

- WITH HOME BUILDERS SECTION

OCTOBER / 1913

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TITLE PAGE INDEX

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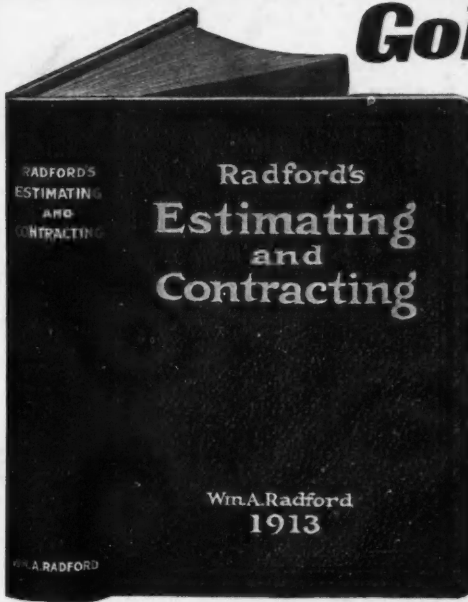
# AMERICAN CARPENTER AND BUILDER



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THE WORLD'S GREATEST BUILDING PAPER

## Going! Going! G-O-N-E!



The 1000 Free Copies of the New Radford's Estimating and Contracting, as offered last month, are already nearly all spoken for. Orders are coming fast. Act quickly if you want to have a copy of this big \$2.00 Book Absolutely Free.

In order to quickly introduce this newest and best building estimator and contractors' guide, we are setting aside the first 1000 copies of the first edition (now in press) for our most ambitious, enterprising carpenters and builders—our subscribers both old and new. We know that you will recommend this book to your friends. Write today; these first 1000 "good will" copies are going fast, and we don't want to disappoint any of Our Folks.

Radford's Estimating and Contracting is the newest, largest, most complete and most reliable estimating book. It will make you money and will save money for you. Write for your book today.

**For Special Free Introductory Offer  
See Pages 19 to 22**

All New and Up-to-date—Reliable from Cover to Cover—over 500 pages 5x7½ inches Bound in Limp Leather; Stamped in Gold—Finest Thin Paper Edition.

Five Cents



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A25

# A LOT OF WORK FOR FIFTY CENTS

He saved (?) fifty cents when he bought his Saw and then he lost Ten Dollars worth of time and Fifty Dollars worth of effort in trying to make it go.

Saws have gone ahead—like some other tools. The best mechanics of to-day can now use *improved* Saws that have the right kind of “go” to them.

Don't be blind to your own welfare. There is only one way to get the best—the most improved Saws, and that way is to use the Genuine

## **ATKINS** *Silver Steel* **SAWS**

They are the most scientifically made. The SILVER STEEL is as fine as razor steel. It takes the sharpest—keenest edge you ever saw and holds it longest.

Right now—this Spring—is the best time to get started-right on Saws. Why wait longer? Get a genuine ATKINS SILVER STEEL SAW and get results.

Go to your regular dealer and demand an ATKINS, with our name on the blade. He has it—or can get it for you. Whether he sells it or not—make him get it for you. He'll do it if you insist. Get the very best kind, with the words “SILVER STEEL” on the blade, and then you will have it all over the other fellow with his old fashioned Saw. You'll work faster and—mind this—easier—a whole lot easier than he can—and you'll do better work, because your Saw will be up to the minute.

You owe it to yourself to use the finest Saws, and the only way that you can surely do this is by using the Genuine ATKINS SILVER STEEL, the “Finest on Earth”.

## **OUR FREE OFFER**

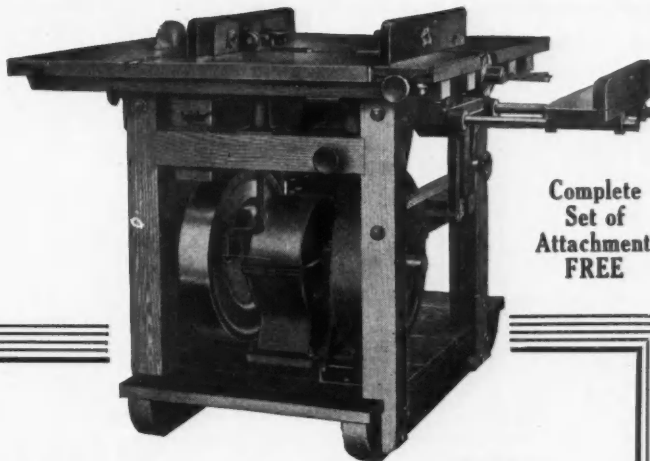
We are still compiling the names of high class mechanics and if you will send us your name and address with ten cents to pay postage, we'll mail you a free carpenters nail apron, and in the pocket you will find a whole lot of useful information and perhaps something else that you would like to have.

**Write to E. C. ATKINS & CO., Inc., The Silver Steel Saw People**

Or if you prefer, you can write to E. C. ATKINS & CO., at Atlanta, Ga., Chicago, Ill., Memphis, Tenn., New Orleans, La., Minneapolis, Minn., New York City, Portland, Oregon, San Francisco, Calif., Seattle, Wash., Hamilton, Ont., Vancouver, B. C.

You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.

# Built By Men of Practical Experience



Complete  
Set of  
Attachments  
FREE

THE Oshkosh "Eveready" Saw Rig is the result of the combined experience of experts who know every phase of carpentering and contracting work. It will save you immense time and money if you are now depending on hand work and planing mill service. The



## EVEREADY SAW RIG

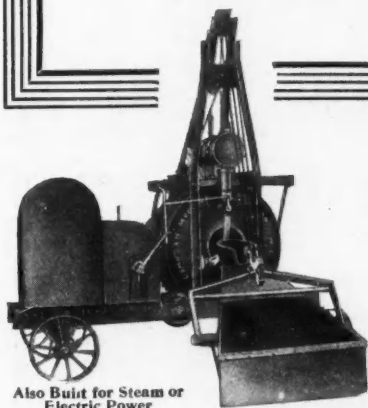
PRACTICAL DURABLE  
RELIABLE

has been subjected to so many grilling tests at the hands of men who positively **insist upon results**—and has "made good" under such conditions so absolutely without exception—that its utter dependability is now established beyond question. So firm is our faith, that we will gladly let any responsible person give it a **six-day trial free**, keeping it if satisfactory, returning it at our expense if it isn't. Why not take us at our word? Why not write today for price and full details of this trial offer? We can help you get the profit out of your business that rightly belongs to you.

## OSHKOSH MIXER

This famous mixer is also the result of long, careful study—this time, by practical engineers familiar with the possibilities of manufacturing. In speed and quality, its mix is guaranteed second to none. This thoroughness is due to the new "4-way" principle. Investigate. Write for prices on the full line of Oshkosh Mixers.

**OSHKOSH MFG. CO., 316 S. Main St., OSHKOSH, WIS.**



Also Built for Steam or Electric Power

BRANCH DEALERS IN SAW RIGS AND MIXERS

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| CHICAGO, 1452 Monadnock Bldg.  | PHILADELPHIA, Dodge & Dodge, 118 Maplewood St., Eastern Sales Agents.         |
| ATLANTA, GA., SOUTHERN SALES OFFICE, 604 Walton Bldg.                    | MILWAUKEE, WIS., W. A. Lewis Company, Loan & Trust Bldg.                      |
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| KANSAS CITY, MO., King Supply Company, 1201 Scarritt Bldg.               | SAN FRANCISCO, CAL., J. E. Dwan & Co., 445-447 Turk St.                       |
| LOS ANGELES, CAL., Arthur E. Banks, 1006 Wright & Callender Bldg.        | SEATTLE, WASH., Harold G. Stern & Co., 524 First Ave., South.                 |

SAW RIGS EXCLUSIVELY

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| ST. PAUL, MINN., Raymer Hardware Co., 373 Roberts St. | OMAHA, NEB., Sunderland Mchy. & Sup. Co. |
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MIXERS EXCLUSIVELY

NEW YORK, Dodge & Dodge, 1133 Broadway, Eastern Sales Agents.

You will get **SPECIAL ATTENTION** if you tell Advertisers you read American Carpenter and Builder.

5-m. 9/14/14

**WM P. JONES**  
CARPENTER AND BUILDER  
Middletown, Ohio  
October 10, 1913

Sidney Tool Co.  
Sidney, Ohio

Gentlemen: I find the Famous 30 very efficient in a jobbing shop. It is far superior to other machines I have used. I place it in the same position as a thorough mechanic. An advertisement may state to get the article from the store, but I have not seen the machine in the store. I have written the attachment and I look forward to the arrival of the machine. It is very good. Very truly yours,  
W.P.J.

**J. D. LAUDENSLAGER**  
Contractor and Builders  
Emaus, Pa.  
July 30, 1913.

The Sidney Tool Co.,  
Sidney, Ohio

Gentlemen - We are running one of your Famous "30" Universal Woodworkers every day with 5 horse power motor and our power costs us in the neighborhood of \$6.00 to \$6.50 a month. It runs nice and smooth and does lots of work. We do all our millwork to build our houses, and hardly could spare the machine anymore. It works fine.  
Yours respectfully,  
J. D. Laudenslager & Dorney

**THE FAMOUS GUARANTEE**  
WE HEREBY GUARANTEE the Famous Universal Woodworker to be well made and rightly constructed of good material and very capable of doing the work as represented. We agree to replace any parts showing defect in material or workmanship at any time during the entire life of the Machine. We further agree that purchaser may try the machine for a period of ten days, and if not satisfactory or will not do the work we claim for it, purchaser may return the machine at our expense.

**H. J. A. Lund & Son**  
CARPENTERS and BUILDERS  
378 NEW STREET,  
Park Avenue N. E., April 26, 1913

Sidney Tool Co.,  
Sidney, Ohio

Gentlemen - We have yours of the 30's, that, and in reply beg to state that our commission to the United States Co. was as they Woodworker you have reached the highest point of perfection for a Builder. We will order several of the different attachments for the near future and we are confident they will further increase the money saving power of your wonderful machine. We shall do everything within our power to assist you in our community. Thank you all speed to gaining the success which is practically assured, we beg to remain,  
Yours very truly,  
H. J. A. Lund & Son

**R A MILLER,**  
Contractor and Builder,  
DEALER IN ALL KINDS OF LUMBER

MIDDLETOWN, O., May 10, 1913

The Sidney Tool Co.  
Sidney, Ohio

Gentlemen I want to tell you that I am more than pleased with your Famous "30" Universal Woodworker. It will do more than you recommended. I have a 5 H.P. Motor and it runs it easily. I can run any kind of the machine at the same time. Have ripped 1" seasoned white oak and 4" hickory for wagon axles, and it works right through the same as inch boards. The band saw is the smoothest running I ever saw, and will cut right through 4" oak. I fully tested your machine, and cannot say too much and the water never hurt it, as I took off the belts, frictions and had saw wheels.

If any one doubts these statements, tell them I am running it every day and they can come see for themselves.

Last Thursday I got out, with two men and a helper, 50 box window frames, and put together everything complete. I cut out every piece on the machine and didn't have to use a hand saw on anything. I spent \$12.00 less than I thought, besides the other lumber I got out.

The mechanic takes the machine out for twice what I paid for it and let me do without it.

Thanking you again for encouraging me to buy it I remain,  
Yours truly,  
R. A. Miller

P.S. - Send anyone here to look at this machine and I will show them tricks they never saw worked before on a machine. I cut 1/4" of galne in door and window frames on the fly saw by turning a mangle in the saw.

**2000 Other Progressive Contractors and Builders tell the same tale about the Famous Woodworker**

**BUCKLER & ROBERTSON**  
CONTRACTORS AND BUILDERS  
Office and Shop, 280 First Avenue West,  
DUBLUON, IOWA, June 30, 1913.

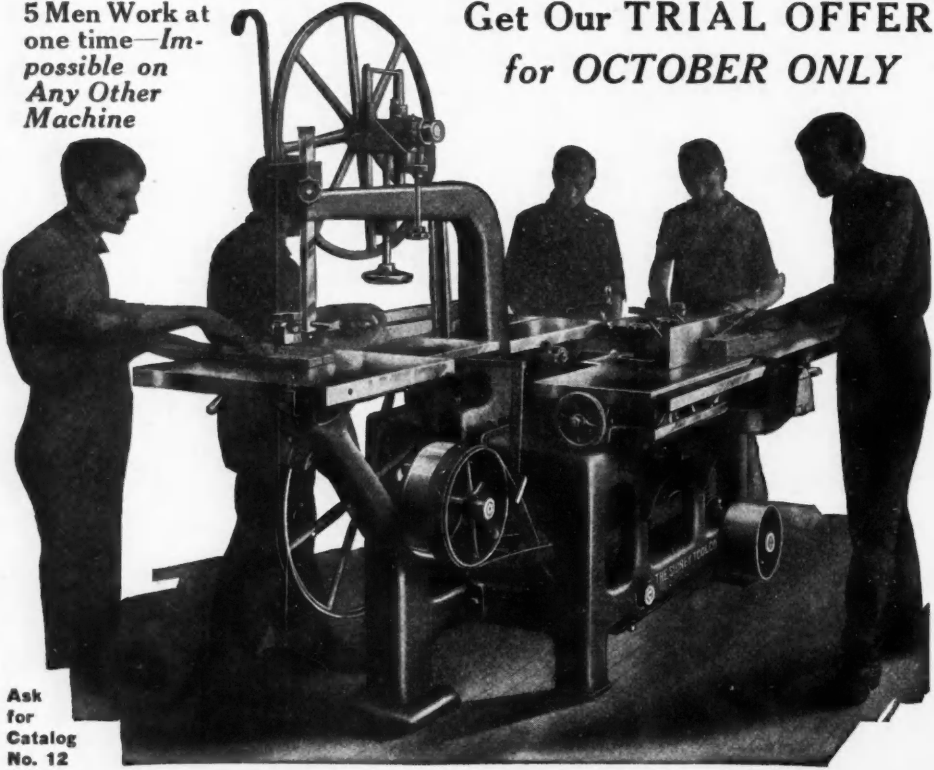
Sidney Tool Co.,  
Sidney, Ohio

Gentlemen: Since putting the Famous "30" in our shop our business has increased 50%. You can't beat the Famous "30" too high for it will do all you claim for it and more.  
Yours truly, BUCKLER & ROBERTSON.

- Five Reasons Why You Should Buy the Famous**
- 1-The Famous Guarantee - makes you safe.
  - 2-2000 Satisfied Users - an unequalled record.
  - 3-The Five Letters Above - direct evidence.
  - 4-"What It Does" - 30 and more different kinds of work. You can get what you need NOW - and add attachments as wanted.
  - 5-Our Trial Offer - You send us no money - you run no risk.

**5 Men Work at one time - Impossible on Any Other Machine**

**Get Our TRIAL OFFER for OCTOBER ONLY**



- WHAT IT DOES**
- Band - Resawing
  - Rip - Sawing
  - Cross-Cut Sawing
  - Band - Scroll Sawing
  - Mitre Sawing
  - Bevel Sawing
  - Grooving - Gaining
  - Planing - out-of-Wind
  - Sanding - Disc and Drum
  - Moulding - All Kinds
  - Glue Jointing
  - Power-Feed Planing
  - Grinding - Knife and Tool
  - Rounding - Tongue and Pole
  - Felloe Rounding
  - Spoke Tenoning
  - Wheel Equalizing
  - Rim Boring
  - Squaring-Up
  - Rabbeting
  - Beveling
  - Panel - Raising
  - Tenoning
  - Boring - Routing
  - Edge Moulding
  - Dovetailing
  - Mortising
  - Shaping

Ask for Catalog No. 12

**THE SIDNEY TOOL COMPANY**  
Sidney, Ohio.

You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.

### STERN FLOOR SCRAPER

Whether you can afford a larger, more expensive machine is not the question. Cost and size are not indications of better work. No machine made will scrape floors better than the Stern. Quality is the first consideration. Price? The Stern is **low-priced**. So much the better. You save money and get a machine that will do the work as well or better.

**STERN MFG. CO.**  
LANCASTER, PA.

For your own benefit let us tell you our side of the story. We're prejudiced in favor of our machine.

We know what it has done under every condition. Your opinion is unbiased.

Let us send you our circulars. Use your own judgment as to the merits of the Stern.

Write today or tomorrow—  
Better today.

Holds Any Blade Up to 3 1/2 x 7 Inch



### That 15-Day FREE TRIAL Still Open to You



TRY the WEBER fifteen days. If you like its smooth, easy running qualities and fine work, keep it. If not, return it at my expense.

### The WEBER DOUBLE ACTING Floor Scraper

**Is Absolutely Guaranteed** as to workmanship and material and is making a big "hit" wherever sold. Write for full details. **I want one good agent** in each town. Responsible carpenters or contractors write.

**JOHN F. WEBER, President**  
WEBER MFG. CO.  
670 71st Ave., West Allis, Wis.

### THE RAPID FLOOR SCRAPER

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

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

**MONARCH MFG. CO.**  
2610 Shepard Bldg.  
GRAND RAPIDS MICH.

SEND FOR CATALOG **\$28.00**

Cash with Order.  
Moneyback if you don't like it.




# DIG UP HALF

I'll give you the other half—  
**The ADJUSTABLE FLOOR SCRAPER and SANDER at HALF PRICE**

Last January, the factory agreed to reduce the cost to me if I sold 500 of these machines by November 1, 1913.

I now lack 37 of that number and, to make sure of it, will accept the next 37 orders at a price so low that I am bound to win even though I do not make a cent on the 37.

Now, almost any carpenter will tell you that the ADJUSTABLE is an A1 machine;—in fact, has all competitors on the run when it comes to scraping wood floors—hard or soft—old or new, doing a good job, quickly, easily and economically. But don't take their word for it, or the recommendation of anyone. You don't have to. My guarantee makes you absolutely safe; makes you your own judge. If it don't suit you, don't work satisfactory,—if you don't see where it saves you a lot of valuable time, labor, dollars,—send it back and back comes your money.

Now this is your chance to get the genuine ADJUSTABLE FLOOR SCRAPER and SANDING outfit complete with six extra blades, burnisher, wrench, etc.—the regular price for which is \$45, at just HALF PRICE, \$22.50. But you must be one of the first 37. Remember the date—November 1st or sooner. Better sooner or you may be too late.

MY GUARANTEE: If it fails to prove perfectly satisfactory at ANY TIME for ANY CAUSE within reason, you may have your money back if you want it.

**H. P. DIDRIKSEN** BOTH MACHINES ONLY **\$22.50**  
ANDERSON, INDIANA



You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.

FOR SURFACING AND POILSHING HARDWOOD FLOORS  
**The American Floor Surfacing Machine**

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

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

We sell direct to the users. Write for our free book "Surfacing Floors as a Business"

Use Our Champion Double Disc Machine for Cement, Terrazzo and Marble Floors.

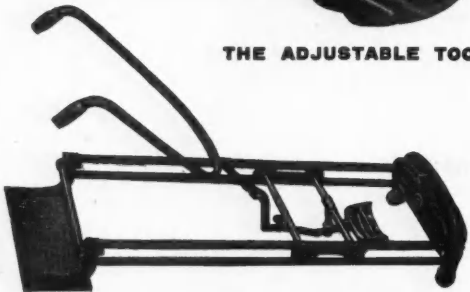
Manufactured by **The American Floor Surfacing Machine Co., Toledo, O.**



**\$25.85**



THE ADJUSTABLE TOOL



The Haven Planing Floor Scraper

THE  
**Haven Planing Floor Scraper**  
 Becomes the **STANDARD TOOL ON THE JOB**

wherever it is used. Builders have awakened to the fact that it solves the problem for good. Our machine differs entirely from all others. The secret of our splendid success rests on the following points:—

- (1) The scraping tool is a true plane, the world's standard leveler.
- (2) A light running carriage.
- (3) A smooth trackway for carriage.
- (4) A shearing cut on the instant.
- (5) Machine remains stationary while scraping enclosed area.
- (6) Angle of blade and thickness of shaving regulated with ease.
- (7) All woods are alike easy.
- (8) No man-killing track to pull or push; you rest on the return stroke.
- (9) Planes and scrapes simultaneously.
- (10) No chattering, waving or gouging.
- (11) The planing head does better work than the usual hand work, and from four to six times as much.

If you have tried other machines and been disappointed, then TRY OURS AND BE CONVINCED THAT WE HAVE THE GOODS. A TRIAL COSTS YOU NOTHING. DON'T BUY AN INFERIOR MACHINE WHEN YOU CAN GET THE BEST ON EARTH FOR \$25.85. Send for booklet and complete information concerning our guaranteed machine and free trial offer.

THE HAVEN MFG. CO.

:-:

RACINE, WIS.

JUST give us your name and address, tell us where to ship and by what road, and we will send you at once, at our risk, this **Fox Floor Scraper**, "completely equipped." Use it in actual work for 10 days, on any and all kinds of floors. Test its "lightness," its working capacity, its knives.

Compare *this* scraper with any other then decide. We will take it back—you do not pay

us unless you are satisfied.

Ship back at our expense if not the best Scraper you ever used.

But be sure you write us. Just give us shipping directions—we'll do the rest.

\$

**25**

INCLUDING

1 clamp block for sharpening knives; 4 crown knives, large size; 3 old floor knives, small size; 1 special knife, substitute for sander; 1 burnisher; 1 file; 1 wrench; 1 oilstone; complete set of instructions for operating.



**Fox Supply Company**

Dept. A.

Brooklyn, Wis.

Scrape Your Floors With  
**this LITTLE GIANT—**

You Can Try It  
 At Our  
 Expense



A floor scraper is now a necessity with every builder. In this Little Giant you get a floor scraper you can always depend upon to do its work properly. It is easy to operate. Scrapes floors rapidly, perfectly and economically. We'll let you try this Little Giant before you buy it—a fair proposition—and you can prove to yourself just what it can do. Write us NOW for our special offer for YOU.

**The THOR Electric Home Laundry Machine**

should be in every home. This machine does away with all laundry troubles. Home owners and builders appreciate their convenience and usefulness and it is good policy on your part to install them for your clients. There are now more than 62,000 in use. Sizes, designs and prices to meet every requirement. Sold on liberal FREE TRIAL EASY PAYMENT Plan.

Electric Washers from \$30 up

You ought to have our circular matter describing our Little Giant Scrapers and THOR Washing Machines. Write for this NOW.

**Hurley Machine Company**

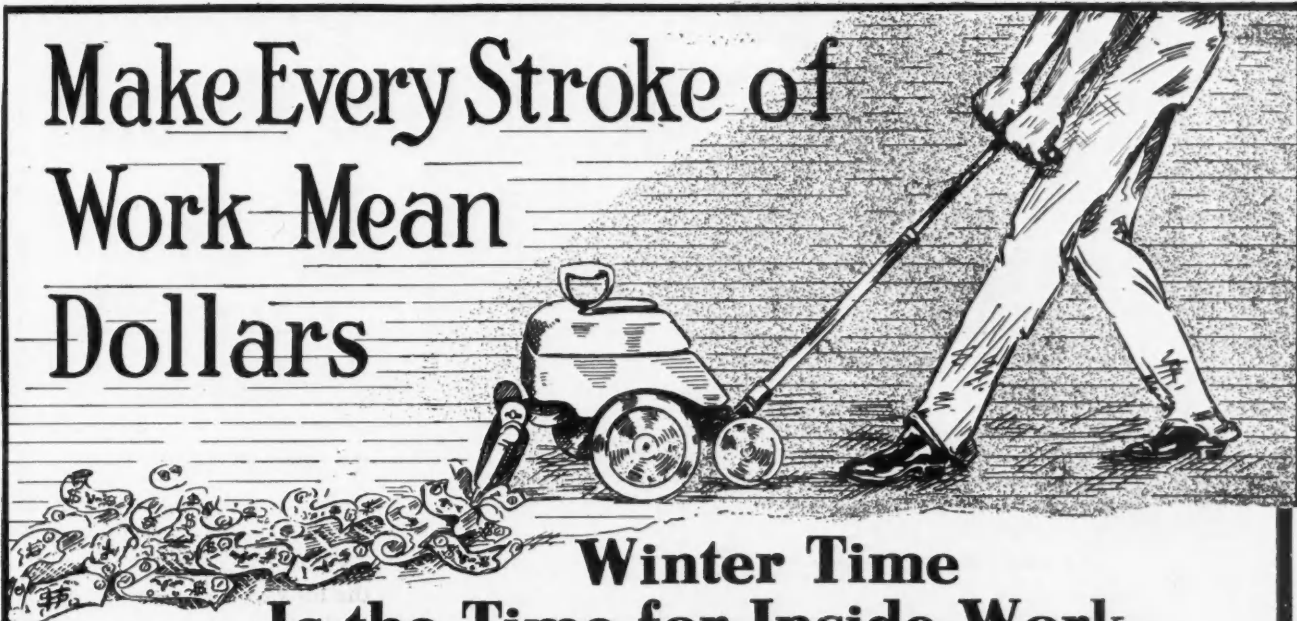
New York 1008 Flat Iron Building

37 S. Clinton Street, Chicago



You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.

# Make Every Stroke of Work Mean Dollars



## Winter Time Is the Time for Inside Work

**Winter time is floor-finishing time.** If you can prove that you can do the work better, quicker and cheaper than any one else, it's a sure thing

you'll get the jobs. If we can show you a positive earning of \$15.00 a day, you'll start finishing floors won't you?

### Make \$15.00 a Day Clear Money

You can scrape 1,000 square feet of floor space in an ordinary working day. You charge two cents a square foot or \$20.00 a day. That means \$15.00 a

day clear profit. This is not "just suppose." It's the actual showing of hundreds of men who are doing this work. **We can prove these figures.**

You need the **Triple "A" Floor Smoother.** Why? Because you can use it anywhere. It's a hand machine—and the best hand machine. Leave aside the question of construction. (Our guarantee proves

that the Triple "A" is made right from the best materials.) This machine will do more work in less time, with less effort and at a greater saving than any floor smoother made.

### Spring Drive Trebles Scraping Capacity

With the **Triple "A"** the operator pushes the machine forward. The spring tightens and

stops the machine automatically at the proper distance. The spring begins to release and drives the machine back on the cutting stroke. The operator is relieved of two-thirds of the work in running a **Triple "A."**

### Some Particulars.

The **Triple "A" Floor Smoother** is three machines in one: a scraper, a sander and a blade sharpener. Weights adjustable to suit floor conditions. Handle adjustable in length and height. This enables

"A" will never leave a wavy or chattered floor. The scraping capacity is nearly three times as much as any other machine. It earns more. It will satisfactorily scrape and finish any floor, old or new, varnished or painted.

The **Triple "A"** has made a hard winter profitable for more than one builder. We don't ask you to buy a **Triple "A"** blindfolded. We simply ask you to let us show you our confidence in our machine and why it means a money-maker for you.

**GUARANTEE**

We guarantee the Triple "A" Floor-smoother outfit to be complete in every detail and to be the most perfect floor surfacing outfit on the market today, regardless of price.

We also guarantee the machine against breakage from defective material or workmanship, and agree to duplicate, free of charge, any casting found to be defective any time within one year from date of purchase.

*Satisfaction or Money Back.*

you to work in very small space. The Triple

### Mail Us the Coupon.

It doesn't obligate you for one penny. We'll tell you all about the **Triple "A"**; quote you the price; tell you how to buy the machine on time or how to rent it. We'll give you facts and figures. Don't wait until snow flies. Get busy and send us the coupon now.

**Tear Off and Mail.**

**TRIPLE "A" MACHINE CO.,**  
Room 307—300 W. Indiana Street  
CHICAGO, ILL.

**MAIL THE COUPON**

TRIPLE "A" MACHINE CO.,  
Room 303,  
300 W. Indiana Street,  
Chicago, Ill.

If your machine is all that you claim for it, please send me full particulars. I do not obligate myself in any way to buy.



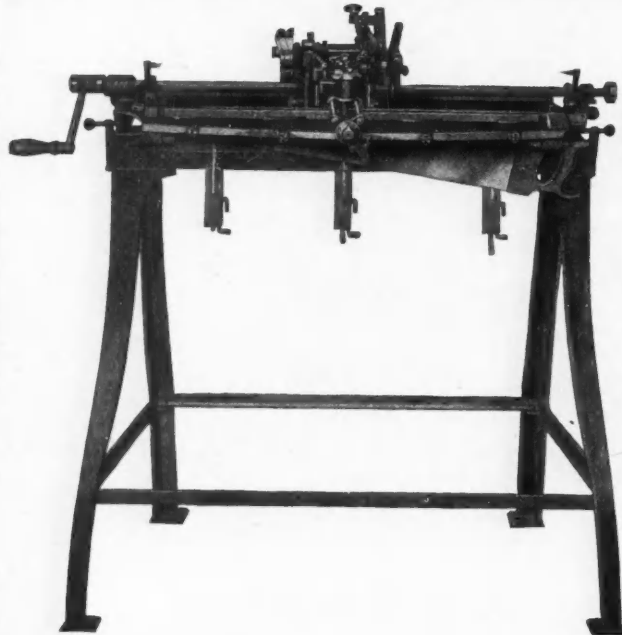
Triple "A" with Sandpaper Attachment

Name.....

Address.....

You will get **SPECIAL ATTENTION** if you tell Advertisers you read American Carpenter and Builder.

# Files a Saw Perfectly in Five Minutes



Seems impossible, but that is just what the

## Miotke Saw Filing Machine

can do. This machine is beyond question the biggest labor saver ever invented for a carpenter's use. It files a saw better than an expert can by hand.

By simply turning the handle the filing apparatus automatically travels up and down the rack and files every other tooth on the forward movement and each alternate tooth on the backward movement. Every tooth is filed alike and is absolutely true. Can be set for filing any kind of hand saw and any size of tooth. So simple that a boy can operate it. Get the details of this wonderful machine by writing me for particulars to-day.

Joseph Miotke

259 Lake St.,

Milwaukee, Wis.

## DON'T BEGGAR YOURSELF

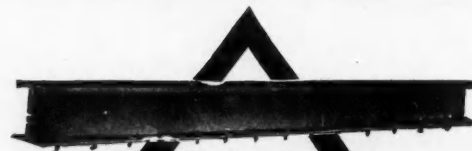
buying expensive combination wood workers with a lot of attachments you don't need nor ever will need.



Buy a **PARKS** with a few simple attachments that you need. You can add other attachments as you feel able to afford them. You do not need to tie up a lot of money in a woodworker. Let us tell you our plan. Parks machines are sent on free trial.

**PARKS BALL BEARING MACHINE COMPANY**  
Fergus St. and C. H. & D. Ry.  
CINCINNATI, OHIO, U. S. A.

Write for Complete Catalog



Berger's  
*Metal Lumber*

the only fire-proof material to universally take the place of wood timber. Similar to structural steel but lighter. Replaces wood stick for stick.

Write for Catalog.

**THE BERGER MFG. CO.,** Canton, Ohio

For the best service address nearest branch  
New York Boston Minneapolis  
St. Louis San Francisco Philadelphia

## Get the Roof that Lasts

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

### Genuine Franklin Tunnel Slate

—the strongest, the most uniform in color, the best hand-selected, made from the best slate deposits makes the "Roof that Lasts a Lifetime" and

### Guarantees Freedom from all roofing Troubles

Plan NOW to roof RIGHT. Begin by sending to-day for our new Catalogue. Just out. It points the way to immense roof saving. Write for your copy to-day. Sent Free

**Slatington Slate Co., SLATINGTON, PA.**

Established 1852

Sole Manufacturers Genuine Franklin Tunnel Slate

WOOD



## FREE TRIAL

5,000 in use

RAPID, FLEXIBLE, SELF-PROPELLING WHEN RAISING HANDLE

Send for our new list and free trial proposition.

**M. L. Schlueter**

107 N. Canal St.  
Chicago, Ill.

Made in three sizes:  
8 x 18, 8 x 15 and 8 x 12 in. Flexible Roller.  
Edge Roller easily adjusted to either side.

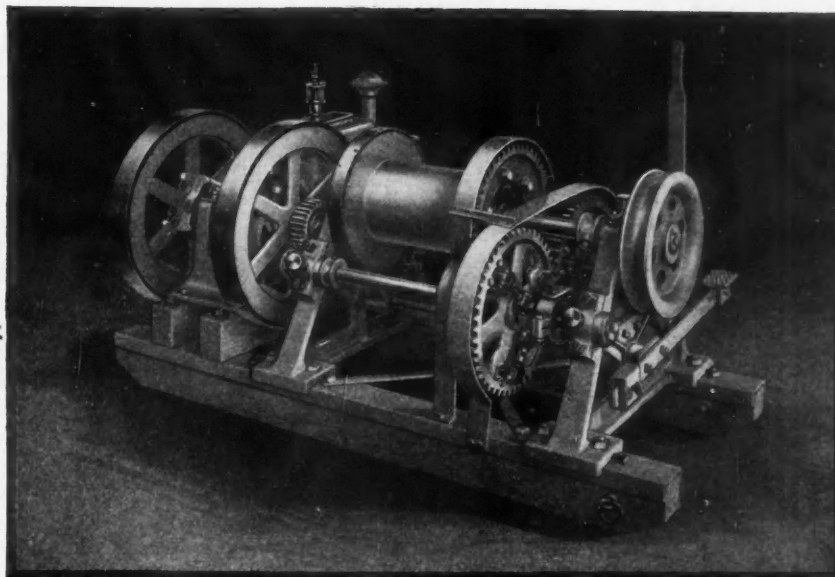
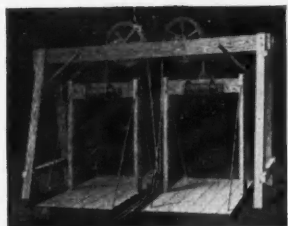
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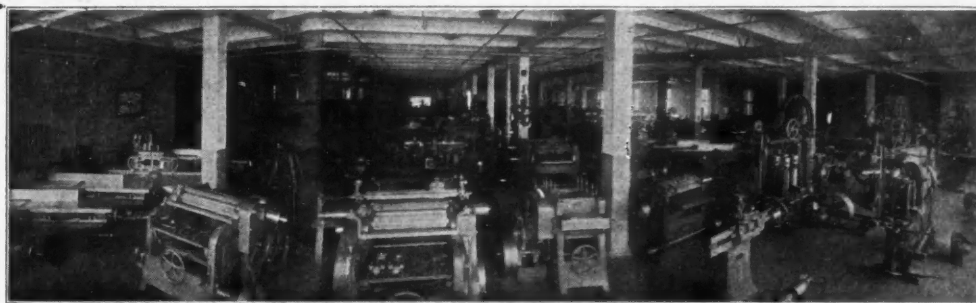
# BUILDERS'-HOIST

PORTABLE  
SAW RIGS,  
PUMPS, ENGINES,  
MIXERS, ETC.

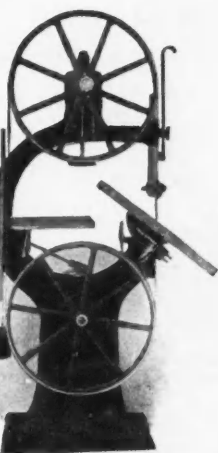
WRITE US



**C. H. & E. MANUFACTURING CO., INC.**  
322 MINERAL ST., MILWAUKEE, WIS.



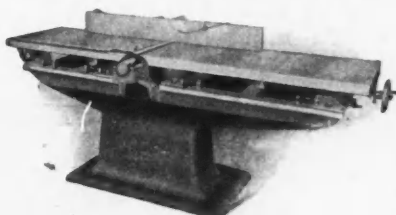
Section of Main Floor Exhibit and Salesrooms



Chicago Band Saws  
27-32-36 inch wheels

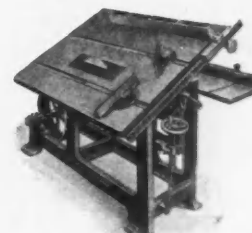
## Machines of Quality

FOR THE CONTRACTOR AND BUILDER



Chicago Jointers  
8-12-16 inch

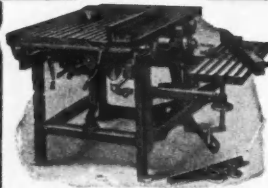
Get our Special Prices



Chicago No. 9 Combination  
Saw

**Chicago Machinery Exchange**  
1215-1223 Washington Blvd. :: CHICAGO

You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.



# Save \$50.00 Per Day

This Double Arbor Rip and Cut-Off Machine does the cutting which formerly required the labor of from 12 to 30 men. This means a clear saving of at least \$50.00 per day—and we say nothing about the great saving in time. Read the accompanying letter—read the description of the machine—then write for literature.

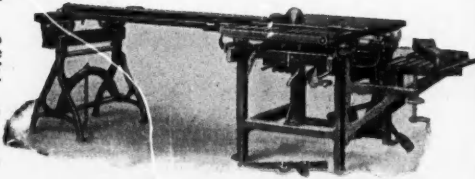
The machine is portable, requires little space in the shop, and is equipped with electric motor or gasoline engine. Furnished with wood or iron frame.

building work in New York City has been installed and has given satisfaction. It is a great labor saving machine and we would not start another concrete job without having a saw of this description on the work.

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

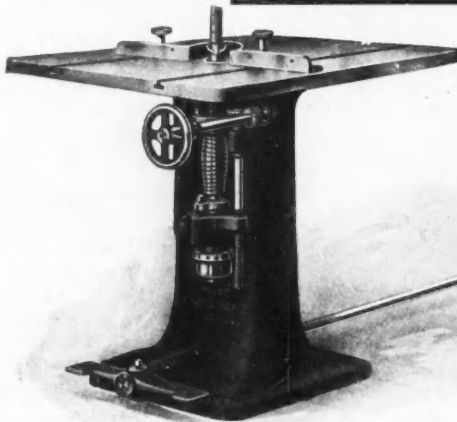
## See the Table Extension

The Beach Mfg. Co., Montrose, Pa.  
Gentlemen: The Wood Frame No. 3 Double Arbor Rip and Cut-Off Saw which you recently furnished us for concrete



**BEACH MFG. CO.,**

**Montrose, Pa.**



## FAY-EGAN "Lightning" High Speed Shapers

Are producing the finest work for many a Carpenter and Builder

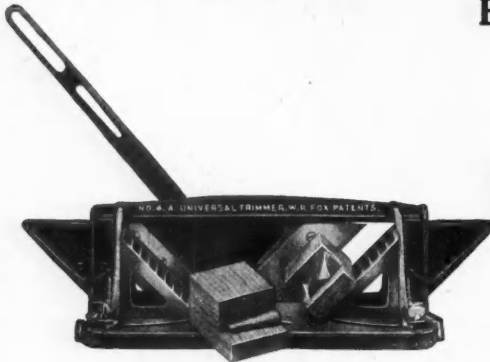
The high spindle speed which can be maintained for hours, makes the most perfect surfaces in large quantities.

YOU SHOULD WRITE FOR OUR CATALOG TODAY

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

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

## IMPROVE the Quality of YOUR INTERIOR FINISHING BY USING THE



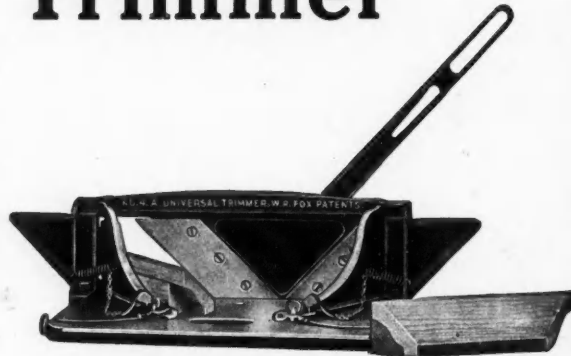
TRADE **FOX** MARK

# Universal Wood Trimmer

The Illustrations show some of the possibilities of these machines. There are many other possible "stunts."

We build small hand machines; also heavy floor type machines. We can meet YOUR requirements. :: :: :: :: ::

WRITE US TODAY

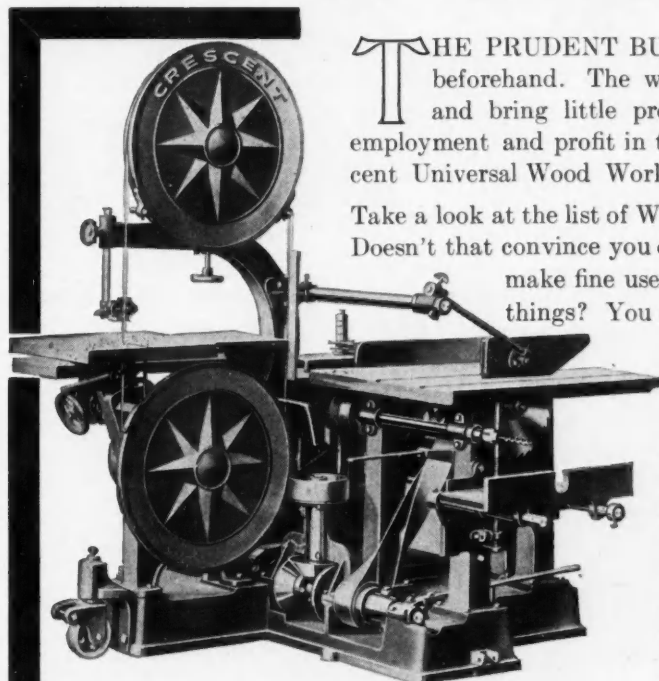


**FOX MACHINE CO.** 22 N. Front Ave., Grand Rapids, Mich.  
30 CHURCH STREET, NEW YORK CITY

You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.

# You Can't Afford to be Idle This Winter

- What You Can Do on the CRESCENT**
- Re-Sawing
  - Cutting Off
  - Tenoning
  - Moulding
  - Panel Raising
  - Knife Grinding
  - Mortising
  - Pole Rounding
  - Disc Grinding
  - Rabbetting
  - Boring
  - Grooving
  - Dadoing
  - Jointing
  - Band Sawing
  - Ripping
  - Sanding

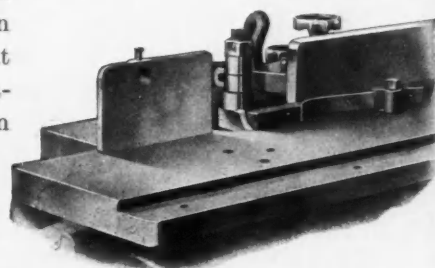


A COMPLETE MACHINE that will do all kinds of woodworking.

THE PRUDENT BUILDER figures his work months beforehand. The winter months usually pass slowly and bring little profit. There's no question about employment and profit in the off-season if you have a Crescent Universal Wood Worker.

Take a look at the list of What You Can Do on the Crescent. Doesn't that convince you of its practical use? Couldn't you make fine use of a machine that does all these things? You can use it in your shop or on the

job. Wherever you place it, it's right there to turn out the work in a jiffy. You can get out next season's material; you can turn out all kinds of material for fine inside work. Just go after the

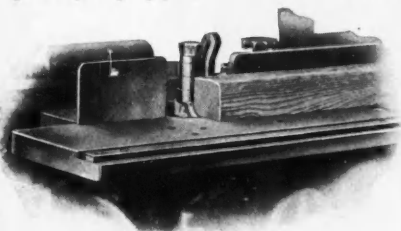


It's easy to work quarter round or moulding on the SHAPER SPINDLE. The spring holds the work securely

inside repair work now and you'll make the profits.

## OUR POSITIVE GUARANTEE

The Crescent Universal Wood Worker is not a make-shift machine. It is a guaranteed wood-working equipment. You can rely on it because we back it against all others as the best made, most completely equipped and handiest machine on the market. We stake our reputation on it. Our POSITIVE GUARANTEE protects you against all chance of loss.



Showing the method of rounding poles or shafts on the SHAPER SPINDLE.

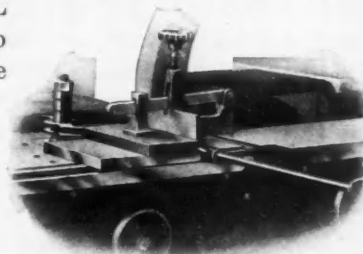
The most complete attachments that work independently or in combination with the others is one big feature of the Crescent. Four men can work at the same time.

Last month we showed the Hollow Chisel Mortiser of the Crescent. This month we show you the SHAPER SPINDLE and the TENONER. These two attachments can be put to a wide variety of uses.

To the shrewd man who has realized that to buy the best is good policy, we say invest your money in a CRESCENT UNIVERSAL WOOD WORKER. You must be sure that your equipment will not go out of date. When you buy Crescent machines, you are buying the most up-to-date equipment that will never be old-fashioned.

Our catalog is free. If you invest any money be sure you invest it wisely. It's a duty you owe to yourself to investigate the Crescent before you buy. The Crescent catalog will show you machinery of the highest standard. Write today for a free copy.

**The CRESCENT MACHINE CO.**  
224 Main Street LEETONIA, OHIO



This TENONER will pay for itself many times over in the course of one season.

You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.



**"Red Devil" Circular Glass Cutter**

"Twill cut a 2 inch or a 22 inch full circle a half circle or a straight cut in any kind of glass. It's a "Red Devil" tool. Its perfect in every detail. Thousands are in use all over the world. Your dealer has it on sale. Ask for No. 263, "Red Devil."

The price is \$1.25 with 2 extra wheels.

**"Red Devil" (Seavy Patent) MITRE BOX**

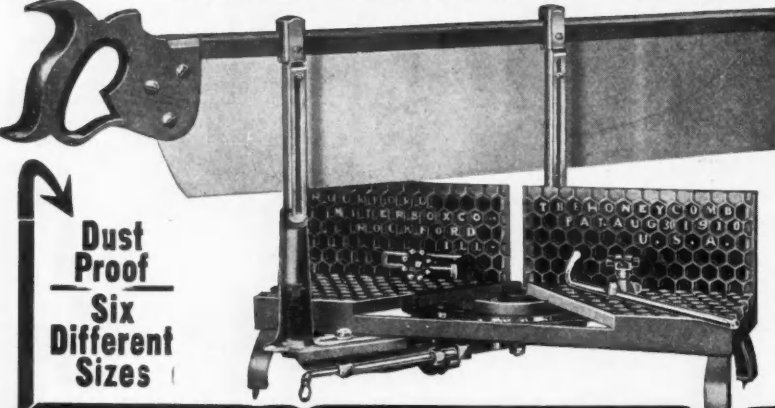


"RED DEVIL" Specialties You Use and Need

That little 2 Lb. all metal mitre box that does it all with any saw. Over 130,000 sold and in use today. Your dealer has it on sale. Ask and insist on the "RED DEVIL." The price is \$2.00.

**SMITH & HEMENWAY COMPANY**  
125 Chambers Street New York, U. S. A.  
(Smith Hardware Co., Ltd., Montreal.)

"RED DEVIL" Tools are sold by dealers everywhere. If your dealer can't fill your wants we will ship prepaid single samples at the above prices. But try your own dealer first. (They work smooth as butter — any "Red Devil" cutter—and we make 40 styles.)



**Dust Proof Six Different Sizes**

**AN OFFER TO CARPENTERS AND BUILDERS**

We want one of our new improved Honeycomb Mitre Boxes in every community, and will sell one box at wholesale, to Carpenters and Builders where they are not handled by the dealers.

The Honeycomb Mitre Box is the BEST of all good Mitre Boxes, is more easily kept in good condition, and permits faster and more efficient work. It is also furnished with the best Mitre Box Saw in the world. Our pride is quality and therefore we give honest opportunity for the purchaser to judge for himself. Each Mitre Box is tagged with our guarantee. We refund the money if 10 days trial does not prove our guarantee.

Write for descriptive circular and prices.

**ROCKFORD MITRE BOX CO.**  
252 Mill St., Rockford, Ill.

It's the only concern that can furnish a Mitre Box Saw that requires no setting.

**Huther Bros. Patent Groover or Dado Head**  
*Will Save its Cost in Three Days' Time*



Showing Arrangement of Cutters

Can be used on any Circular Saw Mandrel.

For cutting any width groove from 1/8" to 2" or over. Will cut a perfect groove, either with or across the grain, and leave edges smooth. Will ship to any responsible firm on ten days' approval; if not satisfactory you are at liberty to return at our expense. We also make a specialty of concave ground smooth cutting circular Mitre Saws, for either rip or cross cut; Grooving Saws for all kinds of special work; Lock, Corner Cutters, Concave Saws, etc.

Try our Scraper Blades and you will use no others.

**HUTHER BROS. SAW MFG. CO., 1101 University Ave., Rochester, N.Y.**

GOODSELL MITRE BOX

Made of STEEL - Cannot Break



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

Send for Circular "C"

GOODSELL MFG. CO., Greenfield, Mass.

COMPLETE OUTFIT PRICE \$15.00

HAND AND FOOT-POWER MACHINERY

Our No. 7 Scroll Saw is warranted to be made of good material and workmanship, and to saw pine 3 inches thick at the rate of one foot a minute.

Send for Catalogue.

W.F. & Jno. Barnes Co.

74 Ruby St. ROCKFORD, ILL.




An Opening for a Mortise Lock  
Can be Cut in Two Minutes by using the  
MILLER DOOR MORTISER

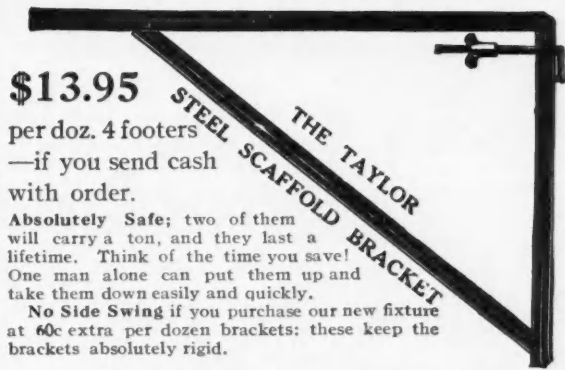
Little labor is required, and a perfectly true job is assured. Makes no difference what thickness the doors are, the device works true on them all. Complete with five cutters, covering locks from 1/2 inch to 1 1/2 inches thick. A real time and labor saver.

Ask for details of our trial offer. Literature on request.

**A. W. Miller Mfg. Co.**  
Riverside, Cal. Cincinnati, O



You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.

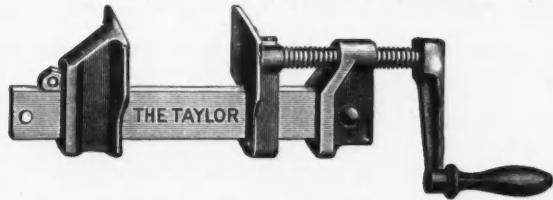


**\$13.95**

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

**Absolutely Safe;** two of them will carry a ton, and they last a lifetime. Think of the time you save! One man alone can put them up and take them down easily and quickly. **No Side Swing** if you purchase our new fixture at 60c extra per dozen brackets; these keep the brackets absolutely rigid.

Write for Catalog of Builders' Specialties!



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

Think of the time this saves!

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

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

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

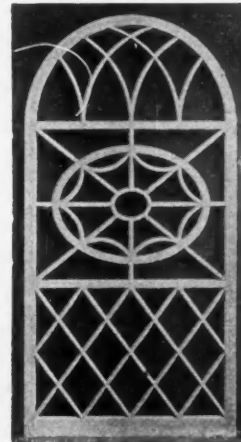
**Are You Paying DOLLARS**  
For work that you should buy  
for **CENTS**, and figuring profits  
in **CENTS** That you ought to  
figure in **DOLLARS?**

If you are paying men to fit up fancy sash by hand, while your competitor does the same work much better and in a great deal less time on an

**AMERICAN SASH TRIMMER**

the chances are pretty good that you are.

To fit up fancy sash like this by hand takes from three to five times as long as it does to do it our way.



Joints made on the American are made right the first time trying and need no fixing up afterwards. Further information given with pleasure and perhaps with profit to you.

