich and cheerful in color, and will harmonize with any kind of trim.

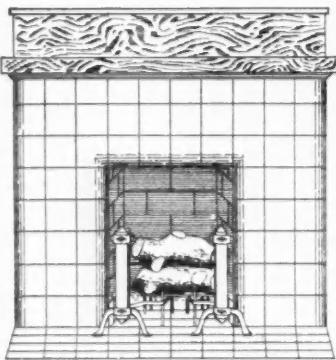
OAK FLOORING $\frac{3}{4}$ -inch thickness by $1\frac{1}{2}$ or 2-inch faces can be laid over old floors in old homes or over cheap sub-floors in new homes at a very low cost. It is cheaper than carpets or Pine Flooring. When laid it has all the appearance of a heavy floor.

OAK FLOORING is made in four grades in the $\frac{13}{16}$ -inch thickness and two grades in the $\frac{3}{4}$ -inch thickness. It is adaptable to the humblest of homes or a palace.

Use **Select Plain** (second grade) OAK FLOORING for medium priced residences, hotels and apartments; churches, schools, office buildings and stores.

Write us for further information

THE OAK FLOORING BUREAU, 847 Hammond Bldg., DETROIT, MICH.



Do You Want

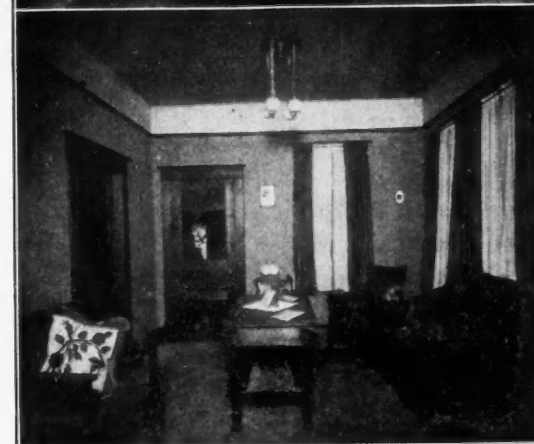
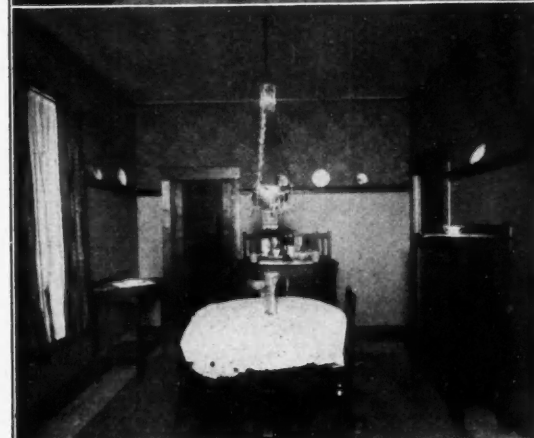
our handsomely illustrated

MANTEL-CATALOG?

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

Catalogue free upon application

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



Have You Had Your Sample of Utility Wall Board Yet?

We want every carpenter and builder, every home owner to have a sample of this remarkable wall-board.

It is so vastly superior in character and composition—so far in advance of other interior finishes—that no man who is interested in house construction can afford to remain unfamiliar with it.

Utility Wall Board

is a fibre board, very strong, very tough, very durable. It is thoroughly waterproofed and is impervious to moisture. It takes the place of both lath and plaster, being attached direct to the studding. It is easier to put on than lath and plaster. A saw and a hammer are the only tools required. It is more permanent than lath and plaster and much more economical. Utility Wall Board lends itself readily to any decorative scheme and is the only wall board over which wallpaper can be used to advantage.

A sample of Utility Wall Board, together with our handsome book of home interiors will be mailed free on request. In writing please send the name of your dealer.

THE HEPPE'S COMPANY
4503 Fillmore St., Chicago, Ill.

800

Size



88-Page Catalogue Hardware Specialties Mailed Free

The Crescent SASH FASTENER.

The Best Sash Lock Made *∫* Strong, Symmetrical and finely finished

Made in 5 sizes, and all builders' hardware finishes

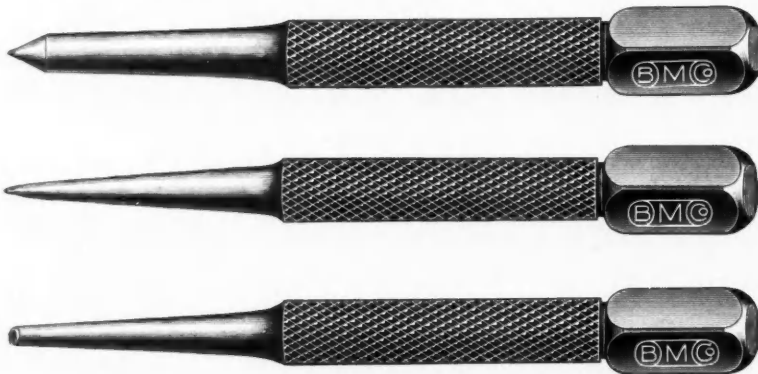
THE H. B. IVES COMPANY

Sole Manufacturers

NEW HAVEN, CONN., U. S. A.

a square head of soft steel which is driven over a slightly tapered end.

Both ends are hardened and the square sleeve or head



Improved Nail Set, Prick and Center Punch

of soft steel prevents small particles of hardened steel from flying and injuring the worker; it also prevents rolling and easily distinguishes the tool from a nail in the pouch.

Reissmann Rafter and Polygon Gauge

Carpenters and builders will be interested in the Reissmann Rafter and Polygon gauge, which is now being sold by the William Bremer Co., Jamaica, N. Y. This device is the invention of Fred Reissmann, of West Point, N. Y., by whom it was formerly made and sold. The William Bremer Co., however, have now obtained exclusive rights for the sale of this instrument and all inquiries and orders should be addressed to them.

Reissmann's gauge accurately gives figures for all kinds of cuts in rafters, hips, jacks, valleys for octagons or other

polygons by the aid of the table and a steel square. This instrument will give the correct side and miter cuts for a pentagon, hexagon, heptagon, octagon, nonagon, decagon, undecagon and dodecagon; the length of common, hip, valley, and octagon hip rafters; the pitch, plumb and side cuts for the above-named rafters; the side bevel of jack rafters against hip and valley rafters and also the side bevel of jack rafters against octagon hip rafters; the miter cuts for level plancher, crown moulding, sheathing and shingles for hip and valley; the degrees from 1 to 90, and a scale representing 1 inch to 1 foot. The gauge is suitable for 390 cuts and bevels—all that is ever needed by any carpenter and builder.

One of its principal uses is for cutting rafters from 1 to 18 inches rise per foot run; to do this it is only necessary to know the rise of the roof per foot.

For the month of October the William Bremer Co. is making a special offer on this Rafter and Polygon Gauge, giving free with it a Perfection Sand Paper Holder to every carpenter ordering one.

Write at once and investigate the merits of the Reissmann Gauge so that you may get in on this special offer.

Saw Dresser, Tool Grinder and Sander

The R. B. McKim Co., Inc., 116 Pearl St., Boston, Mass., are offering an ingenious, labor saving machine that should be of great interest to AMERICAN CARPENTER AND BUILDER readers—a combination Saw Sharpener, Saw Setter, Tool Grinder and Sander; as shown in the illustration on page 98.

It is four machines in one, and will do as good work as if each machine was made separately, and the cost is nominal for such an efficient tool.

Mr. Carpenter and Joiner:—

There is absolutely no necessity to spend one minute figuring with your square to get the desired angle of ANY CUT.

Save Time, Labor and Brain Work

And make any one of 390 different cuts INSTANTLY without the use of your square by using

Reissmann's Rafter and Polygon Gauge

By its use you can obtain ANY DESIRED ANGLE, pitch, bevel, mitre or side cut for rafters, planciers, molding, sheating or shingles INSTANTLY and with MINUTE ACCURACY. It is the most useful and indispensable tool to every mechanic connected with the building industry. The Gauge is made of heavy metal, heavily japanned, is practically indestructable and will last a life time. Size, 10x13 inches.

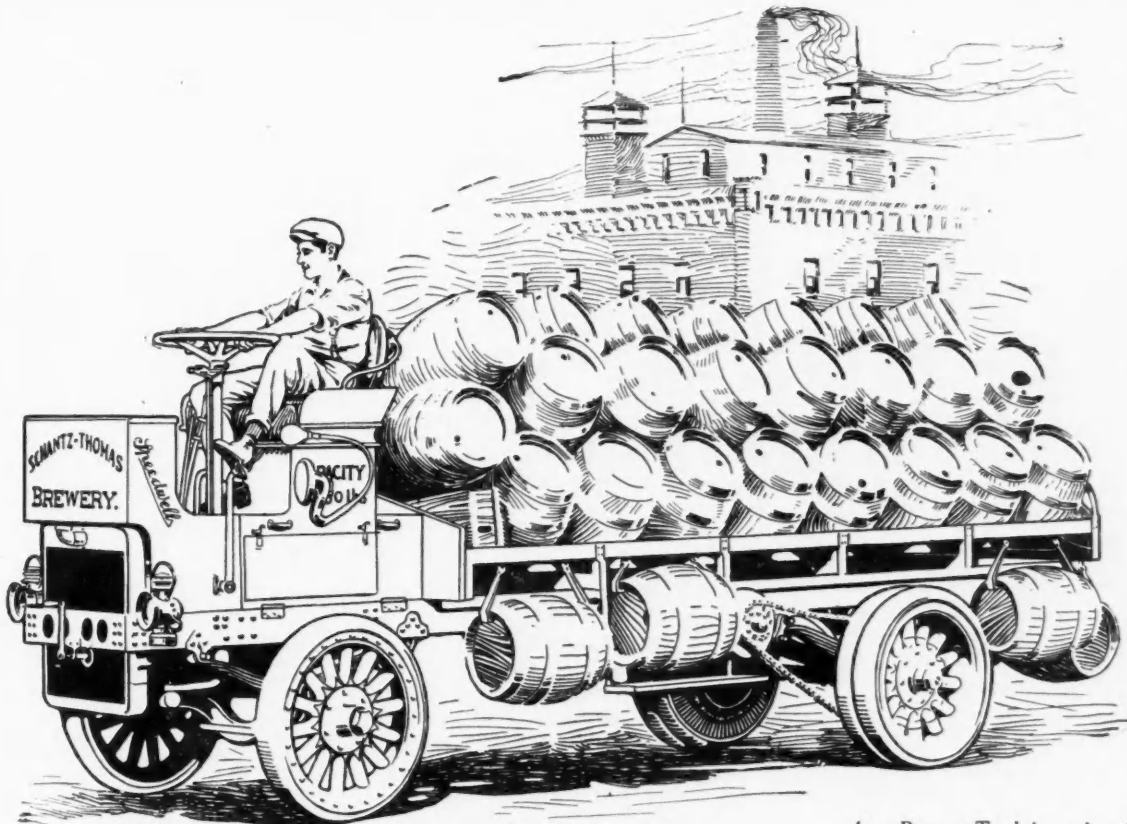
Price Postpaid, One Dollar

Satisfaction Guaranteed or Money Refunded. Order Now. Wrap a DOLLAR BILL in this advertisement and mail at our risk.

ADDRESS ALL ORDERS TO

WILLIAM BREMER COMPANY, Jamaica, N. Y.

FREE! With every order received during the month of October we will send FREE one Perfection Sand Paper Holder.



4-ton Brewery Truck in service of
Dayton Breweries Co.,
Dayton, Ohio.

Speedwell Motor Trucks

Speedwell Motor Trucks have met with a widespread and ready acceptance from the business world.

The reason is that they are built for business. Every point in their construction has been designed and perfected to make them money earners for the man who installs them in his business.

Every feature in their construction has been subordinated to the one idea of making them render economical service under the difficult delivery and trucking conditions which surround the average business.

An absolute adherence to the highest possible standard of manufacture is and always will be the foundation of Speedwell truck prestige.

Speedwell Trucks are built in three chassis models—2-ton, 4-ton and 6-ton capacities.

Write for Speedwell Truck information. State, in requesting truck literature, the exact nature of work you require of a truck.

Speedwell Motor Car Co.

610 Essex Avenue

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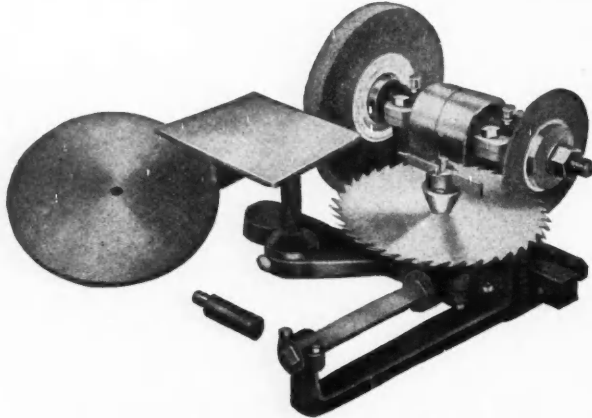
DAYTON, OHIO.

4-ton Brewery Truck in service of Dayton Breweries Co., Dayton, Ohio.

Fifty-five half barrels of beer are carried on this truck as against thirty-seven on their largest brewery wagons. Deliveries are made in approximately half the time. More than that, the truck negotiates roads and grades that are impossible with horse-drawn wagons, and the truck is immune from the effects of hot weather. The number of deaths of horses during hot spells in the brewery trade has been alarming.

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

As a saw sharpener it will sharpen cut-off or rip saws 8 inches to 26 inches. Rip saws can be sharpened square or with bevel, and same are kept perfectly round and ground even at all times. The saw rests on an adjustable collar and is held in position by an inverted cone, enabling operator to adjust to any thickness of saws. Saws sharpened on this



McKim Saw Dresser, Tool Grinder and Sander

machine will do more and better work than if fitted by hand, besides the saving in cost of labor and files. One 10-inch emery wheel for saws is furnished with each machine.

As a tool grinder, it is furnished with a 12-inch emery wheel and has movable table 10½ inches by 8 inches, which can be tilted so that small knives can be ground rapidly and accurately.

As a sander; the face plate is 14 inches in diameter and furnishes a convenient means for sanding and smoothing up stock. For shops not provided with a machine sander, this

The Pocket Umbrella

The evolution of the umbrella into the Pocket Umbrella is the only one which gives the proper service to the traveling people. Just drop it in your toilet bag and you find it there when caught in rain. If no rain, you cannot lose it. The average person spends many times in a year for umbrellas and soiled clothing than our Pocket Umbrella costs, and still never have one when most needed. Our Pocket Umbrella is always with you, and will last a life time, as same is absolutely rust-proof.

This is the only proper umbrella for a lady. Put in a leather case, as a handsome music roll. As one lady remarked when buying one, "A woman's heart could not stand the temptation of seeing one, but she must buy it." There are no parts to be taken off or to be put on, but simply telescope it to about one-third its length. Any child can open it in five seconds and close it in twenty.

When wanted as a cane, it can be used as such, and it only telescopes when purposely done so. There is no difference in its appearance from any high grade umbrella.

Fill out the blank and mail today, and we will, by return mail, send you our booklet, which illustrates and describes the umbrella, and also our guarantee for same.

The Pocket Umbrella Co.
FINDLAY, OHIO

THE POCKET UMBRELLA CO.
Findlay, Ohio

Gentlemen: Send me prepaid your instructive matter and guarantee about your umbrella.

Name.....

Address.....

City.....State.....



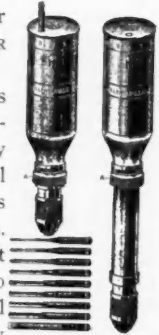
device is alone worth the price of machine.

This is claimed to be the only machine ever placed on the market that covers such a large variety of work, taking the place of four machines, any one of which would cost nearly the price of this machine complete. All should be interested and write for full information.

Three New Millers Falls Tools

The Millers Falls Co., 28 Warren St., New York City, are just putting on the market some new improved tools. Three of particular interest to AMERICAN CARPENTER AND BUILDER readers are the following:

Automatic Star Pocket Borer No. 8. This compact boring tool will be found very convenient, as when compressed, it may very easily be carried in the pocket. It possesses all the good characteristics of the regular borers in addition to this feature of compactness. The magazine handle contains in cells eight drill points ranging in size from 1/16 inch to 11/64 inch, and numbered from 1 to 8. Cell No. 9 contains a small screw driver which may be used in the borer. The magazine handle



No. 8 Borer

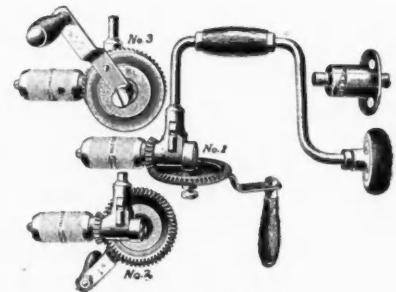
may be operated by placing the opening in the top of cap over the number of the drill point desired and then letting the drill point drop out.

Bit Gauge No. 36. The bit gauge here portrayed is a very convenient, compact tool. As will be seen by the illustration, the gauge is secured to the bit at any point by the use of a clamp actuated by two thumb nuts. The entire tool is nickel plated, and has given most excellent satisfaction.



Big Gauge No. 36

Drill Brace No 192. This drill brace has not only all the good qualities of their older pattern (now termed No. 182), but has some valuable improvements. The ratchet is of the latest improved style, and is



Drill Brace No. 192

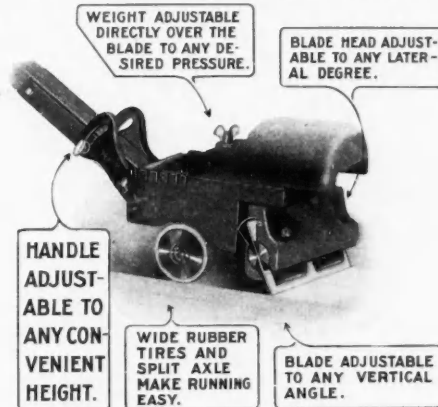
so arranged that both dogs can be thrown out of mesh with the ratchet teeth at the same time, to allow the tool to be used as a breast drill. The gear is attached in such a manner that it can be instantly swiveled around into any one of three positions, as shown in the illustrations, which feature adds greatly to the efficiency of the tool when working in cramped places. With the gear detached the tool becomes one of the highest grade of braces of 10-inch sweep. It is claimed that nothing better in the brace line has been made. For further information about any of these tools address Millers Falls Company, 28 Warren St., New York.

Paint the Screens Now

Thrifty housewives are taking down the fly screens for the winter. These should be given a good coat of special screen paint before storing them away. The ordinary wire screening is so flimsy that once rusting starts it is but a short time before the screen is ruined, especially when stored in a damp cellar. By painting screens every fall the cheapest screening will last indefinitely.

YOU KNOW

from the picture that the
ADJUSTABLE
Is a Practical **FLOOR SCRAPER**



I will send you one **on approval** and let you give the machine a chance to speak for itself in your own hands.

If not more than pleased with its work, ship it back at my expense. If perfectly satisfied, remit **\$40.00**, the price to everyone, payment in full.

I will make one profit the day the sale is made, but you will make a profit every day you use it.

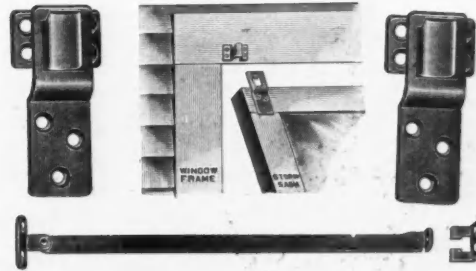
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STORM SASH

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Storm Sash is quickly and easily hung on Schroeder's "Peerless" Hangers and Fasteners, from the inside without tools or ladder. The Fastener holds the sash securely in place for ventilation or window cleaning. Write for Descriptive Circular.