**The Heald Machine Company**

**Worcester Mass.**  
2 New Bond St.

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



"Water" Scroll Saw

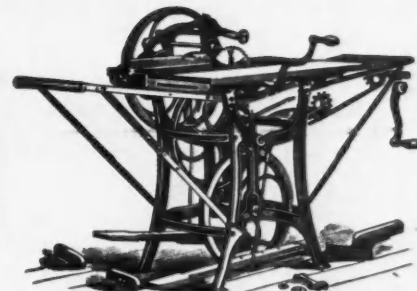


"Diamond" Mortiser

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

Send for Catalog "A" describing our complete line

**THE SENECA FALLS MFG. CO.**  
28 Water Street - SENECA FALLS, N. Y., U. S. A. (240)



No. 2 "Laten" Self Feed Rip and Cross-Cut Saw

**Portable Combination Woodworkers**

Our Celebrated Nine-In-One Machine

Combines  
Rip Saw  
Cut-Off Saw  
Dado Head  
Borer  
Jointer  
Moulder  
Sander  
Jig Saw and  
Emery Wheels

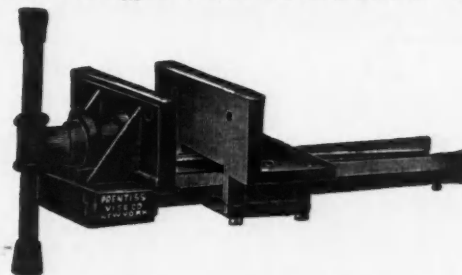


Equipped with Gasoline Engine, Electric Motor, or with Countershaft for connection to outside power.

Catalogue on Request

Grimm Mfg. Co., 46 Keystone St., Buffalo, N. Y.

**BLAKE QUICK ACTING VISE**



For Cabinet Makers and Wood Workers. Simplest—Strongest—Cheapest—Best  
Send for Catalogue of all kinds of Vises  
**PRENTISS VISE COMPANY, MAKERS**  
100-110 La Fayette St., New York, U. S. A.

You will get **SPECIAL ATTENTION** if you tell Advertisers you read American Carpenter and Builder.



# HERE IS A Can't Slip Screw Driver

## It Is The Mayhew "Peerless" No. 510

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

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

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

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

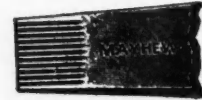
No. 510 comes in regular sizes from 2 to 12 inches  
No. 511 comes in cabinet sizes from 2 1/4 to 12 1/2 inches

THE BUSINESS END OF  
A Peerless Screw Driver

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

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

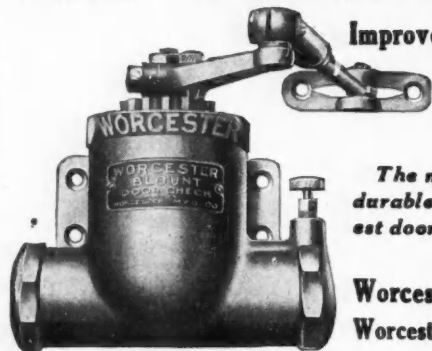
Why not drop us a line anyway for information about our tools?



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

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

## THE WORCESTER

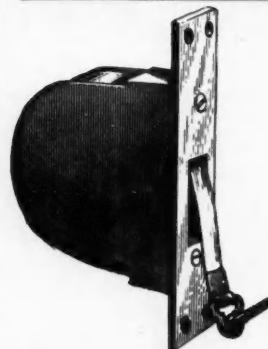


Improved **BLOUNT**  
**DOOR**  
**CHECK**

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

**Worcester Mfg. Co.**  
Worcester : Mass.

## CALDWELL SASH BALANCE



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

Makes sashes work perfectly.

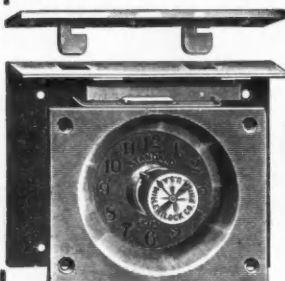
Permits greater window space in new work, as box frames are not necessary.

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

Write for circular to the

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

## Carpenters! Protect Your Valuable Tools



No. 3390 all Brass  
Size 4x3 inches

by using a

"STANDARD TIME"

**Keyless Chest Lock**

Operated by knob in 3 seconds. Can be opened in the dark. Locks automatically as lid is closed.

**Absolute Security**

One cost only. No keys to lose. Fully guaranteed. Made to fit chests from 1/4 inch thick and up.

Write Us Today for Prices and Particulars

**Miller Lock Co.** Frankford, Philadelphia, U. S. A.

## BUTTS

that save

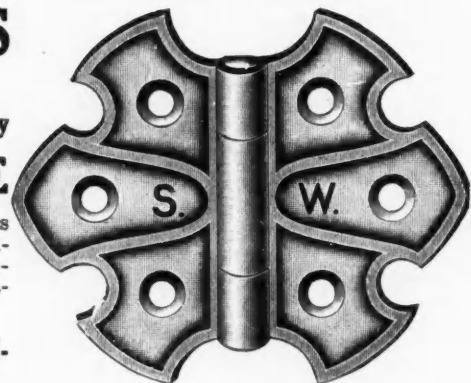
Time & Money

**FREE**

No. 5 Builders Catalog to Contractors, Carpenters and Material Men.

**REHM Hardware Co.**

1501 Blue Island Av.  
CHICAGO



No. 3979. Surface Hinges Antique Copper finish  
Per Dozen Pr..... 95c

You will get **SPECIAL ATTENTION** if you tell Advertisers you read American Carpenter and Builder.



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

Take any measurements—inside or outside—quickly and accurately. This rule is strongly built of selected boxwood—trimmed with brass plated steel. Kept rigidly in place when extended by strong steel springs. Opens or closes instantly. Marked both for inside measuring and outside measuring, similar to other rules. As shown above the lower slide is extended 2 1/4 inches, making distance between the two extreme points of the rule 10 1/2 inches, as indicated by the arrow.

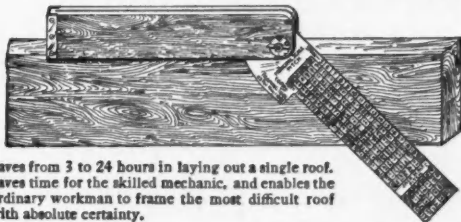
This rule costs but 15 cents per lineal foot for 4, 5, or 6-foot rule, postage prepaid. Ask your dealer for it or send for one today.

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

**DAHL MFG. CO.**

51 1/2 East 42nd St. NEW YORK CITY

**Topp's Framing Tool**



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

Price, \$1.75

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

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

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

**C. E. JENNINGS & CO.'S**  
71-73 MURRAY ST., N. Y., U. S. A.

TRADE MARK.

**Carpenters' New Hand Tool Case No. 340 With Tools**

Patent Applied for

Made of selected hard wood, handsomely finished and with paneled sides. Furnished with brass lock, leather handle with rings for strap to pass over shoulder,



metal clasps, metal corners, saw rack for holding four Saws (the Hand Saws narrow plate), hooks for Brace and Coping Saw, wood button of Try Square, partitioned tray for Bits, Chisels and small tools, space in bottom to hold Planes, Levels, etc.

	Length	Height	Width
Outside dimensions.....	31 1/4 in.	14 in.	6 in.
Inside dimensions.....	30 in.	13 1/4 in.	5 in.
Removable Tray, Inside.....	29 1/4 in.	1 in.	4 1/4 in.

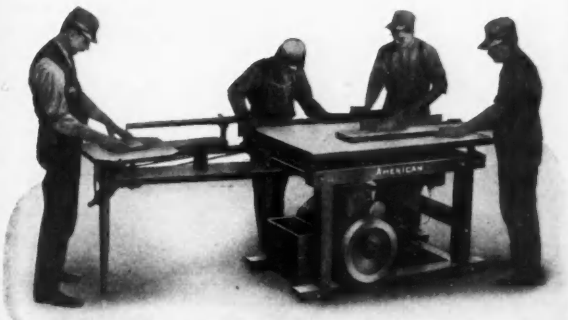
Weight empty, about 14 lbs. Weight with tools, 18 lbs.

This Case is made to take our narrow plate Saws A7 1/2. The No. 340 contains one A7 1/2 Hand Saw, 26-inch; one A7 1/2 Rip Saw, 26-inch, and one Steel Square, No. 18B, a beautifully finished (Gun Metal Finish with Yellow Markings) Square, 18-inch body, 18-inch tongue. It is not made for wide plate Saws and large Square, but enables the mechanic to carry a lighter and smaller case than our No. 35, and a lighter kit of tools. Packed one or more in a crate.

**"AMERICAN"**

**Contractors' Portable Variety  
WOOD-WORKER**

In the "American" you get all the different functions any wood-worker can give you, with the further great value of "American" quality.



Note this exclusive "Four-Man" feature of the "American"

You're not buying a wood-worker for today or tomorrow, but as a permanent investment of good money to earn good returns.

It is the "American" quality in an "American" Wood-Worker which makes it the "best buy" for any contractor who wants a real money-making machine.

**THE "AMERICAN"  
IS GUARANTEED**

**American Saw Mill Machinery Co.**

82 Main Street HACKETTSTOWN, N. J. 1655 Hudson Terminal NEW YORK CITY

You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.



**Yes, you CAN use THIS transit!**

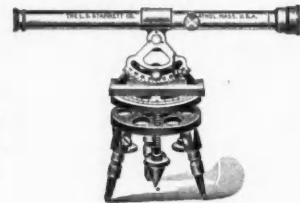
Don't confuse this simple instrument with the complicated transit used by civil engineers. There are no bewildering attachments on the

# Starrett Transit

It's made for carpenters and builders, and with our little instruction book to start you right, you will soon wonder how you ever did without it. Lots of builders and contractors have found it so. You can use it for locating batter boards, laying out lots for buildings, leveling foundation walls, running levels for drains, and for lots of other work which confronts the practical builder.

Let us send you our Catalog 206, showing styles and prices

If you aren't quite sure that you can use a transit, write for our instruction book and learn some of the things it will help you on.



**The L. S. Starrett Co.**  
World's Greatest Toolmakers  
ATHOL, MASS.

42-218

## "OHIO EXTRA" AUGER BITS

are High Grade Single Twist Bits, carefully made from specially selected auger bit

steel. They are the Most Rapid and Cutting and Perfect Clearing Bits on the market today and are fully warranted.

## "OHIO" CHISELS, PLANES, ETC.

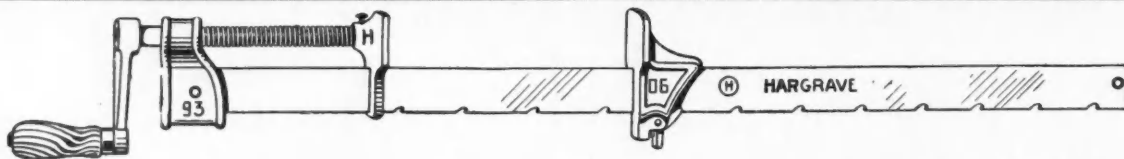
All "Ohio" Tools are made with the same painstaking care that has built up our present reputation for making only high grade tools. We use in our Edge Tools high grade steel, treated and tempered by the most improved process, which insures Uniformity and Correctness of Temper, and a Keen, Tough and Lasting Cutting Edge. If you appreciate Good Tools it will pay you to insist on having "Ohio" Tools from your Dealer.

Write for our special Carpenters' Catalogue of High Grade Tools and Benches

OHIO TOOL CO. (Dept. 15) Columbus, O.



REGISTERED



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

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you can drive or draw a screw 3 feet over head, in tight corners or most any other place out of reach. Besides this, you get the same service as with the famous No. 30, which you doubtless now have in use. The No. 130 "Quick Return" shown here has a spring in the handle which quickly drives the spindle back for the next stroke. Add the Screw Holder shown here and you see at once what a tremendous advantage you have in this tool, especially in over head work.

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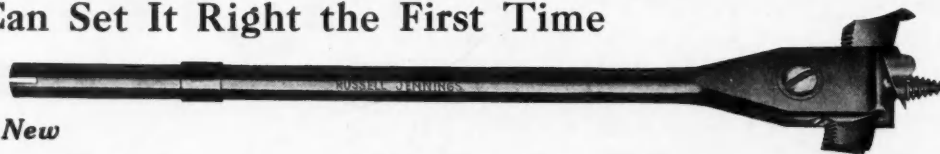
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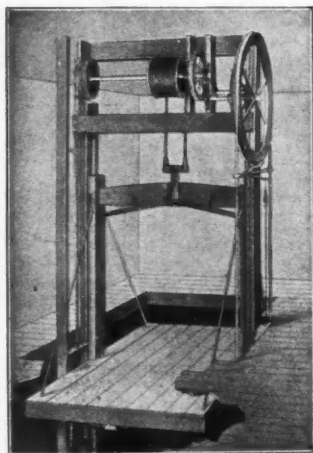
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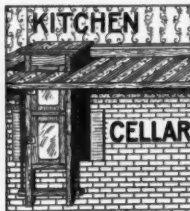
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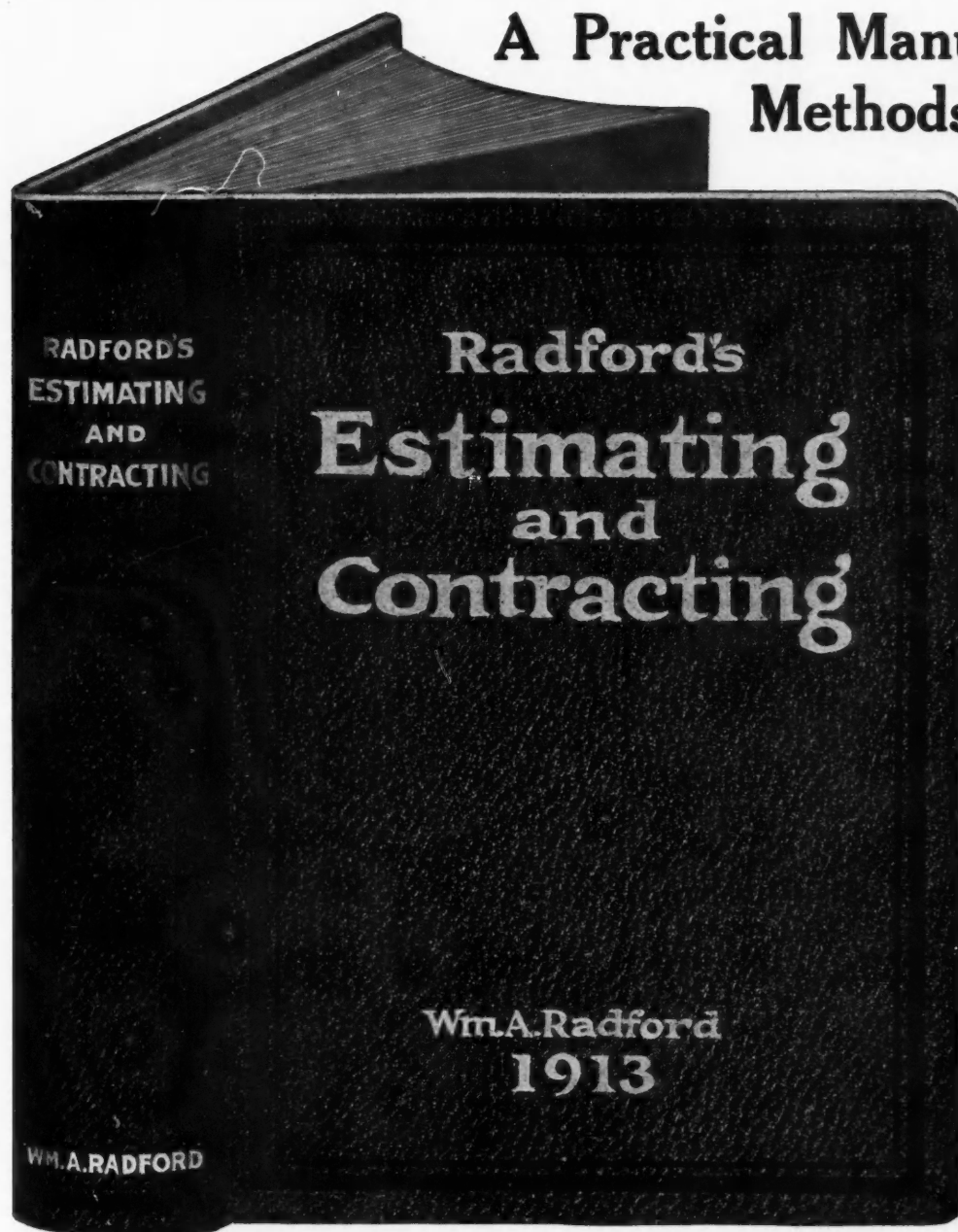
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## CONDENSED SUMMARY OF SUBJECTS

### Estimating and Contracting

#### Partial Table of Contents

#### ESTIMATING AS A SCIENCE

General Principles of Estimating.  
Estimating Essential to All Successful Business Operations.  
Requirements of the Good Estimator.  
Accuracy Versus Guesswork.  
What to Avoid in Estimating.  
Remedies for Inaccuracies.

#### ESSENTIAL BASIS OF ALL ESTIMATING

Analysis of Proposed Operations.  
Cost Finding and Cost Distribution.

#### CONDITIONS AFFECTING COST

Local Market Conditions.  
Freight and Haulage.  
Rates of Wages Paid in Various Trades.

#### METHODS OF ESTIMATING

Comparative and Analytic Methods.  
Approximate, Detailed Estimates from Carefully Figured Data.  
Estimating by Cubical Contents of Similar Structures.  
Estimating by the Square of 100 Sq. Ft.  
Estimating by Quantities.  
Unit-Costs for Material.  
Labor Costs.  
Percentage for Profit.  
Margin for Variations and Contingencies.

#### PRELIMINARIES TO ESTIMATING

Fees of Architects, Consulting Engineers, and Designers.  
Examination of Site.

#### COST FACTORS CLASSIFIED

Factors Common to Construction in General.  
Factors Involved in Special Types of Construction.  
Factors Incidental or Accessory to Various Constructions.

#### COSTS COMMON TO CONSTRUCTION IN GENERAL

Leveling and Preparing Site.  
Employer's Liability Insurance.  
Water Supply during Construction.  
Number of Men and Teams Required.  
Rates of Wages.  
Cost of Superintendence.  
Earth and Rock Excavation.  
Foundations and Footings.  
Back Filling.

#### COSTS INVOLVED IN SPECIAL CONSTRUCTIONS

##### CARPENTRY WORK

Measurements.  
Timber and Lumber (Grades and Sizes).  
Framing.  
Sills, Joists, Studding, Columns.  
Bracing.  
Furring and Lathing.  
Scaffolding.  
Floors.  
Stairs.  
Porches and Piazzas.  
Interior Finish and Trim.  
Building Paper.  
Clapboarding.  
Shingled Siding.

##### ROOF CONSTRUCTION

Framing, see Carpentry.

Wood Shingles.  
Metal Shingles.  
Asbestos Shingles.  
Cement Shingles.  
Asphalt Roofing.  
Roofing Felt.  
Prepared Roofing.  
Tile Roofs.  
Tin Roofs.  
Corrugated Metal Roofs.  
Slate Roofs.  
Pitch and Gravel Roofs.  
Galvanized Iron Roofs.  
Cost of Laying Different Kinds of Roofs.  
Painting Roofs, see Painting.  
Skylights, see Glazing.  
Ventilators.  
Cornices.  
Ridge Rolls.  
Gutters and Downspouts.  
Flashings.

##### MILL WORK

Doors and Door-Frames.  
Sash and Window Frames.  
Blinds.  
Transoms.  
Mouldings.  
Columns and Capitals.  
Cupboard Doors.  
Store Fronts.  
Thresholds.  
Stairs and Handrails.  
Newels and Balusters.  
Grills and Spindles.  
Mantels and Consoles.  
Chair and Plate Rails.  
Wainscoting.  
Screens and Weather Strips.  
Clothes Line Posts.

Table of Contents Continued on Next Page

## Many Years of Preparation

Radford's Estimating and Contracting represents the work of many years of gathering, arranging, compiling, rewriting and revising data of every description. This large, new book will be a standard work and as valuable to contractors, builders, carpenters and building trades in general as "Kidders' Pocket Book" is to architects.

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Wm. A. Radford, the editor of "Estimating and Contracting," realized the necessity of an accurate, reliable, complete book on Estimating when he was figuring costs in the estimating department of a millwork plant, many years ago. Since that time he has been planning and laying out the work and it is being published under his personal supervision.

## Author of Many Building Books

His previous books, "Radford's Cyclopedia of Construction" (12 volumes), "Radford's Cyclopedia of Cement Construction" (5 volumes), "Practical Carpentry" (2 volumes), "Steel Square and Its Uses" (2 volumes), "Details of Building Construction," "Framing," "Cement and How to Use It," "Cement Houses and How to Build Them," "Bungalows," "Artistic Homes," "Ideal Homes,"

and many other building and plan books are known throughout the world as the highest authorities in their lines.

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Ready reference tables, short cuts in figuring, and many other helps in estimating are a prominent part of the book. In short, everything that enters in any way into the finding or checking of costs in any department of construction can be readily referred to. It shows the easiest and most common-sense way to get the desired results. Its methods, explanations and tables can be relied upon to be absolutely correct.

### CONDENSED SUMMARY OF SUBJECTS—Continued

#### CONCRETE CONSTRUCTION

Measurement of Work.  
Cement in Bags and Barrels.  
Sand, Gravel, and Crushed Stone.  
Cleaning Aggregates.  
Working Rules and Measuring Tables.  
Mixture Appropriate for Various Classes of Work.  
Hand and Machine Mixing.  
Depositing Concrete.  
Wood Forms.  
Waterproofing.  
Surface Finishing.  
Concrete Moulded Shapes (Blocks, Sills, Caps, etc.)  
Cement Mortar.  
Concrete Floors.

#### CONCRETE HOUSES

Monolithic Poured Construction.  
Block Construction.  
Cement Stucco Houses.

#### CONCRETE BLOCK CONSTRUCTION

Number of Blocks Required.  
Sizes and Weights of Blocks.  
Comparison with Brick and Frame Construction.  
Mortar for Blocks.  
Quantities of Materials Needed.

#### WATERPROOFING AND DAMP PROOFING

#### REINFORCED CONCRETE CONSTRUCTION

Areas and Weights of Bars.  
Sizes and Weights of Expanded Metal and Metal Lath.  
Amount of Reinforcement Needed.  
Cost of Reinforcing Materials.  
Lumber for Forms.  
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Time to Remove Forms.

#### MASONRY CONSTRUCTION—BRICKWORK

Classification of Brick.  
Cement Brick.  
Solid and Hollow Walls.  
Brick Veneer.  
Metal Bonding.  
Lime Mortar.  
Cement Mortar.  
Coloring of Mortar.  
Brick Chimneys and Fire places.  
Flue Sizes for Different Sized Buildings.  
Measurement of Brickwork.  
Cleaning and Painting.  
Waterproofing and Damp-Proofing.  
Firebrick.  
Brickwork for Boiler Fronts.

#### MASONRY CONSTRUCTION—STONEWORK

Measurement of Work.  
Kinds and Qualities of Stone.  
Quarrying, Dressing, and Cutting Stone.  
Cost of Laying Different Varieties of Stonework.

#### STEEL CONSTRUCTION

Analysis of Costs.  
Cost of Raw Material and Mill Work.  
Standard Steel Classification.  
List of Steel Extras.  
Drafting and Shop Costs.  
Cost of Erection and Finishing.

#### HEATING PLANT VENTILATING SYSTEM PLUMBING AND GASFITTING ELECTRIC WIRING FOR LIGHT, HEAT, Etc.

#### REFRIGERATION

#### PLASTERING

Measuring Amount of Work.  
Amount of Materials Needed.  
Coloring for Mortars.  
Two-Coat and Three-Coat Work.  
Cement Stucco.  
Hard Wall Plaster.

#### PAINTING AND DECORATING

Measuring the Work.  
Grades of Paints.  
Exterior and Interior Painting.  
Multiple-Coat Work.  
Painting Walls.  
Painting Roofs.  
Painting Floors.  
Painting Stonework.  
Painting Brickwork.  
Painting Concrete.  
Staining.  
Varnishing.  
Calcimining.

#### PAPERHANGING

Sizes and Grades of Paper.  
Number of Rolls Required.  
Labor Quantities.

#### GLASS AND GLAZING

Measuring Amounts Needed.  
Grades and Quantity of Glass.

#### BUILDERS' HARDWARE

Taking Off List of Items Needed.  
Grades and Qualities.

#### ELEVATORS

#### SIDEWALKS, CURBS, AND GUTTERS

#### ROADS AND PAVEMENTS

#### BRIDGES AND CULVERTS

#### SEWERS AND CONDUITS

#### LABOR-SAVING TABLES

#### ELEMENTS OF MENSURATION

#### AVERAGE DAY'S WORK IN VARIOUS TRADES

#### SHORT CUTS IN COMPUTATION

#### FORMS FOR ESTIMATORS AND CONTRACTORS

Form of Contract.  
Forms of Bonds, Requisitions, Receipts, etc.

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Forms of Estimates.  
Typical Estimates Worked Out.

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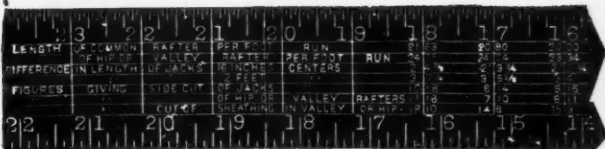
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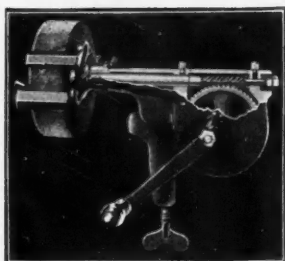
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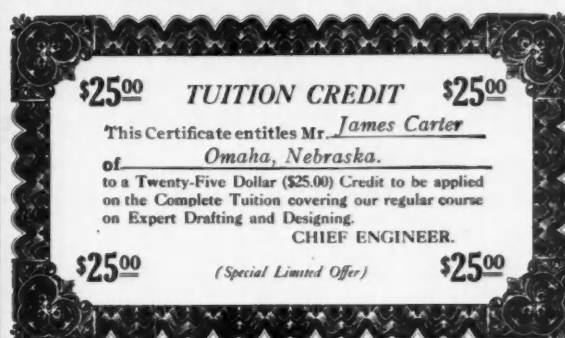
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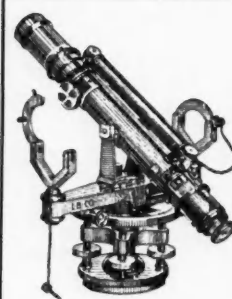


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**BECKMANN INSTRUMENTS**

are sold to give satisfaction. Our guarantee means **Your Money Back** if you want it.

*Send for our Circular Y and let us know the work you are engaged in.*

**The L. Beckmann Co.**  
500 Adams St., Toledo, Ohio  
—Established 1874—

## "Sterling" Convertible Level



An up-to-date instrument for use on Building Operations.

Strong, compact, durable, reliable!

Write **TODAY** for description and reasons why you should select a "Sterling" Level.

**WARREN-KNIGHT CO., 136 N. 12th St.**  
PHILADELPHIA, U. S. A.  
Successors to Izard-Warren Co.

## Why Carry A Heavy Transit?



Architects, Contractors, and Builders, this is the serviceable instrument for you. A portable transit that is of special light design. It is easily carried and handled. Is thoroughly accurate and especially adapted for fast work. Built upon practical substantial lines. We manufacture a complete line of surveying instruments in various sizes and at a wide range of prices

All instruments guaranteed by us. Our circular No. 27 will explain our instruments to you in detail. It will go with you to get it before deciding upon any surveying instruments.

**KOLESCH & COMPANY, 138 Fulton Street, NEW YORK**  
Surveying Instrument Makers. Established 1885.

You will get **SPECIAL ATTENTION** if you tell Advertisers you read American Carpenter and Builder.



# MONITOR SASH LOCKS



(PATENTED)

## NEVER BREAK

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

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

MADE IN TWO SIZES AND ALL FURNISHED BY

**The Champion Safety Lock Co.**  
Geneva, Ohio

1853



BROS.

1913

Fine Beveled Edge  
Shank and Socket

## Chisels

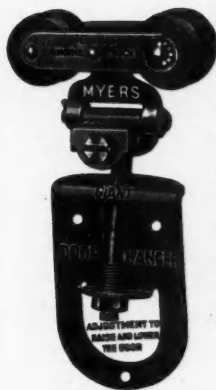


### Tang and Socket Butt Chisels

Plain and Beveled Edges

Send for illustrated Catalog

**Buck Bros., Millbury, Mass.**



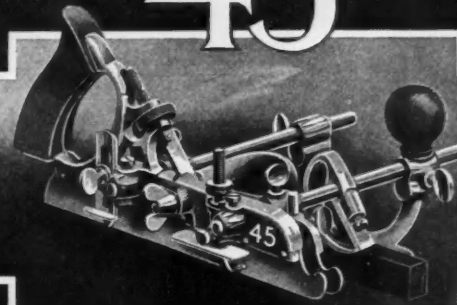
## THE MYERS GIANT ADJUSTABLE TANDEM DOOR HANGER

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

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

**F. E. MYERS & BRO.**  
ASHLAND, OHIO

# Stanley 45



## SEVEN PLANES IN ONE



This well known and very useful Plane has long been recognized by tool users in general, as a valuable addition to their Kit of Tools.

In a compact and practical form it combines **SEVEN PLANES IN ONE** as follows:—1. Beading and Center Beading Plane. 2. Plow. 3. Dado. 4. Rabbet and Filletster. 5. Match Plane. 6. Sash Plane. 7. Slitting Plane.

However, though combining only seven distinct types, it accommodates cutters of different widths, so that in reality, it replaces many more than just seven Planes.

Twenty-one separate cutters are furnished with each Plane, comprising ten Plow and Dado, seven Beading, one Filletster, one Sash, one Match and one Slitting Tool. Twenty-four additional cutters are regularly carried in stock.

All metal parts are heavily nickel plated and the handle, knob and fence are made of selected rosewood.

The Plane together with its twenty-one cutters weighs approximately 9½ lbs. and the entire outfit is packed in a handsome metal box.

**FOR SALE BY ALL HARDWARE DEALERS.  
LIST PRICE, \$7.00.**

An attractive twelve-page booklet explaining in detail the different uses to which **STANLEY "45"** may be put has just been published. May we send you one?

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

You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.

# GOODELL-PRATT COMPANY



Patented May 22, 1888

NOW OWNS AND OPERATES

## The Stratton Level Co.

MAKERS OF THE

# STRATTON LEVELS

Levels manufactured under this brand represent the highest grade of Wooden Levels that over forty years of experience, together with skilled mechanics have been able to produce.

We shall maintain the high standard of quality that has been set in the past, and shall improve it whenever and wherever possible.

# GOODELL-PRATT COMPANY

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



## FOUR NAILS WITH EVERY HAMMER BLOW



That is the practical result when you use SIMPLEX because they have four times the head area of other nails and they grip at the edge of the head.

TRADE **SIMPLEX** MARK  
REG. U. S. PAT. OFFICE

The SIMPLEX is the only nail good enough for use with really good roofing. Don't accept roofing unless packed with SIMPLEX NAILS. You don't have to.

MADE BY

**H. B. Sherman Mfg. Co., BATTLE CREEK, MICH.**

### INTRODUCTORY TRIAL OFFER

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



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

If you send us the addresses of ten carpenters, no matter where they live we will send you another hard, tough carpenter's pencil.

Give the SELF-SETTING PLANE a chance to PROVE ITS WORTH, if it FAILS, return it and we will return your money.

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

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



$\frac{3}{8}$  inch of pencil may be used before necessary to readjust same. Note different shapes of pencils that can be fastened equally well in this scriber.

### Peerless Flexible Bit Gauge, 25c

Excels all others. Only successful mortise lock gauge made. Saves all unnecessary turns. Nickel plated, 25 Cents; by mail 30 Cents.

### The Peerless $\frac{3}{8}$ inch Scriber, 25c

Broad point for plaster walls, fine woodwork, etc. Sharp point for quirks and moldings. Adapted for extra close scribbing. To use broad point, simply swing it down over sharp point. See Cut. Must be used to be appreciated. Polished Steel, 25 Cents; Nickel-plated, 30 Cents; by mail 5 Cents extra.

Ask your Hardware Dealer to show you these tools. If he does not carry them, order from us. U. S. Stamps accepted.

**POTTER BROS. CO.**

612 W. 110th Street NEW YORK



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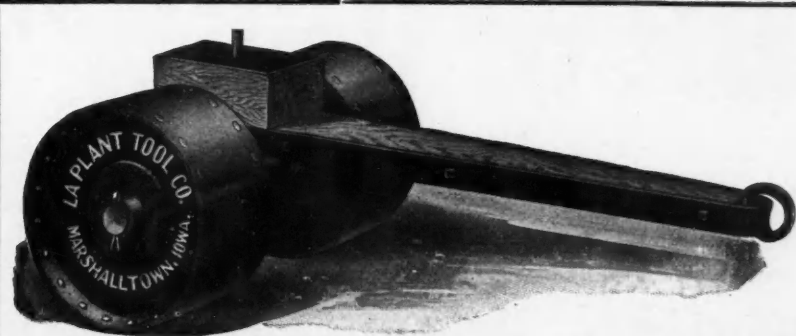
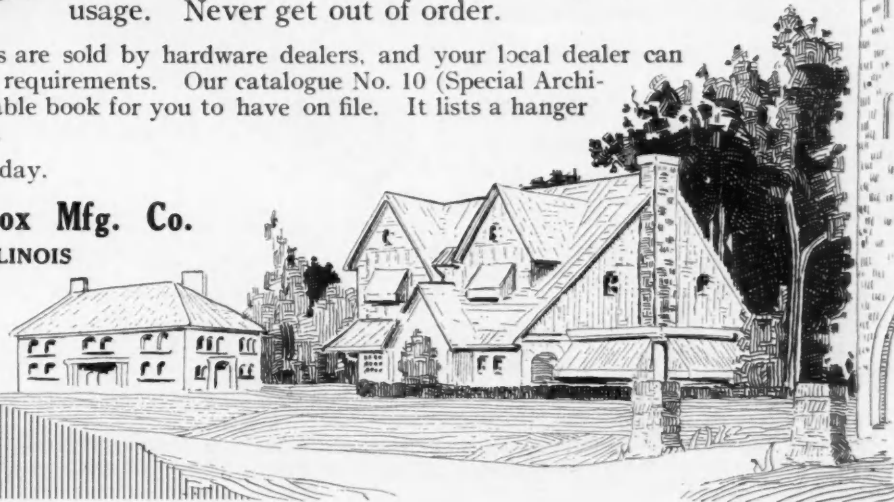
### Meets Every Sliding Door Requirement

Nothing has been omitted from the construction of the improved R-W Trolley House Door Hangers that would add to their efficiency or durability. They're *perfect* in design, material and workmanship. Easy to install. Easy to operate. Render satisfactory service through years of hard usage. Never get out of order.

Our products are sold by hardware dealers, and your local dealer can supply your clients requirements. Our catalogue No. 10 (Special Architects Edition) is a valuable book for you to have on file. It lists a hanger for any door that slides.

Write for a copy today.

**Richards-Wilcox Mfg. Co.**  
AURORA, ILLINOIS



### THE LA PLANT HEAVY HOUSE MOVING TRUCKS

When you get a job with an old building on the lot—move it with the La Plant Trucks to another place—instead of wrecking it. There is more profit in it for you.

La Plant Heavy House Moving Trucks are made of steel—on scientific lines—are interchangeable so they can be worked singly, in pairs or in fours.

Write for catalogue O and see how easy it is to wheel a building a mile in a day—and how little the cost is for La Plant outfit compared with the profit to be made in moving houses instead of wrecking them.

LA PLANT TOOL CO.

1100 E. Nevada St.

Marshalltown, Iowa

## PHOENIX INSIDE SLIDING BLINDS

WIKES BARRE, PA.

The Phoenix Sliding Blind Co. Enclosed find my check for blinds. I am pleased with them and sorry I did not have them put throughout the whole house.  
C. W. BURT.

**Comfort!  
Economy!  
Convenience!**

The lately improved springs and corrugated steel rods put the "PHOENIX" far in lead of less improved styles. Write for Catalogue "C" and free samples, showing construction.

PHOENIX SLIDING BLIND CO.

BRIDGE & CANAL STS.

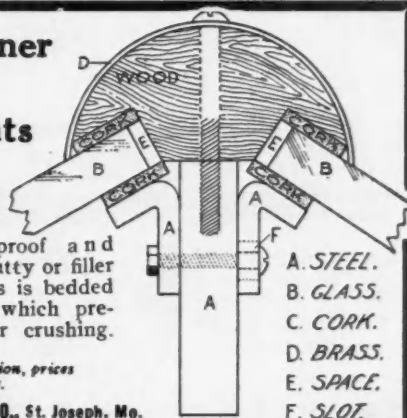
PHOENIX, N. Y.

### Shultz Corner Posts For Store Fronts

make a strong, handsome and practical joint. They are water-proof and dust-proof and never rot. No putty or filler is used. The glass is bedded on Spanish cork which prevents cracking or crushing. Not expensive.

Write us for description, prices or estimates.

All Steel Corner Post Co., St. Joseph, Mo.



- A. STEEL.
- B. GLASS.
- C. CORK.
- D. BRASS.
- E. SPACE.
- F. SLOT.

You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.

# Bishops Refined "Greyhound" Steel Saw—A Masterpiece

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

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

*30 Days' Trial Will Prove Our Guarantee*



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

Made in both Straight and Skew Back

Length	18	20	22	24	26	28 1/2	30	inches
Each	\$2.35	\$2.50	\$2.65	\$2.80	\$3.00	\$3.30	\$3.65	net

Packed One in a Box



**GEO. H. BISHOP & COMPANY**  
LAWRENCEBURG, IND.

# "A Bit of Utility"

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

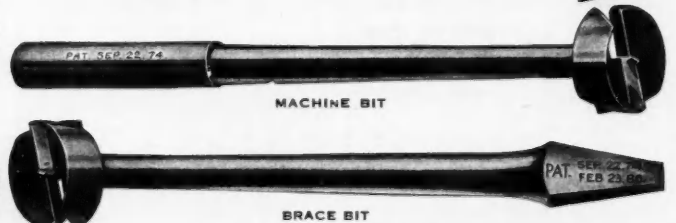
Doesn't matter how hard the wood is, no consequence whether it is full of knots, or the grain awkward to negotiate. The Forstner Bit works with equal smoothness under any condition and leaves a true polished surface on every job.

## Unequaled for Delicate Work

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

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

**The Progressive Mfg. Co.**  
Torrington, Conn.



# ROOF SLATES

**STRUCTURAL SLATE BLACKBOARDS**

You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.

**E. J. JOHNSON**  
38 Park Row New York

**Quarry Operator**  
BLACK, GREEN, PURPLE, RED

Booklet, Samples and Prices on Application



## American Products That Have Helped to Make America Famous Throughout the World

In the 73 years which have witnessed their birth and growth, Disston Saws have attained a world-wide prestige, built solely upon those qualities of good service and durability that every tool-user

seeks. Like the eagle—the symbol of might and strength—they have soared above all others.

From time to time other tools have been added to the Disston manufactures—each possessing the exceptional points of merit which have created, and maintained, the same unequalled reputation for all

### DISSTON SAWS TOOLS FILES Quality Guaranteed

Every known type of saw, and a varied line of tools including trowels, plumb and levels, try squares, bevels, screw drivers, etc., are manufactured in the Disston Works. The largest and finest variety of files made also bear the Disston Brand.

Mechanics in nearly every trade have found some Disston tool with which to turn out better work.



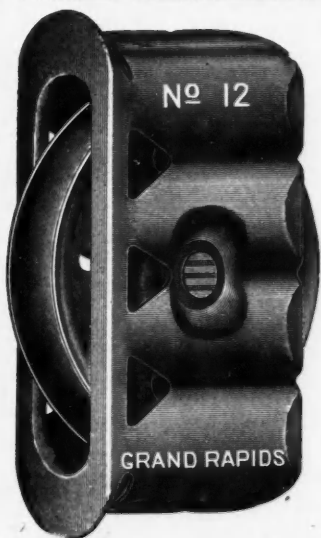
Reg. U. S.  
Pat. Off.

### HENRY DISSTON & SONS

Incorporated

Keystone Saw, Tool, Steel and File Works

PHILADELPHIA, PA., U. S. A.



### "GRAND RAPIDS" ALL STEEL SASH PULLEYS

No Nails No Screws  
Just Bore 4 Holes

The time saved by the  
"Grand Rapids" will  
actually pay for the  
pulley.

You can't afford to use  
old style pulleys.

Write for free samples  
and prices.



**Grand Rapids Hardware Co.**  
Manufacturers  
158 11th Street, GRAND RAPIDS, MICH.

This fasten-  
ing is more se-  
cure than any  
number of  
screws or nails  
could make it  
save about 16  
per cent, too.  
**SCREWS  
COST MONEY**

## Hotel Cumberland New York

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



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

### New and Fireproof

Best Hotel Accommodation  
in New York at Reasonable  
Rates.

**\$2.50 with Bath and up.**

European Plan. All Hard-  
wood Floors and Oriental  
Rugs.

Ten minutes' walk to 30 Theatres

### Excellent Restaurant

Prices moderate

SEND FOR BOOKLET

HARRY P. STIMSON, Formerly with Hotel Imperial.

Only New York Hotel Window Screened Throughout.

You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.



**Conservative Capacity  
Ninety Cubic Yards  
Per Day**

Saves 60 to 90 cents on every yard. Pays for itself several times each season. Gives you the edge on your competitors. So light that two men can carry it. Big savings in freight and handling. Can always be set to discharge direct into forms. Saves all wheeling of wet mixture from machine. This alone saves one-third the labor necessary to operate other mixers.

Sold on Trial—Satisfaction Guaranteed

Simple, Compact, Handy, Substantial

New Principle.  
Quick Charging.

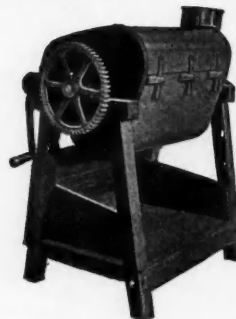
Quick Action.  
Quick Discharge.

Its 20 mixing blades have a criss-cross, kneading, plowing, hoeing motion which press and fold the entire batch over upon itself many times every second. Insures a quick and thorough mix. You will be proud to say you have a Northfield Hand Batch Mixer, once you see its work. Mixes 4 cu. ft. of finished wet concrete per batch. A batch per minute or 90 cu. yds. per day is easily possible under favorable conditions. 80 to 60 cu. yds. per day is a fair average on ordinary abutment, floor, wall or bridge work. Over 10 cu. yds. per hour have been averaged with this mixer. When equipped with power attachment—one man alone can mix mortar fast enough for a crew of 20 brick-layers. It is not a man-killer. Two men operate it easily and do not work as hard as the shovelers. A pump engine will run it. It is not necessary to have a big, expensive power mixer to economically mix concrete. No job is too big or too small for the Northfield. No better mixer can be had, even at ten times its price. Price within reach of all. Get your order in early if you want one this season.

Write direct to factory for catalogue, price and terms.

**NORTHFIELD IRON COMPANY**  
402 Water Street Northfield, Minn., U. S. A.

**Mix with a Mixer**



With mixers selling at the present prices, no one doing concrete work wants to be without one.

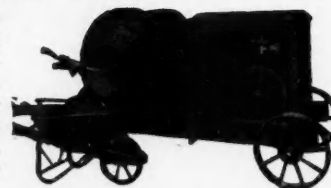
Hand mixing is slow, expensive and wasteful. Laborers are often hard to get.

Machine mixing is faster, cheaper and much more thorough.

Our hand mixers sell from \$24.00 (like cut) to \$75.00 each; three sizes.

Power Mixers (like cut) sell from \$300 up; five sizes. Equipped with side loaders, automatic water tanks, friction clutches, and all up-to-date conveniences. Capacity a batch a minute.

Our \$300 mixer is the ideal machine for the country contractor. Weight, 1500 lbs. Wide gauge. Can be moved anywhere. The only machine of its kind made.



Ask about this machine when writing or come to the cement shows and see it on exhibit.

**LANSING CO.,** 606 Cedar Street Lansing, Mich.  
Agents Everywhere

**Buy The SIMPLEX 1913 Model MIXER**



Combining the good features of both batch and continuous mixers in the one machine.

The best feature of the Batch Mixers is the rolling of the materials. The greatest advantage of the Continuous Mixer is the automatic measuring and feeding of the materials.

Only one machine combines these two features—the SIMPLEX. It's the happy medium between the two types of mixers, giving the points of advantage claimed by each, and eliminating the faults of both.

Write for New Complete Catalog.

**The Miles Mfg. Co.**  
309 E. Franklin St. JACKSON, MICH.

**MECHANICALLY MIXED CONCRETE**

is the most durable and reliable building material yet produced. It withstood the Ohio floods, the Baltimore fire and the San Francisco earthquake. At least one concrete structure has survived 2000 years. There's a big future for the man who goes into concrete on a sound basis. No heavy investment is required to start—some barrows, tools and a

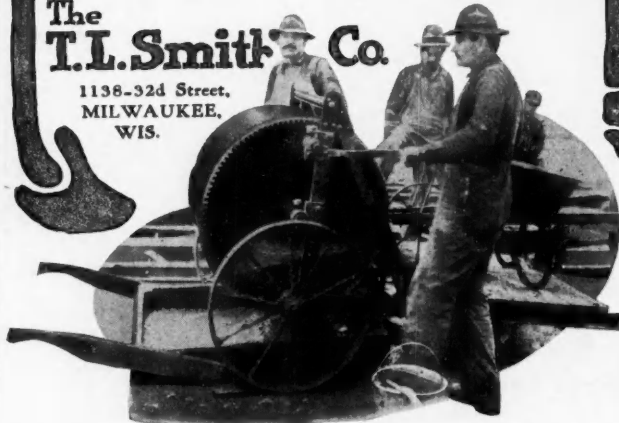
**SMITH HAND BATCH MIXER**

It's a batch mixer. We guarantee its product to pass any inspection, and to bear any test. Three turns of the drum will give a uniform mix. Batch capacity, 2½ cubic feet. Daily output, 25-30 cubic yards. Weight, 1000 lbs.

We want to send you our booklet and special Hand Mixer proposition. NOW'S the time. Write for booklet No. 17.

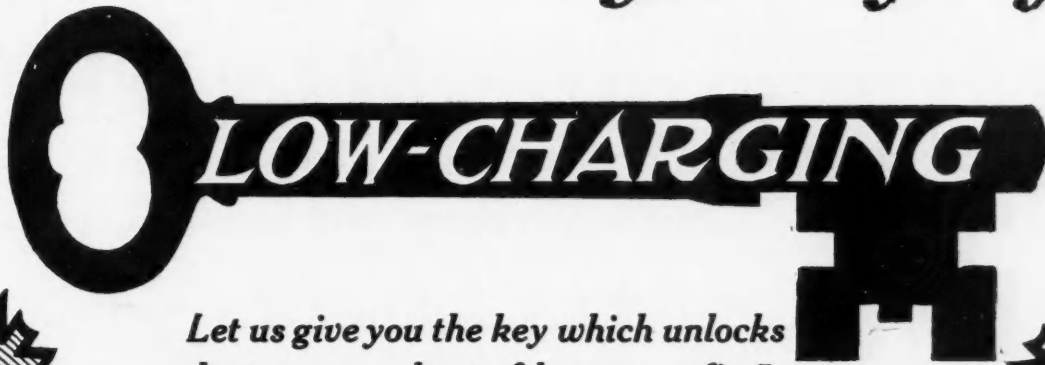
**The T.L. Smith Co.**

1138-32d Street, MILWAUKEE, WIS.



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*Let us add this to your key ring?*



**Let us give you the key which unlocks the treasure chest of larger profits?**

It can only be opened by this key and woe betide the man who tries to open it with keys of other pattern.

To qualify for the treasure chest you must eliminate all unnecessary machinery and labor. Lower your operating cost and do more work.

Thousands of contractors have become owners of this wonderful treasure chest, through the use of

**"THE STANDARD" <sup>LOW CHARGING</sup> MIXER**

**Low Charging, what it means to you!** Instead of charging a complicated side loader and relaying your material into the drum, you charge the drum directly, from the barrows, from a low charging platform only 2 feet, and that is attached to, as well as portable with the outfit. Low Charging will save you one-third the first cost of your mixer, three-thirds of the delays and repair bills, as well as eliminating extra labor and power. You can almost hear the tinkle of the dollars of greater profits.

"The STANDARD" Low Charging Mixers have demonstrated their superiority over all other machines, in that the thousands of its satisfied users have nicknamed it

**"A Proven Standard on Every Test"**

Just think how much this means to you.

Wouldn't you like to have one of these Mixers? Well you know what to do, don't you?

**THE STANDARD SCALE & SUPPLY CO.**

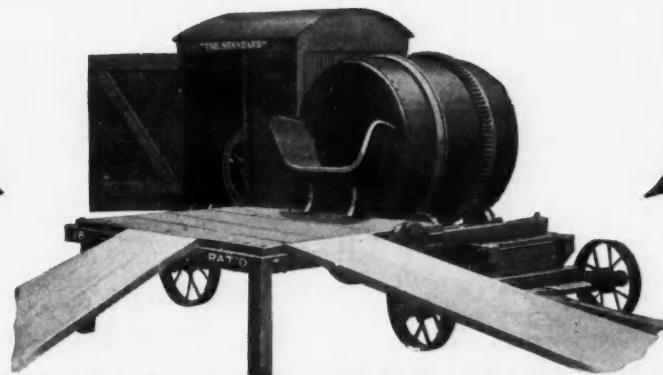
*Manufacturers of High Grade Contractors' Equipment*

**CHICAGO**  
1345-1347 Wabash Ave.

**PITTSBURGH**  
243-245 Water St.

**PHILADELPHIA**  
35 South Fourth St.

**NEW YORK**  
136 West Broadway



Our new Catalog No 44 contains some interesting data regarding The "STANDARD" on the job Sent upon request.

10 different sizes.  
Capacities:  
3 to 40 cubic feet.  
Also Street Paves with Traction Drive.

You will get **SPECIAL ATTENTION** if you tell Advertisers you read American Carpenter and Builder.

## Order Early

Right now we are making prompt shipment on all orders, but we haven't a warehouse full of machines. Get your order in early. We guarantee this machine, so don't let the price make you doubtful. It's low because we sell a lot of them.



# A MIX A MINUTE

This mixer will mix a full batch of concrete in one minute. The quality of mix cannot be beaten—the cost of running the machine is lower

than with the average mixer—so it is at least twice as good as the two-minute-mix machine and three times a three-minute-mix machine.

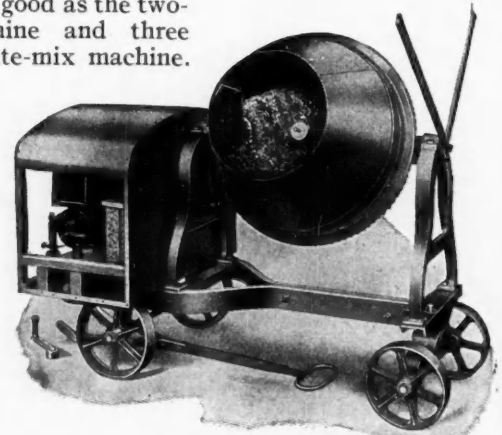
This mixer has no revolving blades or plows, which interfere with the mixing, rather than help it. In this machine the whole mass is mixed—that's the only way to mix.

## "Big-an-Little" Batch Mixer

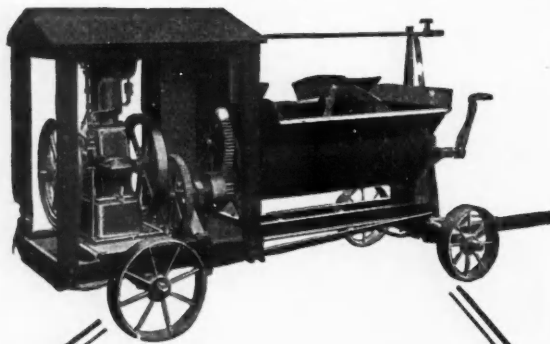
### EIGHT REAL ADVANTAGES

Manufactured under Basic U. S. Letters Patent No. 782,700, February 14, 1905. Buy a "Big-an-Little Mixer" and play safe.

**THE JAEGER MACHINE CO.**  
318 West Rich Street, Columbus, O.



**THE EDWARD R. BACON & CO.**  
Pacific Coast Representatives, San Francisco, California  
**E. B. KELLEY CO.**  
Eastern Representative, 50 Church Street, New York



## We Can Save You Money In Your Mortar Mixing

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

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

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

**BUILDERS—Get The Facts About The Blystone**

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

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

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

## THE PEERLESS CEMENT BRICK MACHINE

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

He had a clear field and invented what time has proven the best cement brick machine made.

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

Our catalog will tell you why the Peerless will make more perfect brick at less cost than any other cement brick machine on the market.

Write for illustrated catalog which also shows our Power machine.



**Peerless Brick Machine Co.**

19 N. 6th St., Minneapolis, Minn.

You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.



## The FIRST Cost is the ONLY Cost of THE COLTRIN MIXER

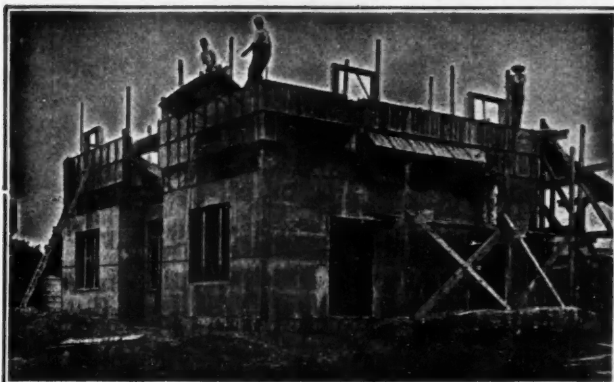
Total cost of repairs we have furnished this year average one dollar for each machine we have ever built, some of which have been in operation seven years. **THINK ABOUT THAT. IT TAKES A MIGHTY GOOD CONCRETE MIXER** to make such a record, and that is the kind of a machine you are looking for; A COLTRIN.  
**IT WONT LAY DOWN ON THAT JOB YOU MUST FINISH THIS FALL.**

WRITE FOR FULL INFORMATION

**THE KNICKERBOCKER COMPANY**  
JACKSON, MICHIGAN

## STEEL FORMS

The Morrill System Solves the Problem



Pouring a House. The famous two tier swing-up process.

Reinforced concrete is the best and cheapest building material known today. The waste in wood forming has been the principal cost. The "Morrill" steel forms cut out this waste and material bills; can be used over a hundred times, adjustable to all dimensions, for walls, columns, partitions and floors. All are of heavy pressed steel, wedge connections, automatically coming to line, locked and unlocked by the stroke of a hammer. Steel forms are a permanent investment, cutting out competition, better work, better finish, more speed at a less cost, for permanent structures. Fire-proof, damp-proof, paint-proof and repair-proof.

A card today will bring catalogues of steel forms, poured bungalows and houses. They will interest you and pay you to investigate.

**The Read & Morrill Co.,** 179 Joralemon Street,  
BROOKLYN, N. Y.

*Anti-Corrosive  
Rust-Resisting*



**Sheets and Formed  
Products**

The specification  
commended by  
"The Man Higher Up"


*Write for  
"Text Book on Corrosion"*

Ask your jobber.

General Distributors for the Dominion of Canada:  
The Pedlar People, Ltd., Oshawa, Montreal,  
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Also manufacturers of Black and Galvanized  
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You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.

# YOUNG MEN WANTED

## To Become Draftsmen and Designers

The constant demand for trained men always exceeds the supply. Positions paying \$75 to \$100 per week are open now. Some weeks over 250 positions paying the highest salary in all parts of the country stay open. Let me send you one of my regular weekly "Draftsmen Wanted" lists. You can have one of these positions. I'll give you just the training you need.

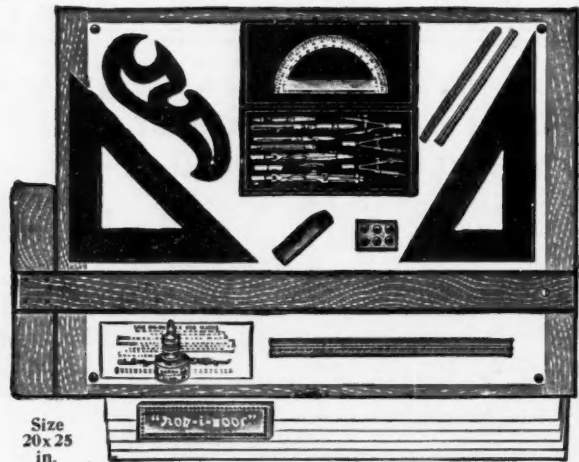
### \$125 to \$175 per Month to Start

You can make it. I have trained the highest priced draftsmen and know exactly the kind of training those men need who draw the biggest salaries. Stay right in your own home. No need to give up your present employment. I'll give you the kind of training that you need—personal instruction. You'll have actual drafting work to do as soon as you enroll. Send the coupon.



### Chief Draftsman Will Train You Personally and Instruct You Properly

On practical Drafting room work until you are absolutely competent in every respect as a first-class Draftsman and until you are placed in a permanent paying position at a salary paying at least \$125 per month. This is a most exceptional opportunity for just a limited few selected ambitious men, between the ages of 16 and 40, whom I will train personally and give individual instruction as required in order to fill the constant demand for properly trained men in this line. I give each of my students my own personal attention—therefore, I limit the number of my students and if you desire such an opportunity then get busy now and write to me at once. Don't wait till tomorrow, do it today. You can earn more than I charge for my time and personal training while a student.



Size 20x25 in.

#### I Guarantee

To instruct you until competent and placed in a permanent paying position at a regular Draftsman's salary of at least \$125 to \$175 per month and guarantee to furnish you free the complete Draftsman's working outfit at once from the start.

### This \$15.00 Draftsman's Working Outfit Free

These are regular working instruments—the kind I use myself. I give them free to you if you enroll at once. Send the Free Coupon today.

## Earn Big Money AT ONCE! While You Are Learning At Home

Yes, that's exactly what I mean. As soon as you become my student you can begin earning a handsome income while learning at home. I mean just what I say. This is a special offer I am making. Absolutely no obligations of any kind in sending the coupon. But you must write at once, as I will take the names in the order I receive them.

#### FREE BOOK and EARNING while LEARNING OFFER COUPON

Chief Draftsman, Engineer's Equipment Co. Div. 9667 Chicago, Ill.

Without any obligation to me whatsoever, please mail your book, "Successful Draftsmanship" and full particulars of your liberal "Personal Instruction" offer to a few students. It is understood that I am obligated in no way whatever.

Mail FREE Coupon at once for my book, "Successful Draftsmanship," also list of open positions and for the free offer to be earning good money at once while learning at home. This offer is positively limited and in order to benefit thereby you must act at once.

**CHIEF DRAFTSMAN,** Division 9667  
**ENGINEER'S EQUIPMENT CO. (Inc.)** Chicago

Name.....

Address.....

You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.

# SHORT TALKS WITH OUR SUBSCRIBERS



## Photographs Wanted

HERE are several kinds of work that we are more than usually interested in right now; and as we have done so often in the past, we want to come to our subscribers for first hand information concerning them.

In many parts of the country "overcoating" is being used a good deal for giving old frame houses a modern and up-to-date appearance. Metal lath is nailed on over the clapboards and cement plaster is then applied. Many of these buildings look very nice when refinished in this way.

Are they proving practical and thoroughly satisfactory? Do you find this stucco finish permanent? We ask our readers who have had experience with this kind of work to write and tell us about it. If you have, or can secure, any photographs of buildings remodeled by "overcoating" won't you loan them to us? Companion views showing buildings both before and after remodeling would be the very best.

Knowing well what keen interest Our Folks take in everything new and worth while connected with building, we will expect some very interesting and trustworthy photographs and experiences from our builders pertaining to this subject.

## Motorcycle Pictures Too

ANOTHER subject we are very interested in is the use being made of the motorcycle by carpenters and builders to help them in their work. We know personally quite a number of builders who have been riding motorcycles for the past two or three years and have been able to broaden out their business wonderfully besides getting considerable pleasure out of it, riding to and from their work and going around looking after their various jobs. We wonder if the builders throughout the country are taking advantage of this good thing?

All you motorcycle fans, won't you write to us right now about your power steed—what he has done for you, and maybe has done to you. Send us photographs too. We want to see how you look on a motorcycle.

Builders who use motor cars can get in on this also. In these days

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of hurry and hustle and modern appliances, many contractors are giving up horse-hauling and are using motor trucks—some small ones, some large ones. We are interested to know just how far this truck business has spread among our readers and what use they are making of their motor trucks and automobiles. Won't you write us a letter today?

## Now for Inside Finishing

THESE sudden little cold spells warn us that the winter season will soon be on us. All outside work must now be rushed to a finish.

Inside finishing, including both woodwork and decorating of walls, presents an interesting field for the carpenter and builder. The inside of the residence is the part that the owner sees most and oftenest. The chances are that, if he is well pleased with the way you finished the interior, you have a thoroughly satisfied customer. He will boost your work to all his neighbors and friends.

In view of this it seems that more thought should be given to novel and attractive interior finishing schemes. During the recent months we have illustrated a large number of very nice pieces of work that have shown some very good ideas. Decoration and finishing schemes have also been described. Refer back to these and get to be an expert on this interior finishing proposition.

Also, if you will look through our advertising pages you will find many offers for free booklets, samples, etc., pertaining to interior work. Send for these.

## Big Features this Month and Next

Do not overlook any of the good things in this issue of your building magazine. Above all do not fail to read the announcements of the second annual prize contest, "To Keep the Dollars Coming in During the Winter Months." We want you all to take part this year in solving this troublesome problem. Write us a frank straightforward letter, telling your own experiences and send along any diagrams and pictures that will help to make your story clear.

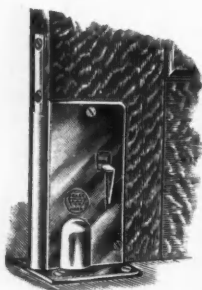
As these personal experiences and articles will be the Big Feature of our November issue, do not miss it.

Cordially yours,  
Editor, AMERICAN CARPENTER AND BUILDER.

# CHICAGO SPRING BUTTS

## REPUTATION

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



### Chicago "Relax" Spring Hinges

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

Send for Catalogue C 29. It fully illustrates and describes the most complete line of Spring Hinges manufactured.

**Chicago Spring Butt Company,**

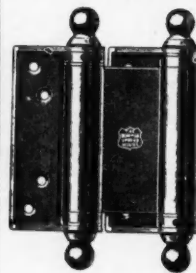
CHICAGO



NEW YORK

## Yes! the World does Move!

Facts are Stubborn Things



Don't Buy  
SPRING HINGES  
OF  
OBSOLETE  
CONSTRUCTION



ONLY

# Bommer

DOUBLE ACTING

## Spring Butt Hinges

*Carry the load on the true bearings*

and look alike at both sides of the opening when both doors of a pair of doors are opened in or out. The carpenter can scribe for both doors of a pair from the same side, and avoid guesswork, as he can see what he is doing while fitting the doors.

YOUR HARDWARE MERCHANT CAN SUPPLY THEM

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

## The Morrill Saw Set

A mechanically perfect Saw-Set made with a rotatable anvil that is gauged so as to set any saw not over 16 gauge. The gauge screw and click nut insure the right angle and uniformity of set. It will take the wrong set out of a saw and put in the right set at one operation. Look for the Trade Mark Apex.



**For  
30 Years  
the Standard**

Send for FREE Booklet "Saw Points"

**CHAS. MORRILL 94 Lafayette St., New York**



## Make Your Houses Frost-Proof by lining them with Cabot's "Quilt"

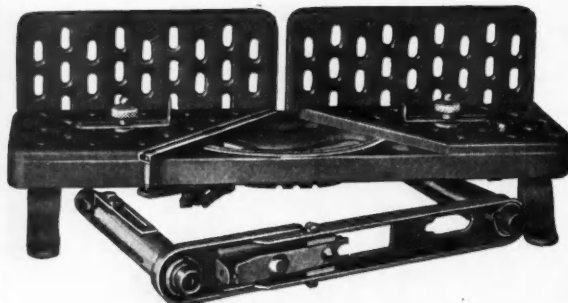
It is cheaper to build warm houses than to heat cold ones. A cold house will waste enough coal in two winters to pay for enough Quilt to make it warm for all time. Quilt is not a mere building paper, but a thick, matted lining of cured eel-grass that is twenty-eight times warmer than common papers. It will make your house warm in winter and cool in summer, cut down your doctor's bills and keep the whole family comfortable. It costs only 1c a foot, will never rot or disintegrate—last forever—and is fire retarding. A full investigation will cost you a postal card—which will bring you a sample and the proofs. Will you write now?

Residence of Walter M. Collins, Builder, Bayside, L. I. lined with Cabot's Quilt, and what the owner says:

"The side walls are of twenty-four in. red cedar shingles, stained with your Special Gray and laid over your single ply Quilt. The Quilt is certainly a good investment, as the house is in a very exposed position, and after the hardest winter in years, without a frozen pipe or any difficulty in heating, I feel that the small additional cost over ordinary building paper has already been saved in coal and comfort."

**Samuel Cabot, Inc., Boston, Mass  
24 W. Kinzie St., Chicago  
1133 Broadway, New York**

**Cabot's Creosote Shingle Stains**



Showing lever detached.

## Marsh Ayer Pressed Steel Miter Box

The lever is detached by a slight turn of two screws, permitting the box to be packed in a small space.

*Our circular gives complete description.*

**H. C. MARSH CO.**

606 Race Street

ROCKFORD, ILL.

You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.



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

**Important Notice**

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

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

**American Carpenter and Builder**

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

*Published on the first day of each month by*

**AMERICAN CARPENTER AND BUILDER COMPANY**  
RADFORD BUILDING, 1827 PRAIRIE AVE., CHICAGO

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

**PROTECTION FOR OUR READERS**

The publishers of the American Carpenter and Builder will not knowingly publish any advertisement of a misleading character nor accept advertising from any individual, firm or company whose business methods are open to question.

We often receive inquiries from readers who desire information about concerns that formerly used the advertising pages of the American Carpenter and Builder, but are no longer doing so. They want to know if these former advertisers are still in business, if they can send them orders with the assurance that they will be filled, and a variety of other questions.

The American Carpenter and Builder will use every legitimate means to safeguard the interests of its readers and to protect them from fraudulent or unreliable concerns. Where the slightest doubt exists our readers should write the publishers for information. It may save them money, time and worry.

In all cases in writing to advertisers say: "I saw your advertisement in the American Carpenter and Builder."

VOL. XVI.

OCTOBER, 1913.

No. 1

**A**FTER the mistake is once made, no amount of explaining will make it right.



**An Interesting Legal Decision**

**"T**WO Thousand Dollar Bungalows" that cost \$10,000.00 to build, though still prevalent, are now against the law. Architects will have to tone down their flights of imagination and keep the cost within what the client *expects to be able to build for—* or get no pay!

A court decision which is rather unusual in the architectural field comes from Oakland, Cal., which is recorded in a press dispatch as follows:

The decision of Judge Murphy in favor of former Governor George C. Pardee and against Charles Taylor, architect, it is believed, will afford the Institute of Architects a theme for discussion. Pardee entered into an agreement with Charles Taylor and his father, under the terms of which Taylor was to draw plans for a home to cost not over \$25,000.

After the house was built Pardee found that he had spent \$34,000 in its construction and refused to pay Taylor's fee. Taylor sued for \$751, and Judge Murphy held that he should have kept the price within the original estimate if he desired to collect for his services under his contract.

**It Can Be Done**

Somebody has said that it couldn't be done,

But he, with a chuckle, replied,

That "maybe it couldn't," but he would be one

Who wouldn't say so till he tried.

So he buckled right in, with the trace of a grin

On his face. If he worried he hid it

He started to sing as he tackled the thing

That couldn't be done—and he did it.

Somebody scoffed: "Oh, you'll never do that;

At least no one ever has done it."

But he took off his coat and he took off his hat,

And the first thing we knew he'd begun it;

With the lift of his chin, and a bit of a grin,

Without any doubt or a quiddit;

He started to sing as he tackled the thing

That couldn't be done—and he did it.

There are thousands to tell you it cannot be done,

There are thousands to prophesy failure;

There are thousands to point out to you, one by one,

The dangers that wait to assail you;

But just buckle in with a bit of a grin,

Then take off your coat and go to it;

Just start in to sing as you tackle the thing

That "cannot be done"—and you'll do it.

—Brush & Pail.

**Your Friends are Our Friends—Tell Them About Our Free  
Estimating Book Offer**

## Announcement of Second Annual Prize Contest

# To keep the coming in during the winter months

**O**UR big Winter-Work Contest of last fall made such a hit that we now present it again as an annual institution. Hundreds of our subscribers came forward at that time with frank, helpful letters giving their answers to this question of moment to every carpenter and builder, "**HOW CAN I TURN MY SPARE TIME TO PROFIT DURING THE WINTER SEASON?**"

**W**E want all of these and others, too, to write us now. Here's a chance to do a good turn—to help some fellow workman—and at the same time to win a nice cash prize.

Are you able to keep busy right through the cold weather? Yes? Then how do you manage it? Many of your brother builders are not so lucky; they have not been able to get just the right combination, and often find their supply of hard, round, iron dollars cut down just when they are needed most.

For the benefit of these—to give some suggestions that might help other carpenters and builders at this season of

the year—won't you kindly write us a letter telling what you have found out about developing and handling spare-time sidelines?

We want a flood of good, practical letters from practical men. Don't mind if they aren't models of rhetorical composition; if they contain the Real Goods, that's all we care. Carpenters and builders want to know how they can keep busy all the time—winters same as summers; and if you will write out simply and clearly some of your own experiences with spare-time work and winter work, you will be helping some other builder and at the same time have the chance of winning a nice Cash Prize for yourself.

**In order to encourage a full and free discussion and interchange of ideas, we offer a number of \$10.00 First Prizes and \$5.00 Second Prizes for the most helpful and sensible letters on winter work for Carpenters and Builders. If you have been up against the part-time problem and have mastered it, won't you write and tell just how you did it?**

**N**O able bodied man can afford to loaf around even "part time." He owes it to his family and to himself to turn every hour to account.

Some builders have *snug woodworking shops* where all kinds of *cabinet woodwork* can be made. Some build *handicraft or Mission furniture* and find it has a ready sale. Some *build boats* in the winter time—row boats, canoes, and motor boats—and have no trouble selling all they can make, at a good profit. Some do a regular planing mill business during the winter, making up in advance, for future use, all sorts of standard frames, sash, cabinets, etc.

Some carpenters and builders (both young and old) welcome every spare moment and these long winter nights as just the time to *read and study* practical building and architectural books and so fit themselves for better work and bigger earnings. Some employ any spare time they may have in the winter season getting around among the people and *talking up new building projects* for spring; drawing up plans, showing plan books and building magazines,—and so investing this time to their future profit.

These ways and dozens of others are good. What is *your way?* and what have been your experiences?

There will be as many prizes as there are different branches of the subject discussed. Write a good, helpful, practical letter and we will do our part toward keeping the money "coming in during the winter months."

Prepare your contributions **AT ONCE**. They must reach this office at least by **October 15th** to appear in the **NOVEMBER** AMERICAN CARPENTER AND BUILDER. Write today and help a friend. Address Editor AMERICAN CARPENTER AND BUILDER, 1827 Prairie Ave., Chicago.



**A Traveler Settles in Denver**  
By James A. Patterson

**T**HOMAS F. CAFFREY, a carpenter, left Preston, England, for America under the impression that he would find steady and more remunerative work in the colonies. Landing at Halifax, he discovered that in proportion to the population, there were more idle men than there were in his home town. During a stay of three months, he found only a temporary job of two weeks.

Talking with acquaintances, he heard alluring tales about the marvelous growth of Toronto as a place where contractors were literally begging men to work, and offering special inducements to first-class men. These tales were repeated, each time becoming more highly tinged with rose-colored hues until Toronto loomed up on the horizon as the place where he would come into his own. The result being that he gathered up his clothes, packed his tools and bought a ticket for Toronto, where he arrived with only \$10 in his pocket.

Toronto was, indeed, much better than Halifax; but yet did not measure up to the stories told. During the first three days a job was found which lasted four months—until winter put a quietus on building operations. Two months' idleness followed.

The next spring and summer he secured short terms of employment in each of three cities—London, Guelph, and Walkerton—through application at Employment Offices. With the approach of the second winter and no regular work in sight, he decided to return to England; surprised his relatives by arriving in Preston for Christmas dinner.

**T**HOMAS had seen a section of the world across the water, had his wits sharpened by contact with new phases of life; and returned with funds close to the zero mark. Although he had received higher wages for his labor, the intermittent periods of idleness, money paid out for transportation had kept his bank account below \$200.

Caffrey now secured a position where he had formerly been employed; but was restless, dissatisfied. Wages seemed to be smaller than ever when compared



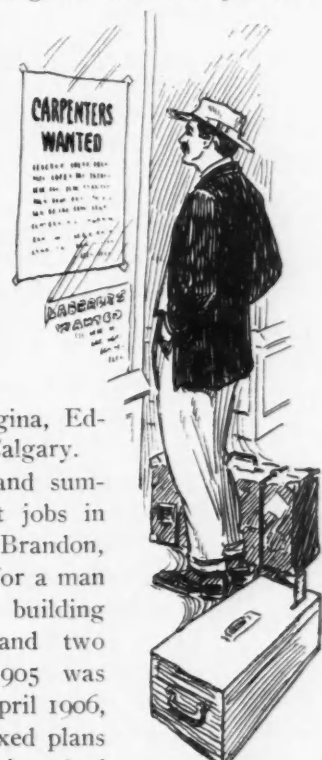
with the amount he had been getting in Canada.

While on his trip he heard repeatedly from fellow workers and associates in boarding-houses, seductive stories of the chances for workingmen in British Columbia, and the far Northwest. A vague, undefinable yearning surged through his mind at times; some invisible voice seemed to whisper continuously, that here he would find Utopia—the place in which he would eventually make close connections with the fickle goddess of Fortune. With the approach of spring this feeling became intensified. March 20th found him aboard a Cunard Liner en route to the mecca of his visions.

Arriving at Montreal, he applied for work at the C. P. R. offices, and was given free transportation to Winnipeg, Manitoba, as a bridge and station builder for the R. R. Co., then extending the lines West and North of Winnipeg. Seven months' steady work was the outcome of this move; when the rigors of a Canadian winter stopped all construction work. He spent the winter visiting former friends whom he knew to be living in Regina, Edmonton, Vancouver and Calgary.

The following spring and summer he worked on short jobs in each of these places: Brandon, Selkirk, and MacDonald for a man who had contracts for building several school houses and two churches. Winter of 1905 was spent in Victoria, B. C. April 1906, found him without any fixed plans for the summer, when he heard of the earthquake at San Francisco.

Foreseeing that the city would be rebuilt, that prospects were excellent for a term of work at good wages, he took the first steamer for the stricken city. Within a short time he made a deal with a contractor for whom he worked almost two years. In 1909 the wanderlust again asserted itself, without any valid reason he left San Francisco for Denver, where he found a temporary job at the Shirley Hotel. This finished, his thoughts began to center on another trip home. At this time, however, an event occurred which mixed things slightly and decided his subsequent career. Fate arrived, garbed in long brown hair, hazel eyes, and a bewitching combination of millinery, lace, ruffles, white serge suit, and hailed from West Virginia.



Every Season Saw Him in a Different Place

AFTER an acquaintance of three weeks, Thomas began to talk to her about joining the union—no, not the Carpenters' Union, but union with a carpenter. She agreed to take the matter under consideration for a time, and finally gave him an affirmative answer with certain conditions attached. Having heard fragments from his "Seeing the World Tours," she insisted that as evidence of his good intentions he purchase a home and agree to live in Denver.

There appeared to be no chance to sidestep the conditions imposed; so a lot was found, initial payment made, remainder to be paid on easy installments. Money still on hand was invested in material for a substantial brick cottage, Thomas doing the carpenter work himself.

The cottage finished, he was recalled to do some work at the Shirley Hotel. In this instance he came directly under the supervision of E. C. Dodge, the proprietor, who, upon completion of the job, called in the manager, D. S. Frazer, when the following colloquy ensued:

"That carpenter who replaced the piece of flooring in front of the elevator appears to do things to a finish. There is some work to be done around my

house (he did not live in the hotel) which I want him to do; between the hotel and my home I think we shall need a man around here all the time."

"Yes, I've noticed that he goes at things in a way that 'puts the ball over the plate,'" replied Frazer, who was a baseball fan.

"Make him an offer to stay here indefinitely," said Dodge. "With prospects for a steady job, he may be willing to accept a smaller wage than that which we are now paying him by the day."

A monthly salary, slightly less than the union scale of wages was agreed upon; and Caffrey's name went on the regular pay-roll where it has remained for the last four years.

During this time, by evening work he has made additions to his home in the shape of coal-shed, chicken coops, and summer kitchen. Paid off all remaining notes on the lot on Eliot street, and has a tidy sum in the bank to his credit.

Caffrey's thoughts are centered on making his home complete, comfortable. The alluring tales which formerly lent a glamour to distant parts of the world do not affect him now; the passion for travel has been satiated, and he is ready to vouch for the truth of the adage, "A rolling stone gathers no moss."

## Interesting Outcome of August Puzzle

HUNDREDS OF AD FANS HAVE BIG TIME IDENTIFYING WELL KNOWN TRADE MARKS—THIRTEEN WIN PRIZES—ANOTHER PUZZLE CONTEST CLOSING SATURDAY NOVEMBER 15TH

THE August Ad. Puzzle Contest furnished more enjoyment, if such a thing is possible, than July. The readers had twice as long to work on it for one thing; and so a good many more of our readers sent in answers. The one-hundred-word letters telling how the AMERICAN CARPENTER AND BUILDER is being used to help its subscribers in their

work, were both surprising and instructive to us who devote all our time and energies to putting *your* building paper together.

Studying over these letters we get a new conception of the seriousness and responsibility of continuing to serve and really help our thousands of readers.

## Prize Winners in the August Ad Puzzle Contest are the Following:

*First prize*, \$10.00 worth of goods selected from our ad. pages—

A. PRESTON PACKARD, Contractor and Builder, Brockton, Mass.

*Two second prizes*, each consisting of \$5.00 worth of goods selected from our ad. pages—

I. WALLACE SMITH, Carpenter and Builder, Port Jefferson, N. Y., and S. J. STRONG, Stronghold, Mabton, Wash.

*Thirteen third prizes*, each consisting of \$1.00 worth of goods selected from our ad. pages—

A. L. JORDAN, of the A. L. Jordan Lumber Co., Inc., Columbia Falls, Mont.

CHARLES O. TESSIER, School House Architect, Hawthorne, N. Y.

CARL F. WOLF, General Contractor and Builder, Elyria, Ohio.

L. B. CRANDALL, Professor, Department of Industrial Mechanics, Alfred University, Alfred, N. Y.

E. M. LIGHT, Contractor and Builder, Lisbon, Iowa.

GEORGE H. CRANER, Contractor and Builder, Moline, Kan.

WM. M. HERBST, with Jacob Herbst & Co., Lumber and Building Supply Dealers, McKees Rocks, Pa.

W. L. THOMPSON, Instructor, Department of Manual Training and Mechanical Drawing, Barrett Manual Training High School, Henderson, Ky.

CHAS. H. ARTHUR, Architect, General Contractor and Builder, Lowville, N. Y.

E. J. HUNTEMER, Instructor, Manual Training, State Normal School, Wayne, Neb.

## Another Interesting Puzzle This Month

ON the opposite page you will see a puzzle made up of the fragments of 22 advertisements appearing in this number of the AMERICAN CARPENTER AND BUILDER. Read all of our advertising pages through carefully, and you will get your money's worth right there in information, new ideas and chances to write for free booklets, catalogs and samples.

Also, you will then be in shape to solve this puzzle very easily. Make a list of the names and addresses of the 22 concerns represented, and also state page number on which each ad. appears. Then write us a letter of at least 100 words on this subject, "Why Furnaces and Other Heating

Plants Should be Advertized in the AMERICAN CARPENTER AND BUILDER." We know that a great many of our readers are installing heating equipments in the buildings that they erect. We want to find out, if we can, just how much furnace work Our Folks are handling, also to what extent the majority of our readers are interested and benefitted by the Heating Articles we have been presenting during the past year. Please write to us fully and frankly in regard to your furnace and other heating plant work. For the best letters, accompanied by the correct solutions to the ad. puzzle, we will award prizes as announced on the opposite page.



# HERE IS MORE FUN

For All Who Read Our ADVERTISING PAGES!

1 Ask for "Ornamental Ideas."

2

3

4

5 Satisfy

6 Write today for the Flex-A-Tile Book

7 WEST BANGOR

8 TONCAN METAL

9 The Adjustable Floor Scraper

10 \$TORM

11 SEVEN PLANES IN ONE

12

13 "The Roof that Outlives the Building"

14 "C. B. OPEN HEARTH"

15 "Be the 'Bungalow Man' of Your Town"

16

17 Make Warm Friends"

18

19

20 ANEEOilers

21 THE FLYING MEXICAN

22 Write us for the "Yankee" Tool Book.

Liquid Granite—A floor suggests its wonderful durability  
 Luxeberry Wood Finish— or polished finish on interior  
 Luxeberry White Enamel finishing. • A white enamel  
 Luxeberry Spar Varnish— all kinds of exposed outdoor finish white, checks nor cracks.

## OCTOBER AD. PUZZLE PRIZE CONTEST . . .

Above are fragments of 22 advertisements appearing in this issue. Can you identify them? Some are old friends; some you will have to hunt a little to locate. Study our advertising pages this month; read every offer. Then list the 22 ads. these were clipped from. Be sure to give the names and addresses and the page numbers. Also write a brief, straightforward letter 100 words on this subject: "Why Furnaces and Other Heating Plants Should be Advertised in the American Carpenter and Builder."

### WE WILL AWARD THESE PRIZES

- 13 Prizes** For the best letter (and correct Puzzle solution) \$10.00 worth of goods selected from our Ad. pages
  - For the 2 next best letters (and correct Puzzle solution) \$5.00 worth of goods selected from our Ad. pages
  - For the 10 next best letters (and correct Puzzle solution) \$1 worth of goods selected from our Ad. pages
- \$30 in Prizes**
- When sending in your Puzzle Answer and Letter be sure to state the goods you select from our Ad. pages in case you win a prize; goods of ANY value may be selected, and prizes will apply either in whole or part payment on them.

**This Contest Closes Saturday, Nov. 15th.**  
 Prize winners will be announced in December issue.

Address your letters to your friend,  
**THE ADVERTISING EDITOR,**  
 American Carpenter and Builder, Chicago.



An Interior Showing a Number of Very Popular Up-to-Date Finishing Ideas. Note the Corner Built-in Book Cases With Lined Glass Doors—They "Make" This Room and Help to Form an Attractive Doorway. Head Casing is Continuous Around the Room. Heavy Wood Cornice Mould is Used. All Woodwork is Fumed Oak.

# HOME BUILDERS SECTION

A Timely and Reliable Guide to All that is Practical, Satisfactory and Attractive in the Planning, Building, Finishing, and Furnishing of the Up-to-Date American Home

## Home Building in California

THE Land of Ideal Climate has given us some new ideas both in house designing and in building and selling homes on terms that make it easy for everyone

to possess a lot with a bungalow on it. One of the largest of the home-promotion companies is the Commonwealth Home Builders of Los Angeles. They are said to be the originators of the furnished bungalow idea. That is, they will sell a modern, up-to-date bungalow completely furnished for as low as \$200 down and \$35 a month.

One noteworthy feature in California is that practically every home is of different design, both interior and exterior. The plan is not followed as in so many eastern cities where subdivisions may be laid out—one or a few plans being used for all the houses.

In one of the tracts just completed by these people they have eighty-five houses, every one different and every one of beautiful design. Even the lower priced bungalows are complete in every respect. They range in price from \$2,500 to \$2,950, including lot. They make it a point to have all the street work in—cement curbing, cement sidewalks, cement front porch, cement sidewalk through the yard to the back door.

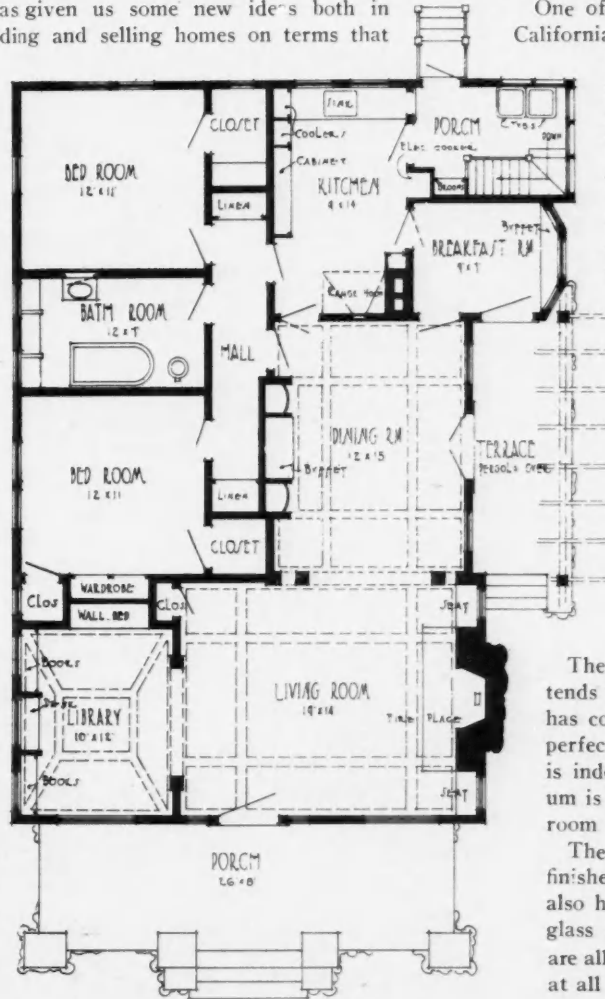
The bungalows are built of first-class lumber and heavy timber. Rear yard has painted fence.

One of the most attractive—a typical California design, is illustrated. The interior is decorated in first-class style. Walls are tinted or papered. Woodwork is mission finish. In the front room and dining room are hardwood floors. There are two book-cases dividing the front room and dining room. A cozy nook or corner off of front room contains mantel and seats.

A buffet is built across the entire width of the dining room. There is a breakfast room off of this with French doors and windows all around it. There is a cabinet kitchen. It is filled with cabinets all the way around, consisting of closets, shelves, drawers, flour bins, moulding boards, and canopy over the stove to carry off the odors.

There is a cooling closet which extends from floor to the ceiling. Sink has composition stone top, making it perfectly sanitary. Hot water heater is independent of the stove. Linoleum is placed on the kitchen and bath room floors.

The kitchen and bath room are finished in white enamel. Bath room also has a medicine closet with plate glass window. The electric fixtures are all very artistically designed—not at all plain or cheap in appearance.



Seven Room Bungalow at Los Angeles, Cal., Designed, Built and Sold by The Commonwealth Homebuilders for about \$3,000 including the Building Lot

### Fire and Quake Proof Mansion at Los Angeles

ONE of the most unique and thoroughly fireproof dwellings in the southwest has just been built, on the outskirts of Los Angeles, by L. Lindsay. The house is built entirely of a hard burned terra cotta tile.

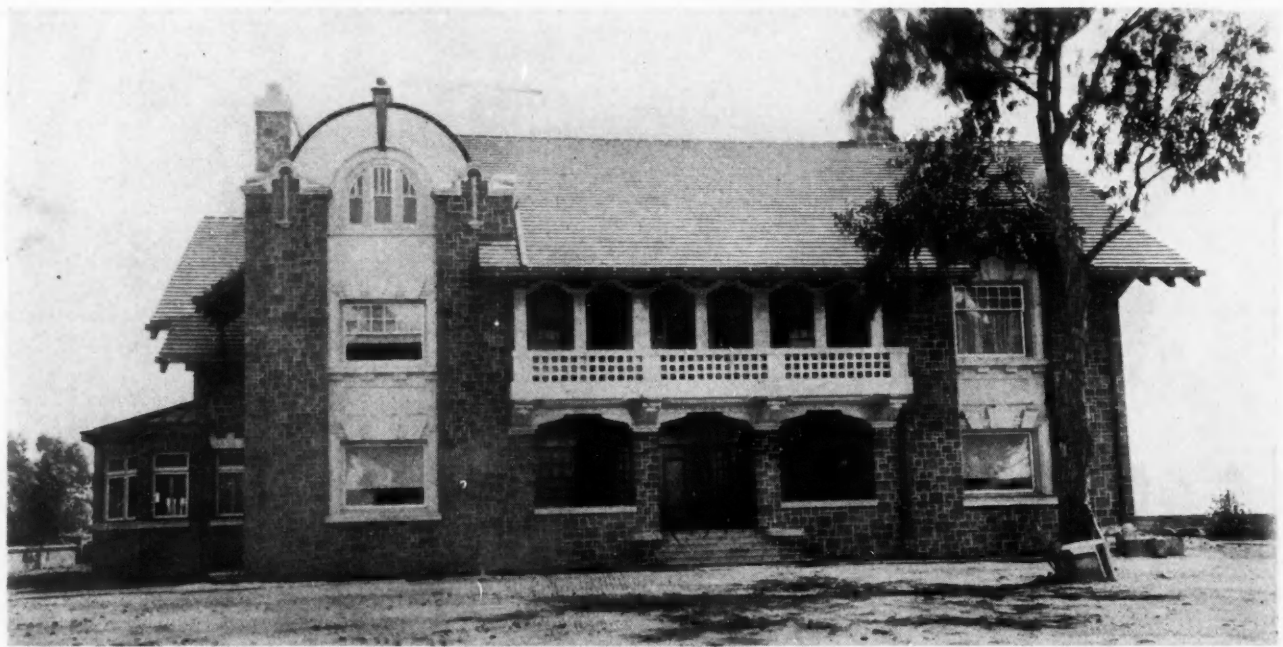
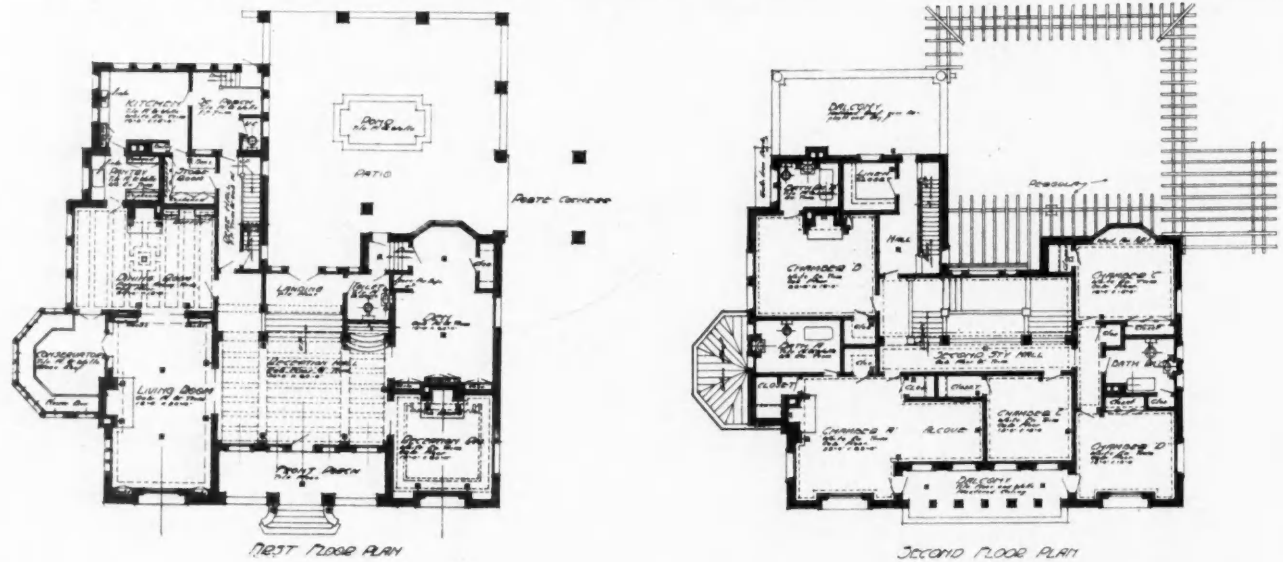
This house and grounds stand prominently to the front as a model of the true California home. When it is said

eighteen feet high.

The interior is a marvel of harmony, fine selected quarter-grained oak and Peruvian mahogany having been used throughout. There are just six rooms on the lower floor, but they are rooms. Some are almost as large as the ordinary dwelling. Entering from a side porch one goes into a reception hall of generous size. The most striking feature is a huge art-glass window, im-

above the first floor level. There is a commodious living room, with a huge fire-place, to the left of the reception hall, and beyond on the east side of the house is the conservatory. This is a sunny room, with leaded-glass windows, and a deep tile-lined trough around the sides for plants. This room is finished in beautiful green, and brown glazed tile.

The dining room opens from the living



Terra Cotta Tile Residence of Mr. L. Lindsay, Near Los Angeles, Calif.

the grounds are 250 by 700 feet in dimensions, it is easy to see that there are bound to be unique features about them. There is; the land slopes back from the street front, down quite a sharp hill side. In order to make the most of the site, the owner has had the slope terraced, and heavy retaining walls built. There is a succession of three terraces, and then a gently sloping stretch to the rear street. One retaining wall is

mediately to the south, through which the sunlight gleams and shows up the delicate colors of the glass work. A waterfall scene is the central feature, with panels on either side of kindred subjects. To get the effect desired, there are as many as seven thicknesses of glass over some parts.

The stairway to the upper floor also springs from this hall, the art-glass windows being on a landing a few feet

room, to the south, and is a pleasant well-lighted place finished in dark Peruvian mahogany. The service portion is to the rear, with commodious kitchen, pantry and butler's pantry all finished in white glazed tile and hard cement plaster, which is laid on the inner faces of the first wall tiles.

There are five large, pleasant chambers on the upper floor, practically all intercommunicating, as well as having

access to the large second-story hall. The finish, with the exception of the hall, is in an ivory enamel. The hall is in quartered oak.

On the third floor, or attic, is another set of apartments, for the servants. This is very complete, with baths, and pleasant, sunny rooms. A hall about 60 feet long, is a feature of the attic story, and furnishes plenty of room for entertainments, such as dancing.

Another feature not mentioned in the construction is that it is practically earthquake-proof. A house of similar

nature passed through the recent horrible seismic disturbance of Southern Italy and is still in as good shape as when first built. It is constructed of hard burned hollow tile, laid up in cement mortar, and reinforced every two or three tiers of the tiles with a webbing of steel wire mesh. This makes the mass practically a unit, able to resist the pull and bend of the earthquake. A similar method has been employed in building the Lindsay residence, not only in the house, but the retaining walls and all other work.

by an exhaust fan comes next; then fan ventilation with natural venting; then fan ventilation with natural venting, assisted by heat coils; and last, fan ventilation with exhaust fans on the vents which is by far the most satisfactory and positive method, but is at the same time the most expensive.

When steam and hot water heating first came into use, especially in the larger buildings used for assemblage, the lack of fresh air became most apparent and what was indeed more natural than to follow out the old idea of furnace piping substituting a radiator to secure the heating effect on the air formerly accomplished by the furnace? A typical installation of this kind is shown in Fig. 1, and this method is much in favor even

## The Home Builders' Scrapbook



### Ideas Worth Remembering

## Elements of Ventilation

By Harold L. Alt, M. E.

**A**MONG the numerous questions suggested to the builder when he comes to look into the ventilating subject is the query, "Why is it perfectly satisfactory to build a dwelling house (a place in use twenty-four hours every day) without providing any means of ventilation, but when it comes to a hall, school room, or church (occupied for only a few hours at a time) the subject is given apparently such an unreasonable amount of consideration?"

Now this is not so; the subject of ventilation in places of public assemblage *can not* be given too much consideration—and on the other hand a great many homes using steam, hot water, or vapor heat would be much more *healthful* and certainly much *sweeter* with the addition of a regular, even tho' small, supply of fresh air all the time.

It should be remembered, however, that in the average home there is hardly ever more than one person per room counting all of the rooms. That is to say with rooms about 12 by 12 by 9 feet, this equals about 1300 cubic feet per room and per person. Normal leakage around the windows and doors always amounts to one complete air change per hour and with poor construction to as high as two or three complete changes.

Now in a school room with, say forty occupants at 3000 cubic feet of fresh air per hour per occupant, a total of 3000 × 40 or 120,000 cubic feet per hour

is required. A room, to accommodate such a number, would contain only about 9000 cubic feet, which at two air changes would give only 18,000 cubic feet of natural ventilation, just 15 per cent of the amount required.

It is customary in determining air quantities for artificial ventilation to take into account the amount of natural ventilation. This doesn't seem logical until we stop to consider the fact that most of the artificial ventilating systems are inclined to force air into the rooms, thus slightly raising the air pressure within the room, and this causes the leakage around the windows and doors to be in an *outward* direction immediately stopping all the benefit otherwise received from natural sources.

Let us now take the question of cost into our consideration; artificial ventilation induced simply by heat is the cheapest, but it is also the least positive, while that induced by heat and assisted

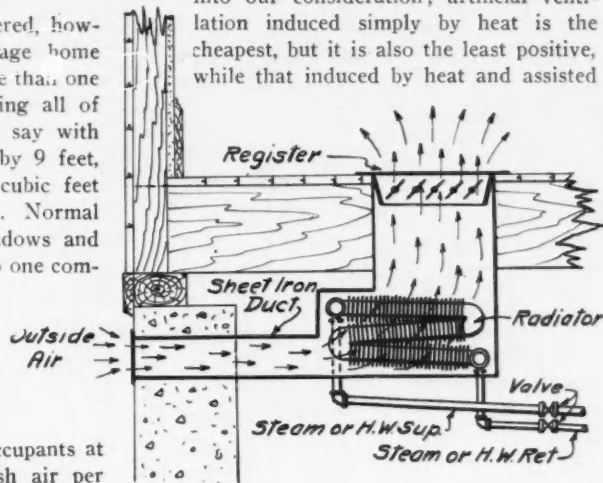


Fig. 1. "Indirect" Heating Furnishes Large Amounts of Fresh Warmed Air

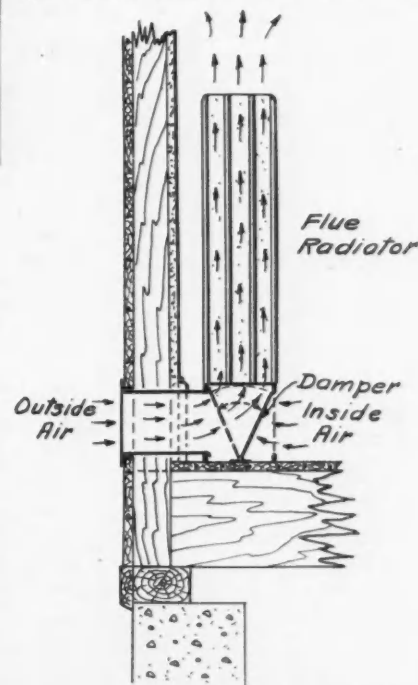
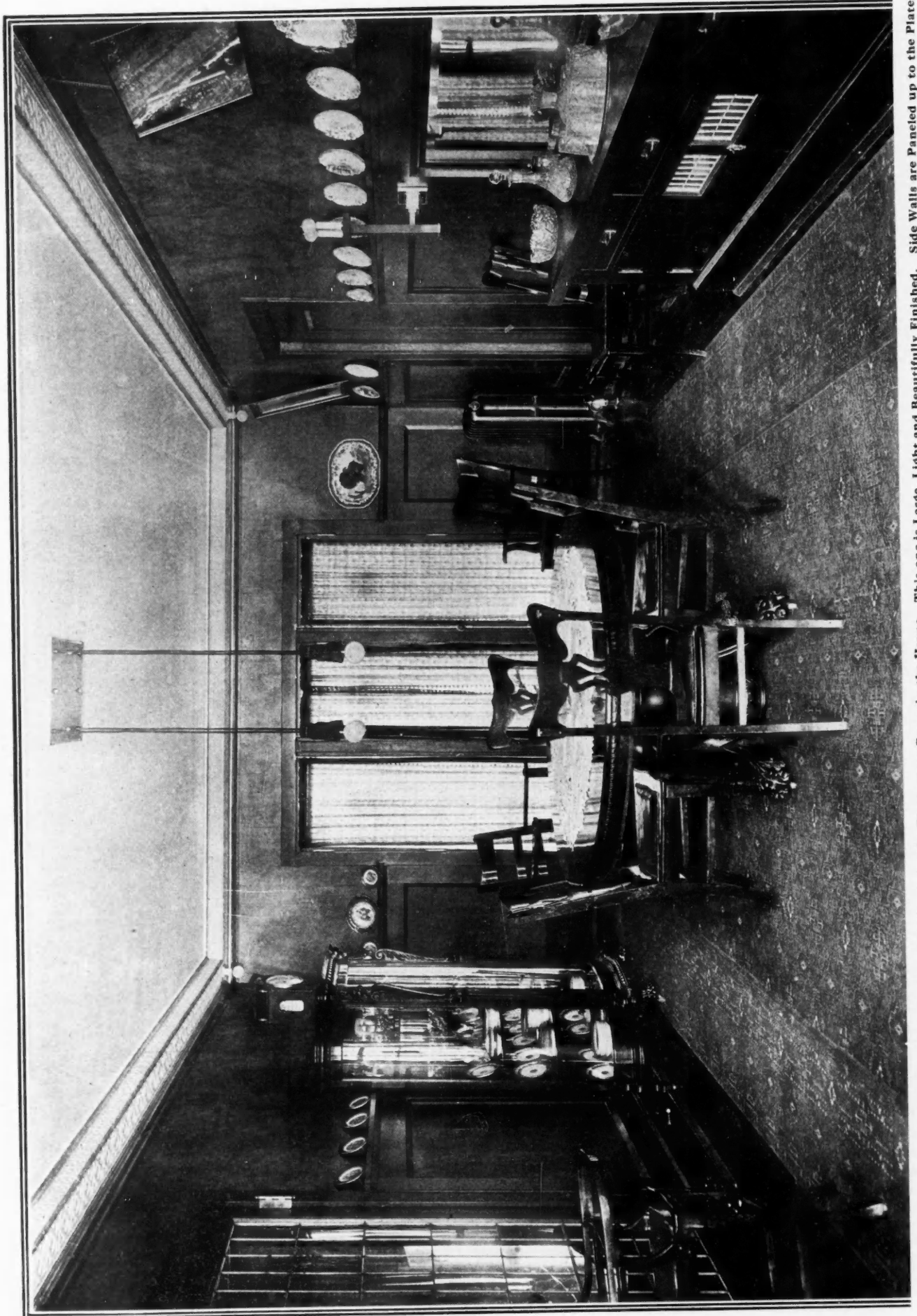


Fig. 2. Scheme for Ventilating in Conjunction With Ordinary or Flue Radiators

now for residences where a certain amount of fresh air is desired beyond that supplied by the natural leakage and is termed as "indirect" heating.

A modification of this, producing practically the same results without the necessity of the sheet iron duct and register, is shown in Fig. 2. This consists of a "flue" radiator set on a box with an opening in the wall in back of it to permit the entrance of fresh air. The air then passes into the box and up through the flues in the radiator, thus being warmed. This type of radiator also radiates heat directly into the room as well as heating the incoming air, and this method is therefore styled "direct-indirect" heating. If desired to shut off the outside air, the damper in the box is shifted over, permitting the radiator to draw its air supply from the floor of the room, which is a very important matter in dusty weather.



The Dining Room is the Real Center of the Home and it Should be the Pleasantest Room in the House. This one is Large, Light and Beautifully Finished. Side Walls are Paneled up to the Plate Rail With Wood Veneer or Wood Imitation at Very Moderate Expense. Side Board of Massive Design is Built-in. Ornamental Cornice Mould is Used. Lighting Fixtures are Unique.

# Warding off the Fire Fiend



## Causes of Fires in Dwellings

From the Chronicle Fire Tables we obtain the following information which will be interesting, showing the degree of importance of the more prominent causes of fires in dwellings out of 231,425 cases reported:

Defective flues .....	70,715
Matches .....	20,874
Sparks .....	17,748
Incendiarism .....	15,893
Explosions (lamp) .....	15,712
Stoves .....	14,710
Lamp accidents .....	8,613
Forest and prairie fires.....	5,985
Explosions (gasoline stoves)....	5,904
Lightning .....	5,124
Gas-jets .....	4,939
Explosions (oil stove).....	4,673
Fireworks .....	3,881
Stovepipes .....	3,531
Open fireplaces .....	2,944
Candles .....	2,705
Oil stove accidents.....	2,362
Furnaces .....	2,221
Accidents (not otherwise reported) .....	2,208
Explosions (gasoline) .....	2,156
Cigar stubs .....	2,146
Ashes .....	2,121
Thawing water pipes .....	1,541
Carelessness (not otherwise reported) .....	1,472
Locomotive sparks .....	1,316
Spontaneous combustion .....	1,168
Explosions (gas) .....	944
Ignition (grease and oil).....	801
Tramps .....	773
Natural gas .....	716
Explosions (oil) .....	696
Children playing with fire.....	642
Electric wires and lights.....	572



## Tenement-Houses

The tenement-house is not a modern institution by any means. So great was the number of such houses in ancient Rome, and so badly were they constructed, that in A. D. 69 the Emperor Otho, who was marching against Vitellius, found his way barred for 20 miles by the ruins of tenement-houses that had been undermined by inundation.