Ask your Dealer for Stanley's
Numbers 1717 and 1719

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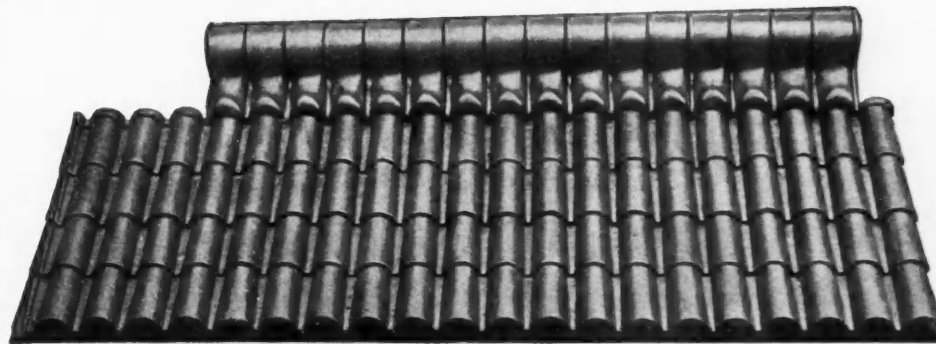
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Mullins Metal Tile Roofing

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
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ornaments. Many
thousands of de-
signs to select from.

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

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

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

The W. H. Mullins Co.

214 Franklin St.

SALEM, O.

Speedwell Trucks

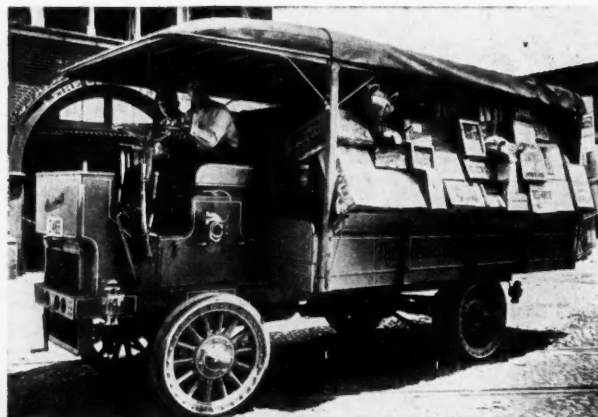
Speedwell trucks are built in 2, 4 and 6-ton capacities. The 2-ton truck has a four-cylinder, water cooled, 30 horsepower motor, while the 4 and 6-ton trucks have 50 horsepower motors of the same type. The wheel base of the 2-ton truck is 110 inches, with a loading platform 10 feet long. The wheel base of the 4-ton is either 115 inches or 139 inches, according to the respective loading platforms desired—12 feet 6 inches or



Speedwell with Seat Raised, Showing Accessibility of Motor

15 feet 6 inches. The wheel base of the 6-ton truck is 139 inches with a loading platform of 15 feet 6 inches.

Each unit in Speedwell trucks is constructed to withstand the heavy duty imposed upon it—a liberal margin being provided as insurance of efficiency and long life. In fact, Speedwell trucks are said to be heavier in all important members than any other trucks of the same rated capacity—and this is accomplished without producing a cumbersome, unwieldy vehicle. Speedwell trucks are easily handled and most efficient in low fuel consumption and low up-keep expense. Even under most trying conditions Speedwell trucks are not likely to be



Speedwell 4-Ton Truck Paying its Way for a Cincinnati Wholesale Grocer

subjected to their limit of endurance.

The constructional advantages of Speedwell design are at once apparent.

The motor is under the seat, so designed as to make all units more accessible than in any other form of construction. The illustration shows how the seat is hinged from the chassis and may swing in either direction, making adjustments as easy as in models where the motor is under a hood, as in the pleasure car. At the same time each unit of the car can be taken out without disturbing other units. The motor may be removed if necessary without taking off the radiator. The steering gear is also easily removed. The transmission can be removed or inspected by lifting a plate in the platform. The radiator is freed by taking off two nuts and filler.

This construction allows a loading platform of maximum size with short wheelbase and little overhang back of the rear axle.



CORRUGATED ROOFING

high grade, carefully manufactured, formed to standard corrugations—with a square deal to both buyer and user

FULL STANDARD WEIGHT.

All galvanized patterns bear in the stencil the word "Apollo"—on the black and painted it is "American". Write for full information on Black and Galvanized Sheets, Tin and Terne Plates, Corrugated Sheets and the following Formed Products. Send for Weight Card showing standard weights per square.

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\$3.65

No. 50 P—Regular \$6.00 Value—My Price \$3.65—50c Cash 50c a Month

This extremely comfortable rocker, finished in American quarter sawed oak, upholstered in Fabricord leather over a setting of oil tempered springs guaranteed to hold their shape—handsomely ruffled in front of seat and top of back. Entire frame elaborately carved and of extra heavy stock. Stands 39 in. from floor to top of back. 25 in. from seat to top of back. 5 at its 19 in. wide x 19 in. deep. These extra large dimensions will give you a fair idea of the exceptional value of this rocker.

Send Only 50c



\$8.95

No. 28B \$1.00 Cash—75c a Month.

Genuine Fabricord leather couch, guaranteed not to crack or peel, tufted in seven rows even well-filled tufts, 75 inches long, 28 inches wide; upholstered over 24 springs in body, 6 in head, covered with extra heavy duck canvas, filled with fine clean tow, hair top. Frame genuine quarter-sawed oak veneer, adorned with rich carving of unique design on the head end, foot end and in the rear; and fitted with deep carved claw feet. Do not misjudge quality on account of low price. We guarantee it. Mail order blank today. Don't let this big bargain pass you. Money refunded if not satisfactory.

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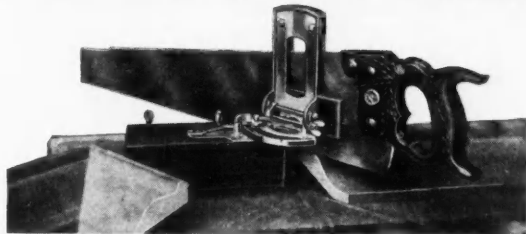
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\$5,000⁰⁰ Challenge Offer

combined business of any other five mail-order furniture houses selling on credit. That's why our five times bigger buying power gets you lowest prices here.

I have deposited \$5,000.00 in the National Bank of the Republic, Chicago, to be given to Charity, if any person or companies can prove that for the year ending, June 30, 1911, we did not do a larger business than the Be sure and send for this Big Free Book.

THE CROWN SAW GAUGE



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

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The Ackermann Floor Scraper

Saves its cost on the first job. With the Ackermann patent sharpener (free with the machine) any man can sharpen knives.

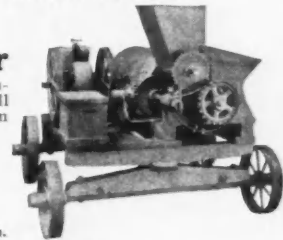
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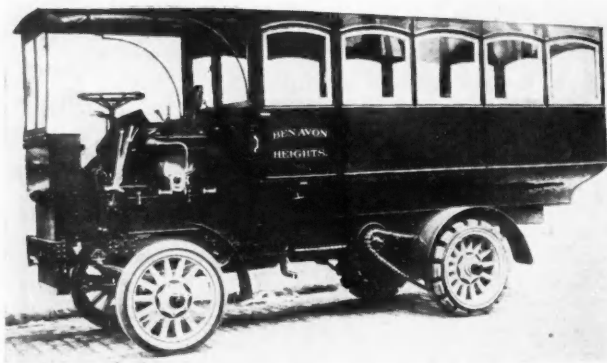
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Produces 4 to 6 cubic yards of concrete per hour with 2 men to do all the work. Saves its cost in less than a seasons' work.

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Monarch Mfg. Co.
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Speedwell 4-Ton Truck in Sunday Garb—Removable Bus Body for Taking Prospective Home Buyers to Building Operations in Pittsburgh Suburb

Speedwell Trucks are said to have the shortest wheel base for their capacity of any trucks made and can for this reason be turned in a shorter space and be more readily handled in traffic and at loading platforms. Because it has little overhang in back, heavy machinery, safes, etc., can be loaded upon the rear of the platform without overbalancing the truck. When a normal load is placed upon the truck the weight is evenly distributed upon the front as well as the rear wheels.

Most manufacturers and business men are more interested in the performance of a truck than in minute details of construction.

Along these lines we present a photograph of a truck in

service in Cincinnati by a wholesale grocer. Since this firm has installed but one truck and still maintains horse drawn delivery as well they are in a position to keep exact comparison of the work. They find that the truck will carry nearly double the load of their two horse wagons and make long trips in one-half the time while on short trips with many stops the time saving is somewhat less.

Since gasoline and oil consumption averages about \$1 a day the saving in upkeep can readily be seen by comparing \$1 running cost against the cost of keeping three teams of horses.

An interesting condition of service is rendered in Pittsburgh by the Speedwell truck here pictured with 20-passenger bus body on it.

Ben Avon Heights is a fast growing suburb of Pittsburgh—reached up a hill of alarming steepness. During the week the promoter of this suburb uses the truck with a stake body to carry builders supplies out to the houses there building. On Saturday and Sunday the bus body is substituted and Mr. and Mrs. Newlywed are taken out and introduced to a prospective home.



DRYING STOVES
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BUILT TO STAND WEAR AND TEAR

15" and 20" diameters, with or without Tops. Dumping and Shaking Grates. Circulars and prices on request. We ship any quantity anywhere, promptly.

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We are proud to state that we have the only practical Circle Swing Builders' Derrick on the market and to prove our statement we will be pleased to send you one of our **LIGHTWEIGHT CHAMPION BUILDERS' DERRICKS** complete ready for use with cable block, band brake, price, \$36.00, on trial, so that if the derrick is not satisfactory it can be returned. Our motto is **SATISFACTION OR NO SALE** Send us a trial order and we will assure you immediate shipment. Write for Illustrated Circular "N" with prices

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NEW YORK OFFICE: 103 Park Ave.

"I Would Not Give a Coltrin For Any or All of Them"

THIS AFTER FOUR YEARS U.E OF MACHINE



No. 9 Coltrin Mixer

Butte, Mont., Sept. 5, 1911.

The Knickerbocker Co.,
Jackson, Michigan.