The spontaneous collapse of tenement-houses in those days was so common an occurrence that little attention was paid

to it. The tenants have been described by a writer of the times as constantly fearing to be burned or buried alive.

In comparison with the modern tenements, those of Rome were excessively high. Martial alludes to a poor man, his neighbor, who was obliged to mount 200 steps to reach his garret.

That garret must have been perched nearly 100 feet above the level of the street. Emperor Augustus, to make less frequent the occurrence of disasters, limited the height of new houses that opened upon the streets to about 68 feet.



One or two reed chairs fitted with pretty cretonne cushions is one of the popular ideas in furnishing the living room. They give a restful, artistic touch and are inexpensive.

An out-of-the-ordinary and beautiful effect for a room with a south or west exposure, may be obtained by kalsomining the walls a light grey. The drop ceiling should be tinted a light rose pink.

# "If I Should Build Again"



If I should build again, French doors, nice and wide, would open invitingly from the living room onto the front porch.

The built-in sideboard or buffet would have a china closet on each side.

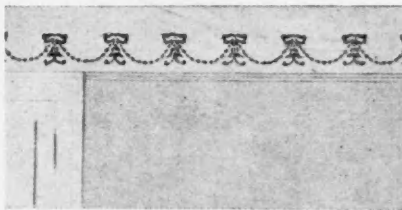
An excellent porch curtain that will last several seasons can be made from a good quality Japanese matting. Cut the strips to the desired length and sew them together. This will last longer and screen the porch better than the average shade sold. I will have one.

# Finishing and Furnishing The New Home



## Brown Best Color for Living Rooms

BEFORE choosing a color scheme for a living room, certain features of that room must be taken into consideration. The size and height of the room have much to do with the problem, as has also the quantity of light.



Correct Decorative Treatment for a Living Room With a High Ceiling

There are comparatively few colors suitable for a living room, but as there are numerous tints that can be obtained from these few colors, the range of selection is wide after all.

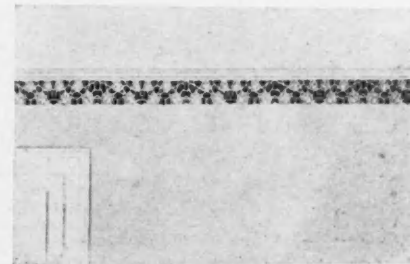
Blues, browns, and greens are the best colors for the customary living room furnishings, and many tapestries used for upholstered furniture contain all shades of these colors.

Brown is classified as a warm color for there is much red and yellow in its

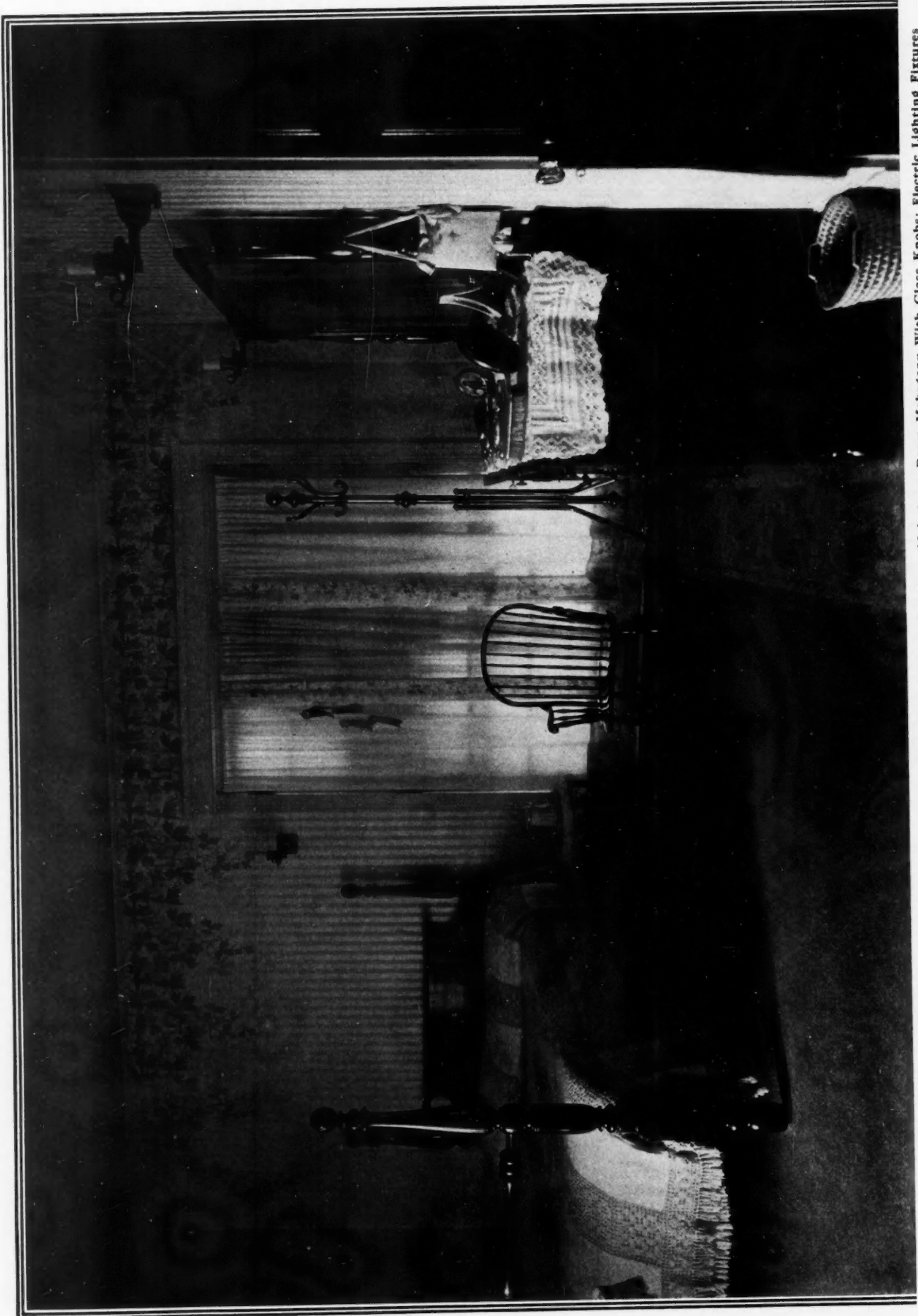
composition, and it is agreeable to most people. Everything blends with it, and as a background for pictures it is especially good.

Brown is really a broken red—broken by the mixing of black into it. Any quality of brown, including the most delicate of tints, can be made by varying the proportion of red and black which are mixed with the white lead.

One may have a golden brown, russet brown, chocolate brown, or leather brown, according to taste. If these shades are too strong and one prefers a lighter treatment, different shades of tan can be used which still keep the same color tone.



Another Appropriate Decorative Treatment for a Living Room With a High Ceiling



Here is a Bed Room of Restful Simplicity and Good Taste. The Finish is all White Enamel; Furniture Mahogany; Doors Mahogany With Glass Knobs; Electric Lighting Fixtures Resemble Antique Candlesticks. This Room is Lighted by Double French Windows Opening onto a Balcony.



Ceilings should be of a cream or cream-white in all cases. A pure white ceiling is cold and unnatural.

The tan produced by mixing golden brown with white lead has a yellowish shade. Chocolate brown mixed with white lead produces a more subdued shade of tan. All tans look well with a cream ceiling.

If a room has a high ceiling, drop the ceiling tint to the top of the door casings. Illustration No. 1 shows a room of this kind. Above the picture moulding in the room shown in Illustration No. 1 is a stencil pattern after the Sheraton style of decoration. It is simple and effective and can be done in quiet

shades of brown, using a touch of soft green for the bow knot.

Another suggestion for this style of room is to place a small band just under the picture moulding (Illustration No. 2). The same colors recommended for Illustration No. 1, a little stronger in tone, can be used here. By keeping the colors soft and aiming to preserve the same tones used on the wall the decorator will avoid making the stencil pattern too prominent a feature of the decorative scheme.

A little study of the blending of tints and shades will help wonderfully in producing artistic results.—*The Dutch Boy Painter.*



### He Paid for Them

"Please wrap up all my purchases," said the grouchy customer.

"Whv. I've done so," replied the grocer.

"Beg pardon, but you haven't," replied the grouchy customer.

"What have I not wrapped?"

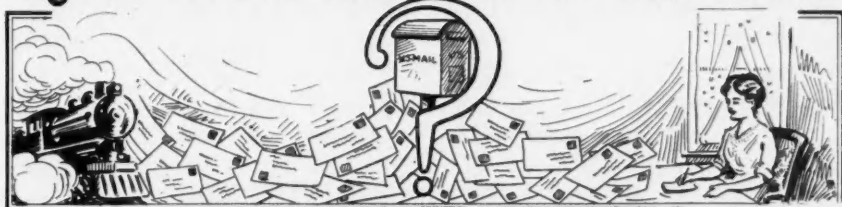
"That thumb of yours you weighed with the butter also the one you weighed with the meat. Wrap them up; I want them for dog meat."

VILLAGE GROCER: "What are you running for, sonny?" Boy: "I'm tryin' to keep two fellers from fightin'." Village Grocer: "Who are the fellows?" Boy: "Bill Perkins and me."—Melbourne Australasian.

### A Solution of the Fresh Air Problem

While doctors and engineers are debating the best means for supplying buildings with fresh air, an idea, shown in the accompanying illustration, is proposed by Judge. The design, according to the artist's idea, provides a solution for the increasing cost of land. Although the building is of the same dimensions as

## Questions Asked and Answered



Inquiries on all subjects pertaining to Home-planning, building, finishing and furnishing will be answered free in this department

### Bungalow Planning

I am planning a bungalow and would appreciate any suggestion you may make regarding the arrangement of the rooms. S. R.

You do not tell us the size of your bungalow, so will assume it is of average proportions with five rooms. A good arrangement is to have the living room at the front running the full width of the house. Back of this on one side are the dining room and kitchen. The other side is taken by the two bedrooms with the bath between. It is a convenience to have the bedrooms open on the bath room.

### Flat Wall Paints

Do you think it a good idea to decorate the entire inside of a house with paint instead of wall paper or kalsomine?

Why not? Painted walls and ceilings are becoming very popular and with good reason. They can be made very beautiful; are serviceable and very sanitary. We have seen some beautiful ideas worked out in this style of decoration. Flat tone wall paints can be had in all colors and with appropriate stenciling are highly decorative. If you wish, we will send you the names of manufacturers who can supply the paints you need. They also sell stencils very cheaply and will give you all the advice you need about interior finishing.

### Estimating Wall Paper

Is there a really simple method of finding how many rolls of paper are required to paper a room? Carpenter-Decorator.

Measure the number of yards around the room. Multiply by two. This represents the number of full length strips.

For each ordinary sized door and window allow two strips each. Deduct this from the first figure and divide the result by five. This will give you the number of double rolls required. Estimating this way, makes allowance enough so that the trimmings will fill in odd spaces above windows, etc. This rule holds good for rooms with seven to nine-foot ceilings.

### Testing the Purity of Turpentine

What is a simple way of testing the purity of turpentine?

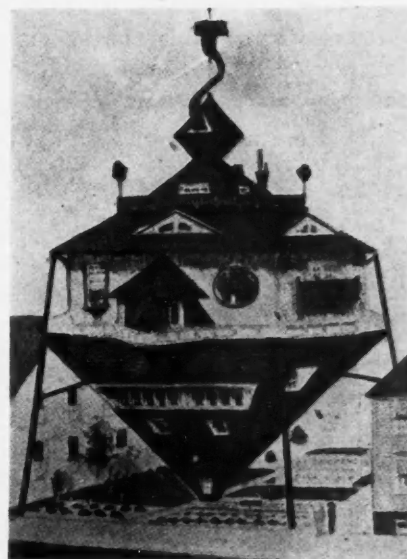
Drop a small quantity of turpentine on a sheet of white paper and expose it to the air. If the turpentine is pure it will evaporate, leaving no trace behind. If foreign matter is present the paper will look greasy and soiled.

### Producing a Frosted Effect on Glass

I have a number of glass transoms which I would like to paint opaque, producing a frosted effect. What is the best method of doing this?

With two-thirds raw boiled linseed oil and one-third pale drying japan, mix finely ground whiting to a creamy consistency and then thin with turpentine to a brushing condition, using a 2½-inch camel's hair brush to apply the whiting mixture.

Then with a ball of cotton waste encased in cloth, go over the glass coated with the mixture, tapping the color softly to bring out the frosted appearance. Better try the process first on a small piece of glass.



Home Built on Small Lot

the lot, it will be noted that ample space is provided for use of most of the land on which the house stands. Vegetable and flower gardens may now be had by all.

Here is a Bed Room of Restful Simplicity and Good Taste. The Finish is all White Enamel; Furniture Mahogany; Doors Brassy with Brass Knobs; Electric Lighting; Electric Receptacles; Double French Windows Opening onto a Balcony. Resemble Antique Candlesticks.



## Noon Hour Talks by the Boss Carpenter

### Talk No. 15

THE BOSS TELLS HOW TO FIGURE THE SIZE OF CONCRETE FOOTINGS AND FOUNDATION WALLS

“YOU fellows have learned how to figure some of the parts of a building above the foundation,” said the Boss one noon, “now let me show you how to find out the size of footings and foundations needed in any given case.

“The logical impression, in building at least, is from the bottom upward, although this rule may not always apply in designing walls and foundations. For instance, it is a better plan to begin at the top and consider all weights which are to be supported and then design our walls and footings accordingly. If in this talk we limit our considerations to the footings and foundation walls for small houses only, we will be in a position to work up gradually to larger structures.

“Except in a few localities where native stone is to be had cheaply, all foundation walls are coming to be of concrete. Builders have found that for strength, warmth, and lasting qualities, foundation and basement work in this material is superior to other forms of construction, while for economy and ease of handling it has a distinct advantage.

“There are a number of types of concrete foundation walls now accepted in general use. Two common kinds for use with buildings of small or medium size are constructed as follows:

First, a poured concrete footing upon which rests a foundation wall of concrete blocks; second, the concrete footing and foundation walls poured together

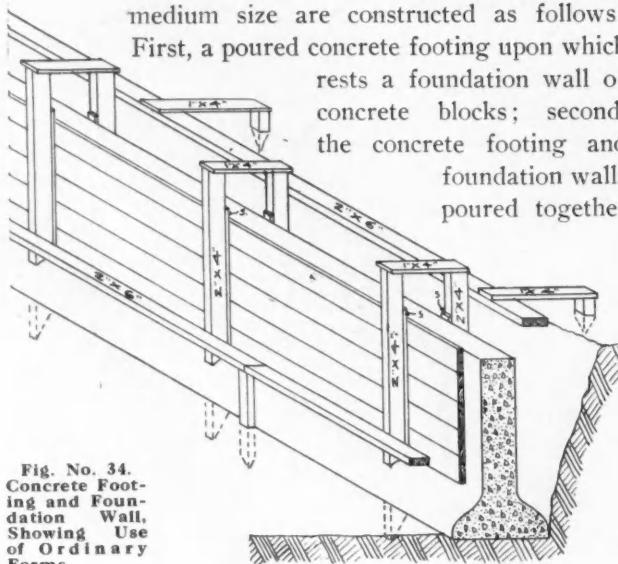


Fig. No. 34.  
Concrete Footing and Foundation Wall, Showing Use of Ordinary Forms

and either extending to first floor level, or stopped at grade line and a concrete block or dressed stone section of wall laid up to the first floor line.

“Excavations for a wall of the first type are made in the usual way, deep enough to provide a footing below frost (3 to 5 feet down). It is well to make the footing twice the width of the wall, and 10 inches thick. If the soil is firm, as it should be, no forms will be needed for this, the concrete being poured into the trench to harden.

“At this point, it may be well to consider the method used in figuring the width of this footing and check the width given above. Determine as near as possible the weights of the different kinds of material in the building, the weight of the concrete foundation walls, and a percent of the allowable floor loads, (40 pounds per square foot in the case of dwellings) and any other weights which are likely to occur, such as wind load and snow load. Consider this total load as uniformly distributed over the footing. To approximate the needed width, it will be necessary to know the allowable bearing power of the soil upon which the footing rests. As a safe guide to this point, the values for different soils given by the New York building code may be used:

- Soft clay ..... 1 ton per sq. ft.
- Ordinary clay and sand together in layers, wet and springy..... 2 tons per sq. ft.
- Loam, clay or fine sand, firm and dry ..... 3 tons per sq. ft.
- Very firm, coarse sand, stiff gravel, or hard clay..... 4 tons per sq. ft.

“Now that this point of bearing power of the soil is settled, we can see that the area of the bottom of the footing in square feet multiplied by the allowable pressure on the soil in pounds per square foot must not be exceeded by the load due to the weight of the building and its contents, together with a due allowance for wind and snow load upon the structure. It will not be far out of the way to add 20 pounds per square foot of area of one floor to take care of the snow load, while the wind load will be a variable quantity depending upon the slope of the roof, and will not cause seri-

ous error if neglected, except in the case of narrow, high buildings. We may then form an equation as follows:

$$lbP = A + B + C$$

where

$l$  = length around center line of footing of building, in feet.

$b$  = width of footing, in feet.

$P$  = allowable bearing pressure, in pounds square foot.

$A$  = dead load on footing, in pounds.

$B$  = allowable loading on floors, in pounds.

$C$  = snow load, and all other loads, in pounds.

Solving for  $b$ , we would obtain our required width which in most cases would be small as compared with the rule given.

"A special large-size block is good for the wall, 8 by 12 by 24 inches. These are laid up in the regular way with Portland cement mortar. When finished, the wall may be thoroughly water-proofed by painting the exterior face with a paint made of Portland cement and water. The inside of the wall should also be finished with a coat of neat cement, or plastered with a mixture of 1 part Portland cement and 2 parts clean, well graded sand.

"The second type or combination wall is very good, especially where the soil is firm; for, in that case, only the inside forms need be used. Excavation is carefully made, stopping just at the outside foundation line; the bank is hollowed back under, for a sloping footing below frost; and the inside forms are set up. Concrete, composed of 1 part cement, 2½ parts sand, and 5 parts crushed stone or gravel, is then carefully shoveled in and tamped solid. This wall will be water-proof, dense, impervious to water, if, before the Portland cement is used, hydrated lime in the proportion of 1 to 10 is thoroughly mixed through it. When this foundation has hardened sufficiently, the upper wall of blocks or dressed stone is laid up in the regular way if such a wall is used.

"If difficulty is met in holding back the earth when the excavation is made for a wall, or if it is desired to extend the wall above grade line, a type of form similar to that shown in Fig. 34 may be used.

"In this form construction, 2 by 4-inch pieces with sharpened ends are driven at frequent intervals into the soil. These should be of sufficient length to allow for the full height of the foundation wall between them. Care should be taken to line them up against and spike to horizontal strip on the bank side so that the wall may be straight. If the wall is of considerable height, more than one liner may be needed. A similar liner should be used as shown on the cellar side of the wall. The tops of these 2 by 4-inch posts should be fastened together at the proper distance by cleats.

"In driving these posts, allow a distance between their inside faces equal to the thickness of wall desired, plus two thicknesses of the boards to be used

for the sides of the forms, and 1¾ inches to provide for two small 7/8-inch strips shown at S.

"These strips are placed as shown, so that they may be easily knocked out when the concrete between the forms has set, and the side boards moved upward to be used for the upper portions of the wall. The work should be carried on in such a manner that these side boards may be changed as soon as the concrete has set hard enough to resist pressure by the thumb. Under ordinary favorable conditions, over night will be a sufficient length of time for setting of the concrete, but in some cases two to four days may be needed.

"In foundation walls which are built in a soil of a loose nature, or where an appreciable amount of side pressure is likely to be exerted against the wall, the slab-like action of this type of wall is an advantage. Taylor and Thompson in their work on 'Concrete, Plain and Reinforced' state the following:

"For a wall of 1:2½:5 Portland cement concrete with a spreading base imbedded in the earth, a thickness of 10 inches will withstand without reinforcing metal a pressure of 6 feet of earth. If the top of the wall is strengthened by wooden sill imbedded in or dogged to the concrete, and the sill is stiffened by floor joists, the wall becomes a slab supported at its bottom by the earth and at its top by the sill. A 6-inch wall 8 feet high will thus withstand the pressure against it of 6 feet of earth. However, ¼-inch rods spaced about 2 feet apart in both directions, will greatly stiffen so thin a wall, and prevent cracks before the concrete is thoroughly hard. If desired, a coping of concrete wider than the wall itself may be formed at the top and a ½-inch rod placed horizontally in its inner face.

"The earth must not be filled in against the back of the wall until three or four weeks after placing, unless portions of the interior forms are left in place and carefully braced."

"Another point to be considered in the design of footings is the allowable projection beyond the wall line on each side. This has been referred to in a previous statement without any attempt at explanation. If it is desired to check the safety of the amount of offset allowed, Formula No. 1, given in Talk No. 1, may be used:

$$\frac{40 \times \frac{1}{12} \times 1 \times h^3}{h} = \frac{P \times 2000}{144} \times \frac{l^2 \times 1}{2}$$

$$\text{or, } \frac{40 h^2}{6} = \frac{P \times 2000}{144} \times \frac{l^2}{2}$$

Where 40 = safe transverse strength of concrete in pounds per square inch.

$h$  = thickness of footing, in inches.

$P$  = allowable soil pressure in tons per square foot.

$l$  = length of projection, in inches.

"This is based on the principle of considering the projecting ledge as a cantilever subjected to a uni-

formly distributed load (as described in Talk No. 6) equal to the allowable soil pressure, and fastened firmly to the surface where it leaves the wall line. In figuring, a strip of footing 1 inch in length along the wall is considered and treated accordingly. If a larger factor of safety is desired, the value 40 may be cut down to 20. This would allow a factor of about 8 on a value of 160 pounds per square inch as the ultimate bending strength of concrete.

"If it is desired to test the thickness of the footing to determine its safety in shear along a surface coincident with the plane of the wall face, the following method may be used:

"The pressure upward on the projection of the footing on one side of the wall must be balanced by the area of the concrete surface where it joins the wall, multiplied by the unit strength of the concrete in shear. Taking a section of wall 1 inch in length, we apply Formula No. 3, which was explained in Talk No. 3. As a result, we obtain

$$50 \times 1 \times h = \frac{P \times 2000}{144} \times 1 \times 1$$

$$\text{or, } 50 h = \frac{P \times 2000}{144} \times 1$$

where 50 is the allowable unit shear in pounds per square inch, and the other letters used have the same meaning as previously expressed.

"Solving for  $h$ , we would have the thickness necessary to prevent failure by shear.

"If it is desired to test the width or thickness of the wall itself as to safety against crushing, apply principles similar to those used in the previous formula. That is, the bottom area of a section of wall 1 inch long and  $t$  inches thick multiplied by a safe unit value of the resistance of concrete to crushing must at least be equal to the number of pounds of load which this strip of wall is to hold. A safe value for the unit crushing strength of concrete is about 400 pounds per square inch.

"The above methods will give an intelligent idea of the manner in which simple structures should be handled. More complicated foundations, or reinforced concrete work will need special treatment which will be described at another time."

## A Country Store Front That Gets the Money

By James F. Hobart, M. E.

**T**HE store front represented by the following illustrations is in the bright town of Wadsworth, Medina County, Ohio. The population is about 3,000, and increasing rapidly owing to development of independent match manufacturing at that place. The store here illustrated is upon the principal street of the village. It was erected in 1895 by its owner, who was his own architect—Mr. Ira H. Rasor, a contracting painter.

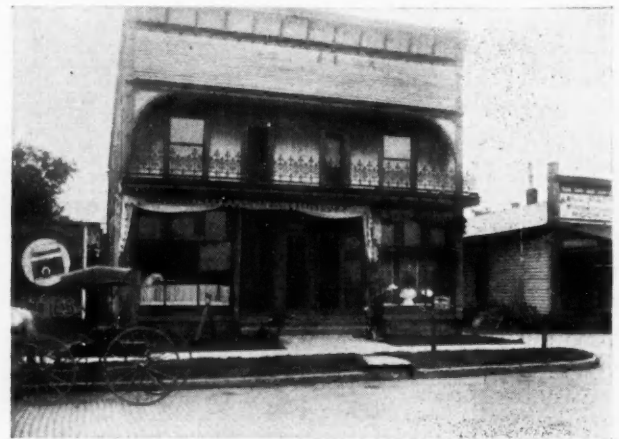
The structure is of ordinary balloon frame construction, covered with novelty siding and has a flat felt roof. The foundations are of native limestone, rough-hammered, a one time much used foundation material, but now relegated to "innocuous desuetude" in favor of concrete which can be made and put in place at less cost than quarrying the native stone within two miles of a building site.

The lower story has its front entirely accupied by doors, three of them, and two very large show windows. The store doors are placed upon a small angle with the windows, an arrangement which adds a whole lot to the porch room and detracts very little from the store room and actually adds to the good appearance of the interior. The second story front is finished with vertical matched sheathing. The front above the second story is covered with lap siding, the lower edge of each being slightly clipped to resemble shingles. The final finish of the front is merely a thin plank scroll, nailed to the projecting cornice which is arranged between end-brackets and presents the appear-

ance of a row of panelled brackets extending entirely across the top of the building.

The hood over the store windows is entirely free of brackets, posts, or other "visible means of support." This gives the wide awnings free swing across the entire front, and makes the awnings look as though they were a part of the store instead of, as in some instances, appearing as objectionable additions which detract materially from the appearance of the structure. But the awnings look well on this building, and present fully as pleasing appearance when they are down, as when pulled up.

It will be noted that the window hood also forms the floor of the second story porch, which is a sort of combined open piazza, and built-in porch.



This Country Store Has a Wide Inviting Entrance and Big Display Windows

Not quite one-half the width of porch is framed into the building. In fact, the line of partition is placed exactly above the door leading to the stairway.

A detail is also visible of the light wrought iron fence which closes three sides of the otherwise open second story porch. It is the opinion of the writer that the presence of this fence is one of the things which renders this store front of so pleasing a character. It is usual to close the front of a porch of this character with a rather heavy, built-in place wooden ballustrading, or to fill the space between corner and division posts with jig-sawn board ballusters cut-in between the posts and rails. This treatment necessarily presents a heavy appearance which demands the presence of posts below to support the mass of upper porch, then more posts seem necessary above, to lead to some "leaving-off place" somewhere below the skyline. But in this front, the very lightness of the window hood lends novelty to the situation.

The window hood and porch floor is so thin and slight that seen from across the street, is almost invisible, and hardly noticeable. The light lace-work of the iron fence is nicely set off by the drapery of awning material just below the floor, while the eye is easily and naturally led to the pleasing finish of the upper portion of the store front. Certainly this treatment of the country store building appeals to the writer as being very far ahead of the conventional post and piazza method, with its heavy members and costly construction. The execution is so simple that there is hardly anything about the front which is expensive. The floor of the second story porch is covered with very heavy felt roofing, well fastened, and heavily coated with roofing paint, and kept coated therewith, so that all the wear comes upon the paint coating, and none upon the felt itself. Hence, the floor coating will never wear out as long as the paint brush is kept going.

For the show windows combination wooden sash are



The Interior is Extra Well Lighted



City Merchants Have Learned That Their Windows are Their Best Ads

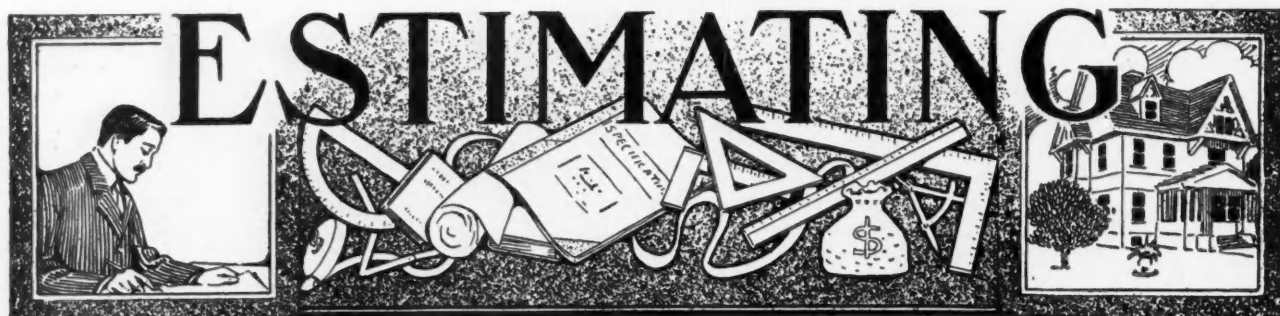
used, the lower portion being divided by two mountings to permit of using comparatively small glass while obtaining the effect of a very large window opening.

The upper portion of the window is very effectually set off by the arrangement of small colored panes of glass. The window is placed entirely beyond the reach of any weight of building or contents above, the entire weight of the building front being carried in another plane, several feet in rear of the glass surface, the weight of front side walls and roof being carried directly by the corner posts of the building, which are independent of the window frame construction. The weight of middle of floor and upper portion of front, is directly in line with, and is carried by, the partition and posts in which the up-stairs doors are placed. This relieves the window construction from the necessity of being designed to carry any weight except its own, therefore, very light window frame construction was possible, and the window with many pieces of glass was made possible and practical.

The amount of light space available in these windows is very large. In fact, when viewed from the inside, it seems as though the entire front of the store were of glass—which indeed is almost the case. In fact, the window lighting is very good and leaves little to be desired. The doors being large, high, and also well supplied with glass, seem hardly to detract anything from the front lighting, even when they are closed.

The stores are quite high—high enough, in fact, and taken all in all, this arrangement of a country store front seems well worth attention from those who desire structures with pleasing fronts at a cost less, if anything, than the usual store fronts seen in various parts of the country.

Never patch a dry piece of concrete and then let the finish dry out. You cannot get a hard surface without plenty of water, and keeping it wet for at least a week and keeping wear off for that length of time.



## Why Contractors Go Broke

UNFAIR AND UNNECESSARY HAZARDS IN THE SYSTEM OF DRAWING PLANS AND SPECIFICATIONS FOR BUILDING CONTRACTS

By J. M. Vollmer

Secretary of the Builders Exchange, Louisville, Ky.

RECENT investigation has developed the fact that most of the financial failures in building and construction work are caused by omissions, errors, and obscurities, and by the unrestricted power of interpretation in building and engineering specifications, commonly given the architect. This power is generally so sweeping and variable that it is impossible to anticipate how its exercise will ultimately result. It has been found that these failures are in most cases the result of the contractor being forced by this drastic power of interpretation to supply labor and material not originally contemplated.

### Are These Unreasonable?

In specifications the following phrases are met with daily:

"His decision in all matters shall be final and binding upon the contractor."

"His decision as to quality and quantity shall be final upon the contractor."

Why should any matter of quantity or quality be left open for decision when they can easily be fixed with mathematical precision, and should be before the purchase price is determined?

"Details to be furnished later."

It is possible in most cases to prepare details before the contract is let. Why not do it?

"All matters of controversy or disputes of whatsoever kind that arise shall be determined by the architect or engineer, and his decision shall be final and binding upon all parties.

"Their decision (the architects') as to any and all questions, matters and things, and in construing any of the terms and provisions of this contract (the specifications are made a part of the contract) shall have the force and effect of an award, and shall be final, binding and conclusive to all intents and purposes, and in all places, upon the parties herto."

Such unreasonable and unnecessary authority to be exercised without limitation or restraint by a single individual is wholly unknown in any other line of business or profession.

*The leaders of The Builders' Exchange, of Louisville, Kentucky, have for some time been vigorously pushing this proposition for the standardization of plans and specifications in order to eliminate unnecessary hazards. This is a subject of vital importance to the building and commercial industries. It is encouraging to note that this proposition has already been endorsed by 85 per cent of the building organizations, as well as by the Surety Agents, and the National Association of Credit Men.*

The ultimate tribunal should be impartial, upon which the contractors and furnishers of materials should have representation. Either party should be able to bring questions involving the exercise of discretion under the contract before a tribunal of arbitration where the rights of both parties would be looked upon from an equal standpoint.

The first essential of a specification is that the exact work to be done should be precisely defined, but many specifications deal in generalities and comprehensive clauses, failing to state specifically the actual amount of work to be done, or the exact nature of the obligation to be assumed. This leaves many items in the specifications to be further construed, and the architect or engineer may be a "Loose Constructionist," in which case undue liberties may be taken with the contractor, or owner, or concern supplying material, and often this is carried to great extremes.

The most astonishing phase of this situation is that the conditions herein referred to are absolutely unnecessary, causing enormous loss, friction, litigation and general unsatisfactory results, but benefit no one. This condition denies many an owner the extended competition, the low price and the proper representation to which he is entitled.

One of the most serious effects of the present system is that it constitutes a tribunal with despotic and unlimited authority, upon whose favor or disfavor rests the success or non-success of the performance of a contract or furnishing material depends.

### Builders Now Responsible Business Men

The present system employed in the preparation of contracts and specifications is a relic of antiquity and is an outgrowth of the practice established years ago when the builder was merely a mechanic, working under the personal direction of the engineer or architect, where small amounts of money were involved.

Under these circumstances, the contractor was practically, if not actually, the employee of the owner.

This is the day of heavy contracting and construction operations, when large amounts of capital are involved, and yet we are attempting to proceed under the obsolete methods, which were possibly sufficient for primitive conditions, but are absolutely inadequate and out of date now.

The idea that most losses and a large per cent of the failures in the construction and material business occur by pricing the work too low is found to be erroneous. The facts when investigated show that in nearly every case the severe losses can be traced to some arbitrary or unwarranted position of the author of the specifications, many times in remedying his own errors, or from a drastic interpretation of some clauses that are left very indefinite in preparing the specifications.

This condition affects contractors, builders, material supply houses, manufacturers of building materials, concerns furnishing materials or installing them, plumbing and steamfitting supplies, electrical equipment, cement, steel, stone, and all of the many ramifications that enter into the materials for building or engineering projects. Inasmuch as this includes all buildings and railroad construction, county roads, streets, sewers, waterworks, etc., it is of itself the largest of any one commercial line in the United States today.

### Builders' Failures Due to Two Causes

The result of this investigation indicates that there are two principal underlying causes for this condition.

*First.*—The lack of clear, accurate and standard conditions and detail description in preparing plans and specifications and design materials.

*Second.*—The making of the architect and engineer the final judge of all matters, including his own acts, which destroys incentive to faithful service and prevents careful preparation of specifications and plans, since he is not held responsible for errors, being the final judge of them.

As a remedy for this condition, five propositions are submitted, as follows:

1. To define accurately and to standardize, wherever practicable, plans and specifications in order to eliminate unnecessary hazards and uncertainties in construction contracts.
2. To reduce the cost of improvement to the owner.
3. To give the contractors and surety companies a proper understanding of the obligations they assume.
4. To establish contracting and suretyship on a more stable and definite basis.
5. To provide for the settlement of differences by some equitable, constituted authority.

There is also a general demand for a law similar to the one in effect in Pennsylvania, which is as follows:

"That no provision in any contract providing either in express words or in substance and effect, that an award or appraisal of an engineer, architect, or other person shall be final or conclusive, nor any provision that a certificate of an engineer, architect, or other person shall be a condition precedent to maintaining an action on such contract, shall oust the jurisdiction of the courts, but any controversy arising on any contract containing such provisions, or any

of them, shall be determined in due course of law, with the same effect as if such provision were not in such contract."

This suggested relief has been endorsed by many commercial and business exchanges, both national and state, by individuals, bankers, commercial houses, companies making loans on improvements, and many other important commercial organizations.

### Credit and Financial Standing Uncertain

Credit men were parties to this original movement, the National Association at Cincinnati recognized its importance, and that this proposition has a direct and important influence upon the credit of all commerce connected with materials used in the erection of buildings and engineering projects, also affecting owners who are so often confronted with the necessity of an unexpected outlay of investment.

Since a large fractional part of the commerce of this country is in building and engineering operations, it makes this proposition an important matter, if not the most important, to consider in connection with credits. The National Association of Credit Men passed a resolution unanimously endorsing the movement, and requested state organizations to use their best efforts to have a law enacted in each of their respective states similar to the law in Pennsylvania, and take other necessary steps to cure this evil.

The uncertainties, ambiguities and lack of business methods that are shown to be common practice in the building business today are astonishing; the understanding of this ancient and hazardous method is of most vital importance to credit men, as they are daily dealing with business based upon the conditions set forth herein.

This investigation explains why so many men in lines allied to the construction business make promises of payment in perfectly good faith, depending upon the fact that they have supplied material or executed work in strict conformity with agreements and good practice, which should be precedent to making the payment due. Yet when they go to get their orders on the owner for the money, instead is received a rejection of the material or labor because it is not to someone's "satisfaction"—this satisfaction being a condition of the specification and exercised without restraint.

### Standards to be Established

It is proposed to establish a standard for work and material, instead of leaving these important matters open to the uncertainty of someone's "approval" without any restraint, limitation, or specific definitions.

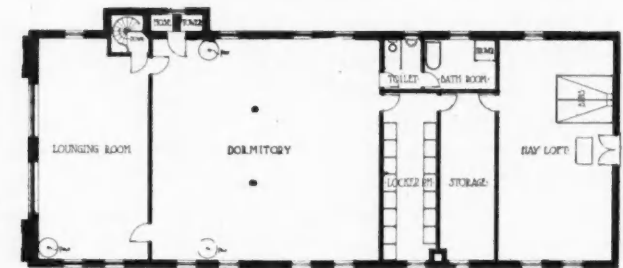
The amount of money lost annually by reason of the obsolete conditions described is very large. The fact of a firm's high financial standing is of little value when these conditions are encountered. During the course of investigation into this subject one case was found where a profit of two hundred thousand dollars on a contract was changed to a quarter of a million dollars loss due to loose specifications and arbitrary decisions.

### New Fire Station, Hawthorne, Illinois

IN spite of the fact that a fire station is a structure of considerable importance, there has perhaps been no type of building which has been so universally neglected and so poorly designed. While the main factor to be considered in the planning of this type of building is a utilitarian one, it is not therefore necessary to neglect entirely the artistic side. In fact the opportunities presented in designing a fire station so that it will be an object of civic pride are so many that there can be no excuse for disregarding them.



Main Floor Plan



Second Floor Plan

The New Hawthorne Fire Station recently completed at Cicero, Illinois, of which the accompanying illustration will give some idea, is an instance in which the possibilities of the design have been taken advantage of.

The exterior is faced with a warm golden brown matt brick, laid in mortar of a somewhat deeper shade and relieved by cut Bedford stone trimmings and a

green glazed terra-cotta tile roof.

The first floor is, of course, devoted entirely to the apparatus room and stable, with the interior lined from floor to ceiling with white enameled brick and having a steel ceiling. By using heavy steel box girders to sustain the weight of the second story the necessity for intermediate supports has been done away with, leaving an unobstructed space for the accommodation of a complete and up-to-date fire-fighting equipment.

On the second floor, reached by a circular iron stair-

case, are located the spacious lounging room and dormitory for the men, with bath, toilet, and locker rooms in connection. Three polished brass poles from various parts of the second floor provide quick and easy access to the apparatus room below.

In the rear, directly over the stable, is the hay loft, arranged so as to accommodate a considerable amount of feed and equipped with two metal lined oat bins.



NEW FIRE STATION JUST COMPLETED AT HAWTHORNE, CICERO, ILL.  
G. W. Ashby, of Chicago, Architect

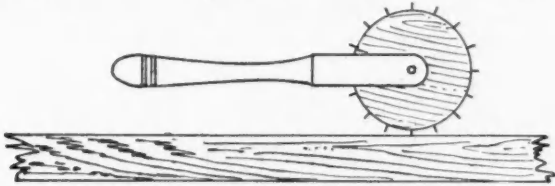


# More Shop Kinks

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

By Wm. C. Jasbury

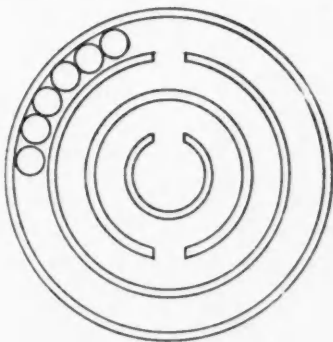
**A MEASURING DEVICE.** I saw a new one this past week, while crude in a way, it did the work and may be an inspiration to some one who is making or doing similar work. In the ordinary bookcase, or medicine cabinet, the shelves are supported on iron or other metal pins. The pins are in holes, in the ends of the case, 1 inch apart on centers. This allows the



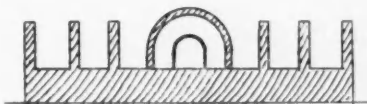
Prick Marks Show Where to Bore for Shelf Pins

shelves to be raised or lowered to fit any height of book or bottle. These holes are usually bored in on a machine singly, sometimes by hand. To space off these holes is some tedious job. The rig I saw a man using, was a wood wheel with a handle on it. In the edge or periphery, he had brads driven in and sharpened to a point. He run this appliance along a line similar to the way a blacksmith runs his measure wheel around a tire, except every time this wheel made a move, it would make a hole in the board where the hole was to be; this appliance had been used for some time and is still in use.

**PIGS IN CLOVER.** Some years ago when I was working as a turner, the Pigs and Clover puzzle came out and "everybody was doing it." I made many of them on the lathe for the mill men and here is the how. Take a disc 1 1/8 inches thick and 5 inches in diameter and turn square channels in the face—say, 1/4 inch deep, leaving 1/8-inch partition. The center space was turned out so that the small



PLAN.

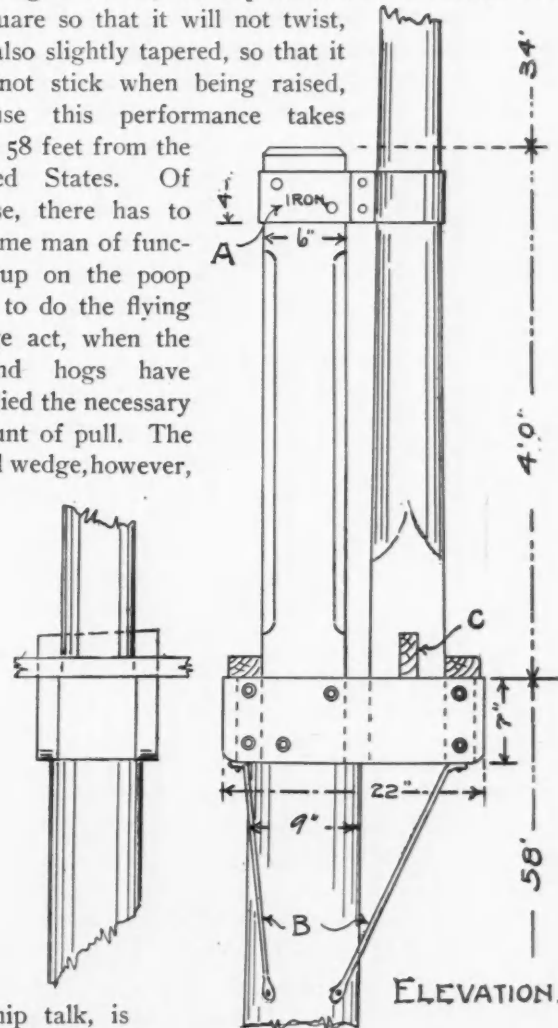


SECTION.  
Pigs in Clover

house can be glued there later. Then small portions of the partition or fence is cut through same as a gate through a fence, one in each circle opposite each other. Small marbles on "miggs" are used, six of them. The idea is to get them all in the center at the same time.

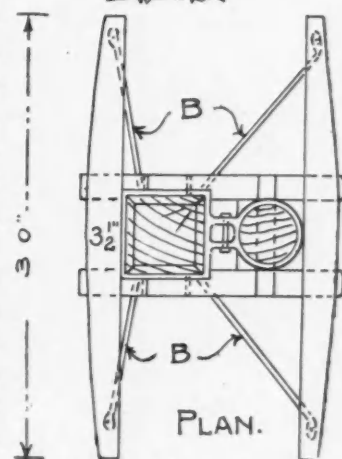
**GETTING UP SOME IN THE WORLD.** I will now go up in the air, i.e., figuratively. Sometime back I had an order for a 96-foot flag pole to be made, mast fashion, or a regular cross tree affair. My knowledge

of cross trees and masts being somewhat limited, I threw in my clutch and got next to an old spar maker. He made me a model of said cross tree, 1 1/2-inch scale. I did the job after procuring the necessary iron sleeve, A, and the four braces, B. The wedge, C, is pulled out when the top mast is let down in the fall (not let fall) but lowered when the rough weather is at the bat. The cross trees and other budley socks are made of oak, the mast proper and top mast are made of Washington cedar, the top mast at the bottom end is square so that it will not twist, and also slightly tapered, so that it will not stick when being raised, because this performance takes place 58 feet from the United States. Of course, there has to be some man of function up on the poop deck to do the flying wedge act, when the ground hogs have supplied the necessary amount of pull. The wood wedge, however,



ELEVATION.

in ship talk, is not a plain, ordinary wedge; they (or he rather) called it a Phid. Unless I am on the wrong side of the road, he is the fellow that put the Phid in fiddle. I am so pleased with my sketch of this flag pole, I let my pipe go out while looking it over.



PLAN.

Jasbury's Flag Staff Detail Sketch



## Hot Water System with Generator

HOT WATER CIRCULATES UNDER TEN POUNDS PRESSURE—THE GENERATOR SOMETIMES A LIFE SAVER  
By Cecil F. Herington

"SINCE I have gotten into hot water heating," began the Old Builder, "several of those interested have made inquiries concerning hot water generators, as to whether their use is advisable, if they accomplish all that their manufacturers claim, and if it is really safe to put in hot water radiators of only the same amount of surface as steam when a generator is used. In order to appreciate the advantages as well as the limitations of generators, let us first take a look at one of the common types and see just what a generator can accomplish.

"The basic idea of all generators is to exert a pressure on the hot water system when the temperature rises; and the result of such a pressure is to raise the boiling point of the water so that the radiators will become more efficient per square foot (owing to the higher temperature) and to permit a reduction in the amount of radiator surface required to supply the same amount of heat.

### Two Jobs Inspected

"It was a long time before I could be made to see the advantages of a generator and just why it should exert such a beneficial influence on a hot water system—I thought it was a new wrinkle on which to spend money. Well, to make assurance doubly sure, I went around and took a look at a couple of installations where they had been put in; one of these was an entirely new system with small radiators apparently only about large enough for the use of steam, and the other was an old system with large radiators on which the circulation had been very poor, owing to restricted connections that the hot water fitter had used.

"Well, I found that when the draughts were opened up on the new system, the water heated up to 240 degrees through the extra pressure on the gauge of 10 pounds which the generator exerted and which prevented the water from boiling in the system. Naturally, under these conditions the water in the radiators had an average of about 230 degrees in temperature or just as hot as 6 pounds of steam would have made them.

"Of course, we know from our discussion of steam heating that the higher the pressure the hotter the steam; but the thing that was not emphasized is the fact that the water producing the steam is of the same temperature as the steam produced, so that when you are producing steam at 6 lbs. pressure, the steam will have a temperature of approximately 230 degrees and *so also will the water producing the steam.* In other words, water under 6 lbs. pressure will not produce steam until raised to about 230 degrees, and if under 10 lbs. pressure it must be raised to about 240 degrees before it will boil.

"On the old system, with sluggish circulation, I found that the raising of the temperature on the supply made a greater difference between the average temperature of the supply and return columns so that the hot column was much lighter; consequently it rose with greater force and the circulation was vastly improved.

### Is It Safe?

"The first question that was suggested to me when I saw these two systems working with the generators, was, whether it was safe to exert such a pressure on a hot water system, and if there is not a liability of

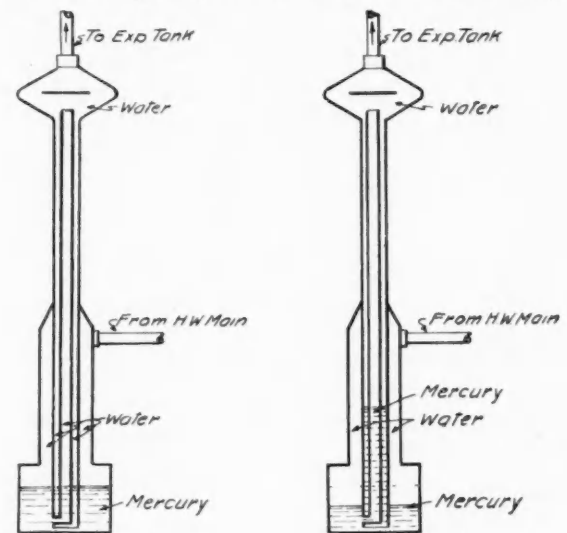


Fig. 1  
Fig. 2  
Operation of Pressure Generator

explosion. I knew that no hot water system should have a stop valve in the expansion pipe since any one starting up the fire with such a valve shut would wreck the system as soon as the hot water began to expand, as there would be no place for the expanded amount to go. So I was more or less skeptical as to the safety of installing any device on the expansion pipe that could in any way interfere with the free escape and return of the water.

### How the Generator Works

"On the next hot water heating job I put in, I bought one of the most popular makes of generators and took it apart to see just what liability there was of having it clog up, or refuse to work. I found out that the generator was built inside very closely after the way I have indicated in Fig. 1, there being absolutely no valves or mechanism whatsoever. I could not see how any such arrangement as this was going to exert any pressure on the system until I found out that the bottom was filled with mercury—more commonly called 'quick silver'—so that the water of expansion coming in to the generator from the hot water main through the pipe about half way up the side, drops down onto the top of the mercury.

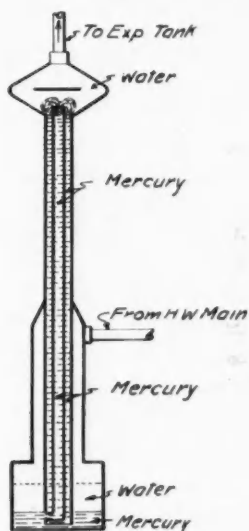


Fig. 3. Generator at Maximum Pressure

"It didn't take me long to reason out that owing to the fact that the mercury is very heavy—much heavier than water, in fact—the water would float on top of the mercury instead of passing down into the bottom of the chamber and as the pressure of expansion increased it would force down the top of the mercury by driving the lower part of the mercury up the double pipe into the top of the apparatus.

"As the rising of the mercury in the two central pipes caused a back pressure, we have conditions when it has risen, say 6 inches in the tubes, as illustrated in Fig. 2. The dotted line in the bottom of the chamber shows the original level of the mercury and the 6-inch column in the tubes shows that a back pressure is being exerted of about 3 lbs. As yet none of the water has escaped through the generator room, for its expansion being provided by the falling of the mercury in the lower chamber.

"This goes on until the mercury reaches the top of the opening into the middle tube, at which time the whole surface in the lower chamber is depressed until it is level with the top of the small opening into the center pipe, as shown in Fig. 3. When things are in this state the generator is exerting its maximum pressure on the system, which pressure is of course en-

tirely determined by the height of the tubes. Expansion of the water increases beyond this point and the top of the mercury in the lower chamber sinks until the water leaks into the small opening of the inner tube and a bubble or 'slug' of water rises up the inner tube, driving the mercury before it, and establishing a mercury circulation on rising in the inner tube as the water comes through and falling in the outer tube to take the place of the rising mercury in the lower chamber.

"In this manner water is allowed to pass through the generator and on, up, into the expansion tank, without destroying the mercury pressure and without the use of any valves or weights, and returns by a somewhat similar method.

"There are, of course, other types of generators employing weighted valves or pneumatic tanks, but in these there is danger of the parts sticking or of inadequate capacity, whereas the mercury seal will allow almost any amount of water to pass through without destroying its action and without danger of failure to work.