Gentlemen:

I usually have five men—two to feed, two to wheel away, one to tamp and rake—and also one finisher, and then can get done, except for finisher, in 7 hours. Am using smelter slag and its pretty hard on men and machinery. Still I average up 100 feet of 10-ft. walk per day. On foundation work I get in 25 to 30 cubic yards per day of 8 hours with 6 men. There are all kinds of mixers in Butte, but I would not give a Coltrin for any or all of them.

Yours truly,
George Tucker.

Mr. Tucker bought this Coltrin in July, 1907.

The Coltrin Concrete Mixers
Manufactured By
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with *Sackett Plaster Board* than with lath. Wood lath absorb moisture when the wet plaster goes on, and swell. Then they afterwards dry out and contract, pulling away from the plaster. The result is a loose wall—liable to crack, and is neither fireproof nor soundproof. If such a wall or ceiling happens to be made of lime mortar and gets wet, the plaster loosens and falls—there is no strength in it.

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on the other hand, is fireproof and does not swell or buckle under any conditions. It is composed of alternate layers of calcined gypsum and strong fibrous felt, cut into sheets 32x36 inches—every one uniform—and about as thick as ordinary wood lath. Sackett is nailed direct to the studding, furring or joists, just the same as any other lathing material, and makes a firm, even surface for the plaster coat. If U. S. Gypsum Plaster goes on, the wall becomes a monolith, as solid as a rock—fireproof and soundproof

Do not spoil a good house with poor walls. Use SACKETT Plaster Board, the Nation's best lathing material, instead of lath. For full particulars write or call on us.

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With Positive Gauge

Gauges by 1/4 inches from 4 1/4 inches to 5 1/2 inches
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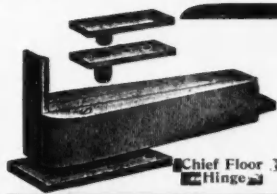
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Double-Acting Ball-Bearing Floor Hinge

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

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

THE SHELBY SPRING HINGE CO.

Shelby, Ohio.



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Anchor Machines Make Continuous Air Space Blocks

The wall that's
guaranteed
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ture proof.



A perfect dead air space from cellar to garret.
Standard Machine makes blocks 8x24 in.—any width from
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All blocks tied together in construction by four quarter-inch
galvanized iron rods 8 in. long and turned 1 in. at each end, guar-
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*Write for Catalogue and Special Prices.
All Machines sold direct to the trade.*

Anchor Concrete Stone Co., Rock Rapids, Ia.

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Readers of the AMERICAN CARPENTER AND BUILDER should be interested in the line of built-up veneer panels made by the American Veneer Company, 12 Market street, Kenilworth, N. J. This concern is equipped with the most modern machinery and appliances, for turning out this kind of work, known to the industry, and employs the best mechanics identified with this particular branch of trade in America.

The company are specialists and manufacturers of strictly high-grade built-up veneer panels for architectural and interior effect, wainscoting, mantels, ceilings, doors and bank office fixtures, counter tops, desks, etc. Some idea of the character of the work turned out may be gained when it is stated that the greater part of the veneer work in the new Gimbel store, the Metropolitan Museum of Art, Rector's Hotel, the two Rogers-Peet stores, W. R. Hearst's immense new apartments on Riverside Drive, J. Pierpont Morgan's palatial residence, all in New York, the National Museum at Washington and similar structures, has come from the factory of the American Veneer Company. The company import a great deal of its veneer direct, over thirty-five different varieties being in use. This splendid business is the sole result of the tireless energy, experience and business ability of William A. Bushfield, the president, treasurer and general manager. Mr. Bushfield started at the foot of the ladder; first learned the trade, and then established a small business for himself in Jersey City about 1900. By close application to details and producing the best class of material, his product was soon in demand, necessitating his building the large factory at Kenilworth in 1902.

The American Veneer Company will be glad to answer inquiries regarding its product and quote prices on any panel specifications furnished.

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If you are a bricklayer, mason, carpenter or builder, you need this course—it will bring you higher wages.

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If you are a contractor you need this course—it will help you to figure closer. It will eliminate mistakes—**increase your profits.**

The lessons are approved by well-known Chicago architects and engineers. We have partial courses to fit your individual need, if you have had previous experience.

Start now on your journey to success. Don't say you can't do it—you can; don't say you haven't time—take it; don't say you haven't the money—earn it as you study.


Determine now whether you will advance in salary and position or let other men go ahead of you. Send for free folder, now.

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Short resident courses in our Chicago Schools in Architectural, Mechanical and Structural Drafting. Low tuition. Day and evening classes. Ask for catalog X if interested in the resident course.

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is a necessity to a properly constructed **Fire Place**. For **Practicability, Quality and Price** insist upon having those made by

J. H. BAWDEN & CO.
FREEHOLD, N. J.

4 TOOLS IN 1

Combination Saw Sharpener, Saw Setter, Tool Grinder and Sander



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

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

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

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

Write for full particulars and price.

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

"HERE'S A SAW RIG"

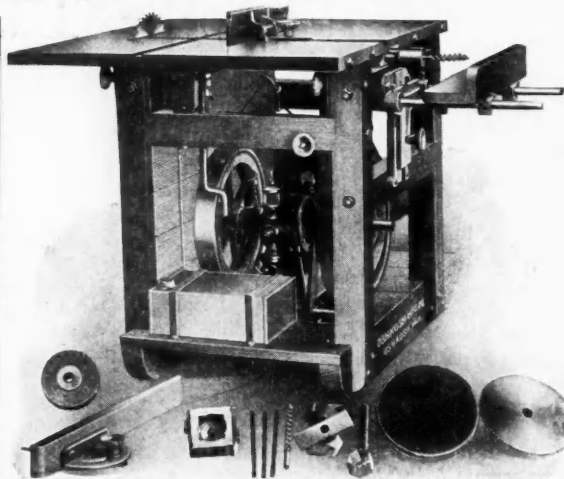
That will live up to your expectations, one that will do all we claim for it and then some besides. Our Saw Rig is built from the best materials by the most expert workmen, which enables us to guarantee these machines to be free from defects for life.

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

IF NOT SATISFACTORY RETURN AT OUR EXPENSE

NO CHARGE FOR THESE ATTACHMENTS:

- 10-inch Rip Saw
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**Guaranteed
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Just a moment, Mr. Contractor or Builder! We want to KNOW, and we think we have the right to know, why YOU have never considered the great possibilities of a motor Truck in your business—for hauling your lumber, cement, stone, brick, lime, or any other kind of material or heavy hardware.

Probably you've never been told or had occasion to figure it out for yourself how much time, labor and MONEY could be actually saved by the use of a truck. Undoubtedly you did not know that in six months' time a hard-working motor truck would easily pay for itself and for the three extra men you had been paying at least \$2 a day to.

The Schacht 3 to 4 Ton Truck

will be the biggest paying proposition you ever invested your money in and it can SHOW YOU! With it you will be able to handle twice

the work you are handling with teams and wagons. More trips—five to one—can be made with the SCHACHT; more material carried; more satisfaction given everyone of your buyers and more profits naturally will follow this additional business and that means a greater success.

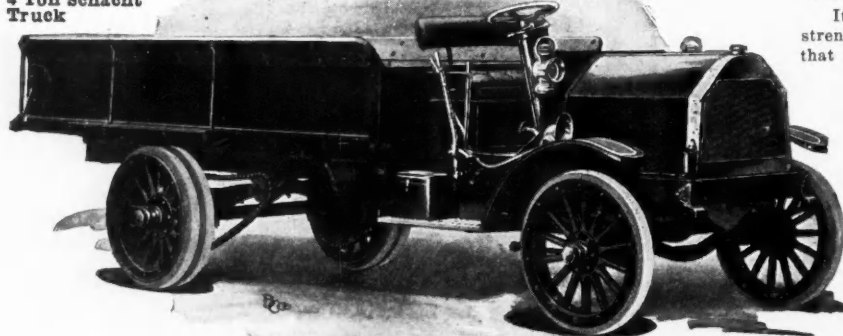
With the SCHACHT 3 to 4 Ton Truck you have an untiring, work-all-the-time employee that costs materially less to handle than your horse, requires practically no attention, is far less trouble and care than two or three horses, is much more powerful and dependable, don't grow old and worn out, will carry the heaviest loads to the farthest suburb or section of town in any kind of weather—good or bad—and one man can run the SCHACHT at a salary of \$2 per day and do much more work than your three teams and drivers could, although each one of them was costing you from \$1.75 to \$2 a day. And, of course, this does not include feed for horses.

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It is powerfully constructed—a forty horse-power strength that's ready to work for you all the time—that is SCHACHT SATISFACTION.

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Builders, Contractors and Carpenters who buy their lumber from the
Peter J. Seippel Lumber Co.

have greater advantages in wide selection and low price than if they owned a lumber yard of their own.

Every stick of lumber we sell is a double bargain—a bargain in price and a bargain in quality. We sell you everything straight from the mill—we don't job anything. We have our own forests, saw mills, planing mills, etc., and make everything needed for building, from foundation to roof.

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And our quality is so much higher than that of Local yards that if you use much lumber you can get your No. 1 by resorting our No. 2 stuff, thus getting No. 1 for 25% to 50% less than No. 2 is now costing you.

Whenever you need a car of lumber, get on the train and come to Dubuque. We will pay your fare both ways and you can select every stick of your order personally from a stock as big as 200 or 300 local yards combined.