### Do Not Cut Down Radiator or Boiler Sizes

"If the value of my experience is of any use, I might say that I consider it still a little foolhardy for a builder to try and cut down his radiator sizes to those ordinarily used for steam and reduce his pipe mains since a small error in judgment by the hot water fitter may result in much poorer results than expected. When the system has been installed of ordinary size and a poor circulation results, you can put on a generator and it will be a regular life saver; but if the system has been laid out originally so as to require a generator and some such trouble is encountered, there is no remedy left except to tear out and repipe—a most expensive and extravagant procedure.

"Don't let anyone tell you that you can reduce your boiler sides with a generator—you can't! It takes just as much heat to warm your house as before and you must burn the same amount of coal. But as a help to circulation the generator is a great thing, and no hot water system is so perfect that it cannot be improved by the addition of such a device.

"Ordinarily I install these generators as shown in Fig. 4, with a valved bypass above, so as only to throw the generator into circuit in the extreme months—its use in mild weather is of course unnecessary. Note on this scheme that there is no valve in the expansion pipe, a thing for which you should always look out.

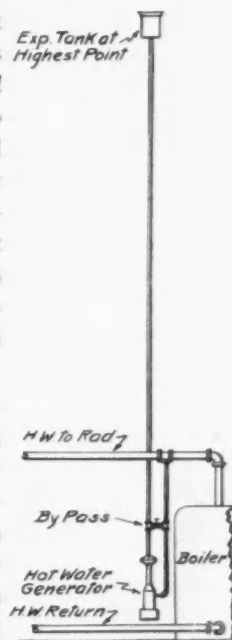
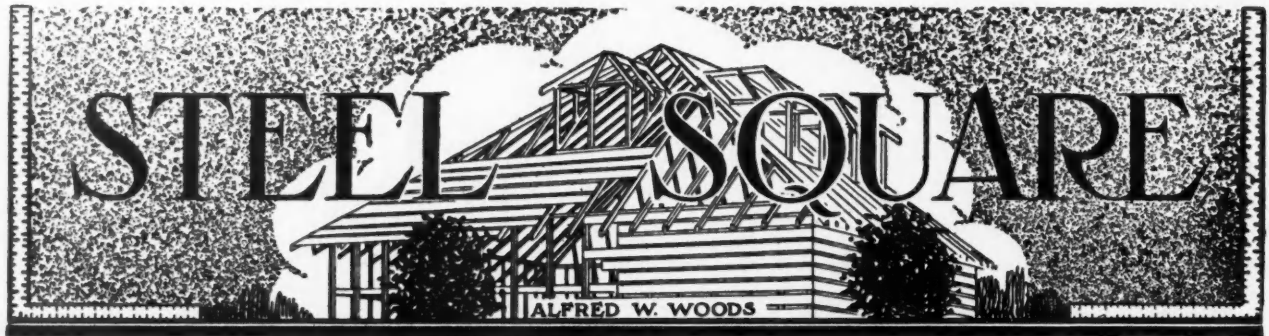


Fig. 4. Piping Diagram of Hot Water Generator System



## Possibilities of the Steel Square

ILLUSTRATING CIRCULAR MEASURE BY MEANS OF THE COMPASS—THE RELATION OF THE STEEL SQUARE TO CIRCULAR MEASURE

By A. W. Woods

**T**HE first illustration might be taken for our native sunflower; but is not. It was too hot and dry for them to bloom this year. But on the contrary it is made up of a number of true circles of equal diameter, so arranged as to divide the given circle into an equal number of parts. (See the dotted circle), thus using the circle to solve the equal divisions of its own circumference, which forms the basis for circular measurement. This is an old form of measurement, perfected thousands of years ago, and has stood the test of time; as far as we have been able to find, history gives credit to the Greeks for first bringing it into use.

### What is it Used For?

The divisions of the earth on which we live, are reckoned by circular measure; the mariner on the high seas by its use, in connection with his compass, can know where he is in reference to any other given place and can guide his way accordingly. These divisions are called degrees; there are 360 of them; and these are sub-divided into 60 parts called minutes, and

these are again divided into 60 parts called seconds. But these sub-divisions are not brought into use in building work. The divisions of the circle shown in the example are ten degrees apart; it contains thirty-seven circles, including the dotted circle on which the index points are located. Just imagine what kind of a figure it would make if all the degrees were represented on the circle.

### Where the Steel Square Comes In

But we fancy we hear the cries from a thousand throats, saying,—“What has all of this to do with carpentry and joinery work and the steel square in particular?” It has this; the angles are determined by the divisions of the circle in relation to its center, as shown in the second illustration. Here are shown the three, four and six-sided polygons wrought by the use of the compass. From this, it can be seen that any sided polygon can be determined by simply inscribing enough arcs; thus to complete the circle divided into 360 parts, it would require that many arcs; but mind

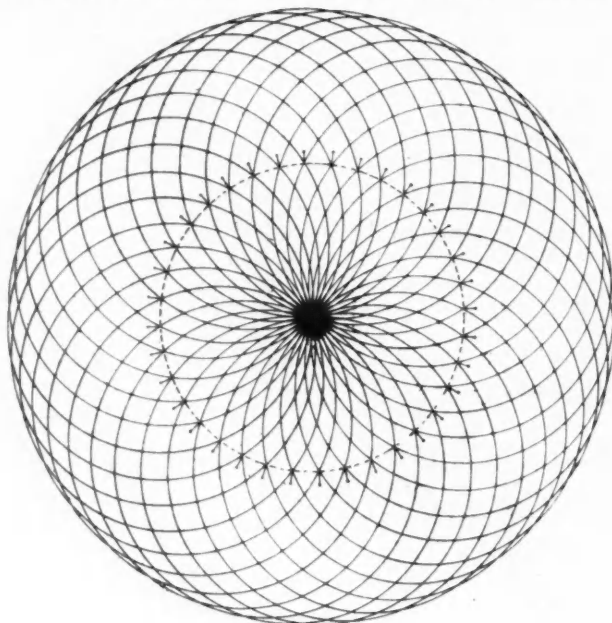


FIG. 1

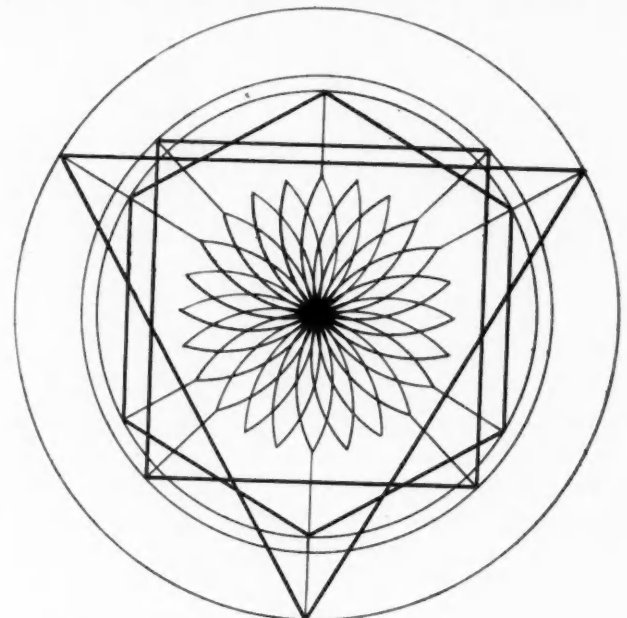


FIG. 2

you, we do not claim this to be the best way to find these divisions, but merely to show what might be accomplished with the carpenter's compass, or dividers as more generally called, a tool to be found in every up-to-date workman's tool chest. The divisions thus found on the circle represent the angle in degrees from its center that the miter rests with the adjacent miter of the polygon; and one-half of the above taken on the stock or material, will give the miter.

Thus the angle formed by the miters of a four-sided polygon stand at 90 degrees with each other, and the angle of 45 degrees taken on the steel square from

the edge of the stock will give the required miter.

Therefore, the steel square is then only a secondary instrument to the divisions of the circle as far as finding the miters is concerned; and by letting 12 represent the unit of measurement on one of its arms the point of intersection of the angle on the other arm will represent the tangent and at once forms a calculation basis that is far reaching in the framing of the roofs, finding areas, etc. Nevertheless, the steel square is a great instrument but it should be remembered that after all, it is largely a reading instrument in conjunction with calculations based on the circle.

## The Builders Exchange a Live Wire Benefit

GOOD RECORD OF ACTIVITIES AND ACCOMPLISHMENTS MADE BY PRESENT DAY BUILDERS' ORGANIZATION

By John A. Kelley

Sec'y. The Builders and Traders Exchange, Columbus, Ohio

**B**UILDERS' Exchanges of today, established and operating as they are in all parts of the country, have come to be more efficient and more important not only to the building fraternity but to the public at large, than ever before. In many instances we find the builders' exchanges more active than the chamber of commerce of a municipality. Considering the millions of dollars invested in the building industry in all of the larger cities it is not unusual that the organization representing these contracting and material companies should take an aggressive interest in the development of a city. Upon the development and growth of a city depends the building business, as a matter of course.

By advocating progressive measures for a city, the Builders' Exchange merely carries out a natural function. At random, we might mention the Cleveland, Detroit, Boston, Spokane, or even our own association in Columbus, Ohio, each of which is active in municipal and state affairs. Gaining favorable publicity in this way, the public comes to regard the Exchange as an institution for good. The public learns that the Exchanges offer a medium, also, to enter into relations with a contractor and that the existence of such an association lends "stability to the general body politic." This fact makes for an advertisement for each and every member of an Exchange, more especially for the officers of the organization and the heads of committees. I have known of many builders who gained fame and business by being at the head of a lively Builders' Exchange.

It used to be that the Builders' Exchanges furnished a loafing place for the members and aside from a few arguments over labor matters, the sole function of the Exchange seemed to be to keep the members from meeting in a saloon, to transact business. I remember how galling it was to me upon one occasion, shortly after I became secretary of the Columbus organization to hear the founder of the association, addressing the members at a big banquet, in which he stated that the Exchange "was started as a loafing place for the boys in the winter time." Contrasting this statement, however, is certainly an indication of the progress that has been made in twenty years.



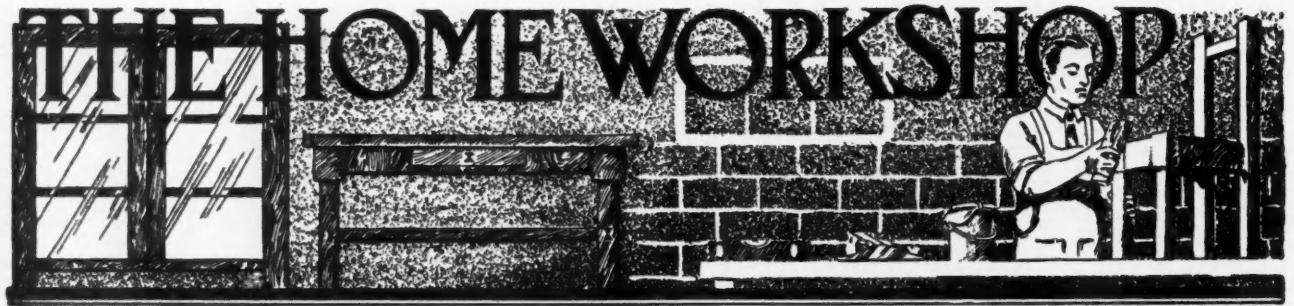
John A. Kelley

The Builders' Exchange of today usually is located in a modern office building, occupying one or two floors, with exhibit departments, desks and office space for members, big assembly rooms, free employment bureaus and many other features indicative of a mightily healthy activity. In Columbus we also have a well appointed dining room where we serve a noon day lunch as an attraction for the Exchange Hour in order to get the members together at a certain time each day. Another very important feature is the plan room where the architects and the public file their plans. We had close to \$10,000,000 worth of buildings, in plans, pass through our Exchange last year. Every architect in Columbus sends his plans to the Exchange unless the owner invites certain contractors and even then the plans are filed with us in order to facilitate the matter of getting sub-contractors to figure.

Only recently have the builders come to the conclusion that it was necessary to have a manager of the Exchange rather than a clerk, or bookkeeper. Today, however, you will find that the secretaries of nearly all of the larger Exchanges are high salaried men. In Boston, Cleveland and Detroit, the secretaries draw \$5000 per annum and more. These men do not bother with the routine details of the office, but have a corps of assistants. The secretary of a big Exchange has a private office where he is at work on bigger things, arranging to land the governor of the State for a speech, or working out the plans of a campaign for better buildings or a Civic Center or getting ready the subject matter for a general conference with the local chapter of the American Institute of Architects. In Columbus we recently helped to frame and pass a Housing Code, regulating the construction and maintenance of tenements, providing for yard and breathing space and light in all such buildings. At this writing we are completing arrangements with the Board of Education for the establishment of a brick laying school at the Columbus Trades School.

To belong to one of the lively Builders' Exchanges nowadays is to be constantly reminded of the organization. First comes a notice for a lecture on how to figure costs and then the liability commission chairman speaks on employers liabil-

(Continued to Page 63)

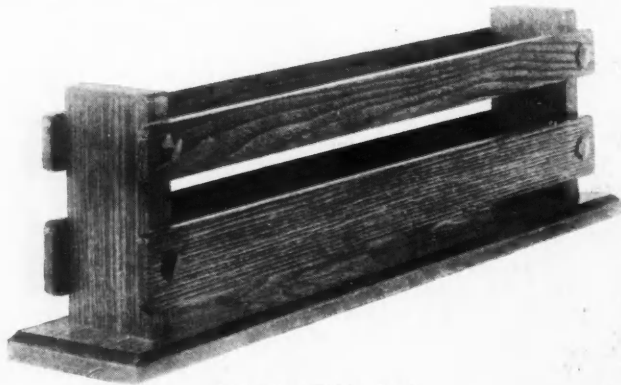


## Two Easily Made Pieces of Furniture

COMPLETE DIRECTIONS FOR MAKING AND FINISHING A MAGAZINE RACK AND A LAUNDRY BOX

By Ira S. Griffith

**T**HE little rack for magazines is suggested as a piece suitable for the grammar school boy just beginning his woodwork. If oak is too hard for his muscles he may make it of chestnut. This wood will be found to give just as nice a finish as oak when finished so that the grain shows and is



Magazine Table Rack

so soft that any boy of grammar school age may work it. In fact, it is so soft that it is not used much for furniture. On a piece such as this, however, where there is little chance for the wood to become marred it will serve the purpose just as well as oak. The following pieces are needed:

### STOCK BILL FOR MAGAZINE RACK.

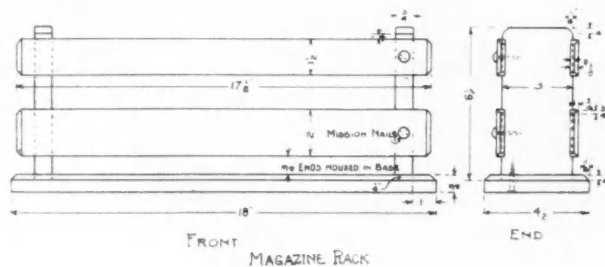
Bottom, 1 piece,  $\frac{3}{4}$  by  $4\frac{3}{4}$  by  $18\frac{1}{2}$  inches, S-2-S.

Ends, 2 pieces,  $\frac{3}{4}$  by  $3\frac{3}{4}$  by 7 inches, S-2-S.

Rails, 2 pieces,  $\frac{3}{8}$  by  $2\frac{1}{4}$  by 18 inches, S-2-S.

Rails, 2 pieces,  $\frac{3}{8}$  by  $1\frac{3}{4}$  by 18 inches, S-2-S.

Square up the bottom to the size shown in the drawing. Before working the chamfer, lay off and chisel the grooves for the ends. These grooves should be laid off so as to take in the whole end of the piece. Lay them off carefully with knife and gauge and chisel to depth.



Next, square up the vertical end pieces. The top corners may be chamfered as shown.

The rails or slats may be worked next. Watch the drawing in planning the grooves and the chamfers.

In assembling the parts the verticals are to be fastened at the bottom by means of flat head screws. The rails are to be fastened to the verticals by means of common nails first and then these are covered with ornamental Mission heads. These heads are an imitation of the old hand-wrought nails. If they are not to be had, round head screws may be used instead.

It is easier to put the finish on before the parts are assembled. Of course this could not be done in



Laundry Box of Oak

case it was desired to use glue in the joints, for glue will not stick where any oil has been used, and the filler contains oil. It is not necessary to use glue for the nails and screws will hold the parts firmly.

For a finish, cover the parts with a paste filler colored to suit the taste. Fillers can be got already colored in light, medium and dark. If other colors are desired, they must be made up by coloring the natural or light filler.

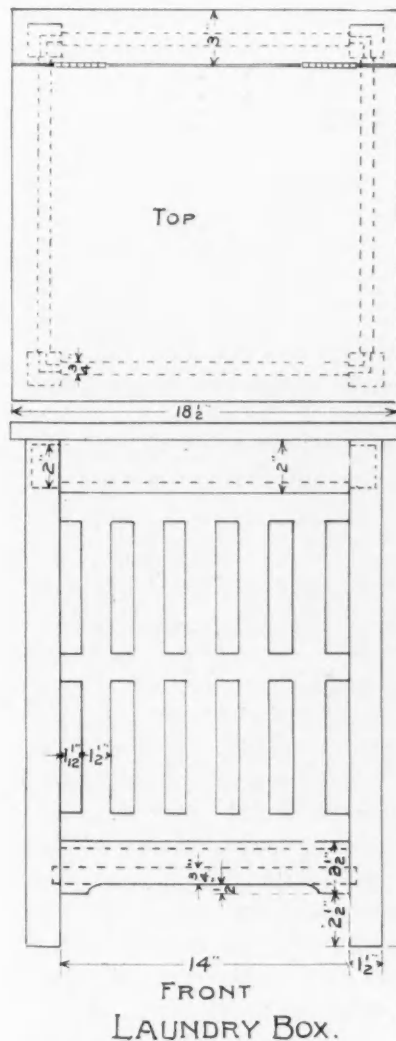
After the filler has flatted it is to be cleaned off thoroughly and allowed to dry over night. Next apply a thin coat of shellac after putting the parts together. Allow the shellac to harden over night then sand-paper lightly with fine paper, number 00, and apply several coats of some good polishing wax. Floor wax will do.

**The Laundry Box**

This laundry box may be made of the same material as that of the magazine stand, and finished in a similar manner.

**STOCK BILL FOR LAUNDRY BOX.**

- Posts, 4 pieces, 1½ by 1½ by 24½ inches, S-4-S.
- Rails, 8 pieces, ¾ by 2¾ by 16 inches, S-2-S.
- Paneling, 4 pieces, 3/16 by 16 by 16 inches, S-2-S.
- Bottom, 1 piece, ¾ by 16 by 16 inches, S-2-S.
- Top, 1 piece, ¾ by 19 by 19 inches, S-2-S.



Square up the stock for the posts in the usual manner. Work the rails to width and length and lay off the tenon shoulders and cheeks. Plow the edges to receive the paneling.

The mortises in the posts may be laid out and worked, after which the paneling may be given the open or pierced form shown in the photograph. The panel should be fitted before these openings are formed. Place the paneling and put two of the sides of the box together in the clamps. Allow the glue to harden upon these, in the meantime preparing the top and

the bottom as far as is possible. When the glue has hardened put in the remaining rails and panels. Measure the diagonals so that the frame may be square. Fit the bottom and set it when the clamps are removed. If the bottom is to have its edges and ends set into the bottom rails, it will have to be placed as the rails are being adujsted, of course. Place the top, attaching the hinges as shown in the illustrations.

**Builders' Exchange Live Wire Benefit**

*(Continued from Page 61)*

ity. Pretty-soon comes a notice of a lecture on fireproofing and this is followed by the governor on some public topic. The next few days develop the fact that the new lien law blanks are printed and ready for distribution at the Exchange; that the new censor bureau, regulating the solicitation of donations and subscriptions is established; then an industrial survey to discover just how much money is invested in the building business of the city; the condition of trade and opportunities for betterment. Once a year the Exchanges usually hold a joint conference with the architects and discuss matters of common interest for the betterment of the business in general.

Every kind of inducement is offered to get the member to using the Exchange in his business. There are many firms paying out two or three times the cost of membership in an Exchange to secure information from private construction report companies when the same information may be secured from the daily bulletins in the Exchange rooms which are usually a few days ahead of any other information bureau and give more detailed information, including lists of bids complete on all public work. Also, there are on file in every Builders' Exchange publications which give construction reports to say nothing of all the best trade publications of the country on every phase of the business.

The Exchange is the clearing house for the builders just like the bankers' clearing house. It is the center for information for the public as well as the contractor and material dealers. It has a broadening influence on a man giving him an exchange of views, invaluable as a means of keeping up with the times. The Exchange offers a means for personal acquaintance and gives a feeling of unity. Its efforts are constantly for the betterment and elevation of the business, defending the rights of the contractor and protecting his business. All Exchanges endeavor to have their membership stand for a reasonable assurance of skill, honorable reputation and reliability.

In legislative matters the Exchanges are very active. The Builders' Exchanges in Ohio, numbering 10, with an associate membership of about 2,000, secured a change in the constitution of the State last year and then helped pass a new lien law that excels anything in the country for protection. The Exchanges were assisted, of course, by all the subsidiary organizations and particularly by the Ohio Lumberman's Credit Association. The legislative committee of an Exchange is constantly at work, writing to senators and representatives at Washington in regard to national legislation and appearing before committees of the State legislature, when it is in session, favoring or opposing some bill or other. Usually the Exchanges cooperate in these matters with the manufacturers' associations.

The architect should appreciate an Exchange and often does. Most of them are honorary members of the builders' organizations and have the use of the rooms at their disposal at any time. The architect and builders are linked together in every day business and should be personal friends.

With all of the efforts of the builders' Exchanges to make themselves worth while to the fraternity, there are those engaged in the building business who cannot see the worth of such organizations. There are those who join an organization of builders and then sit at home, waiting for the orders, or the contracts to come to them. The benefits of a Builders' Exchange, just like any other organization, depend upon the individual effort of the member and the benefits are to him as he makes use of the opportunities. The world is full of benefit to the man who knows how to make use of the opportunities offered. And a Builders' Exchange offers more opportunities, directly and indirectly, than any organization of business men in any line of business, anywhere.



## Jimmie's Combination Machine

### Part III

I ENTHUSE ENOUGH TO HELP WORK OUT SOME LABOR AND MONEY SAVING STUNTS

By W. D. Graves

I have often swelled up with pride in the thought that I had imparted valuable information, only to have the swelling punctured, later, by learning that the other fellow knew more about the subject, all the time, than I did. Such puncture is rarely very painful, however, for I know that I have at least bolstered his pride a trifle and have so contributed a mite to the world's happiness. Also, I have often remained in ignorance of fundamental things because, in that they were fundamental, I was ashamed to ask about them and others thought them hardly worth the telling. It is for these reasons that I think one rarely errs in the way of talking too much if his talk is without malice and tends at all to the dissemination of knowledge. Mother Nature sows seeds with a lavish hand and not one in a million really grows; but the birds get some and, at the worst, those that do not germinate fertilize the ground for others. Words are the seeds of ideas.

All the above was suggested by Harriet's intimation that I had better be cleaning out the chicken house than writing for a lot of "ungrateful" readers. The term "ungrateful" is hers, and was called forth by the fact that one reader wondered "what Harriet and Lorna have to do with machine wood work." I tell her that he was not at all "ungrateful," but highly appreciative in that he considered my copy not only worthy of reading, but of comment, in spite of its disagreeable features. I withered appreciably under the look she gave me at that, but managed to continue—"It is only that he is a trifle behind the times in his feeling toward woman. He doesn't realize that she is daily coming to be more fully and completely man's partner. When that fellow gets just the right kind of a girl, which I hope and trust will be soon, he will find that, as long as he continues to be a car-

penter, she will have a lot to do with wood work." For my own part I've always found a deal of pleasure and comfort in the fact that Harriet and Lorna took an interest in my line of work, and, except for the big blue pencil of the Editor, I'd talk about them a lot more than I do.

#### Mouldings on the Buzz Planer Attachment

Speaking of the practicability of making mouldings on the buzz planer attachment Jimmie and I fully agree that, while it is useless to consider competing with moulding machines on any regular stock work, there are a lot of times when one can work up odds and ends, even into something closely resembling regular mill products, to very good advantage. I recall one time that I got hold of a lot of rough lumber very cheaply. Being rough it looked bad to the other fellow: but, being clear and sound and dry, it looked

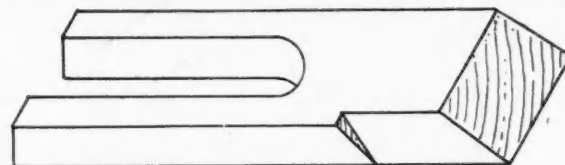


FIG. 5.

Knife Ground with Rabbeting Bevel

good to me. I bought it at the price of culls and worked it all, on the buzz planer, into inside casings of the pattern shown in Fig. 1. I cut it roughly to the required lengths first—for long pieces don't handle well on the jointer—jointed the face and one edge, sized it on the saw, then did the rest. I don't remember how many cuts it took—whether five or more depended on just what sort of knives I had—but I know I got that lot of casings pretty cheap and that, put up with block corners, they were in every way just as good as though they had been run in a moulder. If it had been required that they should be mitered I would doubtless have had to save my rough lumber for another job.

I often used to work up short odds and ends of plank and dimension into straight beaded balusters of the pattern shown in Fig. 2. While this was quite commonly used in my day, I believe the plain rectangu-



FIG. 1.

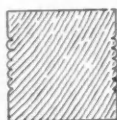


FIG. 2.



FIG. 3.



FIG. 4.

Work Easily Done on Jimmie's Combination Woodworker



# R WOOD WORKERS PAY



lar form is preferred now; but the latter is even more readily gotten out with the buzz planer attachment. By having knives ground to cut one, two or more half rounds, and by running the stock twice, I used to make rounds for flag staffs and the like, as shown in Fig. 3. Have seen such rounds used for dowels; but though they may serve very well on rough work, it is impossible to make them very accurate as to size. The casing shown in Fig. 4 is easy and calls for special knives only for rounding the corners. The hollow back is not essential, though it helps in putting the finish up, and may be done as well with straight, square cornered, knives; or even with a wabble saw.

The beading knives are capable of use for a wide variety of ornamentation which, though it was far more popular forty years ago than now, is likely to become "all the go" again before long.

Matching? Yes, one may do matching on the buzz planer by making knives for the purpose; but for most

these with a bevel on the side, though at a much

more obtuse angle than that of the usual cutting edge, as shown in Fig. 5. Generally a knife ground like this will cut the edge of the rabbet smoothly enough, but it may sometimes be advisable, especially for cross grained stock or for cutting across end wood, to have a "spur" knife similar to that shown in Fig. 6. This may be made from a piece of saw plate, or forged from a regular knife blank.

But there, the things I have done or would do are like to be of little direct interest to you, though they may serve as stepping stones to better ideas. Each was suggested and made worth while by some special condition about my work and you will doubtless improve upon them as soon as conditions of your work demand it. And conditions always *are* demanding new ideas, for every home builder of means is seeking something different, and every architect is striving to mark along new lines. In the making of new and different things lies the opportunity of the adaptive man with a portable machine; but the fact that fashion goes in cycles gives value to knowledge of mechanical ancient history—and gives us old fellows an excuse for continuing to live and chatter.

Speaking of new conditions and devices, Jimmie recently had a job which brought out a scheme liable to be applicable by others. It was required to protect some windows with wire netting and the question arose as to how most securely to attach the edges. Jimmie's solution was to staple them first just enough to hold the wire straight and then nail over them a flat mould with the under side rabbeted as shown in Fig. 7, the rabbet being filled with a putty-like mixture of Portland cement. He found it necessary to first oil or paint the wood surfaces, in order that they might not absorb too much moisture, but when he had done that he sure got a tight grip on that wire. The rabbet was made on the buzz-planer attachment by putting on the regular straight knives a trifle askew.

#### A Trick with Bungalow Rafter Ends

There is so little bracket and scroll work used of late that I wondered at Jimmie having a band saw attachment on his machine, but a little of that wonder was eliminated when I was down at his latest job to-day. It is a "bungalow" job—almost of course—and the plans called for rafters with the ends shaped

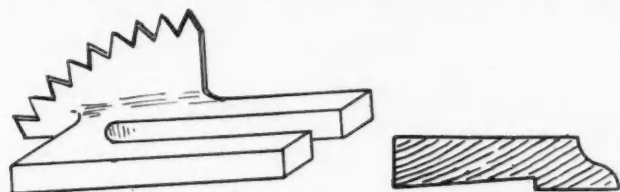


FIG. 6.  
"Spur" Knife

FIG. 7.  
Screen Mould

such work I have always preferred to groove both pieces and insert a tongue. I have found this method advantageous in various ways, especially in case of lumber which is to be used for concrete moulds. For this purpose Jimmie makes his tongues only a quarter of an inch thick, even for two inch plank, thus making the lips thicker and less liable to warp or be split off. The tongue, if it does split, is easily replaced, and it in every way serves the purpose as well as a thicker one. In the case of thick stock the saving of lumber is also an item worth considering.

There is comparatively little grooving or dadoing which cannot be better done on a saw table, and even most narrow rabbeting is better done with a dado head; but wide rabbets which are required to be smooth may often be worked to advantage on the buzz planer. Most of these machines are so made that one may lower the front table, set the fence out to the required distance from the edge, and run the rabbet with the regular knives; but many of them, Jimmie's for one, will cut only about  $\frac{3}{8}$ -inch deep in this way. In such case it is necessary to have special long knives for deeper rabbets. It is well to grind

# Gettin' Things from where they Are to where they A'int

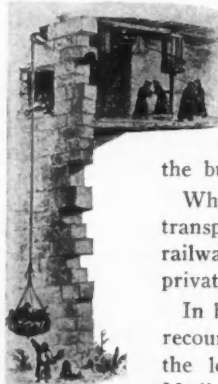
By Robert M. Sypher

Illustrations by Courtesy of the Chelsea Elevator Co.

**I**F you should go to the United States Patent Office at Washington, and examine the files of Patents issued you will notice most of the patents in some manner deal with the problem of transportation—either vertical or horizontal.

Patent No. 1, of the present series which was issued in the year 1836 you will notice was for a device to prevent the slipping of wheels, (which is lost motion,) and you will also notice among more than a million patents issued since that time a great variety of ideas have been formulated from year to year for transportation of things from one point to another.

Since the time of Archimedes, the Greek mathematician, who said "Give me a lever long enough and I will move the world," this great problem has presented itself for solution.



A Dumb Waiter in Use 500 Years Ago

Horizontal transportation is of great importance and is also a very interesting subject but vertical transportation is of vital importance to the building trade.

When you contract for a machine for vertical transportation you practically control a private railway and the upkeep of this railway is your private affair.

In building the Pyramids the Egyptians had recourse to the inclined plane, the wedge, and the lever for assistance. Coming down to Medieval times, the occupants of monasteries found it of advantage to use the grooved wheel and axis for hoisting purposes.

Wind, water, gases, steam, electricity and all the resources of nature man has called to assist him to overcome gravity. He soon discovered that without the use of machinery all these forces were of little value.

## It's Machinery that Counts

The growth of cities demanded tall buildings, tall buildings have demanded new modes of vertical transportation and inventive minds set to work to solve this problem, and the modern elevators of today have been evolved.

Where can you find a building designed today without some provision being made for a machine to solve the problem of vertical transportation?

You demand conservation of energy, and if power elevators are too expensive, numerous machines are manufactured at reasonable cost so that you may apply your own strength to a machine and it will do the work of a hundred men.

To use your own strength against a body you must do work against its weight. If you have average strength you can raise thirty pounds all day long, but with the assistance of machinery you can pull thirty pounds and at the same time raise several thousand.

In all machinery there is a certain amount of friction. Friction opposes motion, and is always to be found present where surfaces are in contact. Friction is the cause of wear.

You no doubt know that in mostly all cases elevators and small elevators called dumbwaiters are worked by either rope or chain. To keep them in their established course the carriage and counterweight too are guided in tracks.

The foundation of success in a machine used for vertical transportation is its correct design. If a hoisting machine is not properly designed it is a cause of constant annoyance and expense.

To quote from the AMERICAN CARPENTER AND BUILDER:

"The great fault with the majority of hand elevators and

dumbwaiters has been that they either bind in the shaft, rattle like the proverbial dish pan or wear out ropes as fast as they be strung."

When you are designing your next building you will no doubt make provision for a hoist of some character and it will be well to give this matter your serious consideration.

It will also be well for you to see that as many parts of contact have been eliminated and as many twists and turns have been taken out of the ropes or chains as can be consistently done without destroying mechanical efficiency. This means a reduction of friction.

There are several elevator companies at the present day who make it a point to keep abreast with the times, examine new ideas to see if they are of value, to improve upon them if possible, and if so to embody them in their machines.

It is well then for you when selecting a machine to see that the company that is to supply it has had the necessary experience in mechanical principles and that they are progressive enough to give you the advantage of modern machine practice.

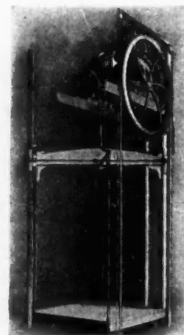
Also you should see that an excess of strength has been added for the safety and lasting qualities of the machine.

The South American Republics, Samoa, Hawaii, Porto Rico, Japan and even China (where labor means almost nothing) know the value of improved machinery. They demand American machinery.

Distance is no obstruction to trade and elevator manufacturers of today are vying with one another to satisfy the needs of builders throughout the world.

If you deal with a responsible manufacturer he is always willing to supply you with information and to try to make his machines the most successful and the most advantageous for you to use.

A large elevator and dumbwaiter company of New York city, recently shipped to the city of Kobe in Japan, two hand power elevators designed after a patent granted in the year 1902 by the United States Patent office for an elevator that does almost eliminate friction.



The Modern Dumbwaiter — A Household Necessity

These machines after traveling several thousand miles were taken from the ship intact and erected in a most successful manner from plans furnished the purchasers by the manufacturers. A repeat order was then issued, and a similar elevator made its way across the Pacific, also to a successful termination.

Foreign builders are availing themselves of the knowledge of American manufacturers and the superior design of American machines, but in America the demand for elevators and dumbwaiters to be shipped by the manufacturers, to be assembled and erected by the buyer himself has reached large proportions.

Some elevator companies keep on hand a variety of types made up in stock sizes to enable them to make shipment almost immediately and they also issue catalogs describing their goods, giving sizes, prices, etc., and showing the construction.

As the demand for elevators and dumbwaiters is ever on the increase and your next building operation may demand one, it is therefore up to you to see that you are well posted on vertical transportation.



*In this issue will be found several of the Honorable Mention Designs from Our Recent Prize Competition. They show the uniform high quality of the work the American Carpenter and Builder readers are doing.*

## Nine-Room Farm Home for \$3600

PLANNED AND BUILT NEAR BUNCETON, MO.

By C. H. Toellner Jr.

Carpenter & Builder

Editor AMERICAN CARPENTER AND BUILDER:

**E**NCLOSED find front view of a country dwelling designed and built without the aid of any architectural service. Such service is rarely called for by the farmer who wants a new residence. He employs his carpenter, explains about what he wants, then expects the carpenter to draw his own plans and successfully complete his house, thanks to the AMERICAN CARPENTER AND BUILDER, the world's greatest building paper; it is above all other building journals, the best friend the country carpenter owns.

The foundation of the dwelling is entirely made of concrete, using clean creek gravel and river sand. There are three separate compartments in the basement, wash room under the kitchen, fuel supply steam plant and pressure tank under the dining room. The vegetable store room is under the living room; in this is also the acetylene lighting plant.



Comfortable Nine Room House With all Modern Conveniences, Designed and Built by C. H. Toellner Jr., Bunceton, Mo.

## Prize Winning Work

Walls of foundation are 10 inches thick. There is a cement floor in every department. Balance of earth not excavated under house.

Framing is all No. 1 yellow pine, excepting rough boxing which is No. 2. The window frames are all clear cypress, siding cedar, cornice B cypress, outside porch floors straight grained fir. The roof is made of clear cedar shingles, 5 to 2. Blinds are clear cypress. Hanging gutters are galvanized iron; box gutters are made of 10-inch Taylor's I. C. tin. Windows are all D. S. glass.

The interior floors are all clear yellow pine. Plastering is two coat Acme, all walls being papered.

Living room, parlor, hall and dining room are finished in clear cypress. All the balance of finish being clear yellow pine. All doors are clear cypress and fir. The kitchen is wainscoted; has sink and hot water boiler. All woodwork is finished in the natural color, one coat of filler and two coats of varnish being applied rubbed between coats. The exterior has three coats of paint, excepting roof, which has only two coats. The house is lighted throughout with acetylene gas.

An American radiator steam plant is used to heat with. Water is forced to bath and kitchen by means of pressure tank. There is a large roomy attic above the second story. All rooms are large and well lighted. The owner of the residence, Mr. Henry Huecker, was pleased with his house. Cost of completed residence was \$3600. I am very respectfully, Charter Member,

C. H. TOELLNER, JR.,  
Carpenter and Builder.

### Good Store Front Job

Dyersburg, Tenn.

Editor AMERICAN CARPENTER AND BUILDER:

Please find photo of some work I have planned and done. I guess somebody will beat me, but I thought as I was a Charter Member I would try to help along the good work you are doing; as it may help someone.

The plate glass front was built for Hunt & Atkins, clothing dealers. The panelling is with quarter-sawed



Modern Plate Glass and Quartered Oak Store Windows Planned and Executed by D. A. Gardner, Dyersburg, Tenn.

oak. The mould is embossed mould.

Cost of windows was eight hundred dollars. The floor in windows is quarter-sawed oak (parquetry) with mahogany border. The entry is small tile; plate glass in base where name of firm is. Transom bar is 12 inches with 40-inch prism above.

The vestibule is 5 feet deep, 6 feet wide front, and 4 feet 6 inches at door. Door is 3 feet 6 inches by 7 feet plate glass; 2 feet 6 inch doors in panel of each window.

D. A. GARDNER.

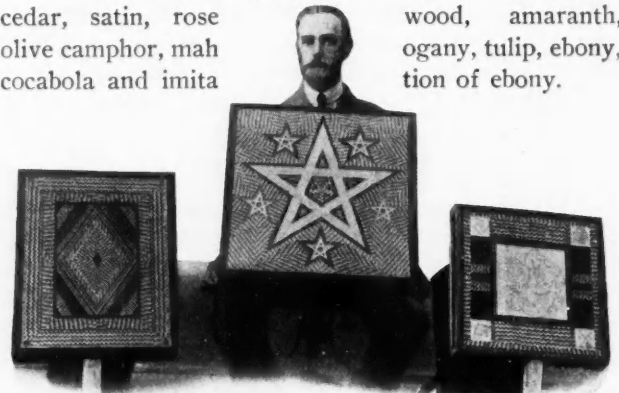
### Three Inlaid Top Tables

Ridgefield, Wash.

Editor AMERICAN CARPENTER AND BUILDER:

I desire to submit in the competition these three inlaid tables.

The Diamond table is 18½ by 22½ inches square and contains 7115 pieces and 14 varieties of wood, as follows: Burl maple, white holly, walnut, pencil cedar, satin, rose wood, amaranth, olive camphor, mah cocabola and imita



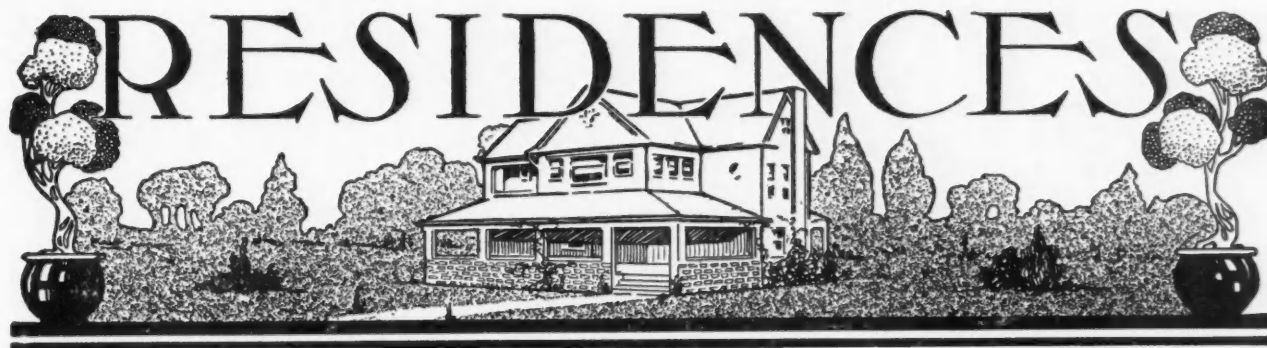
Isaac Hughes and Three of his Inlaid Tables

The Rebekah table is 18 by 18 inches square and contains 4361 pieces and 19 varieties of wood, namely: White holly, walnut, camphor, mahogany, orange, zebra, amaranth, olive, rosewood, Oregon grape, tulip, ebony, smokewood, pencil cedar, white cedar, yen, China wood, white walnut or butternut and satin. This table has the emblem of the Rebekah Lodge inlaid and the saw kerf is also inlaid with rosewood.

This table was presented to the Rebekah lodge here, of which I am a member.

The star table is 22¼ inches square and is composed of 11,264 pieces and 19 varieties of wood, as follows: White holly, black walnut, tak, tulip, ebony, satin, rosewood, yen, China wood, orange, zebra, camphor, mahogany, Oregon grape, pencil cedar, oak, billian, amaranth and elder.

The total number of pieces of the various woods makes 22,740; the material was collected from all parts of the world and represents the work of spare time throughout a good many years. ISAAC HUGHES.



## A Comfortable Home for \$2500

FULL SET OF PLANS OF 23 BY 38 FT. PLASTERED DWELLING CONTAINING FIVE ROOMS ON THE MAIN FLOOR AND SPACE FOR THREE MORE ABOVE

**M**R. A. F. TRESS of Chicago wanted a small, moderate cost habitation that could be expanded later on, if needed. He had designed and built accordingly a five room bungalow—regulation in every way except that the roof was raised up “story-and-a-half” height. Some day he will finish off three fine rooms on the second floor and have an eight room house; but at first the five rooms are plenty and the cost is held down. Out of the vestibule the stairs go up. The second floor will be convenient either to use with the down stairs or to rent out separately.

A glance at the main floor plan will show how completely for comfort and light work this little dwelling has been laid out. The living and dining rooms open together, making an apartment 25 by 12 feet.

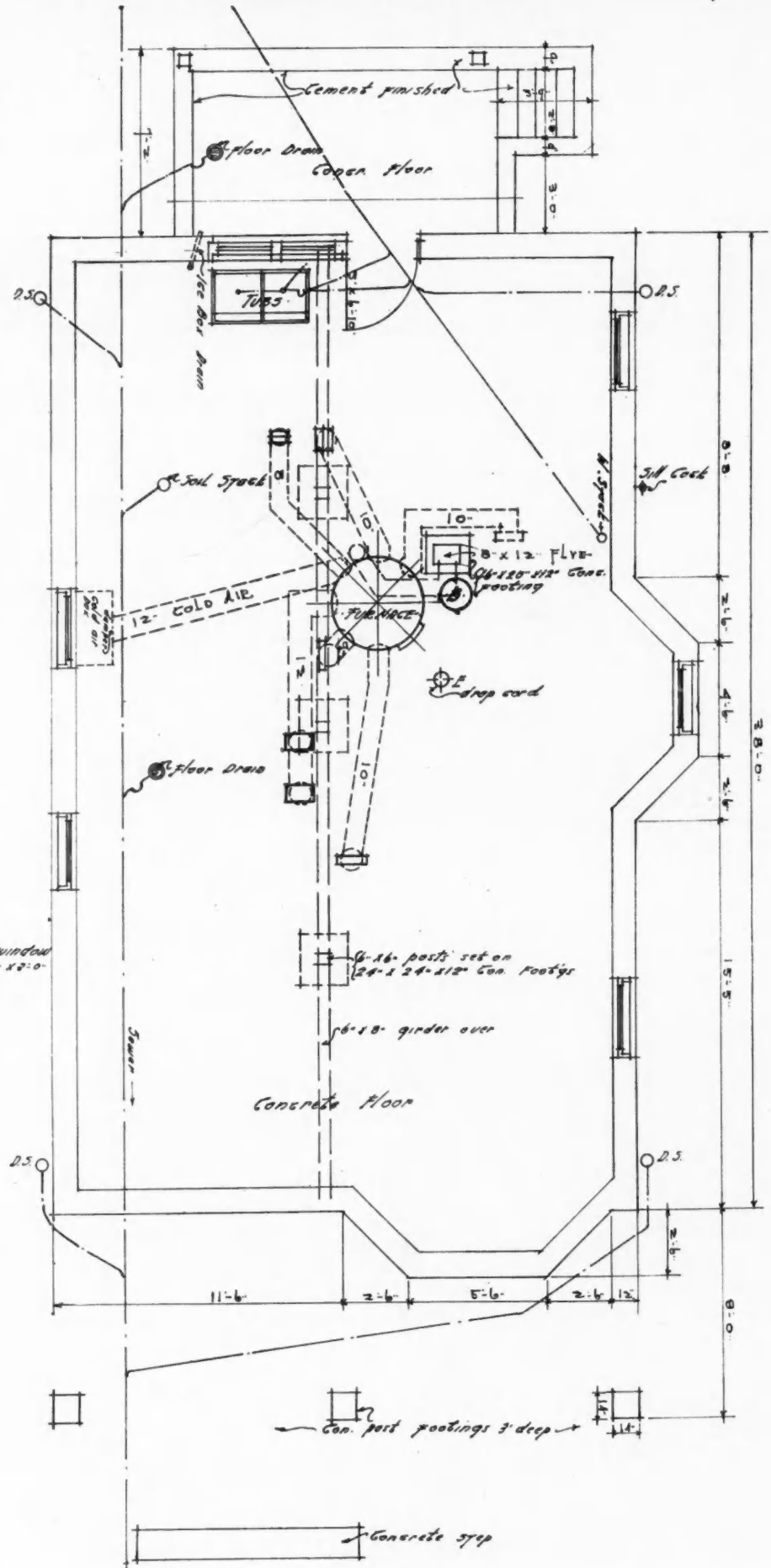
The kitchen and pantry are arranged for easy work. The bed room and bath are well placed. There is a goodly supply of clothes closet space.

In exterior appearance this design is trim and neat. The siding is cement plaster. Stained corner boards, casings, etc., give an ornamental effect.

As this design is only 23 feet in width it can be used very nicely on a narrow building lot of 30 or even 25 feet. It is a canny plan too, as many home-builders have learned later on, even when building on a wide lot, to place the house well over to one side. Then as the neighborhood develops and the land becomes too valuable to hold as lawn or garden, a second house can be built.



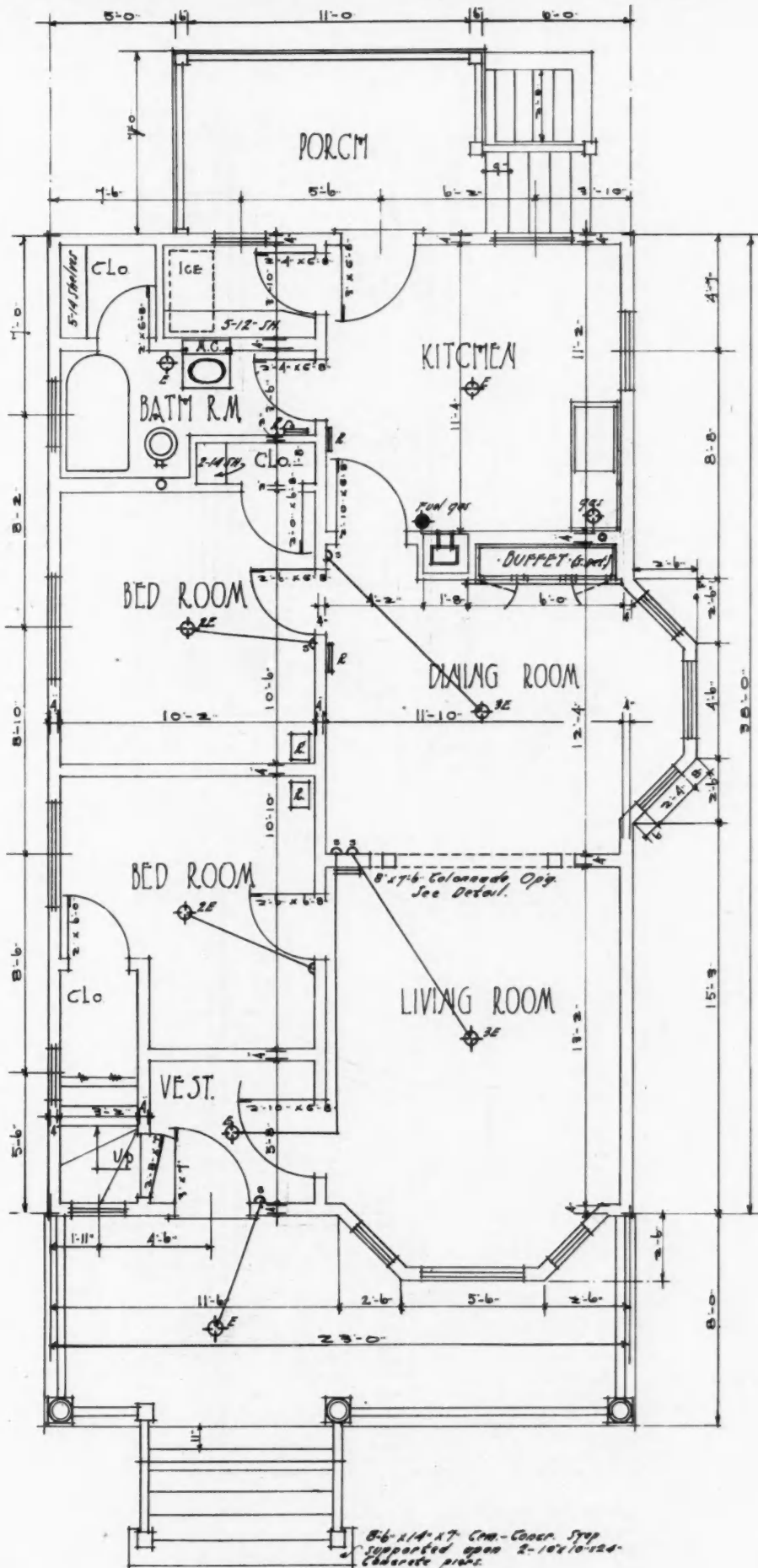
Attractive Little Home Designed for A. F. Tress, of Chicago. 1st Floor Only (Five Rooms) Finished. Cost \$2500  
COMPLETE WORKING DRAWINGS FOR THIS HOUSE ARE PRESENTED ON THE SEVEN PAGES FOLLOWING



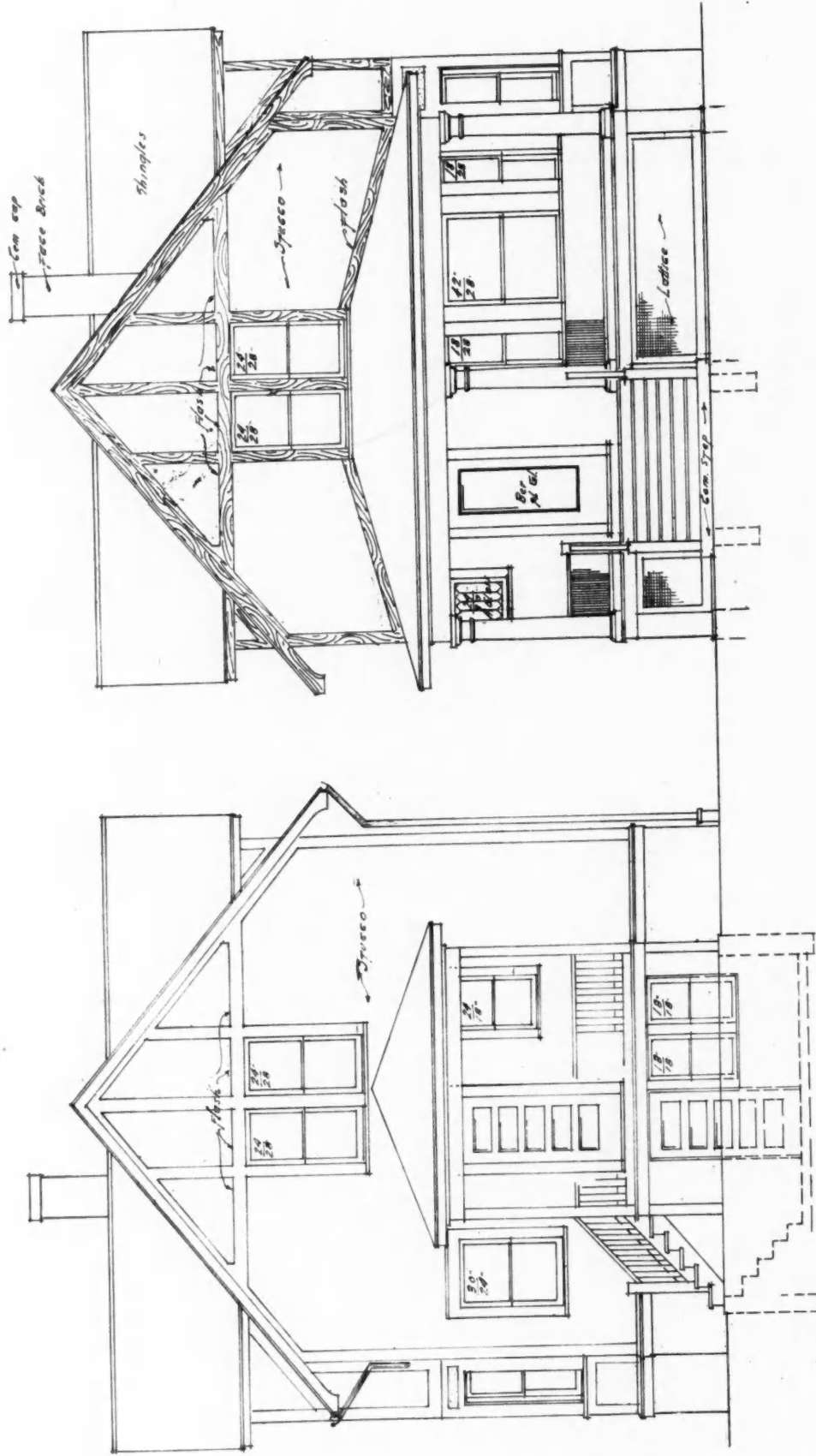
Note: all basement window frames to be 3'-0" x 3'-0" outside measure.