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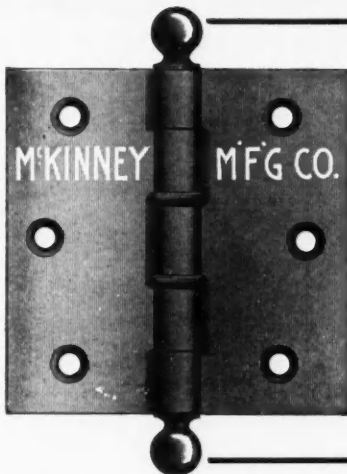
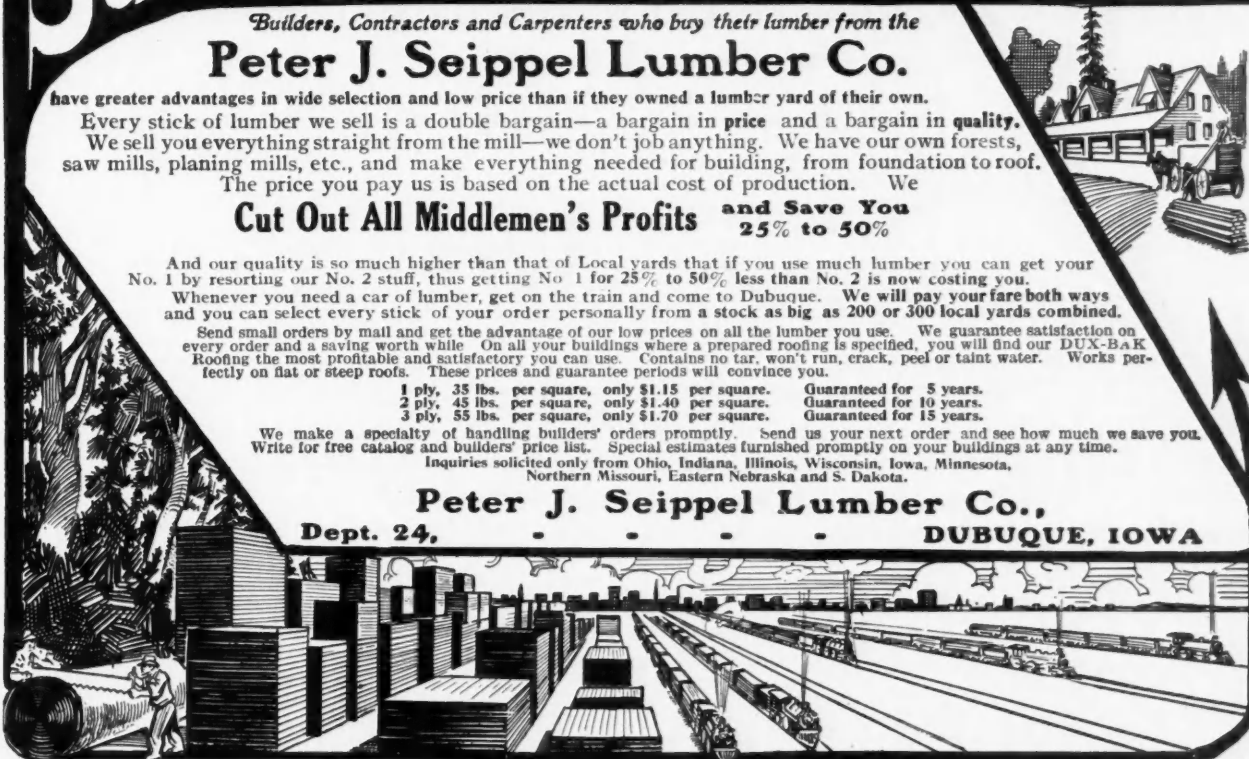
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“Are you interested in the carpenters and the Disston Saws they buy, even after you have their money?”

This is a question easily answered. Do you suppose for an instant that we could have retained our regular trade, constantly increased it, built up and maintained the largest and greatest works of its kind in the world, over a period of seventy-one years, had we not seen to it that the articles we sent out were “making good” and satisfying the user?

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We want to force home to you the important fact that our plant is by far the largest of its kind in the world, consisting of fifty-eight buildings, covering fifty acres. We employ 3,500 men, and during almost three-quarters of a century—the period we have been in business—very little time has been lost by the employees. You must realize that it requires “some orders” to keep an establishment of this magnitude going.

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PROTECTS THE USER.

We certainly do want to know if any **Disston Brand Saw, Tool or File** does not stand up to our guarantee. That guarantee is sufficiently broad to protect the user on every reasonable point. If you have a Disston Saw, Tool or File that has failed you through any cause of ours, let us know, and we will see that you bear no loss on our account.

Each and every article bearing the name DISSTON carries a full warranty as to material and workmanship.

And this guarantee has been in force since the first Disston Saw was made.

There are millions and millions of **Disston Brand Saws, Tools and Files** in practical use all over the world, which are giving the highest satisfaction. Of course, you will appreciate that almost every individual has his own ideas and opinions and it is impossible to cater to each, particularly in cases where there may be prejudice; so our only recourse is to satisfy the majority. And this we have been doing for over seventy-one years—making the goods of superior quality and after designs which have been demonstrated by practical use to be best adapted for the purpose.

It is noteworthy, however, that where we have one complaint, we receive thousands of letters voluntarily testifying to the superior worth and durability of **Disston Brand Goods**. This speaks for itself.

Nevertheless, we are always open to conviction, and if a man has complaint to make about any of the Disston Goods, it is but fair and just to us that he enter the complaint; for it is by considering, fully digesting and going into the cause of the trouble, in addition to our constant experimenting and investiga-

tions which enables us to so improve and perfect **Disston Goods** as to bring them up to the highest point of efficiency. When a man has occasion to find fault with any of our goods we do not consider it “a complaint,” but a stimulation and a reason for increased vigilance in looking to the safeguarding of the high prestige we have achieved for the name **Disston**.

MOST PRACTICAL EXPERIENCE.

We have the experience—and broad experience at that—extending over seventy-one years, not only in the making, but in the using of tools. Think of the enormous size of our plant; think of its many, diversified departments and their ramifications—Steel making, Saw making, the making of various Tools, File making, Wood working departments, Machine Knife making, Machine Shop. Think of the enormous quantities of tools and materials we buy from the outside, and think of the great quantity of tools of our own make that we use. When you consider all these points, it will give you some idea of our experience in the manufacturing and use of tools. And that experience we make count in the perfecting of our manufacturing facilities and the increased efficiency of our own brand of goods.

MADE FOR EFFICIENCY.

In the **Disston Brand Saws, Tools and Files**, you have the advantages of the product of a progressive, up-to-date factory, the **Largest in the World**. Where the goods are made throughout, from the making of the steel itself—the superiority of which has been demonstrated for the past fifty-six years—to the finishing operation; and each process is performed by mechanics of long experience and highest order of skill.

We want to say to you, and say it positively, that **Disston Goods** are made not merely to sell, but for **practical use**. All materials used are of highest grade; the steel is properly hardened, tempered and ground under the Disston exclusive processes; each article carefully inspected at various stages of the work, and finished in a workmanlike manner. **We fully Guarantee them to be of Highest Efficiency and Unequaled.**

WE ARE INTERESTED.

Reverting to the question:—Yes, we are interested in the carpenters and all other users of our tools, as well as the tools themselves after they have been bought and put to use. For we take great pride in the successful results they have achieved in the working, and fully realize—have realized for years—that the world-wide reputation we have earned can only be maintained by furnishing goods of the highest efficiency.

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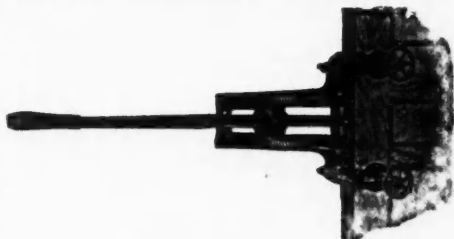
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"Diamond" Mortiser

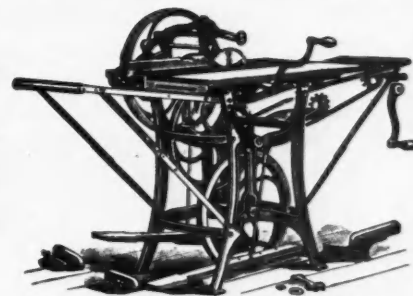
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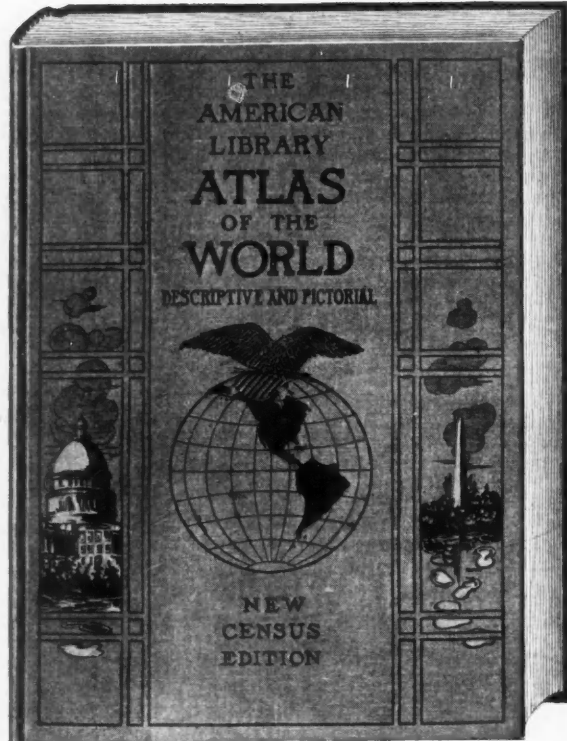
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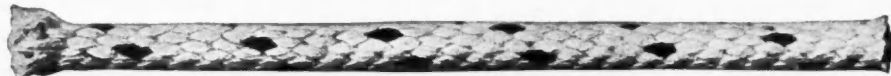
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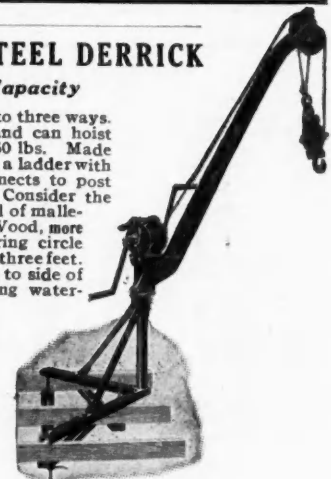
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"To introduce this article, we will send one Nail Set (State size), to any address upon receipt of 15 cents in stamps, together with your dealer's name."