**BASEMENT PLAN**  
Residence Shown on Page 69)

Plans—A Comfortable House for \$2,500

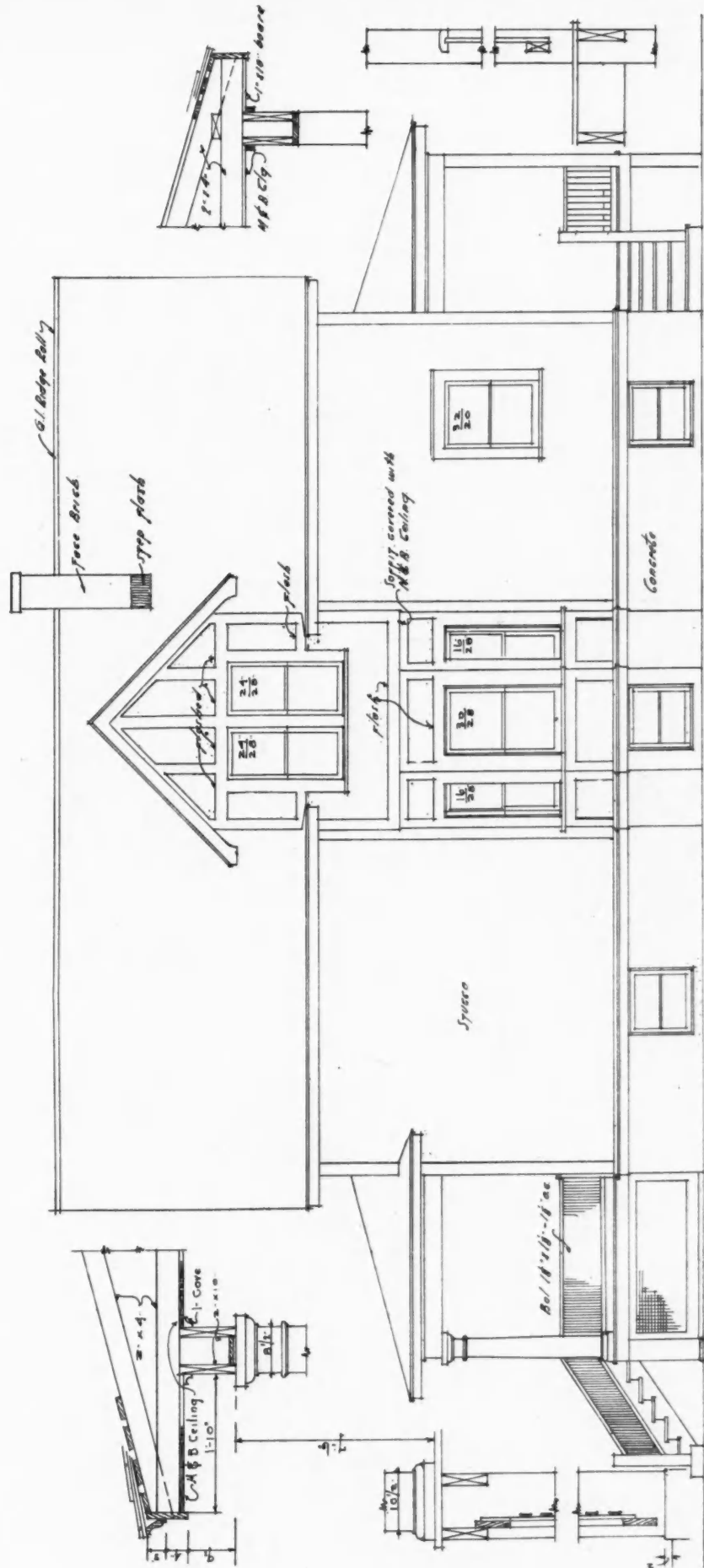


**MAIN FLOOR PLAN**  
(Residence Shown on Page 69)



FRONT ELEVATION  
 REAR ELEVATION  
 PLANS OF COMFORTABLE HOME FOR \$2500 SHOWN ON PAGE 69

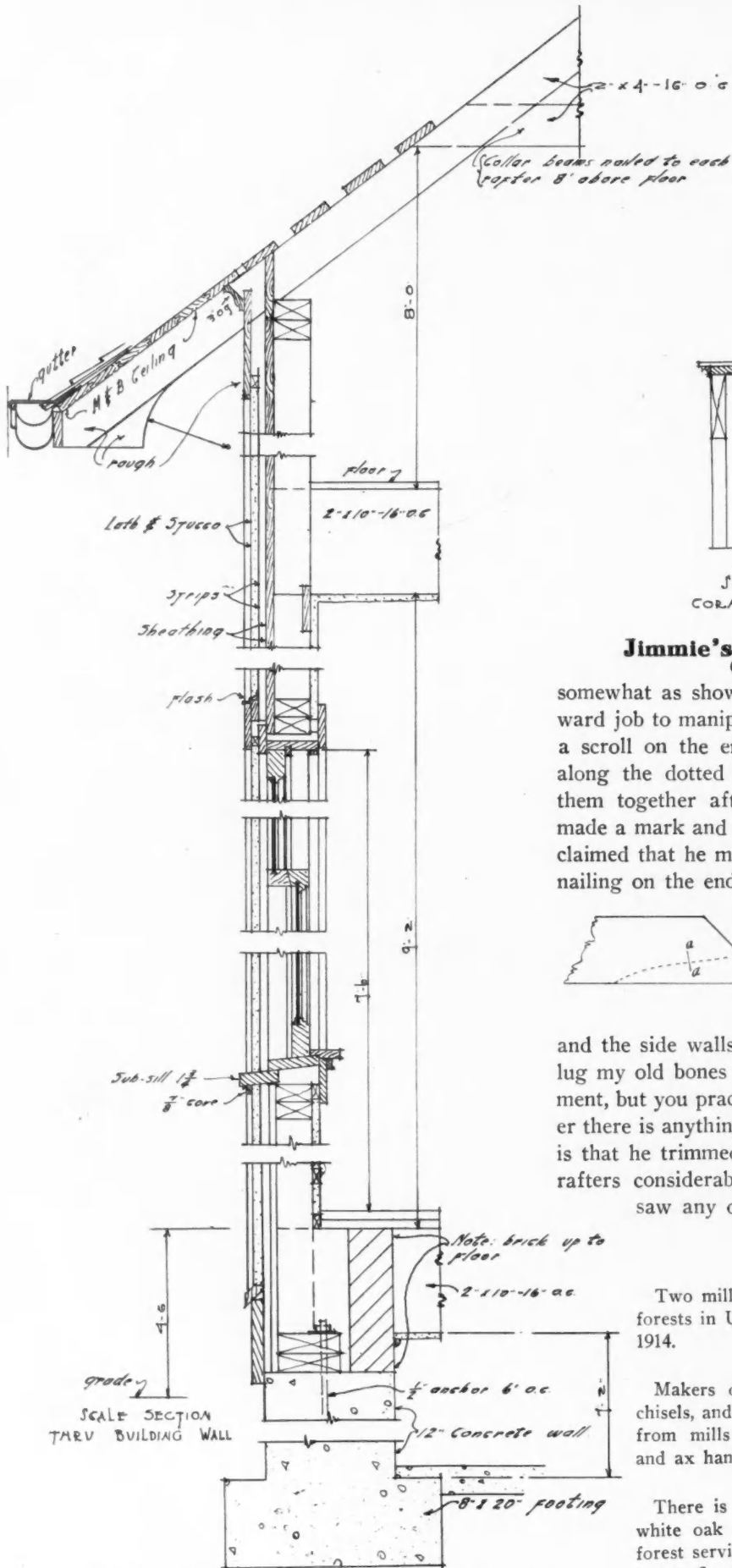




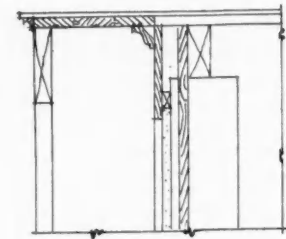
RIGHT SIDE ELEVATION  
PLANS OF COMFORTABLE HOME FOR \$2500 SHOWN ON PAGE 69







Detail of Wall Construction of House Shown on Page 69



SCALE SECTION THRU GABLE CORNICE

**Jimmie's Combination Machine**

(Continued from Page 65)

somewhat as shown in Fig. 8. It would be an awkward job to manipulate a long rafter so as to cut such a scroll on the end, so he first simply cut them off along the dotted line, sawed the scroll, and spiked them together afterwards. Before sawing them he made a mark and numbered the pieces, as at a, a, and claimed that he made some saving in the work by not nailing on the ends till after the rafters were erected

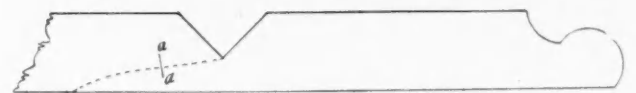


FIG. 8.

and the side walls sheeted up. I didn't feel called to lug my old bones up on the stage to verify his statement, but you practical builders will readily see whether there is anything in it or no. One thing I do know, is that he trimmed up the ends—both ends—of those rafters considerably quicker and better than I ever saw any one do the like by hand.



**Forest Notes**

Two million trees will be planted on the national forests in Utah, Nevada, and southern Idaho during 1914.

Makers of small hickory handles for hammers, chisels, and the like, are now trying to use the waste from mills which make hickory spokes and pick and ax handles.

There is much waste in getting out the flawless white oak necessary for tight barrel staves. The forest service is trying to get manufacturers of parquetry flooring to use some of this waste.



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

### Saving Scaffold Expense

To the Editor:

Ann Arbor, Mich.

Many hundreds of dollars have been saved for the University of Michigan by a little scheme employed by its carpenters in making repairs on campus buildings. So successfully has it worked, it is likely carpenters in general will come to employ the method when once they learn of it.

The new scheme is nothing more than simple portable scaffolds. When there is need of repairing to be done, two scaffolds are erected, usually about twelve feet long and two or three feet wide at the top, widening out to a solid base six or ten feet wide, according to the height of the building. These are mounted upon pieces of steel pipe which serve as rollers for moving the scaffolds from place to place along the

in working around corners as is shown in the illustration where a plank from one to the other makes it possible to work on both sides without change of position of the scaffolds. However, there is an advantage in having two scaffold frames instead of one when workmen on a straight wall, for by placing them some ten or twelve feet apart and connecting them by merely placing planks from one to the other, an additional amount of working room may be obtained at practically no cost at all.

Not only does this plan save the cost of constructing a scaffold the entire distance around the building to be repaired, but it also saves the time, and therefore delay which must result, necessary to erect the entire scaffold.

CONDA J. HAM.



### Skeptical

To the Editor:

Pomeroy, Ohio.

I have been a reader of the AMERICAN CARPENTER AND BUILDER since its first copy; am a charter member and find a good deal of valuable information. I have been running a planing mill for the last thirty years with 30-horse power motor and individual machines. Was greatly interested in Jimmy's Combination Machine Talk, by W. D. Graves.

But lo and behold! here is a letter published in the *Southern Lumberman*, August 15, advertising the Famous No. 30 of the Sidney Tool Co., Sidney, Ohio, that may help Jimmy to convert his dad:

R. A. MILLER,

Contractor and Builder.

Middleport, Ohio, May 18, 1913.

Dear Sir:—I am more than pleased with your Famous No. 30. I have 5 horsepower and run four of the machines at the same time. I have ripped 3-inch seasoned white oak and 4-inch hickory through the same as inch boards.

I got out last Thursday with two men and a helper FIFTY (!) box window frames nailed together complete. I cut out every piece on the machine and didn't use a hand saw or anything. I saved \$47.50 that day's running, besides the other lumber I got out.

R. A. MILLER.

Wonder whether this machine nailed those fifty frames together! If any of the readers of the AMERICAN CARPENTER AND BUILDER can give me reliable information on this subject I would trade my planing mill for that thing.

JOHN GENHEIMER,

Planing Mill, Doors, Sash and Lumber Flooring.



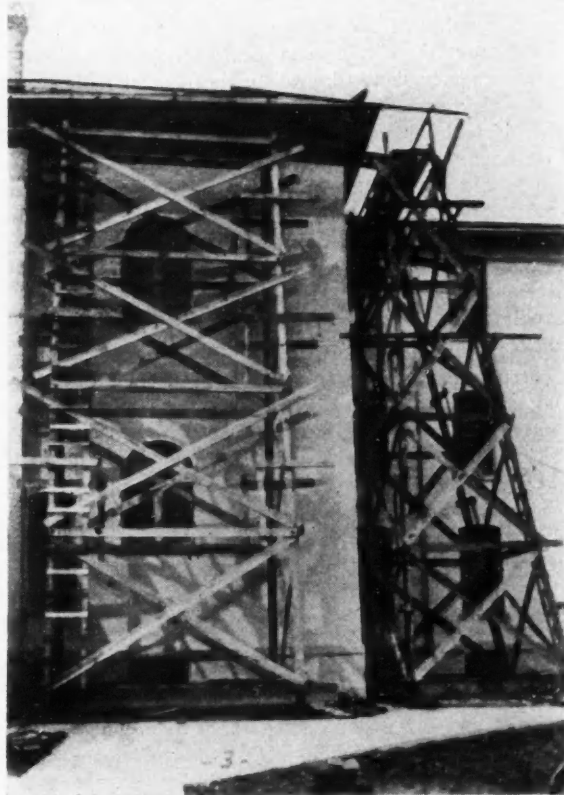
### Wants More Information

To the Editor:

St. Clair, Mich.

I should like information on the Gothic roof barn built by Mr. Balbough and illustrated on page 64 of the August issue, as to cutting and joining of rafters, size of material used for rafters, etc.

Geo. D. ROOD.



These Scaffolds are on Rollers and Save Much Labor in Repairing U. of M. Buildings

side of the building as the work progresses. The lightness of the frames makes it a simple trick for two men to move them.

This is most successful in such work as repairing cornices, and roofs, but by proper erection the scaffolds could be made to serve for work at all heights along the walls. Two of them are built instead of one in order to allow more freedom

### To Hold a Rule Securely in the Pocket

To the Editor:

Missoula, Mont.

The free born American mechanic, in his moments of relaxation, is pretty apt to get his feet up where he can see them without bending his neck. Whatever may be said of the position from an aesthetic viewpoint, from that of a man who has been standing for hours it is mighty comfortable and should not be marred by having one's rule drop out of his pocket. It is true that such an accident, under such circumstances, is capable of being endured with considerable equanimity; but when the rule makes its escape just as one has wriggled into a difficult position to take a measurement on a sixth story scaffold it becomes a matter of material moment.

All such annoyances may be easily avoided by bending and



Rule Pocket with Spring Retainer Applied

ed down to hold it in place. The down-turned ends should be far enough apart so that, when they are compressed and thrust into the corners of the pocket, then released, the top of the pocket will be drawn straight and tight. Thus, without appreciably interfering with the insertion or removal of the rule, it may be so securely held that one may stand on his head, if so inclined, without losing it.

W. D. GRAVES.



### He Really wants to Know

To the Editor:

Elkland, Mo.

I wish to thank Mr. E. E. Holsopple of Clymer, Pa., also Mr. C. S. Martz, for their help on the tapering posts as asked for in the July issue of your paper.

I do not want to be greedy and am not in doubt as to their mathematical skill, but I want to ask one more, and would like any "Chip" on the force to help, who feels so disposed. Here it is: A stick is 8 by 8 at one end and 2 by 16 at the other, and 16 feet long, and sawed on straight lines. Now what I want is a rule that will catch all such figures and give the number of feet board measure in the piece of lumber.

Will some one please solve this and give rule. I am not giving this as a puzzle, but because I have a reason for wanting it solved.

F. M. COFER.

### Good Straight Talk

To the Editor:

Pekin, Ill.

I have been a reader of your valuable paper for over four years purchasing it at the Book Store but intend to subscribe for it soon. In glancing over the August number I noticed an article entitled "Human Interest for Builders." But I as a carpenter, can't see where the interest comes in from such an article. I for one don't fancy the Human Interest submitted by Mr. Siegfried of Kansas. In my mind there surely must be something loose about the man. I have been working at the business as long, or longer, than he has and I expect have been on as many rough jobs, but I am not discouraged in the least.

A man has got to take the bitter with the sweet in all lines of industry. As some one has said, "Call it milk and cream," now I take it that this man has been getting nothing but the milk while some of his fellow workmen were getting the cream and he has become discouraged and is taking his spite out at running down the trade. I wonder if he thinks the building industry is going to fade out of existence just because he has taken a disliking to it. Well we hope not, but, as aforesaid, there is surely something wrong somewhere.

In regard to the articles by Mr. Woods, probably Mr. Siegfried can't understand them, but I'll wager that if he made a search he would find a great many that fully understand just what they are reading and I know of some who have become practical roof framers by reading Mr. Woods' articles. I think if Mr. Siegfried would make a careful study of each and every number of the AMERICAN CARPENTER AND BUILDER he would profit thereby, especially the article entitled "What a young carpenter should know" in the August number 1913, page 61. Most any of us can profit by this article, we never get too old to learn.

There have to be carpenters, the building business is bound to go on; and the old time chips are fast dropping off; some one must take their places and fill the vacancy, and it must be the young generation. Expert mechanics are hard to get—that is, men that can take hold of most any kind of a job and see it through from start to finish and also to be able to handle plans and constructive details. These men are not picked up on every street corner.

It is true there are scores of carpenters, but all carpenters are not all around men to be fully trusted; these men I say are scarce. It's the young men of today who are getting both the technical and practical experiences that are going to lead the world in the building industry in after years. It's a fact Mr. Siegfried, and you can't deny it.

I know of plenty of men that are independent today that started as a carpenter; but of course I don't mean to say that all of us can do the same thing. Where one succeeds another will fail. This is true in all walks of life, we can't all be Doctors, Lawyers, Bankers, and so on. Some one has to keep the world sheltered. The innocent young men can't all have the same vocation; so some of them will have to drive nails and saw wood; and if they take enough interest and do the right thing they won't have to be on the hunt for work. And if they receive the AMERICAN CARPENTER AND BUILDER each month they will find time to read it and so profit.

Mr. Siegfried you certainly must have written your article on a "Blue Monday." Now don't get mad and leave your cold biscuits at someone; better freeze on to them for we may have a long and cold winter; but just be kind enough to tell us why you wrote this article. I expect Mr. Jasbury feels pretty bad and if he were easily discouraged he would have gone a fishing long ago.

M. L. SNYDER.

**Has Ten Volumes Bound**

To the Editor: Melfort, Sask.  
 Here is a photo of a barn I have just completed, the dimensions of which are 36 by 70 feet with a 14-foot stud. The frame throughout is 2 by 6 and joists are 2 by 10. The



Gambrel Roof Barn 36x70 Ft. at Melfort, Sask.

building is set on a surface foundation of cement. The roof is covered with corrugated iron.

I have the ten binders you sent all filled with A. C. & B. and will have to send for some more soon.

W. M. MOORE,  
 General Contractor and Builder.

**Wants Book Keeping System**

To the Editor: Holyoke, Mass.  
 Kindly renew my subscription again, as I feel that if your paper did not come I would be missing something worth while. I have two other building papers that I wish were A. C. & B., then I would have three papers that were the best each month.

Why don't you advise the young builders on the shortest and best method of bookkeeping? I now use the old double entry system—four books; which means a lot of night work for one just starting out. When I work in the daytime and draw plans for new work, estimate and run after new work it makes it hard for me.

My eight hours have left me and I am not my own boss, as I used to think I would be. It seems sometimes that I work twenty-four hours a day and that I have as many bosses.

But after all, I like to feel that I am busy and that people will look up to me as a contractor. In the last nine months I have done \$25,000 worth of work. I have some very satisfied customers and they recommend me highly to their friends. I just finished a nice brick veneer house for a boss dyer in the largest alapaca mills in the U. S. A. and when I went over the other night for my last payment he gave me four names of bosses who talked with him of building. They saw his house and he told them I built it.

I built a bungalow for one man from plans that were in your valuable paper. The boss painter on the last house said he wished the fellow who built his house had as good ideas as I had and he would have had done a great deal different, but he suggested nothing and he got nothing new in his house.

I wish you would run a few articles on the best way to keep the books up, job sheets and estimating blanks. I was in a large plumbing shop the other day and they employ

a man who for some years was an auditor for a Boston auditing company. He rearranged their system and he can tell to a cent what the job cost in a few seconds as it stands half done or three-quarters done. He has a loose-leaf system where everything is in one book and I believe there is one page for each account. I have five or six estimating books; they are all different and no two do a piece of work in the same time. So experience has been my teacher which costs sometimes. Of course I don't expect this letter will have any effect on a big concern, but I feel as if I were writing to my best friend.

RICHARD W. KOEHLER,  
 Carpenter and Builder.

**Adjustable Gage and Marker**

To the Editor: Astoria, Ill.  
 In my work as a carpenter I have often noticed the hard work all of us carpenters have been making of marking and cutting corner boards. Some may use a hook for marking but it doesn't help very much.

I have been studying over this problem and have invented a tool that is the best and, as far as I know, the only successful device which a carpenter can use for marking and cutting siding. I have had some of these tools made and have given them every kind of a test. They have done the



Adjustable Gage and Marker for Corner Board Marking

work all right. I wouldn't want to get along any more without one of my adjustable marker gages in my kit.

Here is a photograph of this tool, I call it "The Fitz" Adjustable Gage and Marker. I know that all the carpenters will want one of these as soon as they are on the market. The cost will be small. I am at present trying to sell all or part of my patent rights on this tool to someone who will manufacture and place it on the market.

EMANUEL FITZ.

**A Home Workshop Product**

To the Editor: Boyden, Ia.

The picture you find in here is myself, with the first furniture lessons, out of Vol. XI of the Cyclo-pedia of Construction. It is all made out of hardwood and well glued together. Phonograph standing on the new cabinet makes me a nice looking outfit.

DICK C. RINGERS.



Hardwood Record Cabinet

## Large House Built in a Day at Hamilton, Ont.

To the Editor:

Hamilton, Ont., Can.

One of our fellow townsmen who is both a builder and an alderman, has proved beyond the shadow of a doubt that Canadians are far from *slow*. In fact they are right up and at 'em—at least when it comes to rapid first class building.

As a feature of Hamilton Centennial Week he and his men actually constructed this fine house complete in 24 hours.

When Ald. Bryers first stated that he would attempt to erect a house in one day the idea was laughed at by a great number of people. But Mr. Bryers was determined to show the people of Hamilton this could be done.

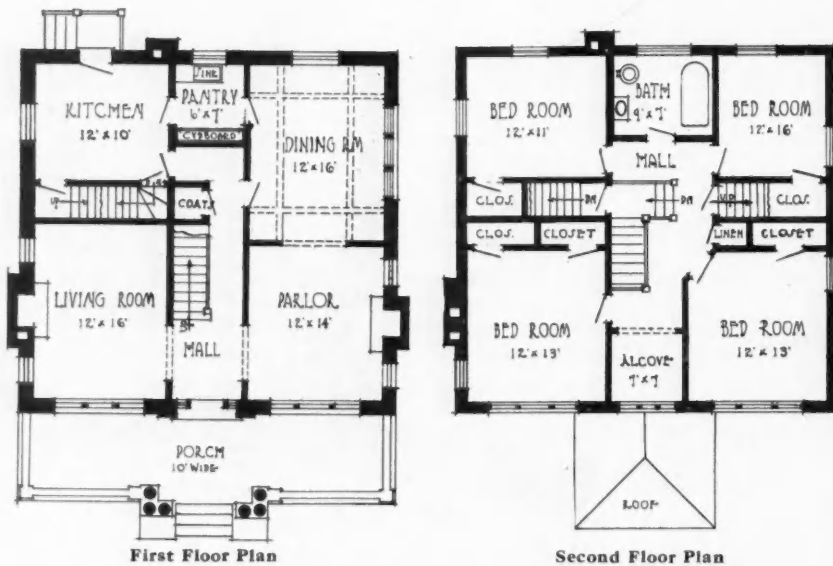
The first sod was turned at a quarter to five, Tuesday afternoon, and the building five hours later was up to within a few feet of the second story. As the workmen were at work all night, arc lights were strung on poles around the building. There were at midnight between 300 and 400 men at work. The carpentering went on simultaneously with the bricklaying, and, as concrete mortar was used, a concrete mixer was kept at work.

Some idea of the rapidity of the work may be gathered when it is understood that the plasterers, using special prepared quick-drying plaster applied their first trowel of mortar at 12 o'clock noon, Wednesday, and at 2:30, just two hours and a half later, every room in the building, including clothes closets, was finished with second coat, white enamel finish, in every way just as pretty and just as well put on as is usually the case where several days are taken for doing the same work.

The building is 34 by 33 feet, outside measurement, and may properly be called a four-story house. It contains a basement, first and second floor, and finished attic. The foundations are cement, with brick facings, the upper portion of the building proper being solid brick. Everything in the house from start to finish is the best to be had, all materials used being first grade, and in many instances, extra fine. The house contains in all, nine rooms. The rooms are large, with high ceilings, and every room is finished in handsome trim. The furnishings are beautiful, not a single detail being overlooked. The furniture, carpets, curtains, draperies, even to the attic, proved a pleasant surprise to the large crowds who have inspected it.

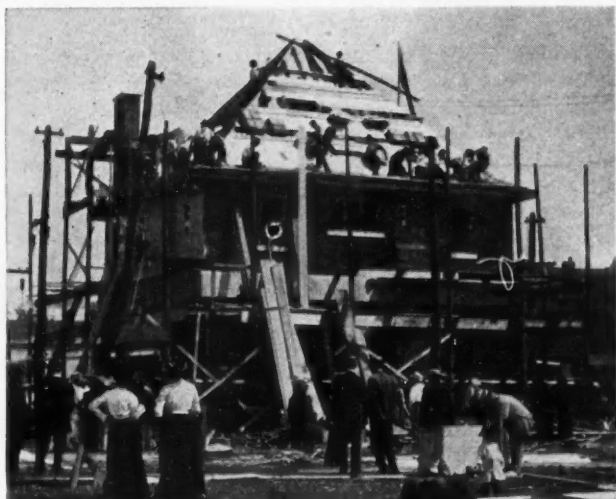
The dining room is panel finish with beam ceiling. The entire downstairs is finished in fumed oak, the upstairs in fumed oak and mahogany. Hardwood floors, narrow strip, both upstairs and down, with beautiful stairway of fumed oak finish are there. The house is double-coat plastered in hard white plaster paris finish all through, and three coats of quick dry paint cover all outside parts. The doors are low panel, with fancy glass reaching almost to the floors, while the windows are large, the upper windows being fancy colored glass of very pretty design. The building is hot water heated throughout, with gas instantaneous hot water heater in the basement connected for use. The electrical connections and fixtures are of the highest grade, and the three-piece bathroom, with marble basins, bath and toilet, is also equipped with an up-to-date shower bath. Every bedroom is supplied with roomy clothes closets.

All day Wednesday crowds congregated at Britannia park to gaze upon the house. Comments were heard from all sides, some saying that such a proposition as that would take more like



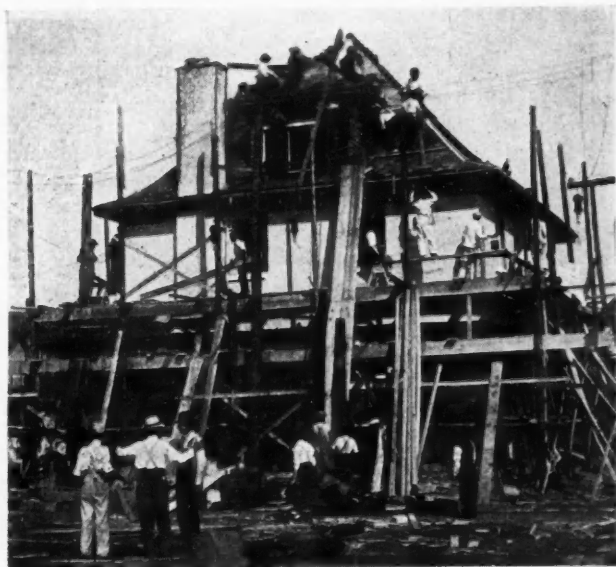
The One-Day House and Part of the Gang That Built it at Hamilton, Ont., Aug. 13, 1913





17 Hours After Starting

twenty-four days to accomplish, while others were of the opinion that the work would be completed on schedule time. At a quarter to five Wednesday evening, which was the time for the work to be completed, the men employed in working on the structure left their work and lined up in front of the house to have their pictures taken. They were a tired but happy looking bunch. All that remained to be finished was the laying of two hardwood floors and the placing of the furniture. This was done shortly after, in two and one-half hours.



22 Hours After Starting

Many people were under the impression that the house to be erected in a day would be a small affair, with plain walls, and plain roof, and only cheap inside fittings. It seemed unreasonable to think that a real practical, modern building could be erected in so short a time. One of the most doubtful of the lot was City Building Inspector Anderson, who contended that a house erected in so short a time would necessarily have to be taken down and rebuilt in order to comply with city by-laws affecting public safety in the erection of new buildings. Mr. Anderson was present when the job started and remained on the job to the last, and goes on record as saying that the building is well put up in every particular, and complies with the law in every way.

H. M. MARSH,  
Commissioners of Industries.

### Jasbury Jasburies about Foremen

To the Editor:

Asbury Park, N. Y.

I am trying to get a few sketches made of some queer stunts and appliances I have seen during my varied career and while I have my pencil working, as I have said a few words about men, it would seem no more than fair that I give the foreman a few shots. Well, as I was saying, a real live foreman is a composite photograph of an Egyptian Sphinx and a linotype machine on a joy ride. That is, he is supposed to be patient, quick, brainy and the devil knows what all he is supposed to be. He has (like a school teacher) to adjust himself to all kinds of personalities and dispositions; he must not be a victim of rheumatism, because he is obliged to talk at times to a foreigner who does not understand (or does not want to) and is obliged to wave his hands and arms like a Guttenburg windmill.

A man to hold down a job as foreman in a wood-working shop, or even on a building, has to be able to give a practical demonstration at times. Then there are men that are so theoretical, and methodical also, they can tell the how, why and because of a part of the work by merely making a few strokes of algebraic network with a pencil. I have come in contact with foremen before now that had an idea that the reason they were permitted to hold such an exalted position was because they had a special permit from some great power to carry out their plans, get others to cater to their whims and make a noise in general. Some men, after years of foremanship, get so narrow-minded about the opinion of others, they think their way is right and the other fellow is only living on borrowed time. Because, as a rule, men do not like to contradict or cross a foreman, and with this thing kept up for a long time he begins to think he is right and his ideas are all good ones.

I have worked under foremen that were a bit jealous of a certain man. I have also seen men get layed off for a blunder that was really the foreman's. So that is the way the foreman question finally sums up; some foremen have such tact, they could get the good will of a bunch of men at once; again I have seen men that were holding back on the job and the firm loosing money thereby just because the foreman was unpopular.

The idea I have on the foreman question is this: he is a poor man, or he would not be a working man; then if he is a poor man, why should he oppress or harass his fellow poor men? Because he has to meet his fellow workmen on the same social plane, not the managers or superintendents; they are too high for him. Well, then, if he is on a par with the masses and not the classes, he must certainly feel rotten, when he meets some of them off the job unless he is like a squash and has no conscience.

I have often heard it said, to take a man out of the gang and put him foreman, he makes a tartar. I agree only partly on this score, because all men are not mentally the same. Like wood, same species but different kind. Many a good forman has had it rubbed in on him by some sidewalk comedian, who ignorantly makes a crack that does not fit well, and at mornings, noons and nights, when the bunch are together, they can roast him to a crisp; they can shoot all the bull they wish, but what they say usually has no weight, it is what he (foreman) says is what totals up, for he can say: "Beat it." Therefore the foremanship job has its good and bad spots, the same as tripe. A foreman who can suit all men should be put in the Smithsonian Institution, because he would be a novel invention. Let us hope the next generation has electric attachments on the back of each man on the job and the directions are given from the office direct, thus dispense with the middle-man foreman.

WM. C. JASBURY.

### Lightning Questions Answered

To the Editor: New York City, Sept. 18, 1913.

Replying to your correspondent's letter in Sept. issue, the explanation in the case mentioned by Mr. Lanning is, that the stack offered less resistance than the tree, probably on account of the heat contained in it, which caused a column of heated air to rise, offering a path of less resistance than the tree or the surrounding air. Besides, it is a well known fact that oak trees, owing to their hard, non-porous nature offer more resistance to lightning discharges and are less liable to be struck than some other trees such as the willow.

Mr. Quintin's questions are answered herewith. Every building should have two or more grounds the conductors forming a circuit over the roof.

1. The Underwriters are probably aware of the indifference of the public on this question and will take no action towards reducing rates until pressure is brought to bear. The Underwriters recommend the use of lightning rods.

2. No rule as to height of points to protect a certain area can be given. In general, the use of high points is unnecessary, except on tall chimneys where the conductivity of a column of heated air must be counteracted.

3. Always. Ground rods must go down to damp earth.

4. A metal roof is somewhat of a protection if properly grounded. If not, it is no more so than any other roof.

THOMAS W. JONES.



### Good Lightning Rod Pointers

To the Editor: Elkland, Mo.

I notice in September issue of your valuable journal some questions asked by Mr. Eugene Quintin, of Gravity, Pa., in regard to lightning rods. Now, Mr. Quintin seems to be living in a locality not infested with lightning rod agents, and I infer from his article that if you would place an "a" after the "o" in *rod* and make it read "road" agent, they would stand about as much "hack" in his vicinity.

Now there is no doubt as to the effectiveness of lightning conductors if properly erected, but so long as the people do not reason for themselves and study the laws of lightning and electricity, the rod agent will be classed with the gold brick man.

Now perhaps Mr. Quintin lives in the rural districts; if so, he can perhaps remember when the telephone system first started in the country. If you wished to install a 'phone you got an expert to screw the machine to the wall and connect the line and ground wires to same and then paid him \$1.00 for his services; and the children would look on the gentleman about like the Indians did upon the first white man they ever saw.

How is it now on the mutual lines in the country? You order a phone and when it is received you hunt up an old screw driver and install the phone yourself in less than 15 minutes; and then if anything goes wrong you almost know instinctively what the matter is.

Now the lightning rod, in the opinion of the writer, is as effective as the telephone and much more simple. But the laws of lightning and the system of protection are not understood by the greater part of the people; but when they are all you will have to do is to go to your hardware dealer and get so many feet of good, pure copper cable and so many points and a vane or two; and go home. Then you and Bill, Alec, and the hired hand will rod the barn in about 2 hours, if you have the holes made for the ground connections. And like the telephone you will know that it is up right.

Now I will endeavor to answer Mr. Quintin's questions: If rods are a protection, why do not insurance companies give reduced rates on rodded buildings? They could not afford to, because they do not erect the rods and they could not tell whether the property owner kept the rod points

erected and in good repair or not. Some mutual insurance company will not insure buildings which are not rodded. I am enclosing specifications of Farmers Mutual Fire and Lightning Ins. Co., of Flint, Mich., which show their faith in a conductor:

"We accept nothing that is not of the best, therefore will not insure buildings rodded with steel or iron wire cable, nor with copper wire cable less than 5/16 inch. All rods must have at least two or more ground rods, connected by the main rod, making a continuous rod (circuit) from ground to ground, except that a building has a metal roof, then no points shall be required, but such building shall have at least two ground rods each lapped well on and attached firmly to the metal roof. The points used shall be manufactured especially for lightning rod points. Glass or earthen insulators shall not be used. We advise the use of copper lightning rods as they have seven times the conductive power of steel or iron rods, and will not rust or corrode. A building worth more than \$150.00 must be rodded to be insured. Buildings worth less than \$150.00 can be insured without rodding."

Question 2: Will a point control a bolt three times its height, i.e., will a point, say, 5 feet high from roof, protect a radius of 15 feet?

Ans.: Yes. Most manufacturers place them not to exceed 25 feet apart on the circuit.

Third: Should rods be placed deep enough in the ground to be always in damp earth?

Ans.: Yes, from 5 to 12 or 15 feet, depending on the nature of the ground.

Question four: Will a metal roof distribute a charge so as to make it harmless to the building?

Ans.: No, not unless the roof is connected to the earth in at least two places with metal conductors sufficiently large to carry the electrical charge.

The mutual insurance companies will take a metal building if it is connected with the earth with copper connection.

Now here are short rules for the erection of lightning rods, which should enable anyone who can climb on a building, to protect same properly from the effects of lightning.

1st. Perfect conductivity from the points of the rods to the ground is the fundamental principle—have no breaks in your rods and ground your rods not less than 10 feet in the ground.

2nd. Erect points above the ridge and firmly connect them to the cable and erect one near each flue, cupola, spire, etc. Points should not be over 25 feet apart, as experience has proved greater distance unsafe.

3rd. Circuit: If from 2 to 4 points are to be erected the rod should be fastened around over the structure, having each end grounded in the earth. When more than 4 points are to be used extra ground rods are to be connected from the ground to the top of the main circuit. Do not insulate the cable, but nail it flat down on the roof and to corner boards, etc.

By using the above rules and using a pure copper cable circuit, with enough points properly erected, in the opinion of the writer, the building will be absolutely protected from lightning.

F. M. COFER.



### Wants Samples

To the Editor: Colusa, Calif.

I wish to announce, that I am in the General Contracting business with offices in the Pirkey Building, Colusa, Calif., and would like samples of the latest building specialties to show my customers and display in my offices.

I would like catalogs of improved machinery, millwork, plumbing fixtures, builders' hardware, etc.

ALF. C. FELSCH,  
Builder and Designer.

**Arched Ceiling for Church Addition**

To the Editor:

Philadelphia, Pa.

I am sending you a sketch of a self-supporting church roof; building 34 feet by 56 feet, with a single arch ceiling. We wish to add a vestry to this building. The ceiling of the vestry will connect into the ceiling on the old part of the building in the form of an arch. Both ceilings will be circular in shape and the joint should be smooth where they connect.

That part of the building in which the vestry is located will be 34 feet by 40 feet and of the same height of ceiling as the old building.

Kindly tell me what is the most substantial way of connecting these two roofs so that the ceilings will join up in a perfect arch.

E. M. RUSSEL.

Answer: We have looked into this matter quite thoroughly and doubt if there is any method by which these two ceilings can be joined as you desire without removing all of the old roof timbers in that part of the roof which lies between the walls of the new part which you are to add.

You say that there is to be a circular ceiling on each part of the building. If such is the case the ceiling from the new part of the building will intersect that in the old in such a manner that some form of roof trussing as shown in the sketch will be needed. As you can see from this sketch, that part of the roof between the walls of the addition will have to be supported by two intersecting trusses supported at the ends by piers of pilasters of stone or brick work. If your building is of frame construction, it would be necessary for you to remove a good part of the roof of the old build-

ing at the time of joining this part of the roof to the new section. It would also mean that you would have to build up the pilasters or piers shown, since your frame structure would not be of sufficient strength to support the roof trusses needed.

The sketch which we are showing will give you a general idea of what is needed in this form of construction. This sketch is intended for use in the construction of a new building, but the principle which would have to be followed in any building is the same as that shown. Editor.



**Wants Bookcase Detail**

To the Editor:

Sacramento, Calif.

I have found your "Encyclopedia" and also the AMERICAN CARPENTER AND BUILDER, which I consider the finest magazine of its kind published, very beneficial to me. I hope, at some future time, to see details of a good bookcase, with sash doors, printed in your magazine. I have a work shop in my basement and greatly enjoy making furniture, etc., during winter evenings.

J. M. E. MORRILL.



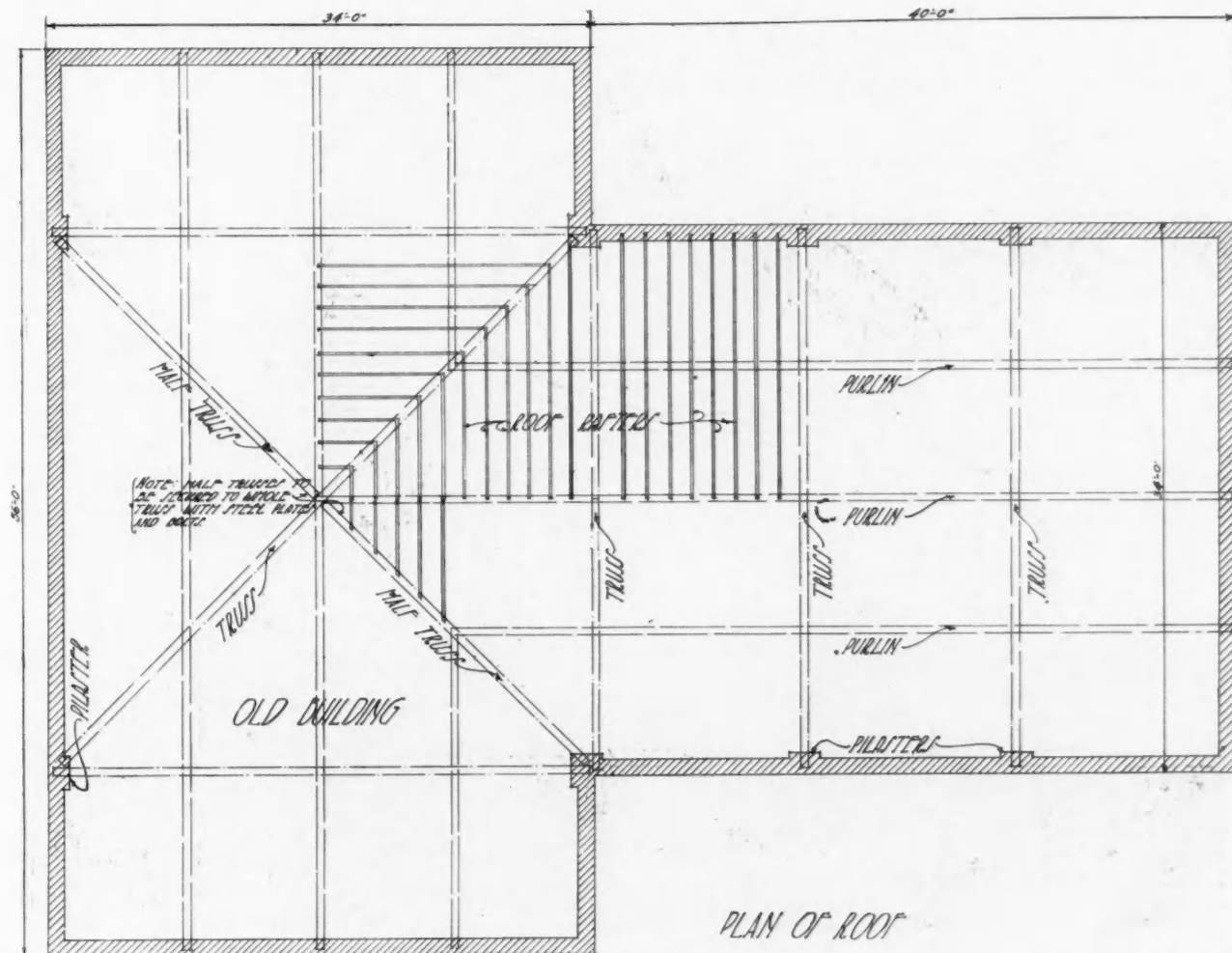
**Graining Instruction Wanted**

To the Editor:

Elkland, Mo.

I would like to ask the readers of this journal to please tell in plain language just how to handle the colors sold under the name of graining colors. What is used as a thinner and vehicle to spread the colors and still have them work good under the comb? If any Brother thinks he is handy with the combs, would appreciate any hints on the subject.

F. M. COFER.



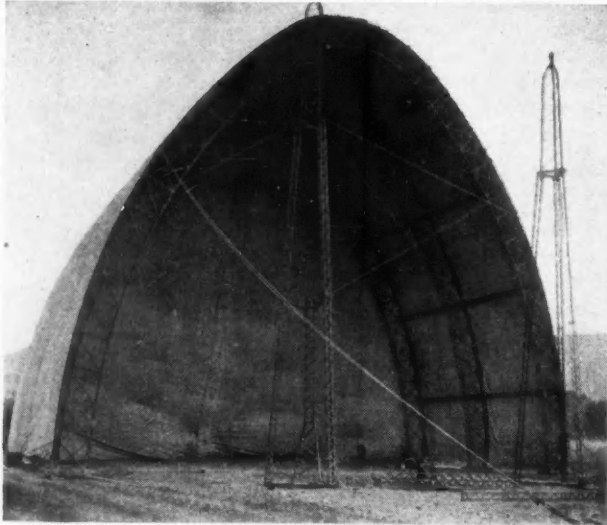
Safe Construction for Church Roof with Arched Ceiling

### A Novel Italian Structure

To the Editor:

Buffalo, N. Y.

A transportable hangar for dirigible balloons, designed by engineers F. Bosco and L. Donatelli, has been adopted by



Cloth Covering Partially on

the Italian Army. As seen in the photographs it is made up of a number of arched sections varying in number according to the length of the structure. The framework is all of

steel and iron, with a fabric covering to keep out wind and storm.

The sections of the framework are fastened together by interfitting joints which are then rigidly held together by bolts; and the structure after being assembled on the ground, is finally raised. It is claimed that by using a hinge principle of jointing the parts together as well as for the bases of the arch, the entire structure can be rapidly assembled or taken down and when erected forms a strong wind resisting hangar.

Frank C. Perkins.



### Manual Training and "Us Carpenters"

To the Editor:

San Rafael, Cal.

I have often wondered why so many carpenters "knock" manual training in our schools. Where or how it is going to hurt carpentry and building I cannot see. The idea that boys are going to make a few tabourets and chairs and desks and so forth in school and then come out calling themselves carpenters is, I think, pure "gin fiz." Even if a few conceited youngsters do start out as carpenters it will take but precious little time on the job to impress them with a sense of their incapability. They will realize the difference in mighty short order between a mechanic and a kid.

No, I cannot see how manual training is going to hurt us in the least. But I do see where it will be of great benefit to those who take it. (I wish to goodness I could have taken it!) Say, did you ever see one of those men who could not put a screw in a shelf bracket or saw a board in



Italian Army Engineers Erecting Light Framework for Dirigible Balloon Hangar

two so the two pieces would go together? Absolutely helpless? I know one whose wife has to drive every nail about the house. He couldn't even drive a tack in the ceiling to hang one of those sticky fly catchers to. Now if he had taken manual training at school he could at least saw a little stove wood or put up an occasional hat hook.

And that is where I decide in favor, big favor, of the Manual Training. It gives a boy a bit of good common, practical, training that will prove mighty useful a good many times before he has "shuffled off the mortal coil." (God speed the day when more practical things will be taught in our schools!) He won't come out of high school a mechanic or even a common carpenter, but he will have some knowledge of the care and value and use of tools—how to sharpen and handle them. And that in itself is a good deal. (Don't tell, but I have seen some carpenters who did not know how to take care of their tools.) He will at least know how to plane true, drive nails in a respectable manner, saw to a line (instead of over or across it); and he will have learned the value of accuracy, and that a hammer has a peculiar habit of leaving certain curious indentations in wood. Let a boy make a neat, well constructed Mission lamp, and if he does not know the value of the square and of accuracy by the time he has finished it—well, he never will learn. He'd better study for a lawyer or broker—something where things don't have to be "on the square."

I have often wondered why it was that other trades had their schools so long before ours. There have been schools of telegraphy for years. Likewise plumbing, brick laying, sign painting, machinists, electricity and numerous others have had their schools so long that they have become common. Scarcely a magazine but has ad.'s of various trades schools—all except ours—until very recently. Farming, chicken ranching, every old thing except the art of building homes—the oldest trade in the world! I was particularly pleased to see that article about "Lane Tech" in a recent issue of the AMERICAN CARPENTER AND BUILDER. That was fine! And that is one of the very few, extremely few, write ups that I have seen regarding any kind of a school for learning carpentry. Somehow there has existed for a long time among the craft an impression that the only possible way to learn carpentry is "on the job." Outside the craft I think there is a prevalent opinion that almost anybody can be a carpenter. Just the other day I heard the remark, "For a carpenter he seems to be a fine fellow!!!!" What do you know about that, Brer Butchers? I had never known before what a low down lot I had been associating with for some ten or twelve years! Did you? And that poor unsophisticated cuss that unknowingly gave me the information is such a high caste Hindu, too! What do you suppose his line is? He is almost at the top of the social ladder! Well, he is a clerk in a grocery store. And you know it takes a vast brain to do that kind of work. He followed it for seven years that I know of and his salary was raised so often that his wife has to work in an office to keep both ends together. Oh, dear!

But this is digressing. Now all you old moss backs, like that old chap that has been "Watching Jimmie," you just take a tumble to yourselves and quit hammering the manual training and think it all out reasonably. See if you don't come to the same conclusion, that manual training is a mighty fine thing.

Some, perhaps will never use the knowledge acquired, but a good many will find it useful to them in a hundred and one ways "about the place"; while those few who do go into Carpentry, one of the finest trades in the world, will have the forms all laid for a good substantial concrete foundation for their life structure.

H. J. BLACKLIDGE.

Striking Curved Hips and Valleys

To the Editor:

Bakersfield, Cal.

There being some discussion in your magazine relative to the development of the circular hip rafter. I enclose a copy of an article from the "Carpenter" of December, 1909.

"Inclosed sketch shows a simple method of procuring the proper curvature of a hip or valley rafter for domes, etc., when radius of common rafter is known:

"Snap a chalk line on the floor equal in length to twice the

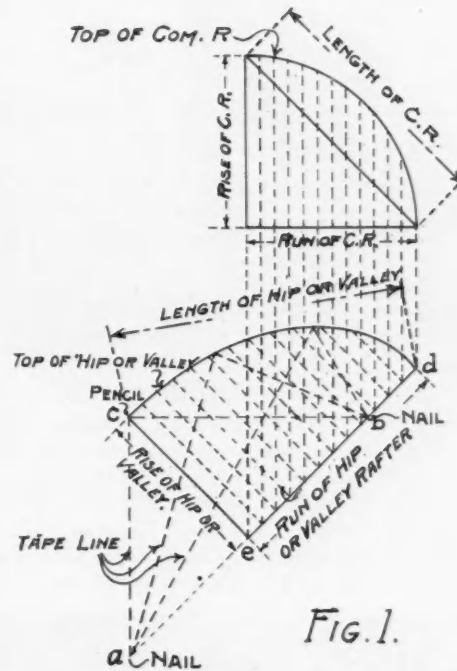


FIG. 1.

run of hip or valley; from a point (d) mark off a distance equal to the sum of hip or valley. At this point (e) erect a perpendicular line; equal in length to the rise of hip or valley rafter to a point (c). From the point (c) measure off a distance equal to run and mark at points (a) and (b). Drive nails at these two points (a and b), fasten tape at (a), pass it around (c) and fasten on nail at (b), making sure it

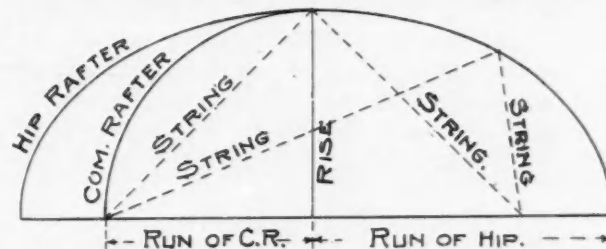


FIG. 2.

is stretched tight. Remove nail at (c) place your pencil in loop of tape and describe the illiptical line (c-d), marked "top of hip or valley" on sketch; lay your timbers on this line, splice them up to get the required length, and mark them to correspond with run, or foot cut, rise or plumb cut, and with curve on top and your rafter is completely laid out and will fit in its proper place when framed.

"Dot and dash lines on sketch indicate position of tape at various points along line at top of hip or valley rafter.

"The same method can be employed in any other problem of this character. Its an old one, but worth remembering."

MEMBER L. U. 743.

# The Editors Drawer

*New things worth while*

## Metallic Battens

Barn builders will welcome these metallic battens which will make vertical siding for barns and other buildings, wind and water proof. Provided with the interlocking joint illustrated these metallic batten strips move freely with the expansion



Sections Showing Expansion

and contraction of the siding without any warping, splitting or drawing off. We show a photograph of part of the wall where the vertical boards are fixed in this way. Note that the wall is perfectly smooth with no obstructions. Sliding doors can roll flush against such a wall.

These metallic batten strips are made of heavy galvanized iron; they come in eight and ten foot lengths; they are

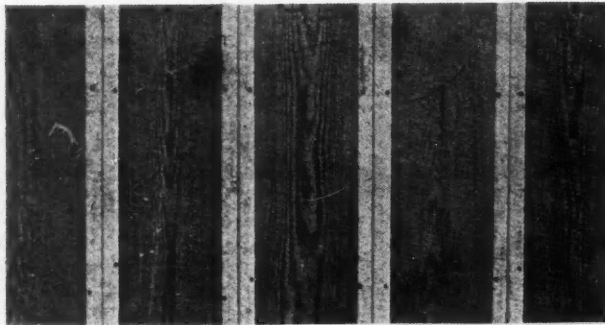


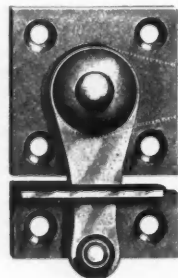
Photo of Barn Wall, Metallic Battened

nailed to the siding with small nails. Barnes are painted right over these strips making a very neat, trim appearance.

In order to introduce these metallic battens, the manufacturers are willing to send samples and quote prices either direct or through local dealers.

## A Catch that Stays "Put"

We have all had trouble with cellar window fasteners. They come loose, get out of line and won't fasten, break loose and in general show themselves ill fitted for the work they are called on to do.



Cellar Window Set

A newly featured cellar window set is illustrated. Build to stay fastened and strong, never to admit intruders. Cellar window sash warp and swell but not so much that this fastener with its wedging action will not bring the locking parts into line.

These advantages since they cost no more will make this cellar window set popular.

## Guest Room Door Knockers

A very pretty custom as well as a very practical one, is found in the revival of the old English guest room door knocker. We all do too much knocking, of a sort; but this kind of knocking, as a polite request for admission, is a good thing to encouraged. A revival of the guest room



Three Styles of Guest Room Door Knockers, Antique and Colonial in Design

or chamber door knocker will add to our manners as well as to the appearance of our doors.

These patterns and illustrations are a few of those recently offered by one of our leading manufacturers of builders hardware. They are of cast bronze and are furnished in any finish required. As an elegant little finishing touch for fine residence work, door knockers will be appreciated. Builders may well call their clients attention to them.

## A Jack of Many Uses

The ingenuity of American tool manufacturers is again evident in a new tool just being offered, that will move a building, tighten fence wire, jack up a wagon or a building wall, pull fence posts or serve as a first-class vise.

The illustration shows this jack used to move a building. A pull is exerted by one man with this jack, equal to four teams of heavy draught horses. The head of the jack is hooked around a stake and a rack bar is attached to the object to be moved by means of a chain.

The cost of this tool is very moderate and the things it is capable of doing, are useful things not simply curious and interesting ones that nobody has any use for. Quick and easy adjustments change this tool from vise to a drill-press or a pipe vise or a wire stretcher or a post puller or a lifting jack. You can switch it from one kind of work to another quicker than we can tell you about it.



Jack Being Used to Move a Building

**A Double Ended Screw Driver**

A new screw driver bit has two point of a different size. These points, instead of being comparatively blunt as on most bits of this character, are flat and have fluted points which prevent slipping in the screw slots. These bits fit into



Screw Driver Brace Bit with Good Points

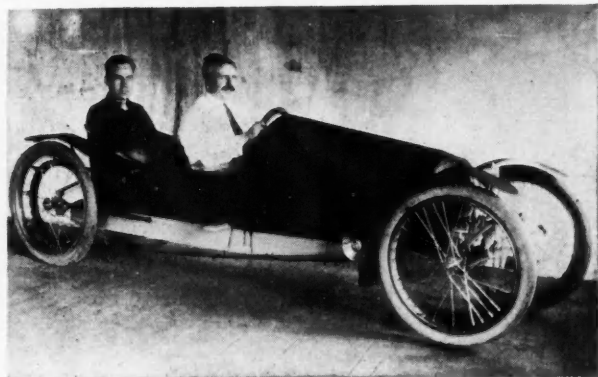
any brace chuck. As they are made of the highest grade forged Swedish crucible steel carefully tempered and ground, they will be well liked by our mechanics.

**Buys Fleet of 58 White Trucks**

Hardly a day passes without the White Company of Cleveland selling a big fleet of motor trucks to some prominent concern. Truck sales that are record-breakers for certain industries, involving anywhere from five to sixty-eight vehicles, have been made with great regularity and each sale seems to surpass the previous one. The current week records the sale of three fleets totaling 81 trucks.

The largest sale was made to the Kaufmann-Baer Company, a new department store of Pittsburgh, whose order calls for the immediate delivery of thirty-eight White trucks and twenty additional trucks after the first of the year. This is the largest truck sale ever made in the city of Pittsburgh and also the largest single truck purchase ever made by a department store.

When the Kaufmann-Baer Company's trucks are delivered there will be over 160 White trucks delivering the purchases of Pittsburgh shoppers. The leading merchants of the Smoky City have stopped their experiment work and standardized on Whites. A big majority of these trucks are identical in design and capacity, differing only in the types of bodies.



**The Cyclecar**

The cyclecar has arrived. In France everybody rides in a cyclecar. It is cheaper to ride in a cyclecar than to walk. "The poor man's motor car," selling complete for about \$375., develops all the speed and gives all the comfort of the big touring cars. The only difference is the one you can afford, while the other you (or the most of us anyway) cannot.

And now the cyclecar has reached America. One of our leading motor truck manufacturers has perfected the cyclecar to conform with our requirements here. Before very long our city streets and country roads will be thickly dotted with these speedy reliable little cars of American make.

In their machinery construction they are the last word in simplicity; that is why the cost is so low. This cyclecar illustrated as a two cylinder, 10 horse power engine, air cooled. No cranking is necessary, as motor is started right from the driver's seat. The wheel base of this car is 100 inches, the tread 36 inches, total weight of car 450 pounds.

Builders will welcome the cyclecar as a God-send for them. It will make it easy for them to get around to their work and cover a big territory. Business uses will pay for the car, leaving all of the fun of the using of it as pure velvet.

**A Window Lock and Anti-Sash Rattler**

We have been driven most crazy many a night by some loose window, rattling and creaking. We would have willingly given a weeks pay for some device that would cut off that infernal racket.

Evidently others have felt the same way. At any rate an anti-sash rattler is just now being offered. It's a little thing and doesn't cost much; but it does the business. A feltoid pad is pressed tight against the window sash and holds it absolutely secure at any position. Windows equipped with this lock can be partially opened from the top or bottom to admit fresh air; and still they are securely locked against burglars and they will not rattle.



Fasten this to your Window Sash and Get a Good Night's Rest

Such a boon of humanity ought to be provided by kindly disposed carpenters and builders, on every residence they construct.

**Johns-Manville Opens Branch in Galveston**

The spirit of business enterprise which characterizes this aggressive concern is once more evidenced by the opening of a new office and warehouse in Galveston, Texas. The H. W. Johns-Manville Co. now boasts three offices in the Lone Star State, viz., at Houston, Dallas and Galveston. At the last named place, in a modern brick warehouse of large proportions, will be consolidated the stock for distribution to the different offices and throughout the firm's Texas territory.

Galveston, because of its location and shipping facilities, makes an ideal concentration center. The company plans to receive direct at this point, heavy shipments by coastwise lines from New York. The steadily increasing trade with Central and South America also makes Galveston a convenient point of distribution.

The H. W. Johns-Manville Company is among the country's largest houses dealing in roofing, building materials, packings, pipe coverings, insulating materials and asbestos goods. This concern owns extensive asbestos mines in Danville, P. Q., Canada, and has nine factories located in various cities throughout the United States.

**Washerless Faucet Puts an End to Valve Troubles**

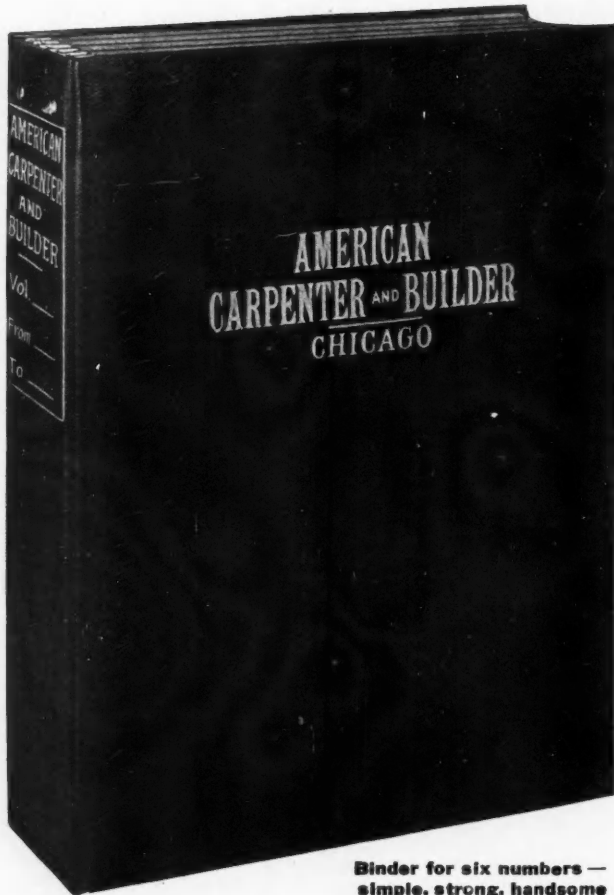
No more washers to wear out and destroy the seatings in faucets causing leakage. This is the happy state of affairs promised by the manufacturers of this new washerless faucet.



Faucet Cut Open to Show Washless Parts

No more valuable time lost tinkering with leaky faucets! This faucet has no washers to wear out. It has a conical valve bearing directly on a spherical seating. It will not leak. These are said to operate as well on high pressure as on low and are as efficient on hot water as on cold. This looks like a chance to stop faucet troubles.

# Vol. XV is Completed—BIND IT NOW!



Binder for six numbers — simple, strong, handsome

## Low Rates on "A. C. & B" Binding Covers

Here is the Binder for your Building Journals you have been wanting. It is the well-known "*Torsion*" **Steel Wire Binder**. It is now ready for Delivery to you at Manufacturer's Cost.

We are glad to announce that we have had 10,000 of these excellent Binding Covers made up for you—handsomely lettered in gold on maroon Art Canvas as shown in the photograph. The Back Stamp is a De Luxe Three Color Label with spaces left for you to write in the dates and the volume number.

**You Will Like these Binders.** Each one holds six numbers (1 volume) of the American Carpenter and Builder. We have had them made up in huge quantities and accordingly at a very low price—and now offer them to you at cost—as we want every reader to preserve his copies and refer to them constantly.

This is a worthy Binder for your copies of the American Carpenter and Builder. Bind up the back numbers you have—and start now to bind each number as it reaches you.

### SPECIAL LOW PRICES TO OUR FOLKS

Each .....	\$1.00
Two .....	1.75
Three .....	2.50
Four .....	3.25
Five .....	4.00

POSTAGE PREPAID

**You can SAVE A CONSIDERABLE AMOUNT by buying several Binders now.**

Preserve and use this **GOLD MINE** of **PRACTICAL Information and Help for Builders.**

OCT. 1913  
American Carpenter and Builder  
1827 Prairie Ave.  
Chicago

Enclosed find \$..... for which send me at once, postage prepaid, ... of the "A. C. & B." Binding Covers as announced in current issue.

If I am not fully satisfied on receipt of same, you agree to refund my money on return of Binders to your office.

Name .....

Town..... State.....

Street .....

Prices

Each .....	\$1.00
Two .....	1.75
Three .....	2.50
Four .....	3.25
Five .....	4.00



View of Inside of Binder Showing Solid Steel Plate "Back Bone" and Flat Steel Locking Rods.

Each one of these rods is slipped through the middle of a copy of the magazine and is quickly and easily snapped fast. There is no punching, cutting or mutilating whatever. Each copy is bound in snugly—yet can be opened absolutely flat. Keeps your magazines clean and fresh—and right where you want them for ready reference.

**While They Last at These Prices—Hurry, They Are Going Fast**



# TRADE NOTES AND ITEMS OF INTEREST

Through this department the editors aim to keep builders, contractors, carpenters and architects in touch with what their friends, the manufacturers, are doing for them in new or improved tools and machinery, methods and materials—pertaining to building. Items for these columns must have real news value; they are offered here as interesting information for our readers; they are not advertising. No matter will be printed here simply because some advertiser wishes it. Likewise, no matter will be excluded simply because the article described is not advertised in this magazine. Suggestions for the betterment of this department are requested of our readers.

## Motorcycles for Builders

Many contractors in the phraseology of the day "bite off more than they can chew." They bid on a number of contracts and fortunately or unfortunately, as the case may be, are awarded more work than they can personally supervise thoroughly. Then come the losses through omission. This or that goes wrong. Errors arise which before they come to the contractor's attention, have absorbed more or less of his margin. The writer personally knows two or three contractors whose annual losses would have made a fair start for a saving account. Obviously the easiest way to overcome or remedy this great source of loss must be one which will broaden the scope of the contractor's personal supervision. Many of the large contractors realizing this have purchased

that my operating cost is but a fraction of a cent per mile, in fact, far less than my former carfare and I further know that my motorcycle has saved me its original cost time and time again. When I considered the purchase of a motorcycle. I looked at it from a purely business standpoint and sat down and figured it out. I estimated my time as worth \$2.00 per hour and when I figured the hours a machine could save me—well, there stands my motorcycle.

"Now four of my carpenters and two of my masons have purchased machines and are living out in the suburbs, where rent is cheap. Although one of them lives nearly five miles away from his present work, yet he finds that the hour's nooning gives him ample time to run home and have a hot dinner. Each of them have a luggage carrier or rack right over their rear wheel to carry their tools on. The motorcycle brings me nearer to being in two places at once than any other mode of conveyance."



Mr. Ferd Karl, of Canal Dover, Ohio, and his Flying Merkel Motorcycle Have Made a Most Remarkable Record for Economy. He Purchased This Machine, Which is a 6 H. P. Twin Cylinder Belt Drive Model, in 1911. Since That Time the Only Expense Incurred for Mechanical Parts has Been \$1.50 for two New Inlet Valves. M. Karl has Covered 39,864 Miles to Date.

automobiles and found that by means of same, they can nearly double the amount of work they could formerly properly supervise. The original investment as well as the up-keep, however, has prevented many from adopting this method. To this, by far the larger majority, the motorcycle should prove a boon. The writer recently talked with one large contractor who stated that he had used horses, autos and finally the motorcycle. Now he uses the motorcycle entirely as he finds he can not only get around faster in crowded districts, but much more economically. He says in part, "I ride a Flying Merkle motorcycle. I don't know what the up-keep cost of the other machines may be, but I do know

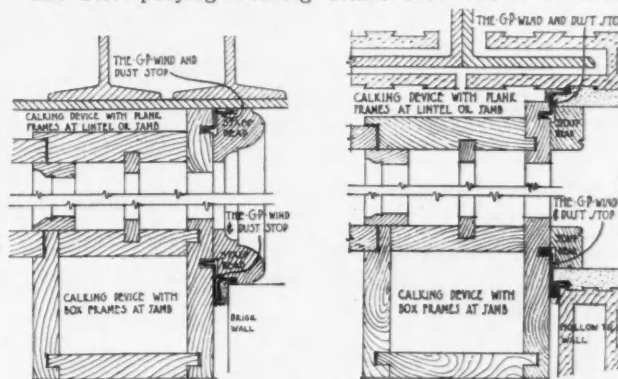
+

## Stop Calking Around Windows

Builders who have been using window strips on their windows have often found that even after making the joints perfectly tight between the window sash and frames the wind and dust would still come in. The trouble is back of the window frames themselves—all around between the brick-work and the frames the wind whistles in.

Calking with oakum has been resorted to; but that is bothersome and not satisfactory for very long, if at all. The Gifford-Pierce Company, 175 W. Jackson Blvd. Chicago, have devised an excellent solution for this problem. Their G P Wind and Dust Stop is a metal calking, applied after the window frames are in place but before the staff beads are permanently fixed.

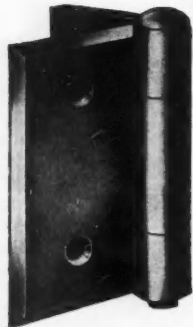
The accompanying working details show the G P Wind



Sections Through Window Frames in Brick and in Tile Buildings Showing how G P Wind and Dust Stops are Used.

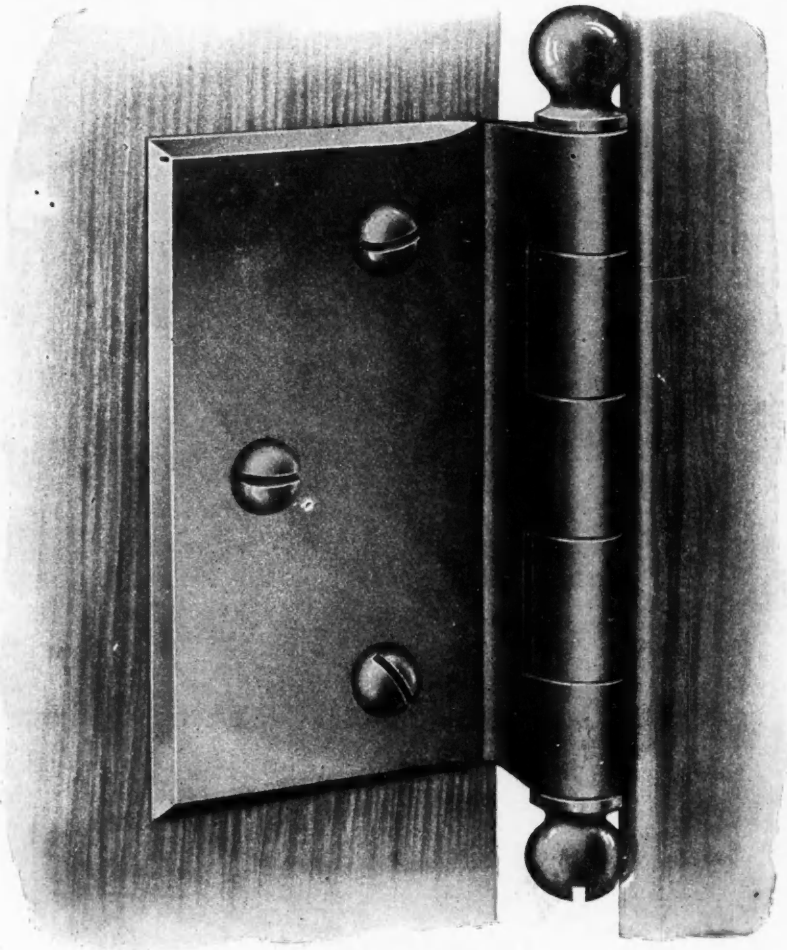
and Dust Stop applied to both box and plank frames set in brick walls, and also in structural tile walls. These detail drawings show cross sections through the window jamb or reveal and through the window head or lintel.

(Continued to Page 92)



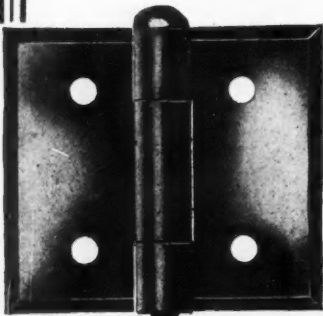
# YOU'RE WASTING

If you not are using "National" Half-Surface Ornament door set and wedged into position, and the ornamental leaf a very simple one and saves fully half the time required to hang on the present high price paid carpenters, for this class of labor,



Style No. 450

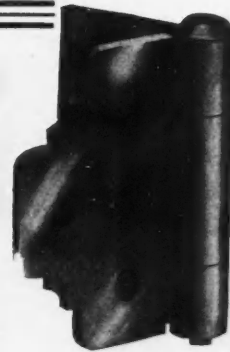
The No. 450 Ornamental Butts here illustrated are made in all sizes from 1½ to 4 in. size. These butts have beveled edges to match beveled escutcheon plates, are polished and double plated. Larger sizes packed one pair in a box. Smaller sizes, one half and one dozen pairs in a box, each pair in an envelope with screws. Any finish.



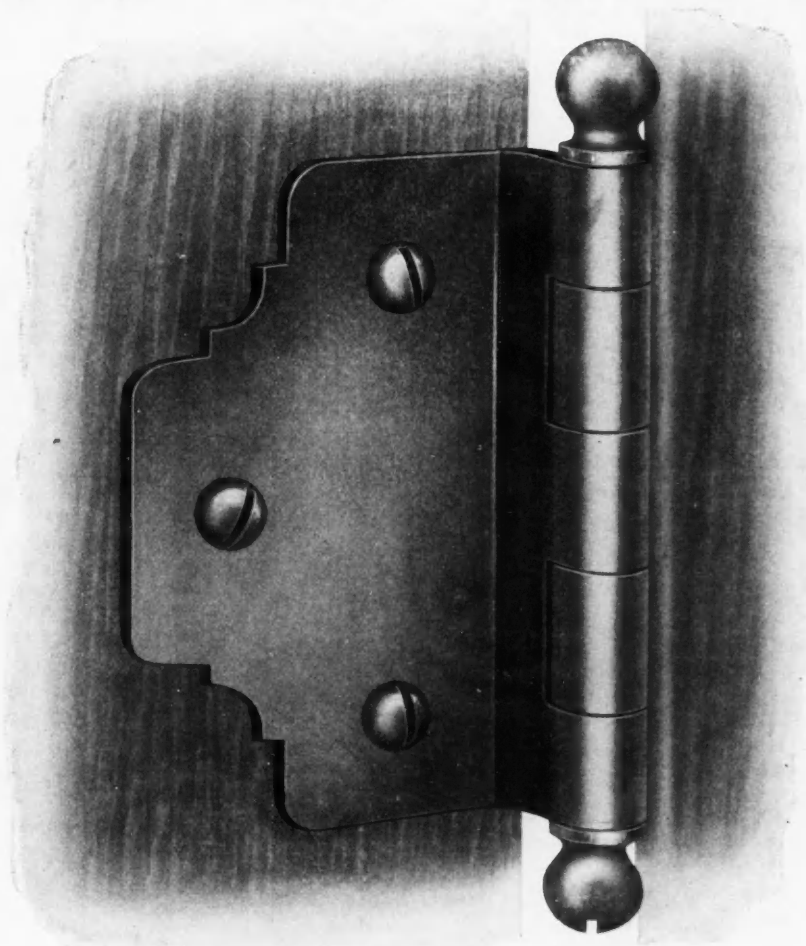
## NATIONAL MANUFACTURING

You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.

# HALF YOUR TIME

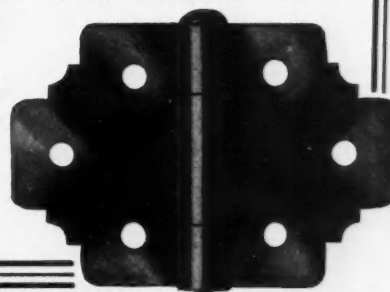


al Butts. The butt part is mortised into the jamb, the screwed to the surface of the door. The operation is the door with the old style or common butts. The saving, based is sufficiently large to receive your most careful consideration.



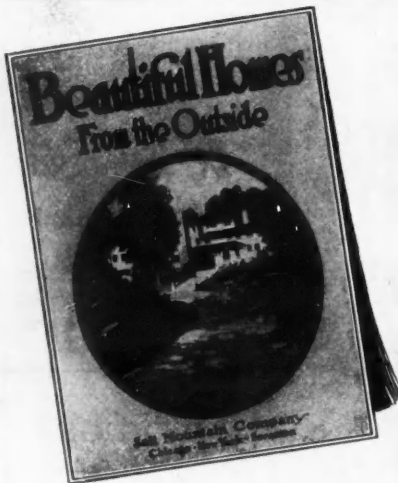
Style No. 400

The No. 400 Butts illustrated above are made in all sizes from 1½" to 4½" in size. The larger sizes are packed one pair in a box with screws. The smaller sizes are packed one-half and one dozen pairs in a box, each pair in a separate envelope with screws. Any finish. If your dealer can't supply you, send us his name and we will see that you are supplied. Ask for "Ornamental Ideas." It's free and will interest you.



**COMPANY, STERLING, ILL.**

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## This Guide To Correct Roofing FREE!

**B**EFORE recommending or specifying any roofing, for any purpose, be sure to send for our free book. This book contains much information you should know. —It tells you of what materials **Sal-Mo Shingles**—the best roofing material—are made;

It tells of the decorative qualities of **SAL-MO SHINGLES**.

—It tells of the economy, efficiency, durability of **Sal-Mo Shingles** and other roofing materials.

Besides giving you these facts, our booklet pictures in colors many beautiful homes with attractive roofing effects. Be sure to get this book and read about

# Sal-Mo Shingles

**In Beautiful, Permanent Colors from the Natural Rock—Red Granite, Green Slate, Garnet Brown, Red Slate**

**Sal-Mo Shingles** are being specified by architects, contractors and builders as the most durable and attractive of all roofing materials.

If you send for our book, you can learn why, for the book tells you what **Sal-Mo Shingles** are; how little they cost; how made; their beauty; and all about how

### WE GUARANTEE THEM For 12 Years and Over

When you once learn these facts, you will be better able to compare **Sal-Mo Shingles** with other roofings. You will know then why they take precedence over other materials where beauty, durability and economy are desired. **Sal-Mo Shingles** mark a step in advance of all roofing materials. They provide a roofing that

- is absolutely water-tight;
- never requires coating or painting;
- offers best kind of fire protection;
- is cheaper than good wood shingles, slate or tile roofings;
- keeps buildings cool in summer, warm in winter;
- is adapted to all climates;
- does not require a re-inforced under-roof;
- has no gravel to wash off and clog drains;
- will not crack, warp, split or curl up; and

#### SAVES ITS COST IN REDUCED INSURANCE RATES

You can learn many other advantages possessed by **Sal-Mo Shingles** by sending for our

#### FREE BOOK—"BEAUTIFUL HOMES"

This book tells of the superior value of **Sal-Mo Shingles** over other roofing materials, in a fair and impartial way. Book also contains full-page illustrations in colors—showing how many attractive and pleasing effects can be obtained from their use.

Address Dept. F, city nearest you, when writing for book.

**Sall Mountain Company**  
Chicago New York Scranton



—Also Factories at—  
Rockdale, Ohio Porter, Ind. Gainesville, Ga.

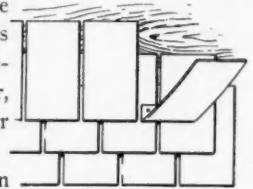
The G P Wind and Dust Stop is formed of No 26 gauge galvanized metal, and is tightly cemented in place. These calking strips will pay for themselves on any building in the heating bills they save. Also keeping out dust and grime, the wall decorations, hangings, etc., are kept bright and fresh much longer.

As a detail, to make buildings satisfactory and perfect in every way, these metallic calking strips are very desirable. For office buildings, hotels, hospitals, schools and other buildings, and for high-grade residences, all window and door openings should be made wind and dust tight. The Gifford-Pierce Company, 175 Jackson Blvd. Chicago, desire to get in touch with leading contractors and architects and with owners of proposed new buildings in all parts of the country. Their proposition is very attractive. Write to them today for full particulars.



### Flintkote "Rex-Tile" Shingles

In the little illustrated item on page 106 of our September issue which shows some diagrams explaining how Rex-tile is laid, one view was of a valley, another showing ridge construction, the third to illustrate the way the courses are laid. This was, by mistake, printed up-side-down. We apologize for this error, as anyone should know that water can't run up hill.



Herewith this detail is shown again, this time as it should be. **Nailing "Rex-Tile"**

Note that these shingles are laid exactly as wood shingles except that they are nailed through the under bent-over end, which not only fastens the lower or butt end of Rex-tile but also secures the upper portion. Note that the nails are covered up and out of sight. Allow five inches to weather in laying. Lay each Rex-tile one-half inch apart in the course.

Rex-tile is one of the products of the Flintkote Manufacturing Co. No. 88 Pearl St. Boston, Mass. They will gladly send descriptive matter prices etc., of Rex-tile on request.



### A New Space Saver

A new and ingenious invention, called the Bessler Movable Stairway has lately been put on the market. This invention was designed to provide for convenient access into heretofore unused attics, lofts and other room in homes, bungalows, stores, business buildings, hotels, etc. Also to replace the stairways of the stationary type when valuable floor space is taken up by them.

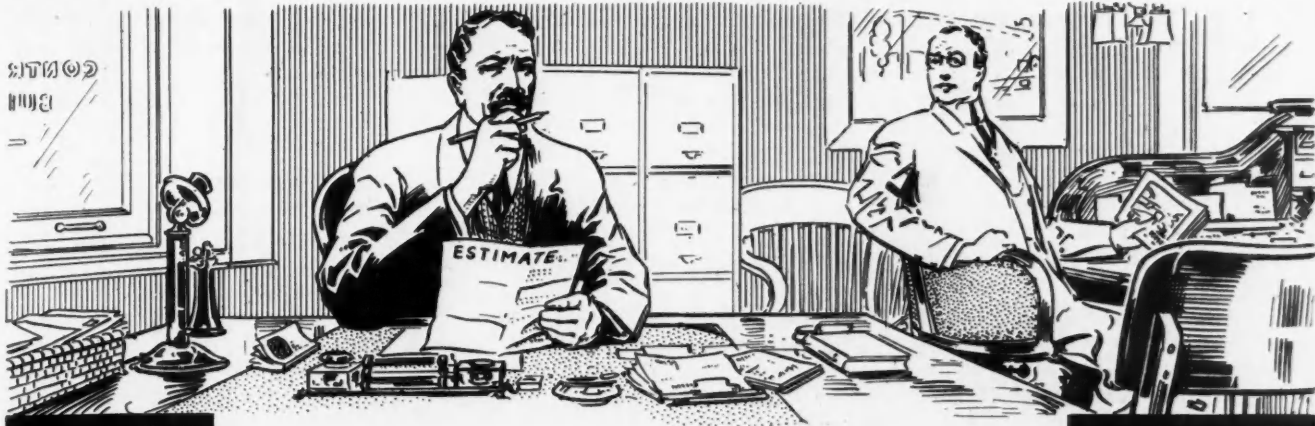
When this stairway is not in use, it is folded up into the ceiling out of the way, with nothing but a neat panel visible in the room below. All the room occupied by stationary stairways is therefore available for other purposes.

Its operation is automatic, and a light push of the hand is all that is necessary. This is accomplished by a series of three spring barrels, and a system of counter-balance.

When in position this stairway is a strong, well built flight of stairs, complete with hand rail. When no longer desired a light push rolls it up on a panel. A spring barrel concealed under the landing does the work. Friction is eliminated by roller bearings located between the stair and the panel. When stairs is up on the panel it acts as a counter-balance. Two spring barrels are attached to the upper floor and located, one on either side of the stairway, with cables leading thereto. These spring barrels in connection with the counter-balance pull it into the ceiling, where it is compactly folded, out of sight, and out of the way. To return it to the floor, a light pull on a chain, provided for that purpose, brings it down ready for immediate use.

For further information address the Bessler Movable Stairway Co., Akron, Ohio.

You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.



## “Write Hewitt-Lea-Funck for a bid on that lumber bill”

Lumber prices are constantly increasing — lumber quality gradually getting poorer. That’s the problem that’s giving gray hairs to many carpenters and contractors.

If you’re going to stay in business and make money, you’ve got to get your lumber cheaper. You can not only buy at a saving of 40% to 60% over local dealer’s prices but get beautiful lumber—finest in the land—if you buy of Hewitt-Lea-Funck.

### We sell you direct from six big mills—give you better lumber at 40% to 60% saving

You well know that the finest timber forests are in the Pacific Northwest. We own thousands of acres of some of the choicest timber in this district—do all our own cutting, logging and hauling—operate six big mills—sell you lumber and millwork of highest quality direct, at one profit above a cost of production that no one else can equal for lowness. Not one middleman gets a penny of profit. You buy at the mill price—buy cheaper than your local dealer can—and besides you get beautiful clear, straight-grained stock. Think of it.

**Quick estimates — quick shipment — quick delivery — send for prices**

We are organized for rapid fire service—have a big corps of long experienced estimators ready to

figure on your bill. All orders go out within 24 to 48 hours from time of receiving. We carry huge stocks, have everything in the way of facilities for turning out quickly any special work. Seven large railways radiate from Seattle, hurry our shipments to destination within an average of two weeks time.

**Quality and satisfaction guaranteed on all Hewitt-Lea-Funck products**

We guarantee every shipment to grade better than trust or combine standards. Our million dollars of resources back that statement. If you aren’t satisfied with your lumber, back comes your money. But you will be satisfied. Our customers write us that our lumber is the finest they have ever seen.

**One estimate will bring your order—one order will win your steady business**

Send us your complete lists or schedules of jobs on which you’re figuring. We handle everything for building, complete. If you aren’t figuring on any particular job just now, at least mail the coupon for prices.

**Hewitt-Lea-Funck Company**

408 Crary Building  
Seattle, Wash.

**Silos at 40% to 60% saving**

If yours is a silo-using neighborhood, you can make a big profit selling Seattle Silos. They are clear fir and equipped with patented swinging doors.

**Hewitt-Lea-Funck Co.**

408 Crary Bldg., Seattle, Wash.

Kindly send following with price list:

- Catalog of lumber and millwork
- Special silo folder

Name \_\_\_\_\_

Address \_\_\_\_\_

Business \_\_\_\_\_

You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.

### An Automatic Brad Driver

The Tom Price Mfg. Co., Cooper, Texas, are anxious to have all our carpenters know about their Automatic Brad Driver which it is claimed is one of the handiest tools known for stair builders, cabinet makers and all who do inside finishing. This new tool is nine inches long—a convenient length for work where space is limited. It is wonderfully useful for driving one-quarter inch to one inch brads and small nails that are hard to hold. Just place the brad in the nozzle of the tool and push. It's a simple tool—nothing to get out of order and the price is "dirt cheap."

If you desire further particulars, the manufacturers will be mighty glad to send you circulars and tell you the price.

### Elaborate Catalog of Standard Mixer and Contractors' Equipment

One of the most complete catalogs received this year, pertaining to concreting machinery, hoists, engines, derricks, etc., has just been received from The Standard Scale & Supply Co., No. 1345 Wabash Ave. Chicago, Ill. This is an illustrated catalog of 188 pages on high grade enamel paper. It gives full information about "The Standard" low charging concrete mixer, of which some ten or a dozen different sizes and styles are illustrated. Concrete block and brick machines are also featured. Their line of power hoists is very complete. This catalog presents all the data needed to make intelligent selections of this kind of equipment.

Their line of gasoline engines including power pumps is interesting to contractors. Other items completely covered are circle swing and stiff leg derricks, setter derricks, buckets, wagons and barrows, scrapers, road building tools, portable saw rigs, etc.

There is also included in this book much valuable tables and data which builders and engineers will find useful.

The Standard Scale & Supply Company desire to place a copy of this catalog in the hands of every one of our readers who is interested in any of these lines. They maintain offices at Chicago, Pittsburgh, Philadelphia and New York. Write today for your copy.

### A New Shingle

There has been a demand by property owners everywhere for a shingle having all the good qualities of the best wooden shingles, and none of their defects.

In many cities the fire regulations exclude the use of wooden shingles so that a good prepared shingle, which looks like shingles, which is laid like shingles, will last about the same, and gives fire protection, is almost a necessity. Having been in the high grade roofing business for over a quarter of a century, Bird & Son, makers of the famous "Neponset" roofings, and other building products, have been developing, during the past few years, a remarkable shingle which they have called "The Neponset Shingle."

It is made from Neponset Roofing, but is not by any means, merely a piece of ready roofing. Each shingle is carefully built so that it is thick at one end and thin at the other, and on a roof lies just like a wooden shingle.

Each shingle is of uniform size, 12¾ inches long by 8 inches wide, and the slot is cut in each shingle so as to give a decided shingle effect on the roof. A striking feature about these shingles is that only 452 are required to cover 100 square feet of surface, and on account of this fact, these can be laid more quickly than wooden shingles. There is no waste of time in trimming and fitting as they are of uniform size.

The durability of Neponset shingles is guaranteed by the service given by Neponset Par:od Roofing for over 15 years.

Samples and further particulars may be had by writing to Bird & Son, East Walpole, Mass.

## A Durable Stucco

Stuccos are exposed to all kinds of weather conditions and must therefore be made of durable material.

Nothing is more durable than rock, and J-M Asbestos Stucco is made from Asbestic (which consists of ground asbestos rock and fibres). It is combined with Portland Cement, thus forming a tough exterior finish which will not crack or crumble as ordinary sand and cement stuccos do.



Residence of Mr. John Neuscheler, River Edge, N. J., Covered with J-M ASBESTOS STUCCO. Wilder & White, Architects, New York.

# JM ASBESTOS STUCCO

is uniform in size and susceptible to a great variety of texture effects in the surface treatment.

It dries an artistic, uniform color, which is permanent.

J-M Asbestos Stucco is lighter in weight, and can be applied more evenly, smoothly and cheaply than ordinary sand and cement stuccos. In prepared form it can be furnished in white and various shades of buff, gray and brown.

Write Nearest Branch for Booklet

## H. W. JOHNS-MANVILLE Co.

MANUFACTURERS OF ASBESTOS  
AND MAGNESIA PRODUCTS

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Baltimore  
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You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.

# At Last—A Perfect Roof

*Water Proof—Fire Proof—Everlasting*

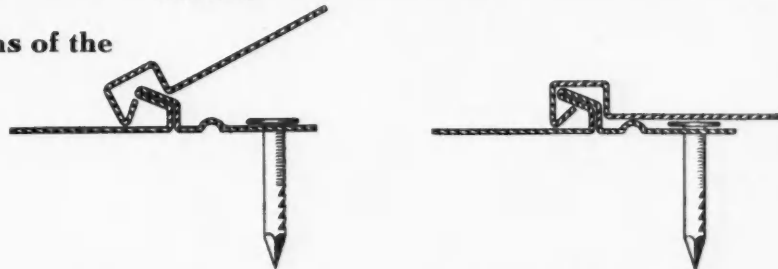
The highest and most modern development in the Metal Roofing art is to be found in

## BUCKEYE METAL SHINGLES

and  
**The Buckeye Raised Side Locking Joint**  
 (Patented)

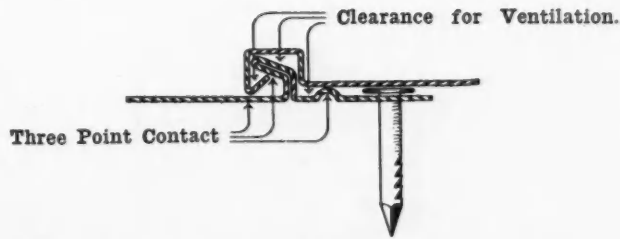
### Actual size and proportions of the Buckeye Raised Side Locking Joint

It is a well known fact that the weak point in all Metal Roofing Shingles has been the Side Locking Joint, for the reason that this Lock Joint has always been formed **below** the surface line of the Shingles. Consequently all such Metal Shingle Roofs will leak, sooner or later. In direct contrast to all former types of Metal Shingles, the **Buckeye Raised Side Locking Joint** is formed entirely **above** the surface of the Shingles and therefore a leak is impossible.

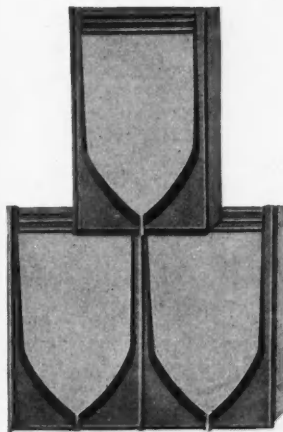


Position of Shingles When Laying or Locking Together.

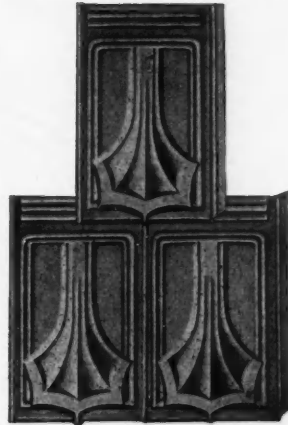
Showing the Shingles Laid on the Roof and Locked.



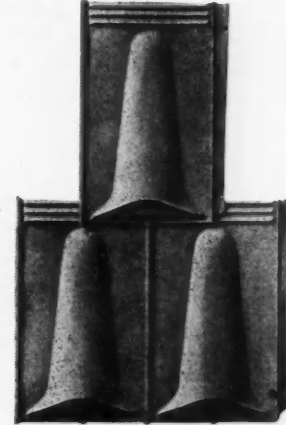
### Made in Three Highly Embossed Patterns.



Buckeye Gothic Shingles



Buckeye Ornamental Shingles



Buckeye Pyramid Shingles

**Notice to All Builders and Roofers**—Write for our special introductory offer, covering special prices and agency agreement. Make better profits by roofing with **Buckeye Metal Shingles**. Catalog and samples will be sent upon request. We also manufacture the famous Buckeye All Metal Silo Roof, Cupola Ventilators and other high-class metal specialties. Ask for catalog of anything that interests you.

**The Thomas & Armstrong Company, Dept. A, London, Ohio**

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**GERMANTOWN**



**MASTER BUILDER HATCHET**

**\$1.50**

**Best That Money Can Build**

- No. 319. Size 1.....3 1/4 inch Bit
- No. 320. Size 2.....3 1/2 inch Bit

Either Size, \$1.50

Each **Master Builder Hatchet** is hand forged from the finest hatchet steel obtainable. Individually tempered and tested. The thin bit on this hatchet gives an even balance with the pole. No other hatchet has such a perfect hang. It drives nails as well as a hammer. Perfect cutting because this steel takes a fine thin edge. Best hatchet ever offered to builders.



The octagon handle prevents the tool from turning. Does not tire the hand. Arm and hand are just as fresh at quitting time as in the morning. The swell at the end of the handle prevents slipping. Best quality second growth hickory.

The **Master Builder Hatchet** is made of the best and most evenly tempered steel **throughout**. Not a combination of steel and malleable iron. If you cannot get the **Master Builder Hatchet** from your hardware store, we will send you one by parcel post. Insist on having the only perfectly made, all steel hatchet—the **Master Builder**.

**Order One Today**

Sent Free by Parcel Post on Receipt of Price

**FREE**—With each **Master Builder Hatchet** we will give free a **BRASS CAP** or **SHIELD** to protect the cutting edge.

**GERMANTOWN TOOL CO.**

518 Commerce St., Philadelphia, Pa.  
62 East Lake St., Chicago, Illinois

**"Buckeye" Metal Shingles**

Metal Shingles have been in use in more or less crude forms for several years. "Buckeye" metal shingles, therefore, do not actually represent a new type of roofing material, but they do embody some marked improvements, both in design and construction.

There has been a heavily growing demand for a metal shingle and lock joint that would be absolutely water tight under all conditions—a demand for something better in the way of metal roofing shingles; and ones made from better quality of metal sheets than have been in common use. This demand has been brought about very largely by the fast decreasing supply of wood shingles and good slate.

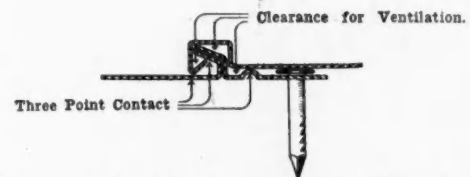
In metal shingle manufacture, the side locking joint, where the shingles lay or lock together along their side edges, has always been the most vital detail in their construction. This joint, above all, must be water tight.

In "Buckeye" metal shingles and the "Buckeye" raised side locking joint the Thomas & Armstrong Co., London, Ohio, have succeeded in fulfilling this demand. The illustrations show the "Buckeye" side lock joint in section and detail. In direct contrast to other metal shingle lock joints, it is formed and made entirely above the surface of the shingles. It is the highest part of the roof, thus positively safeguarding the entrance of any water or moisture. There is therefore, no chance whatever of a leak taking place.

"Buckeye" Metal Shingles are made in two grades—tin shingles painted and galvanized shingles. The tin shingles are stamped from extra high grades of tin plate, made especially for this purpose. After the lock joint has been formed, each shingle is dipped by hand into a tank of paint. They are



Position of Shingles When Laying or Locking Together. Showing the Shingles Laid on the Roof and Locked.



thoroughly coated in this manner, on both sides as well as throughout the lock joint. They are then allowed to stand for several days until perfectly dried, before being boxed for shipment. This paint is dark red in color being especially mixed of the finest and purest ingredients which have been found best adapted for roofing work. This coating of paint is more like a coating of enamel and will not crack or peel. It will last for several years and forms an excellent foundation for future painting.

If "Buckeye" tin shingles are painted two or three times during the life of the building, the roof will outlast the building itself.

The manufacturers want all builders and roofers to write for their introductory offer, covering special prices and agency agreement. Make better profits by roofing with "Buckeye" metal shingles. Catalog and samples will be sent upon request. These people also manufacture the famous "Buckeye" All Metal Silo Roof, Cupola Ventilators and other high-class metal specialties. Ask for catalog of anything that interests you. Address: The Thomas & Armstrong Company, Dept. A, London, Ohio.

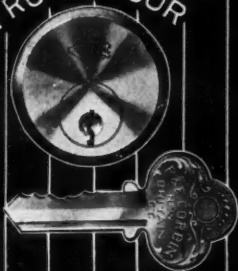
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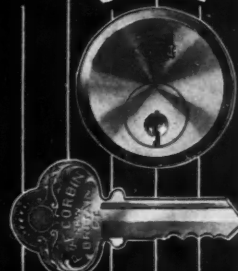


# MASTER KEYED CYLINDER

FRONT DOOR

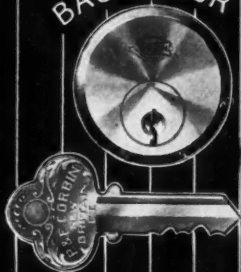


OFFICE

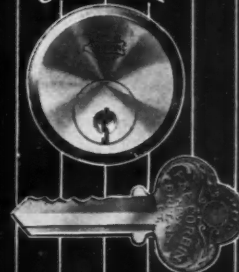


THE ONE KEY  
THAT FITS THEM ALL

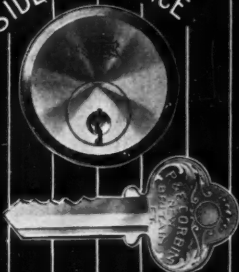
BACK DOOR



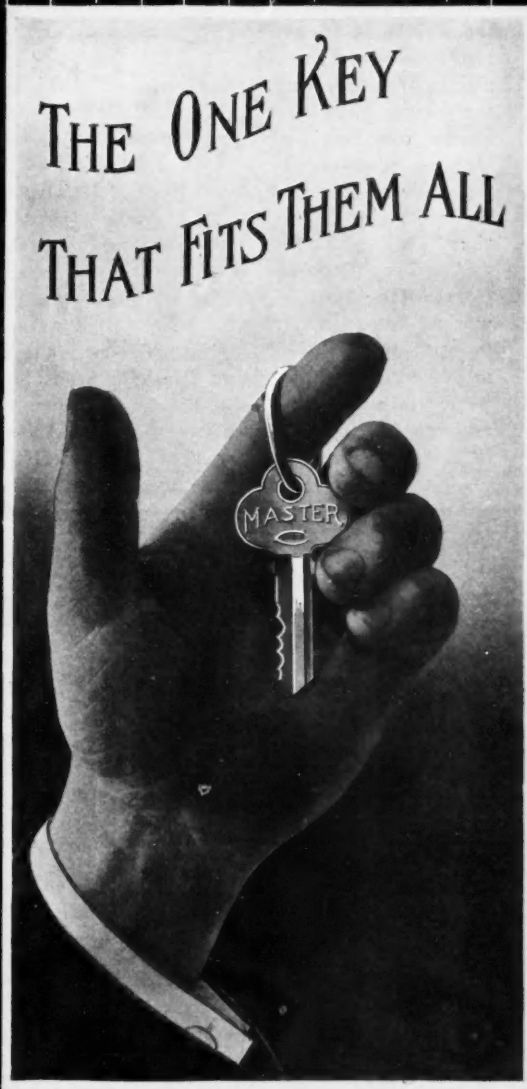
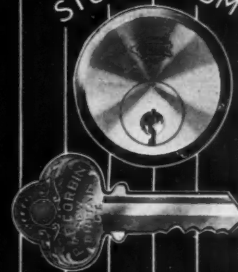
GARAGE



SIDE ENTRANCE



STORE ROOM



## The Only Master-Keyed Cylinder Lock

With a separate and independent locking point for the master key, giving in effect two locks in a single shell and using the same key-way

### P. & F. CORBIN

The American Hardware Corporation, Successor

NEW BRITAIN

NEW YORK

CHICAGO

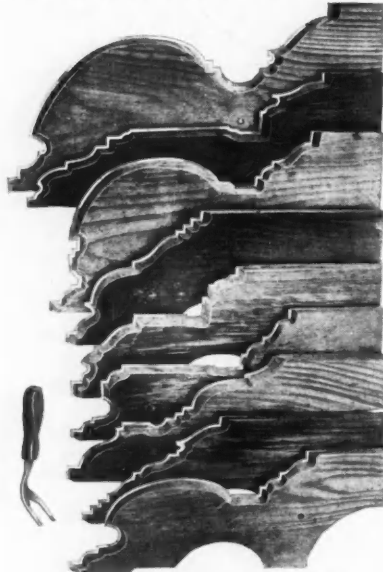
PHILADELPHIA

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**A Tool for Plaster Cornices**

Now that new devices to shorten the labor of the builder and to assist him in doing better work are coming thick and fast, it is a pleasure to welcome such a handy contrivance as the Monarch Cornice Mould.

This is the invention of Timothy F. Horan, a plasterer who found there was an urgent need for some tool to shorten the time and ease up the labor of putting plaster cornices in rooms. Mr. Horan's idea is a sensible one. There is a frame of durable non-rusting aluminum to which are fitted the wall guides of red birch, and the black cherry handles. The blades



Set of Nine Extra Mould Boards and Cleaner

for cutting the cornices are made of white pine treated with a prepared oil to prevent the action of water or plaster on the woods. Into the blade is inserted a zinc edge which cuts the cornice clean and sharp. One end of the blade forms a ceiling guide so that it is impossible to do a "bum" job with this tool. The Monarch Cornice Mould can be worked either to left or right and working in corners is no drawback. It makes just as perfect a corner as it does a cornice.