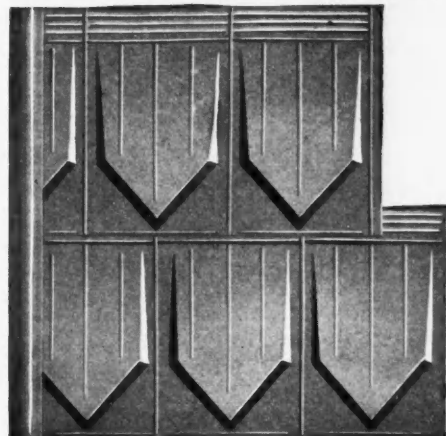
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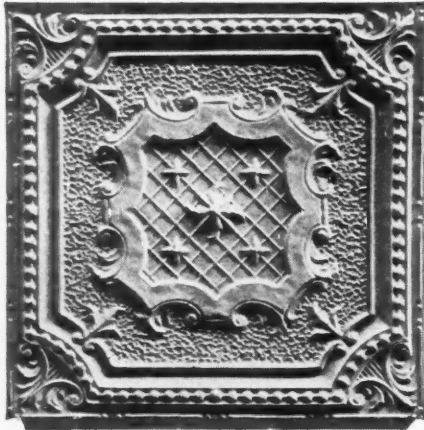
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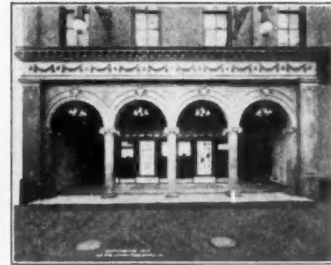
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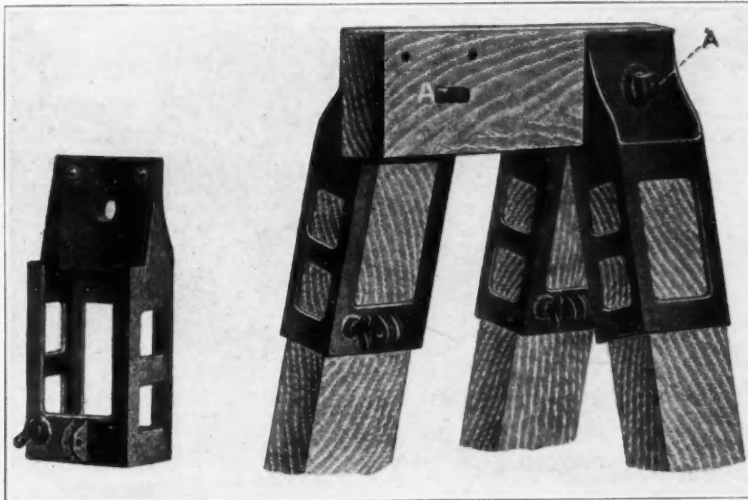


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By removing bolts **A** trestle will fold together for convenience in transportation from one job to another or from one room to another. Also for storage purposes no space is lost.

G. & M. Trestle Irons enable any one with saw and auger bit to set up trestle in 1-5 the time it takes a mechanic to make an ordinary trestle.

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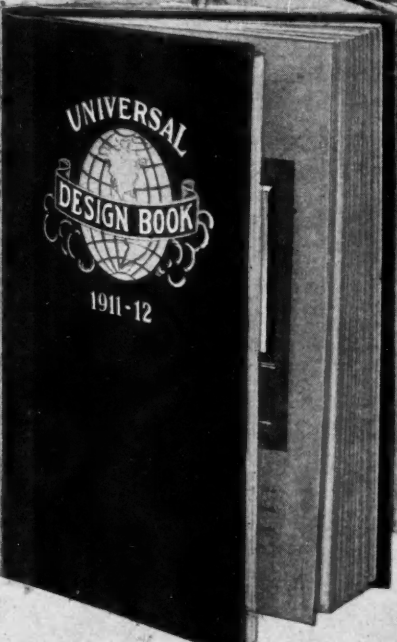
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We can't say anything more emphatic than that; or anything more convincing. It will make 476 different sizes of blocks; and you'll be surprised to see how many different places you can use it.

Adjustable from 2 to 24 inches in width, and from 2 to 24 inches in length.

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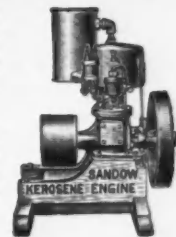
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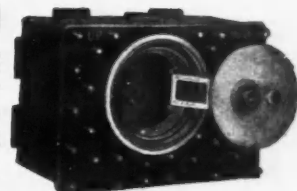
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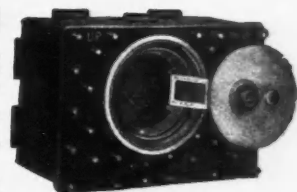
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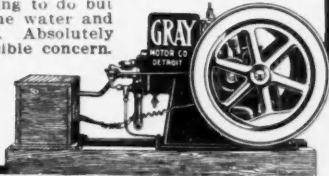


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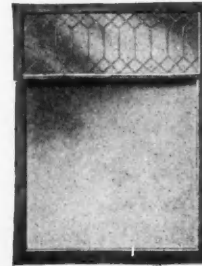
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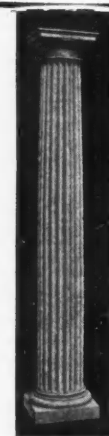
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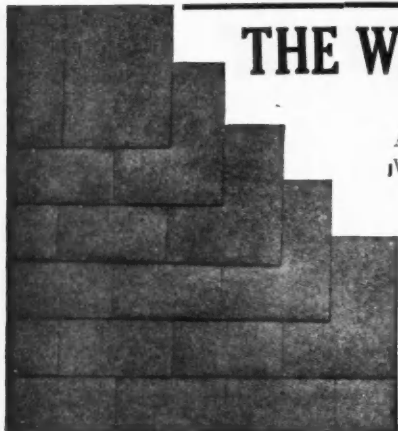


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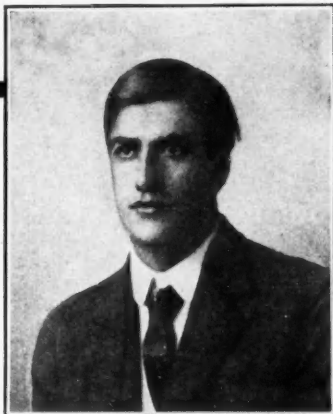
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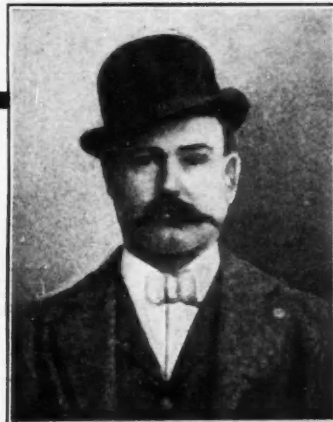
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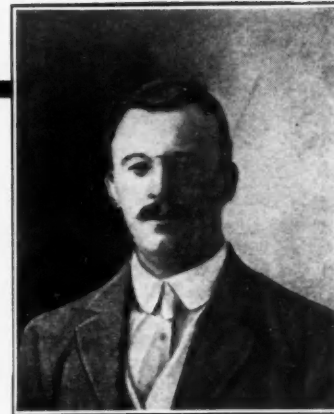
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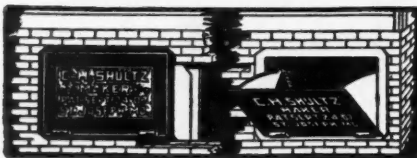
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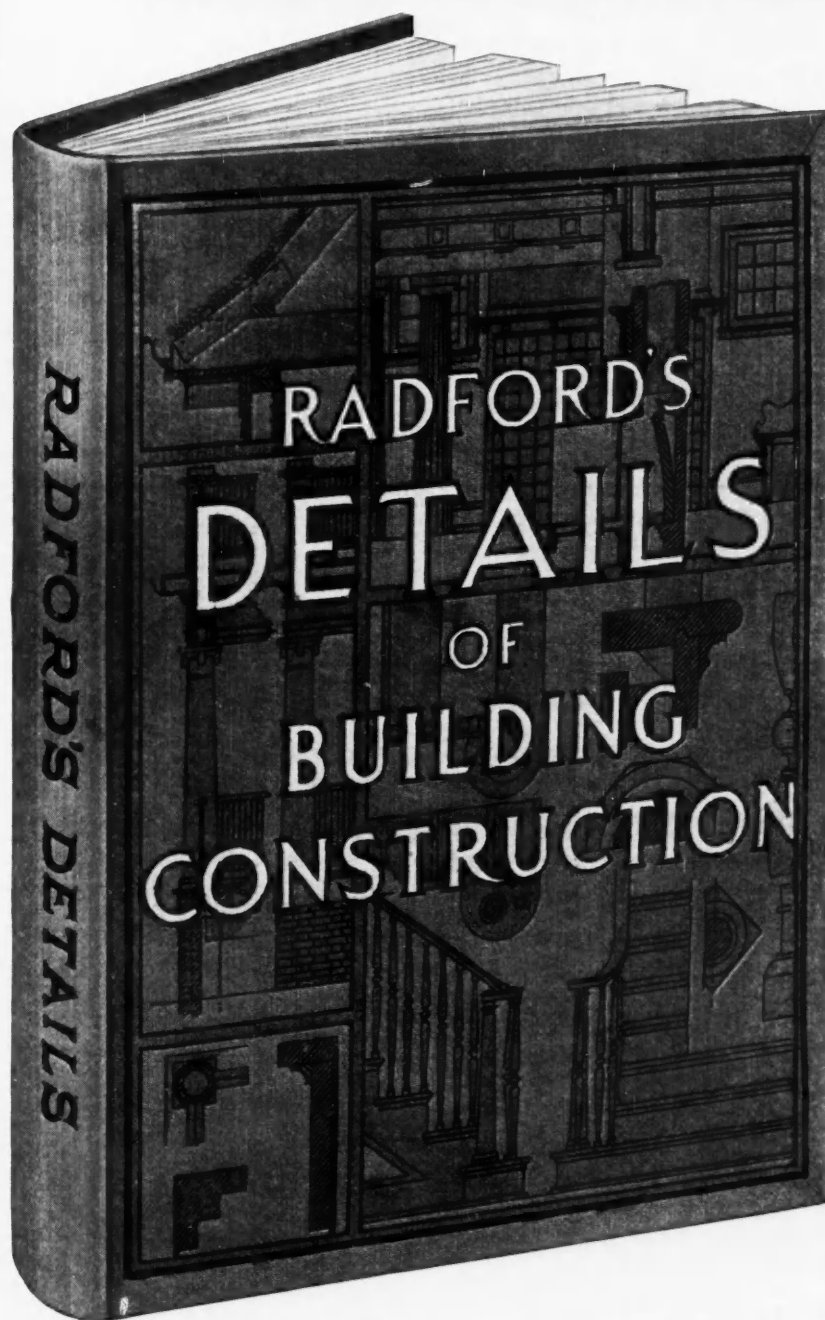
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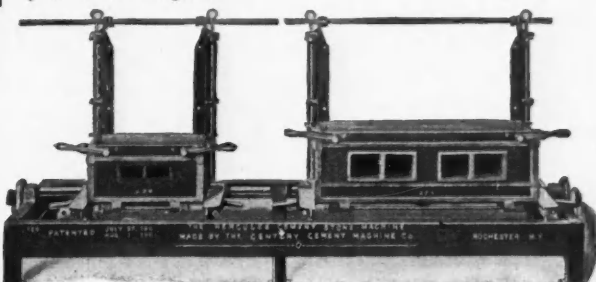
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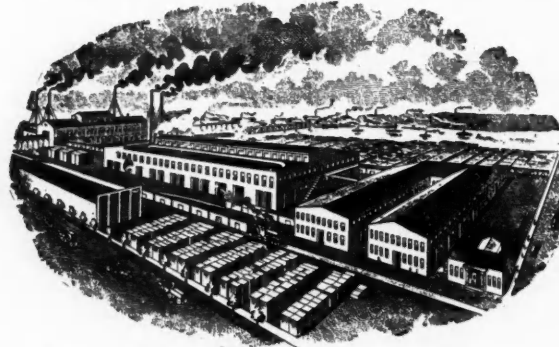
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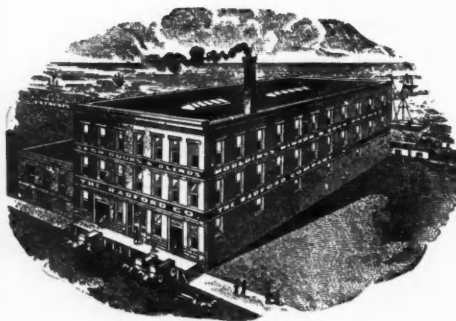
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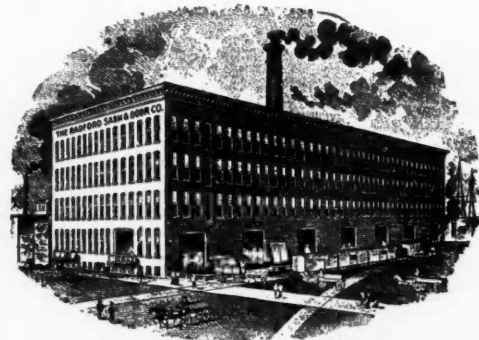
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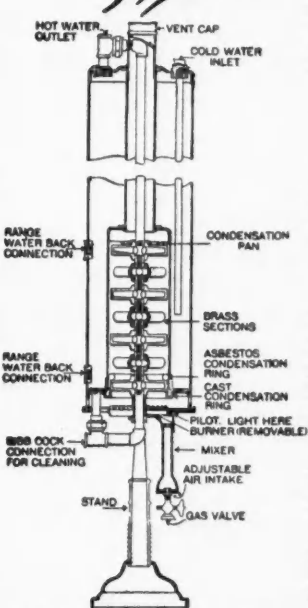
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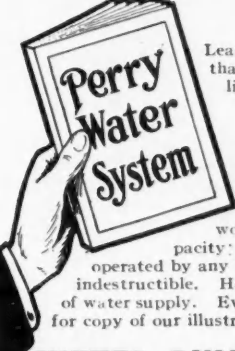
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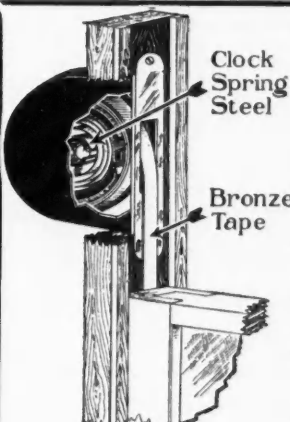
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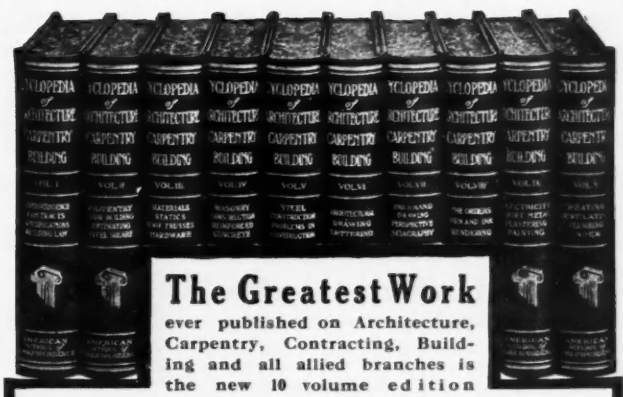
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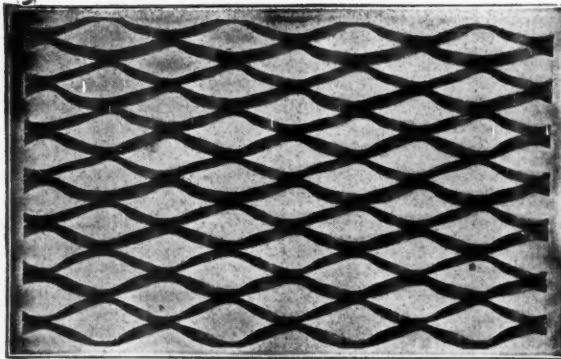
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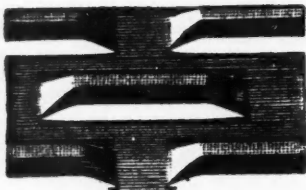
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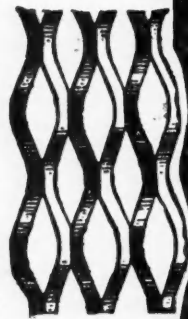
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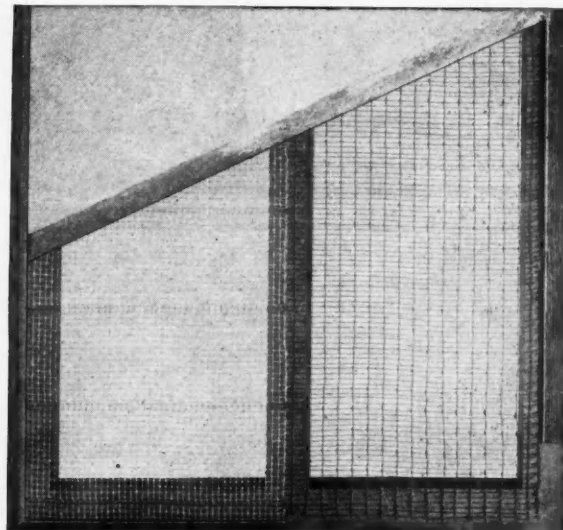


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Grimm's Galvanized Corrugated Wire Lathing
"Patent applied for"

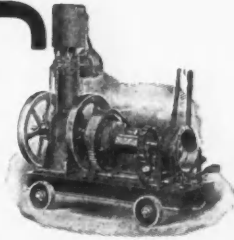
Greening's Patent Trussed Steel Wire Lathing

BUFFALO WIRE WORKS CO., BUFFALO, N. Y.



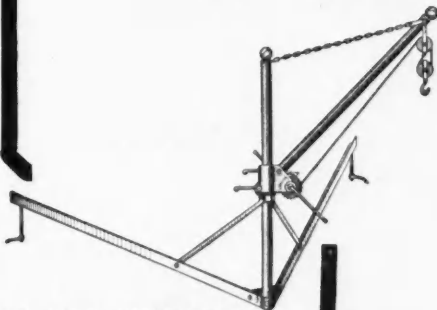
Little Wonder
Concrete Mixer

Concrete Machinery, Tools and
Molds of all kinds. Gasoline
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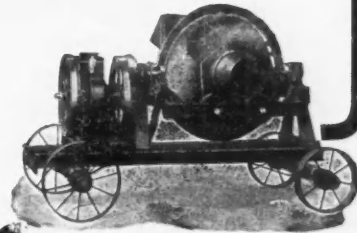


Little Wonder Builder's Derrick,
All Capacities

**Waterloo Cement
Mach'y Corp'n**

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Stone Crushers, Sand and Stone
Screens and Elevators. Send
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Polygon Junior
Concrete Mixer

**NOTICE
IMPORTANT**



Owing to increased
manufacturing fa-
cility we have trip-
led our output and
reduced the cost of
manufacture ma-
terially. On and
after Aug. 20, 1911.

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BRICK
MACHINES**

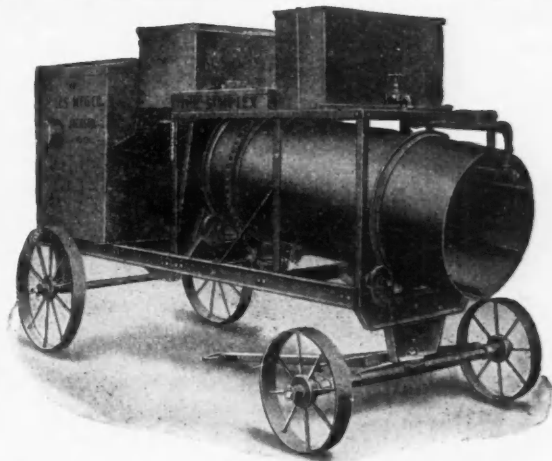
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enormously reduced
price

Our 1912 Model
now ready meets
every requirement
—tamps brick uni-
formly; makes
them face-down
and is the only
economical and
successful machine
on the market.

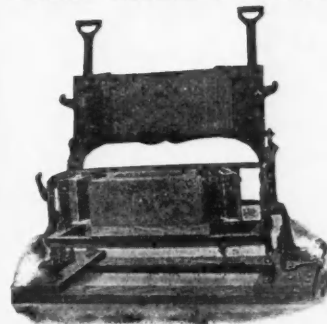
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IS GREAT**

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19 NORTH 6th ST. MINNEAPOLIS, MINN.



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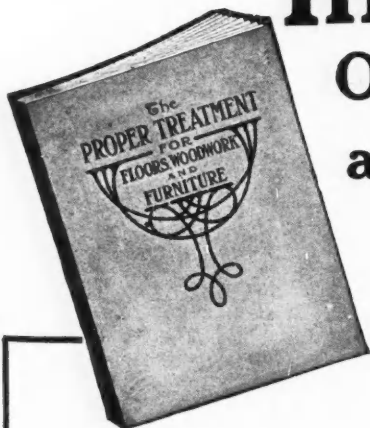
Continuous Feed, Batch Mix,
Low Down Steel Frame, 3
Hoppers, Positive Feed,
Attractive Price

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

Makes Stone in Lengths, 4",
6", 8", 10", 12", 16", 18", 20",
22", 24"; in Width: 4", 6",
8", 10", 12"; in Height, 4", 6",
8". Also Angle Stone, Circle
Stone, Gable Stone, Hollow
or Solid Stone.
The Contractor's Friend, Sim-
ple, Strong and Rapid.
Lowest in price.

WRITE FOR NEW 1911
CATALOGUE

THE MILES MFG. CO., Inc. 307 E. Franklin St. JACKSON, MICHIGAN



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

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

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

Johnson's Wood Dye

is made in 15 popular shades as follows:

No. 126 Light Oak	No. 128 Light Mahogany	No. 121 Moss Green
No. 123 Dark Oak	No. 129 Dark Mahogany	No. 122 Forest Green
No. 125 Mission Oak	No. 130 Weathered Oak	No. 172 Flemish Oak
No. 140 Early English or Manila Oak	No. 131 Brown Weathered Oak	No. 178 Brown Flemish Oak
No. 110 Bog Oak	No. 132 Green Weathered Oak	No. 120 Fumed Oak

Gallons \$3.00—Half Gallons \$1.50

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

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

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

S. C. Johnson & Sons, Dept. A CB-10, Racine, Wis.

"The Wood Finishing Authorities"

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

Be sure to write us for free samples and the Instruction Book, Edition A. C. B. 10, if your dealer cannot supply you.



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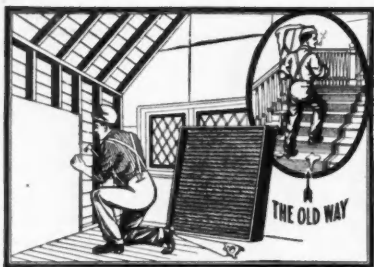
NOTICE TO ADVERTISERS

Forms for the November number of the American Carpenter and Builder will close promptly on October 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.

BISHOPRIC WALL BOARD AND SHEATHING

BISHOPRIC Wall Board is cheaper and better than lath and plaster. It is the **ONLY** Wall Board **COMBINED WITH LATHS** and Asphalt Mastic. Laths are necessary in a Wall Board, just as they are in plaster walls, to prevent warping and to insure solid, rigid, stiff, substantial

WALLS AND CEILINGS



Bishopric Wall Board Easily Applied

factory into 4 x 4 feet sheets. Shipped in crates ready for immediate nailing to studs. It is guaranteed not to swell, shrink, warp, crack, flake or blister. It is clean, sanitary and odorless; proof against moisture, cold, heat and vermin; saves fuel and keeps out summer heat; also deadens sound.

It is suitable for dwellings, factories, new partitions in old buildings, finishing attics, porches, laundries, cellar ceilings, garages, etc.

PRICE OF WALL BOARD AND SHIPMENT—Crate of 16 sheets, covering 256 sq. ft. of surface, \$6.40 per crate, or \$2.50 per 100 sq. ft., f. o. b. New Orleans, Cincinnati, or Alma, Mich. We ship from nearest point.

T. W. Hanes, Carpenter and Contractor, Mounds, Ill., wrote August 15: "I have used 13 crates of Bishopric Wall Board, and the waste could be put in a hat."

Wm. Cooper, Taxidermist, Milo, Me., March 9 wrote the Philadelphia Farm Journal: "Your interesting paper has been a real bonanza to me. I wanted a cheap, warm method of lining my new work room. An advertisement in your paper gave me the very idea and material at a price that suited my pocket. I wrote to two firms who advertised with you, but selected 13,000 ft. of sheathing from the Bishopric Wall Board Mfg. Co. of Cincinnati. If the stuff was made on purpose, 't could not suit me better; and a most prompt, obliging firm they are, too."

Bishopric Wall Board also is the only Wall Board with a waterproof body. The Asphalt Mastic in which the laths are imbedded affords absolute protection against dampness. Does away with delays in building. Applied winter or summer. Is nailed to studding dry, ready for immediate application of paper, paint, burlap or any other kind of decoration.



Applied Dry Winter or Summer

Shows Construction of Bishopric Wall Board

Bishopric Wall Board is made of kiln-dried, dressed laths imbedded in hot Asphalt Mastic, surfaced with sized cardboard and cut in the

Bishopric Sheathing is Cheaper than Lumber; saves 75% in Labor; does away with Building Paper

BISHOPRIC SHEATHING

Ideal Material for Cement Buildings or Stucco Exteriors. Proof against Dampness, Heat and Cold

Bishopric Sheathing is made of same materials as Wall Board, but finish is not necessarily so fine, therefore costs less. It is of uniform thickness, insuring a perfectly even surface when applied.

Bishopric Sheathing is nailed to studs, with lath and asphalt side exposed. Over laths weather boards are nailed or cement applied.

Bishopric Sheathing makes a more solid and substantial wall than lumber. There are no gaping joints; no widening cracks due to shrinkage; no knot holes.

The Asphalt Mastic in Bishopric Sheathing is a non-conductor, moisture cannot penetrate it. It is proof against vermin. The pests cannot bore through the tough, gummy Asphalt Mastic. In applying weather-boards over laths, dead air space is left between the laths; forming splendid insulation. Does away with the expense of building paper and cost of its application.

An Ideal Bishopric Home



Ideal home showing Weather-boards over Bishopric Sheathing, lath side exposed, also Bishopric Roofing over Bishopric Sheathing. (smooth side of sheathing exposed)

The cost of applying Bishopric Sheathing is but \$2.50 per 1,000 feet—A **SAVING OF ABOUT 75 PER CENT.** Furthermore, 1,000 square feet of wood sheathing covers but 750 feet of surface, 20% less being due to tongue and groove. In Bishopric Sheathing 1000 sq. ft. covers 1000 square feet of space.

Write for Descriptive Booklet and Samples—all Sent FREE. Dealers Write for Proposition.

THE MASTIC WALL BOARD AND ROOFING MFG. CO., E. Third St. Cincinnati, O.

Bishopric Sheathing insures comfort during the construction of the building. As soon as the building is closed in with Bishopric Sheathing, the men may work in comfort on the inside during bad weather, finishing the outside on suitable days. This insures continuous work, without loss of time, enabling the contractor to hold his men and complete the work in the least possible time.

Bishopric Sheathing is used with equally splendid results under flooring and as a substitute for roofing boards. Used under floors, it serves as a sound deadener and keeps out dampness; used under the shingles, it keeps out cold and summer heat.

ITS MANY USES—Bishopric Sheathing also is used with excellent results as a lining for dairy barns, ranch houses, poultry houses driving stables or any out-door building where protection from the elements, Summer or Winter is desired.

PRICE OF SHEATHING AND SHIPMENT—Crate of 16 sheets covering 256 square feet of surface, \$6, or \$2.35 per square of 100 square feet, f. o. b. New Orleans, La., Cincinnati, or Alma, Mich. We ship from nearest point.

BISHOPRIC ROOFING SELF-PROTECTING

The materials used in Bishopric Roofing are self-protecting. Other roofings require protection in the way of paint or coatings to prevent drying out, cracking or rotting. Bishopric Roofing requires no paint. The Asphalt itself in this patented Roofing is toughened and perpetuated by an exclusive process. Carbonate of Lime is mixed with pure asphalt, making one homogeneous mixture, which stands a pressure of 500 pounds to the square inch. This is a positive guarantee against breaks and cracks. Asphalt Mastic may be exposed direct to the weather in any climate without danger of softening, drying out, cracking or crumbling. Write for free sample and literature.





Keep a Liberty Lantern in Your Shop.

A Liberty Lantern is the sort of lantern to have in your shop, because it is safe and reliable. Liberty Lanterns are not easily overturned. They give the best and whitest light.

They are made from the finest materials, have all the good points of other lanterns, and none of their defects. Besides, Liberty Lanterns have features all their own. The bail of a Liberty Lantern *stays* where you put it and never falls down. It cannot work loose or come off; it can't rattle. Globe held in place *firmly* by powerful spring in dome. Globe is made of finest quality flint glass, thin, smooth and more transparent than others.

Liberty Lanterns



have brass burners instead of steel. The flame burns straight, and never has "horns." Filled, lighted and regulated without removal of globe. Guaranteed oil-tight and air-tight. Wind can't blow them out. Jolts can't jar them out. Wick is fitted and ready for use. Hot or cold blast with or without dashboard attachment and reflectors. Ask your dealer for Liberty Lanterns and get the best lantern made.

"The Recollection of Quality Remains Long After the Price is Forgotten."

Trademark Registered.

-E. C. SIMMONS

If not at your dealer's, write us.

SIMMONS HARDWARE COMPANY (Inc.)

St. Louis and New York, U. S. A.