Only the man who has had cornices to make by the old methods can appreciate what work it was. And it is no "labor of love" either. Just a "devil of a job" to fuss around and file out of zinc, a blade to scrape the rough plaster into shape. Two hands and a smile are all that is necessary to

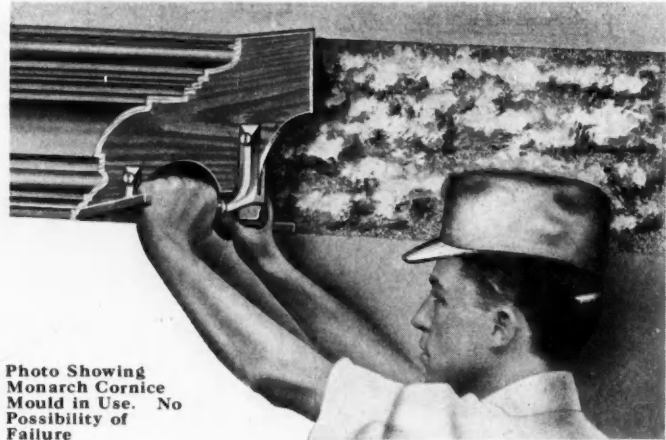


Photo Showing Monarch Cornice Mould in Use. No Possibility of Failure

work Horan's Monarch Cornice Mould. We say smile because that is really a part of the thing. Every plasterer smiles more and more as he realizes that cornice making is a cinch when he uses this new tool.

Timothy F. Horan, 10 Maple St., Cooperstown, N. Y., wants you fellows to get acquainted with his mould. He's got the goods and is right there, willing to show you that he's square and fair and means business. Just have him tell you about the Monarch Cornice Mould, and if you want to try it, Horan's willing to send the Monarch Cornice Mould on ten days' free trial, and it won't cost you a cent.

## You Know Good Tin Roofing is Serviceable —

*We make it.*

All of our Roofing Tin, including the accompanying well known brands, is now made from high grade **Copper Bearing Open Hearth Steel**, the material which has been proved to be most durable for roofing purposes.

Every buyer and user of terne plate should have our latest booklet, "*Copper—Its Effect upon Steel for Roofing Tin.*" Shall we send it?

**Copper Bearing Roofing Tin is stamped "C. B. OPEN HEARTH" in addition to the brand. Look for it. We also manufacture Apollo Best Bloom Galvanized Sheets, Black Sheets, Special Sheets, Corrugated Sheets, Formed Roofing and Siding Products, Etc.**

# American Sheet and Tin Plate Company

General Offices: Frick Building, Pittsburgh, Pa.

DISTRICT SALES OFFICES:

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Pacific Coast Representatives: UNITED STATES STEEL PRODUCTS COMPANY, San Francisco, Los Angeles, Portland, Seattle

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CERESITIZED

BUILDINGS

Chambers and Thomas Building, Buenos Ayres

Resident Palace, Vienna

Palazzo Odoni Bellinzona Switzerland

Bergsloss Brewery, near Berlin

Royal Society of Medicine, London

General Post Office, Bombay, India

Columbia House, Gothenberg, Sweden

Monroe Building, Lake Front, Chicago

# The Greatest Book in the Building Field

PUBLISHED THIS YEAR — "COURT RECORD OF 5 WITNESSES"

This book is entirely new and original. It's really 5 books in one—one over the other, stair-step fashion. High above all the books, on a bench, sits the Judge. Ceresit is placed on "trial." Five Witnesses—Prof. Scientist, Mr. Engineer, Mr. Builder, Mr. Owner and Mr. Demonstrator—are called to the "stand." The full "testimony" of each individual "witness" is reported in one of the unique books. The book is complete, authoritative, scientifically correct, interesting, and includes specifications. Above are shown some photographs taken from Book No. 3.

## YOUR COPY IS WAITING FOR YOU

Realize the demand for waterproofing. No one can afford to experiment. One mistake may cost a dozen jobs and a reputation. **Avoid all of this.** Equip yourself with knowledge. Get our book. Convince yourself for once and all that



Paste has "All of the Good Points and None of the Bad"

for buildings—tunnels—dams—basements—sub-basements—reservoirs—swimming-pools—walls—bridges—concrete roofs—cement stucco for exterior finishes, etc. **Because it is—**

**1. Moisture Proof.** Absolutely repels water. **2. Pressure Proof.** Withstands any amount of hydrostatic pressure. **3. Disintegration Proof.** Makes concrete immune from alkali, frost, etc. **4. Permeates** everywhere in the same proportion. **5. Our Demonstrator** shows how to prove the case for yourself. **6. Absolutely odorless.** **7. No discoloration.** **8. Most economical.** Requires no expert labor to mix properly.

## HERE IS A BRIEF SKETCH OF THIS BOOK

**Witness No. 1, Prof. Scientist,** explains why ordinary concrete absorbs water like a sponge—how Ceresit destroys the cause, capillarity—and why, as an integral paste, it is superior to surface paints, asphalt, tars, powders, etc. **Witness No. 2, Mr. Engineer,** shows reports of official test by American and European experts. **Witness No. 3, Mr. Builder,** shows Ceresitized buildings, dams, etc., throughout the world. **Witness No. 4, Mr. Owner,** gives testimonials from many nations—telling how Ceresit solved construction problems. **Witness No. 5, Our Demonstrator,** shows how to prove the case for yourself. No other waterproofing manufacturer ever made such an offer. Urges you to **judge for yourself and tells you how to do it.**

*Do not fail to get YOUR FREE COPY of this novel and valuable book. Simply tear out and mail the coupon at once to*

**CERESIT WATERPROOFING COMPANY**  
444-446 Commercial Bank Bldg. CHICAGO, ILLINOIS

**FACTORIES**  
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**CERESIT WATERPROOFING COMPANY**  
444-446 Commercial Nat. Bank Bldg., Chicago, Ill.

Please send me a Free Copy of the new Ceresit Waterproofing Book, "The Court Record of 5 Witnesses."

Name.....  
Business.....  
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Construction work interested in.....

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# BIRCH



## *Waiting for the Saw*

BIRCH logs are the cream of the Northern hardwood forests. From them is made the Interior Finish of the finest American homes.

BIRCH has every good quality of expensive imported woods at one-third the cost. It combines beauty, permanence and economy in the highest degree.

WHEN you think of FINISH think of BIRCH.

YOU want our Birch Book "C" and Panels of BIRCH in stained and natural finish. They tell all about BIRCH and show you just how it looks.

THE Book and Panels are sent postpaid promptly upon request to

**The Northern Hemlock & Hardwood  
Manufacturers Association**

Dep't. "C"

Wausau, Wisconsin

## **Cement Work Made Easy**

An equipment that will start you in the cement-laying business and that you can easily carry with you—this you will have if you provide yourself with an ordinary shovel and one of the Long-Handled Trowels made by the Standard Tool & Mfg. Co., 444 Industrial Bldg., Indianapolis, Ind.

This Long-Handled Trowel is to the cement layer what the universal mill is to the machine shop. It is a combined spreading, surfacing, grooving, and edging tool, and will enable you to do an equivalent of the work of about six men who get down on their knees to work and use old-fashioned tools. You stand erect all the time; and every operation is manipulated from the handle, a slight rotation of this part one way or the other giving the blade the proper tilt. The handle may be twisted at right angles with the blade, and a hoe is the result; or a stiff-handled trowel may be made by raising handle to desired position and screwing up thumb-nut on handle connection.

The Long-Handled Trowel is made in two sizes, with 18 in. or 24-in. blade, the same handle fitting to either size. The blade is made of the best steel, and the handle socket and gear mechanism of bronze, insuring the long-



**Is't This Easier Than Breaking Your Back?**

est possible service. With this trowel you can not only spread the batch and level it down, but also finish the work completely from beginning to end on such jobs as sidewalks and curbs, cellars and floors, porches, steps, etc.

The Standard Tool & Mfg. Co. also make an exceptionally fine grade of short-handled light-weight finishing trowels with adjustable handles and interchangeable blades adaptable to work even in the most difficult locations as in nooks and corners of closets, back of radiators, etc.

Illustrated descriptive circulars, with prices, etc., sent free on request. Write the Company at above address.

You will get SPECIAL ATTENTION if you tell Advertisers you read **American Carpenter and Builder**.

# HOW TO BUILD

## WAS WRITTEN FOR YOU

It presents your side of the building material values question. It will crystallize your half knowledge of wood values into a certainty.

*You want full value for every dollar you invest in a building.*

You are entitled to full value.

You get full value when you use Arkansas Soft Pine.

There is no guess work about that, for the structure you build with Arkansas Soft Pine always will be in style.

Using this good lumber, your building investment will not depreciate 50 to 75 percent in a few years because the particular kind of material employed no longer is the STYLE.



### HERE ARE SOME OF THE SUBJECTS TREATED:

- Why America is built of wood.**
- Economy of wooden structures.**
- Advantages of frame construction.**
- Why frame houses are warm and dry.**
- Why fad material houses are not.**
- How to avoid building troubles.**

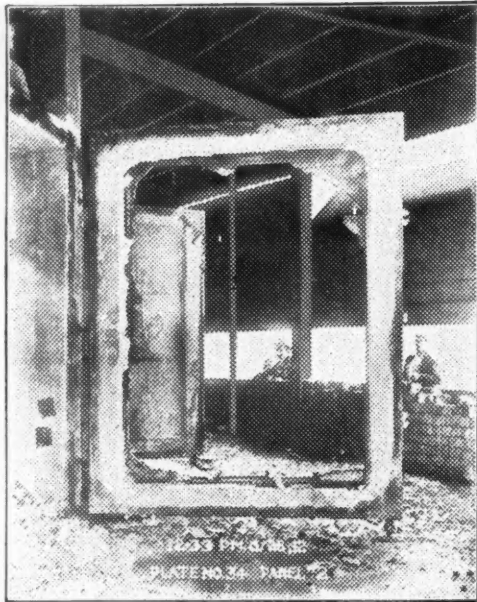
**Do you know**—1 $\frac{5}{8}$  inches of Arkansas Soft Pine will turn as much cold, heat or moisture as a 9-inch brick wall or a 13-inch concrete wall?

**It will.** HOW TO BUILD tells you why.

*Your copy awaits your request.*

**ARKANSAS SOFT PINE BUREAU**  
**308 South Canal Street** **CHICAGO, ILLINOIS**

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**Metal Lath Wins Out in Cleveland**

There are two kinds of resources from which the nation derives its happiness and well-being—natural resources and those created by the labor of man. The government through its laws conserving natural resources shows great social wisdom and a stern determination to eliminate national waste and destruction.

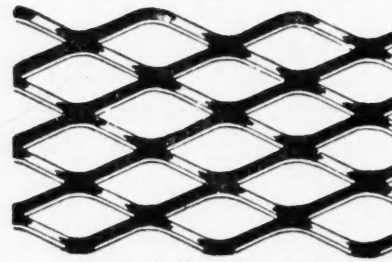
It has remained for the city of Cleveland to initiate the movement for the conservation of created or artificial resources. This applies particularly to the elimination of faulty or antiquated methods of building construction.

Mr. Virgil D. Allen, head of the Building Department, aided

by a corps of able and efficient assistants, constructed a concrete laboratory in which six kinds of partitions were subjected to severe heat and water tests to find out how each would act.

The accompanying plate indicates what happened to the partition consisting of wood lath on wood studding covered with a patent gypsum plaster. It was only able to hold up under the test conditions for a little more than an hour. In other words, it was subjected to a maximum temperature of 1865 degrees, and then water was applied. Total destruction resulted.

In the experiments where metal lath was used and where the temperature was as high as 2000 degrees, it was found that the lath partition was scarcely affected by the intense heat and the after-application of water.



Detail of "Brooklyn Lath"

A representative metal lath capable of passing the severe test of the Cleveland Building Department is made by the Brooklyn Metal Ceiling Company, 285 Greene Ave., Brooklyn, N. Y. "Brooklyn Lath" as it is called, is made

from the very best quality of sheet metal and has an added value in that it is not pickled in an acid bath. It is subjected to five distinct processes in its manufacture and finally emerges coated with Antirust, Painted or Galvanized.

The use of "Brooklyn Lath" in building construction insures the rigidity of the partitions and absolutely prevents possibility of collapse. Further details regarding this lath will be supplied upon request by the Brooklyn Metal Ceiling Co., 285 Greene Ave., Brooklyn, N. Y.

**"What is What" in Roofing**



As you look over the pages of this and similar papers you cannot fail to notice the very high birth rate of infant roofings. Almost every day some new kind of patent roofing is put on the market.

Can you afford to take such chances?

This is no attempt to influence your judgment, but merely an invitation to let us place all the roofing facts before you—including those on

**Genuine Bangor Slate**

We have printed a roof manual containing all the facts about all kinds of roofing, treated in concise, easy reading; based largely on the very words of the makers of the various roofings.

Also let us show you without obligation on your part, how we can cooperate with you, to your profit (and to ours), building up a satisfactory and very profitable business in your town.

To refuse this invitation is to refuse money which you might just as well have. Suppose you write us about it now while you think of it. Fill out the attached coupon, mail it today—now, before this slips your busy mind.

Infant mortality is notoriously high. The same applies to roofings. Plausible arguments, well presented, may get a roofing on the building, but they will not **keep** it on.

Then where is your business reputation?

You know how many years it takes to build up a business reputation, what a priceless asset it is to your business.

You also know that it takes but a little while to destroy it. One rotten apple may spoil a barrel.

One rotten roof may spoil a lifelong reputation.

October, 1913.

GENUINE BANGOR SLATE CO. Easton, Pa.

Please send particulars about your ability to help me make more money.

Name .....

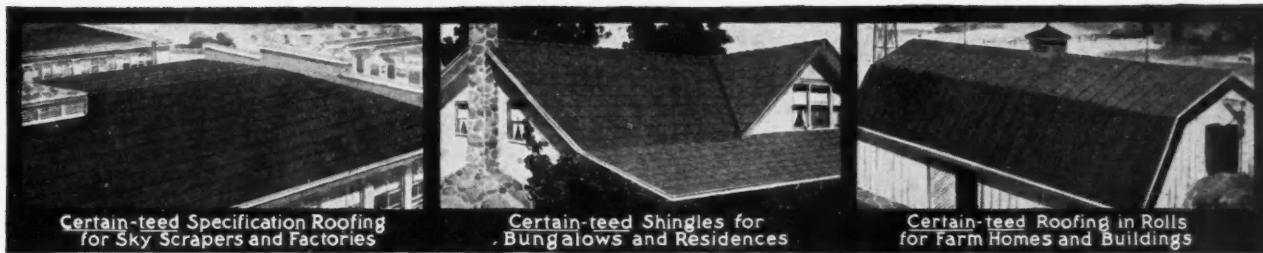
Address .....

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**Genuine Bangor Slate Co., Drake Bldg., Easton, Pa.**

*It will pay you to fill this out, detach, and mail today*

**Carpenters, Builders—there is a simple method of applying Certain-teed Roofing on any kind of a building**



Certain-teed Specification Roofing for Sky Scrapers and Factories

Certain-teed Shingles for Bungalows and Residences

Certain-teed Roofing in Rolls for Farm Homes and Buildings

**Certain-teed Roofing**

(Quality *Cert*-ified      Durability *Guaran-teed*)

Guaranteed 15 years—wears longer

**Rolls and Shingles**

**The roofing that has “made good” on the roof**

When ready roofing was first put on the market, many architects, builders and carpenters preferred to wait and see it tested on the roof.

The ready roofing that won out had to do so on merit. Certain-teed Roofing settled all arguments by giving absolute satisfaction in all climates and under severe conditions. Its use on all kinds of buildings has grown by leaps and bounds.



The durability of this modern, easy-to-lay Certain-teed Roll and Shingle Roofing is remarkable—it is guaranteed for fifteen years and will last much longer.

**Accept no substitutes**

Don't confuse Certain-teed with ordinary “make-shift” roofings—we guarantee it for 15 years and inside each roll furnish modern ideas for laying it artistically and permanently.

See that the Certain-teed Quality Label is pasted on the back of every roll and crate of shingles—it is placed there to protect you and your customers.

**General Roofing**  
The World's largest manufacturer of Roofings and Building Papers.

Certain-teed Roofing is used everywhere—recommended by leading dealers and contractors—and sold at a reasonable price.

**General Roofing Manufacturing Company**

E. St. Louis, Ill.    York, Pa.    Marseilles, Ill.    Minneapolis, Minn.    San Francisco, Cal.    New York    Chicago  
Kansas City, Mo.    Memphis, Tenn.    Winnipeg, Can.    London, England    Hamburg, Germany

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## No Dull Tools Now

Every tool in your kit as **keen** and **quick** as when you first bought it. Every edge as **sharp** and **true** as the edge on a new tool. And no more trouble and expense for grinding when you have a



### PIKE PEERLESS TOOL GRINDER

*"The Grinder that takes  
the 'Grind' out of Grinding"*

This machine is fitted with the Pike Bevel Guide—a patented device for holding the tool steady and true on the wheel. Makes it easy to grind a true bevel in a hurry.

Unlike others, Pike Peerless Grinders combine **great power** with **high speed**. This makes it easy to sharpen quickly with **very light pressure**, thus removing the danger of burning the steel or drawing its temper.

The grinding wheel is of Crystolon—made of crystals from an electric furnace that are as hard as the natural diamond. Crystolon wheels are famous for cutting very fast without heating the steel and they last almost indefinitely.

The materials in Pike Peerless Grinders are so carefully inspected and the machines are so honestly made that they are **GUARANTEED FOREVER** against all mechanical imperfections.

Two sizes—Pike Peerless Junior (small enough to go in your tool kit,) (5 in. wheel) \$5.00. Pike Peerless Senior (6 in. wheel) \$7.00. Foot power attachment \$1.50 extra. Other Pike Grinders \$3.00 up. Send for illustrated grinder booklet "A Sharp Edge in a Hurry"—shows the different styles and prices.

#### "Pick a Pike"

The Pike trade-mark means ninety years experience in sharpening stone manufacture. Look for it on the casing of the grinder and on the oilstones you buy. Pike Grinders and oilstones are sold by hardware and tool dealers everywhere or sent direct.

#### FREE—A Pike Stone

Send us your dealer's name and 4 cents for packing and mailing and we will send our Pike India Vest Pocket Stone for pocket knives, etc.—just to show you how fast Pike India sharpens. We'll include our famous book "HOW TO SHARPEN"—lots of facts on the correct way to sharpen tools and how to select and care for oilstones. You'll be pleased. Write today.

**Pike Manufacturing  
Company**

175 Main St.,

Pike, - - - N. H.



Drill Guide.



Scissors Guide.

### A Kitchen Cabinet Offered

A mechanical genius with a bend for figures has computed that the average woman travels three and four miles daily in her own kitchen. The distance is, of course, made in small laps, in between her pantry and stove and back to the pantry; then perhaps to her flour bin, etc.

These small trips, he found, make the appreciable distance of three or four miles during the day. He also assumed that all this walking caused a good deal of the fatigue felt by the average housekeeper at the end of the day.

To save the energy thus needlessly expended, he set his mechanical ingenuity to work and devised a kitchen cabinet that is a kitchen in itself. It is 72 inches high, and weighs 200 lbs. It has a white enamel working space of 28 by 40 inches, built on a sliding nickeloid metal top. It has a 60 lb. capacity sifter flour bin, which is air tight to keep out dust. Further, it has a compartment china cupboard, spaces for five spice cans, drawers for linen, cutlery, and sugar bins, coffee bin, pot-lid rack—in fact, the cupboard, china closet, pan rack and the entire kitchen are concentrated within the doors of this cabinet; and the housewife can sit down upon a chair before it, and lay hands on any article necessary instantly, without walking across the kitchen for it.

It is one of the most complete articles of kitchen furniture ever built and is reasonable in cost. The Hartman Furniture & Carpet Company of Chicago, are putting the article on the market.



### New Fay & Egan Variety Saws

The variety saw has long been recognized as a very important tool in carpenter and builder shops, etc. It is the machine of many uses and without which woodworkers could not operate their shops.

One of the latest improvements in the variety saw in now being placed on the market by the J. A. Fay & Egan Co. From the illustrations and descriptions given here, it will be seen that the 330 and its combinations is an excellent tool. The special care taken in the design and construction of this

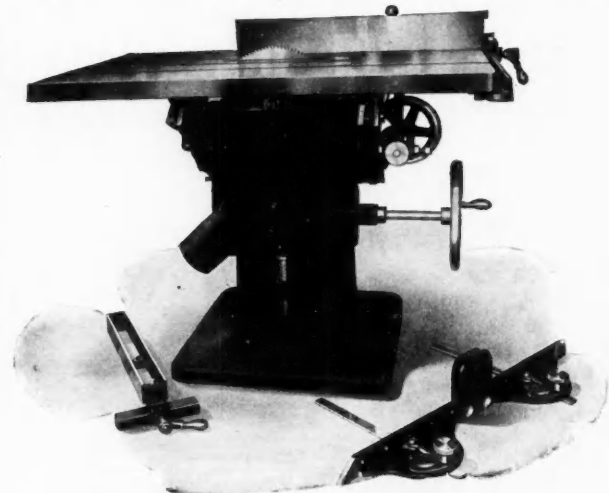


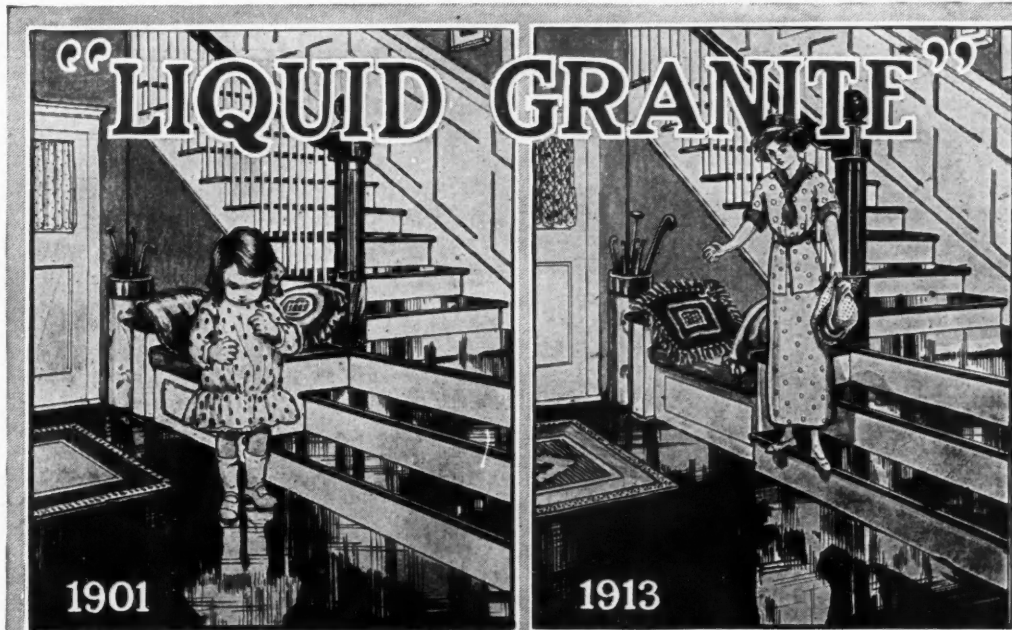
Fig. 1. Fay & Egan No. 330 Variety Saw.

machine is such that all adjustments are easily and quickly made—which feature will appeal to one from the economical viewpoint.

The 330 Variety Saw is made in two sizes to meet the requirements of the purchaser. The larger size shown in Fig. 1 has a 36-in. by 4-in. heavily ribbed cast-iron table mounted on rockers and angles 45 degrees by hand wheel and screw, a micrometer index showing the exact angle of tilt. A wooden throat plate is provided so that molding, jointing, dadoing, grooving, rabbetting or gaining heads up to 2 in. wide may be

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## After 12 Years This "Liquid Granite" Floor Is Still Bright and Lustrous

Pittsburgh, Pa., March 4, 1913.

"Some 12 years ago the writer put down in his residence a hardwood floor and in finishing it used Berry Brothers' Liquid Granite. Three years ago we decided to refinish. A solution of soap, ammonia and warm water was used to prepare the floor. We found the soap and water had no effect on the varnish except to clean and brighten it. And we are now using the floor with the original finish of Berry Brothers' Varnish and still find it superior to any finish we have ever seen," *George Hodgdon, Architect.*

An architect is one of the severest varnish critics. He insists on good varnish—not only in his home, but in the different buildings he erects for clients.

Knowing good varnish is a necessary part of the "know how" of his profession.

In the experience of George Hodgdon and thousands of other architects and users throughout the land, for thirty years Berry Brothers' Liquid Granite has been superior in durability, lustre and all-round finishing value.

But it is not alone as floor finishes that Berry Brothers' varnishes excel. They are used for hundreds of different purposes.

**BERRY  
BROTHERS  
VARNISHES**

55 years of honest making and honest service are back of every Berry Brothers' product. Berry Brothers' label is your guide to the varnish that will serve you best.

Our service department is also at your disposal to help you get the best varnish for your needs.

Here are four of our principal products: **Liquid Granite**—A floor varnish whose name suggests its wonderful durability.

**Luxberry Wood Finish**—For the finest rubbed or polished finish on interior wood work.

**Luxberry White Enamel**—For white interior finishing. A white enamel that stays white.

**Luxberry Spar Varnish**—For marine uses and all kinds of exposed outdoor finishing. Never turns white, checks nor cracks.

Use and specify "Berry Brothers'" varnish—for sale by nearly all dealers. Write for interesting literature on the varnish question.

**Berry Brothers**

*World's Largest Varnish Makers*

*(Incorporated)*

*Established 1858*

*Factories:—Detroit; Walkerville, Ont. Branches:—New York, Boston Philadelphia, Baltimore Chicago, St. Louis, Cincinnati, San Francisco*

### To Carpenters and Builders

For years we have been making good varnish. For years we have been telling people about our goods—through advertising. As a result Berry Brothers Varnishes have become standard in the minds of home builders and home owners.

When you use Berry Brothers goods you are sure to please your customers. You can absolutely guarantee satisfaction.

You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.

used. As will be seen in Fig. 1 the fence equipment is elaborate; consisting of a bevel ripping fence for angle sawing and one for plain ripping on either side of the saw. Two miter fences with brass indicators and yoke for using both at one time are furnished. A hood and chute guard the lower part of the saw, but, by loosening a single thumb screw, the hood may be removed for easy access to the blade.

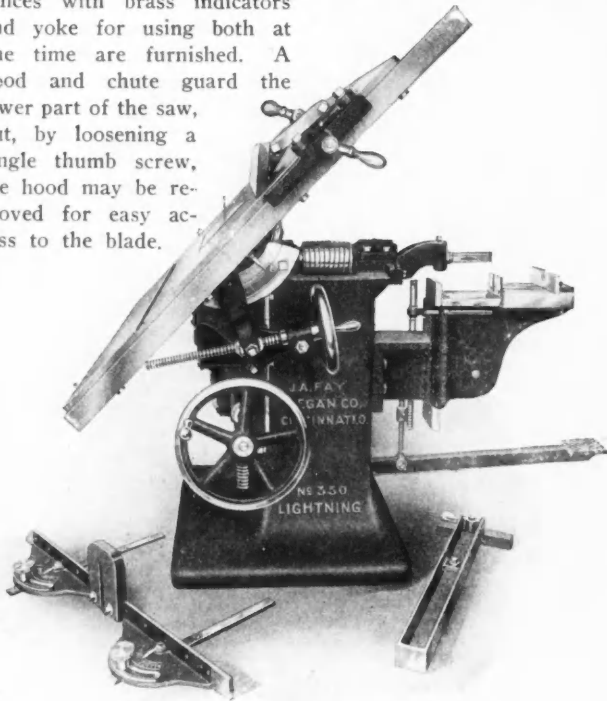


Fig. 2. No. 330-A Showing Table Tilted to 45° Angle

A small size of the 330 known as (330-A), is similar to the 330 regular, except that the table, is 27 in. by 30 in. and the fence equipment is not so complete. However, the fences are

sufficient to take care of all ordinary work. The column and adjustments are duplicates of the regular machine in size and weight.

Fig. 2 shows the 330-A, which is the 330 regular with hollow chisel mortising and boring attachment. This type is really a complete woodworker. Mortises from  $\frac{1}{4}$  in. to  $\frac{3}{4}$  in. by 3 in. deep are made in stock up to 16 in. by 8 in. A 19-in. by 10-in. table is carried on a cast-iron frame with 8-in. vertical adjustment and moves 5 in. on dovetail slides by

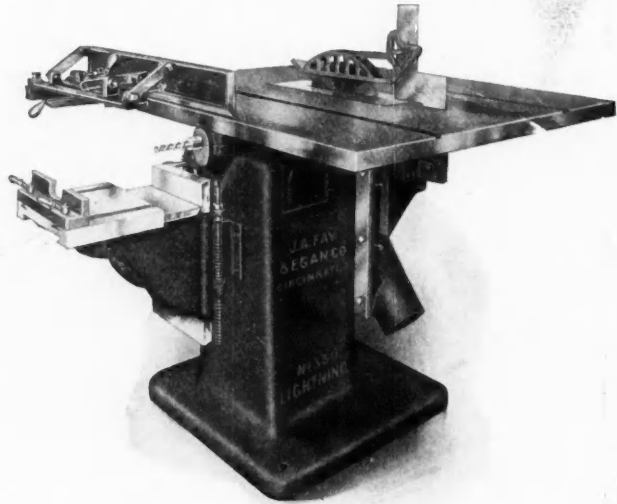
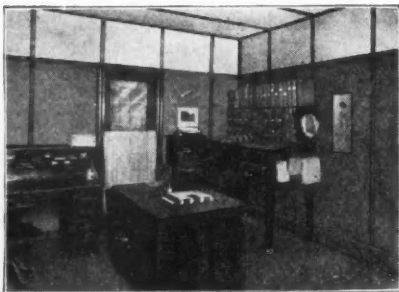


Fig. 3. Equipped With Saw Guard and Borer

means of foot treadle and iron links. This means of moving table is a feature, as rope chain is liable to break. The back fence is adjustable in T-slots and a front fence is provided



## CAREY Ceil-Board is Supplanting Plaster

This unique modern wall and ceiling covering is being extensively used and recommended for wall and ceiling finishing by the progressive contractors and builders because—

It makes them independent of the plasterer.

It saves them money—(Carey Ceil-Board is cheaper than lath and plaster).

But, best of all, it's economy, beauty and serviceableness makes them "strong" with their patrons.

Made in two forms—*Plain Ceil-Board*, which can be painted with oil or water-color paints or papered, and *Grained Ceil-Board*, a remarkable realistic reproduction of quartered oak (needs no further decoration).

Send today for samples and a copy of our new booklet, "Beautiful Walls"—it's filled with valuable ideas.

### THE PHILIP CAREY COMPANY

58 Wayne Ave. Lockland, Cincinnati, O.

Allentown, Pa.	Cincinnati	Minneapolis	Spokane
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## Another Book to stimulate better building

We have just issued this booklet, "Suggestions for Small Hy-tex Homes," to prove that brick can be used to advantage in the homes of the average family.

The booklet contains pictures and floor plans of twenty-six houses of really moderate cost. It is full of suggestions for small homes.

The national advertising campaign of

# Hy-tex Brick

is awakening home-builders in all parts of the country to the predominance of brick as the most beautiful, durable and economical building material. This fact is shown by the quantities of persons who have sent for our booklets.

Let us co-operate with you in crystallizing this interest into a better class of buildings for you.

We will consider it a favor if you will consult with us or any of our branch offices when you have brick problems to solve. It is our ambition to render complete brick service.

*A copy of "Suggestions for Small Hy-tex Homes" and "Genuine Economy in Home Building" will be sent free to any contractor asking for them on his business stationery.*

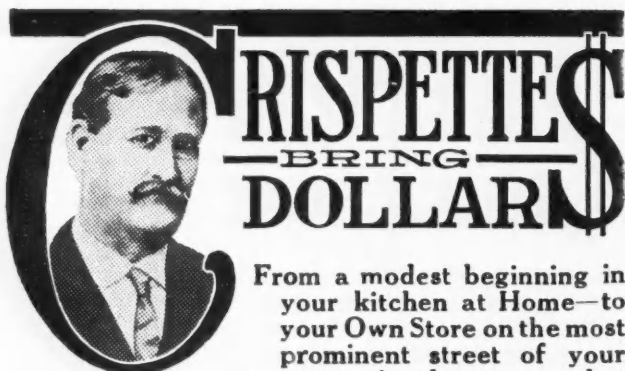
## HYDRAULIC-PRESS BRICK COMPANY

Dept. Y9 St. Louis, Missouri

BRANCH OFFICES AND EXHIBIT ROOMS:

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# CRISPETTE

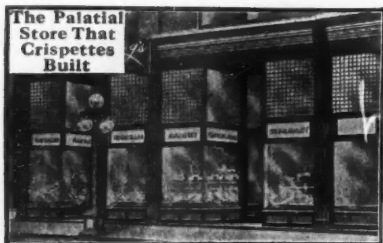
BRING DOLLARS

From a modest beginning in your kitchen at Home—to your Own Store on the most prominent street of your town—is the story that "Crispettes" tells

The Merchant Prince Crispettes Made

### Follow Carefully the Amazing Facts Answer to Yourself These Pertinent Questions

What salary do you EARN? What salary do you GET? Stop a minute and consider. You know that what you receive from your employer represents but a small proportion of what you really earn. Get on the other side! If your earning power amounts to thousands every year—then EARN IT—AND KEEP IT YOURSELF.



The world today hungers for the "different"—and it pays millions of dollars every year to satisfy this desire. Why not be the one to satisfy this demand in your locality—and reap your share of the golden harvest now ripe and ready for you? One of the greatest harvesters today is the wonderful—

### CRISPETTE MACHINE AND LONG'S SECRET FORMULA

To the man of limited means the Crispette business is a safe, strong and a proven foundation for rapid mounting to influence and fortune. I have numerous letters on file to bear out this statement. It is clean, dignified, requires no canvassing. You become a merchant—the entire community your patrons. It is a business which with my complete system and great secret formula, needs no other experience, no other expense, to make it successful.

### ALMOST THE ENORMOUS PROFIT OF 400%

\$1.00 in cash returned you for every 20 cents spent. NOT theory! NOT "guess work"! NOT imagination! But the actual, bona fide proven record of profits of "CRISPETTE" producers, from Coney Island to Oregon and from Canada to the Argentine Republic in South America.

\$100.00 a day made by this machine.



Send for Free Book

The Eighth Great Wonder of the World the Famous Crispette Machine

**STOP!** You have followed the rut too long. You have accepted only what others care to give. Get on the other side. TAKE only WHAT YOU WANT! F. C. Thompson, Oregon, took in \$575.00 in 27 days. E. H. H., Penn., sold over 12,000 rolls in two weeks, etc. Just a sample of the letters received from "Crispette" merchants from all parts of the country. Our greatest money barons began with a far less advantage than I offer you today. Write NOW—for my handsome illustrated 48 page free booklet, "How To Make Money In The Crispette Business." Or Send a Card Today to

W. Z. LONG, 788 High St., SPRINGFIELD, OHIO

You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.

to hold stock when the chisel is withdrawn. Fig. 2 also shows the table tilted.

When the mortising attachment is not necessary, the 330 is equipped with boring attachment only, as shown in Fig. 3. This attachment is similar in construction and capacity to the hollow chisel mortising attachment except that the chisel holder, front fence and foot treadle are eliminated. To make this variety as safe as possible, the aluminum saw guard manufactured by this company, will be fitted to either type. It is shown applied in Fig. 3 and notice is called to the absence of overhead or outside rigging. This guard gives the most efficient protection without interfering in any way. Boring and mortising attachments can be fitted to the smaller size as well as the larger one.

An interesting bulletin on this machine will be sent to anyone on request to J. A. Fay & Egan Co., 545-565 W. Front St., Cincinnati, O.

### Investigating a Floor Smoother

Along with these chilly fall days comes the thought to the carpenter—"How shall I keep busy this winter"? Winter time undoubtedly affords the best opportunity for the carpenter to solicit inside work and to give it proper attention. There are new floors to be laid, old ones to patch and repair, varnished and painted floors to resurface and refinish. This alone will give ample employment to the man who is equipped to do the work as it should be done.

Right here in Chicago one of the largest manufacturers of floor surfacing machines has discontinued selling their machines in this territory and have added to their factory a department to take care of all floor surfacing jobs. They employ a crew of from 15 to 20 men who use the Triple "A"



One of the Beautiful Chicago Apartment Buildings Recently Floor Finished With Triple "A" Machines.

Floor Smoother and who are kept constantly busy on both old and new buildings. Large flat buildings, private homes and all kinds of public buildings contribute employment. Actual figures in our hands show the crew averages from 12 to 18 squares a day. The charge for surfacing ranges from 1 to 2 cents a square foot according to the floor condition. At this rate each man has an average earning capacity of about \$20.00 a day. Considering the high cost of labor here, the average profit can be placed at 133-1/3%. The work done is so excellent that many architects are now specifying the

*The Cypress Advertising*  
*reaching 10,000,000 people monthly*  
*is Making New Business for Live*  
**CARPENTERS and other CONTRACTORS**

**10 MILLION  
PEOPLE**

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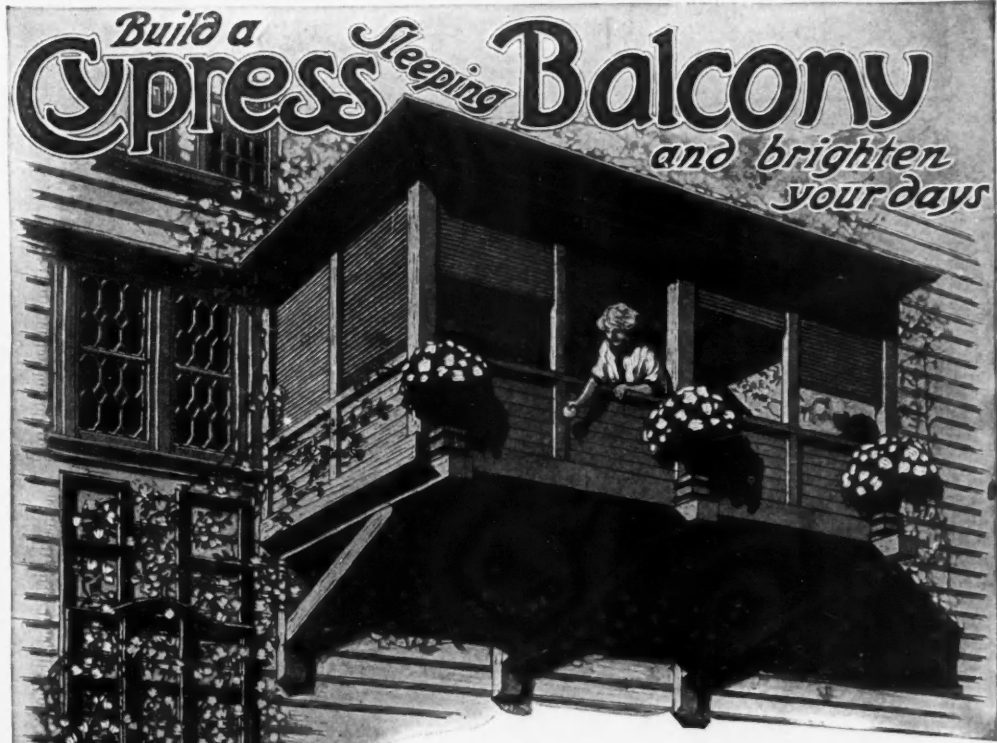
*Are you*

**AWAKE?**

???

**BOOST  
CYPRESS**

*Build a*  
**Cypress Sleeping Balcony**  
*and brighten  
your days*



**SLEEPING BALCONIES**

are the very thing for winter, and winter surely is a-coming. Do you notice how short the days are? Get the bracing winter air of nights—that means health and vigor of days.

**SUN PARLOR DAYS**

are a-coming fast enough. Now is the time to prepare for them, and we have all the plans you need. They are free, too. Not much expense to spike one of these winter delights to the side of your house where it will gather the sun beams.

**VOLUME 35 IS THE BOOK**

Write for this booklet on Sleeping Balconies and Sun Parlors, containing original designs, working plans and full specifications. It is free to you.

OUR "ALL-ROUND HELPS DEPARTMENT" WILL GIVE YOU A LIFT IN THE RIGHT DIRECTION. WRITE US YOUR HOPES AND WISHES; WE WILL GIVE YOUR CASE INDIVIDUAL ATTENTION.

**SOUTHERN CYPRESS MANUFACTURERS' ASSOCIATION**  
1216 HIBERNIA BANK BUILDING, NEW ORLEANS, LA.

TELL YOUR LOCAL LUMBER DEALER YOU WANT CYPRESS LUMBER AND SHINGLES. INSIST ON IT.

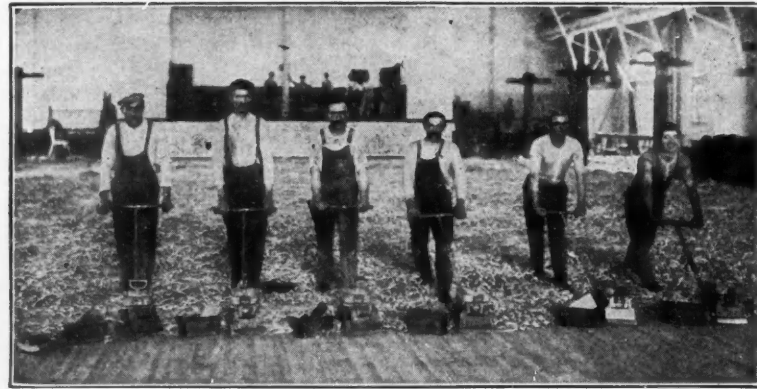
CROSBY-CHICAGO.

You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.

floor scraping to be done by the Triple "A" machine.

One of our representatives was sent to investigate the Triple "A" Floor Smoother. His report is given here in his own words.

"No one could have been more cordial in his reception or willing to explain every detail than Mr. E. W. Anderson, Manager of the Triple "A" Machine Co. Though they were very busy shipping their floor smoothers as fast as they could assemble them, Mr. Anderson side-tracked one long enough to explain the working principle and to let me try the machine on their factory floor. It seems that all floor scrapers have much in common. The Triple "A" is not a power machine, and the one great feature wherein it differs from other hand power machines is the spring drive. Having operated the Triple "A", I can vouch for the fact that it lessens the work by fully two-thirds. I pushed the machine forward. The spring wound up and at the end of the stroke stopped the machine, immediately starting it on the return, or cutting stroke and engaging the knife in the floor below the grit and dirt. It was easy to push the machine forward and practically all I had to do on the cutting stroke was to steady or guide the machine. Such a saving of labor must mean much to the man who works a floor surfacer all day. The knife gets under all the grime and dirt and so holds an edge much longer than is usual with the average floor scraper blade. The handle of the machine is adjustable in length and height to suit the convenience of the operator. The two weights are also adjustable to enable the operator to produce a fine thin shaving or a thick one as suits the condition of the floor. It is not necessary to remove the blade to sharpen it. The Floor Scraper is stood on end (so easily that a 3 year old



Gang of 6 Triple "A" Machines Surfacing a Big Floor

child could do it) and the burnisher from the tool kit does the rest. An assortment of 6 blades—12 cutting edges, is furnished with each machine. Other points of value are the big rubber tired wheels, a free tool kit and the sander. This sander, by the way, works with a rocking motion and is most efficient.

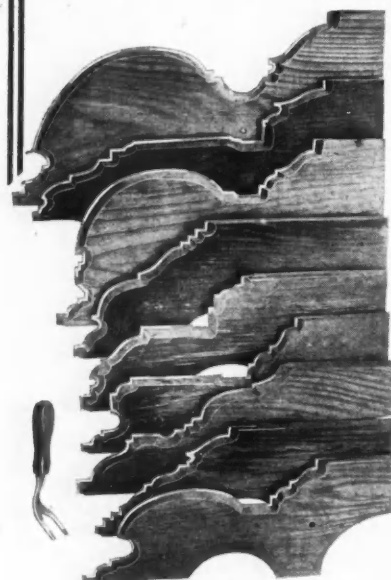
Of course, these are minor points. The main thing is that the Triple "A" Floor Smoother will take off a shaving as wide as the hand, as thick or thin as desired and leave the floor without wave or chatter. As I said to Mr. Anderson, "Why that floor is just as smooth as satin."

We have given the report in full because it points out the means of procuring winter work for our carpenters. The enthusiasm evoked by the work of the Triple "A" surely must be some indication of its worthiness. The Triple "A" Machine Co., Room 303-300 W. Indiana St., will send you circulars and be glad to tell you anything you want to know about floor surfacing or their machine.

## Hurry Up! Get Yours!

I've got a Monarch Patent Cornice Mould all packed and ready to send to you by parcel post as soon as you send me your address.

I know you'd like to decorate your own parlor or dining room with a nice, fancy plaster cornice. Or, perhaps,



Complete Set Consists of Blade Holder, 10 Blades and Blade Scraper

you'd like to do an extra nice job in some house you are building now. Here's your chance. It won't cost you anything. I'm going to send you this tool just to show you what a good one it is.

### DON'T SPEND A CENT

I'll send you the Monarch Cornice Mould on **Ten Days Free Trial**. You don't have to buy it, but I want you to try it. Use it all you want to. If you'd like to buy it, I'll sell it to you; but I want you to test it first and prove to your own satisfaction that you won't be throwing good money away if you buy a Cornice Mould.

### THE MONARCH PATENT CORNICE MOULD

consists of an aluminum frame fitted with the best red birch guides and black cherry handles. It is light and strong. Ten assorted blades and a blade scraper complete the set. Each blade is made of white pine. The edge is of zinc encased in the wood. The pine is specially treated so plaster or water will not affect it. This tool will make straight cornices and perfect corners quicker, easier and better than you have ever seen it done. The saving in time is wonderful and the work beyond comparison. It requires no special skill to use this Cornice Mould. You can handle it as well as I can.

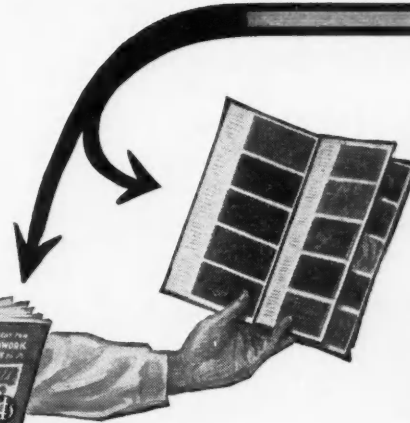
### DON'T SEND ANY MONEY

Just send me your name and address. Tell me you want the Monarch Cornice Mould on **Ten Days Free Trial**. Use it ten days and if it don't please you, send it back, that's all.

Get Your Cornice Mould Quickly by Writing Today

**TIMOTHY F. HORAN, 10 Maple St., COOPERSTOWN, N. Y.**

You will get **SPECIAL ATTENTION** if you tell Advertisers you read American Carpenter and Builder.



**Free**

**Helps To  
Better Business**

**For Contractor—Builder—Wood Finisher**

**T**HIS \$1 Portfolio of Wood Panels and Instruction Book are two fine examples of the Johnson Service—we offer them free and postpaid—send the coupon today.

The Portfolio shows the beautiful effects obtainable with Johnson's Artistic Wood Finishes on oak, pine, cypress, birch, gum, etc. With it you can show your clients just how their work will look when finished the Johnson way. The book gives full instructions for finishing all wood—soft or hard; covering capacities, prices, etc.

# Johnson's Wood Dye

penetrates deeply, coloring the wood permanently—it dries quickly without a lap or streak. Made in 17 popular shades, all of which can easily be lightened or darkened.

# Johnson's Prepared Wax

imparts a velvety, protecting finish which will not chip, mar nor scratch.

Fill out the coupon and mail to us TODAY. The Portfolio and Book will be sent promptly—free and prepaid—you are placed under no obligation whatever.

**S. C. Johnson & Son Racine, Wisconsin**  
*"The Wood Finishing Authorities"*

**S. C. Johnson & Son, Racine, Wis. Value \$1.25—FREE**

Please send me, free, your \$1.00 Portfolio of Wood Panels with specifications and instructions, also your 25c 1913 Book—**BOTH FREE.**

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You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.



**Here's the Book that Opened People's Eyes**

—the book that told folks how to save a full 25 percent on coal every month; told them how to get **intermediate heat**—something impossible with steam or hot-water systems.

Unlike the average book on heating, this book has done away with all technical description and placed the story of

**Vapor-Vacuum Heating**  
(Trade Mark Registered)  
**Kriebel System**

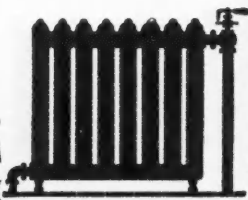
in the simplest, most understandable language possible.

This point appeals to people because they do not have to be heating engineers to understand the book and to appreciate why the 25-percent saving in coal is made possible.

The book will appeal to **you**, your customers and prospective customers. It will help you solve the heating problem and will save you a lot of explanation, argument and valuable time.

Send the coupon or a post-card today for "the book that opened people's eyes."

**Vapor-Vacuum Heating Co.**  
**895 Drexel Bldg., PHILADELPHIA**  
 NEW YORK    DETROIT    KANSAS CITY



CLIP, SIGN AND MAIL THIS COUPON—IT WILL PAY YOU

Gentlemen: Without obligating me one bit, send me "the book that opened People's Eyes."  
 Name.....  
 St. Address.....  
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**You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.**

**New Sasgen Circular Swing Derrick**

A new derrick is offered claimed to be the only full circle swing portable steel derrick with self-lubricating bearing and folding mast and bottom, that can be used by hand, horse or other power without changing boom.



Sasgen Derrick With Several Improved Features.

The drum is also arranged so that it can be removed within a minute's time, with handles, block, and cable, so that these parts will not be stolen, or damaged by bad weather when not in use. By taking off the boom and folding the mast and bottom sills together derrick is in two parts, compact and light enough to be placed in an automobile, and moved from job to job.

It is also very handy for loading and unloading material from wagons or platforms.

The Sasgen Derrick Co., 2053-57 Racine avenue, Chicago, Ill., are making a special proposition now to send one of these derricks or any other derrick shown in their circular on 2 days' trial, and if derrick is not entirely satisfactory it can be returned.



**A Concrete Cannery**

Six miles south of the battlefield of Gettysburg, on the line of the Western Maryland Railroad in southern Pennsylvania, surrounded by some of the finest fruit country in the world, is the station of Orrtanna, where the Orrtanna Canning Co. is building an up-to-date and efficient plant.

The distance from usual building supplies and skilled labor made the erection of a canning plant with a capacity of 1,000 bushels of apples per day an unusually difficult problem, in view of the fact that the owners wished to use a fireproof construction and to eliminate insurance and maintenance costs. The large farm purchased by the company could supply quantities of rough stone suitable for crushing; and this, coupled with the fact that the Tidewater cement plant is located at no great distance, making cement available at the minimum price, pointed to reinforced concrete as the logical solution of the problem.

The factory building proper is 255 ft. long by 32 ft. wide, with an ell 1000 ft. by 20 ft., the central portion being two stories in height, and the rest of the building having walls about 10 ft. high. There are two basements, one 60 by 32 ft., the other 20 by 40 ft. The different parts of the plant are separated by a fire wall of concrete, which will be provided with automatic fire-doors.

To erect the walls—which are double, consisting of one



# FOR THAT NEW HOUSE GET A HOLLAND FURNACE



## “Holland Furnaces Make Warm Friends”

In the Holland Air Admitting Fire-pot the fuel burns from the sides and over the top—Natural Way.

This feature sets the “Holland” Furnace in a class by itself.

For fuel economy by burning everything combustible, in any kind of fuel, soft coal slack, hard coal screenings, wood or coke. This cuts coal bills in half.

For cleanliness, there are no internal explosions and puffing, no opening of joints causing leakage of coal gas. For durability, the castings are evenly heated, which makes the “Holland” almost repair proof and the fire-pot will outlast any other kind made.



## “Holland Service”

To You

**Mr. Architect, Mr. Contractor  
and Builder**

means correct installation and saving in first cost.

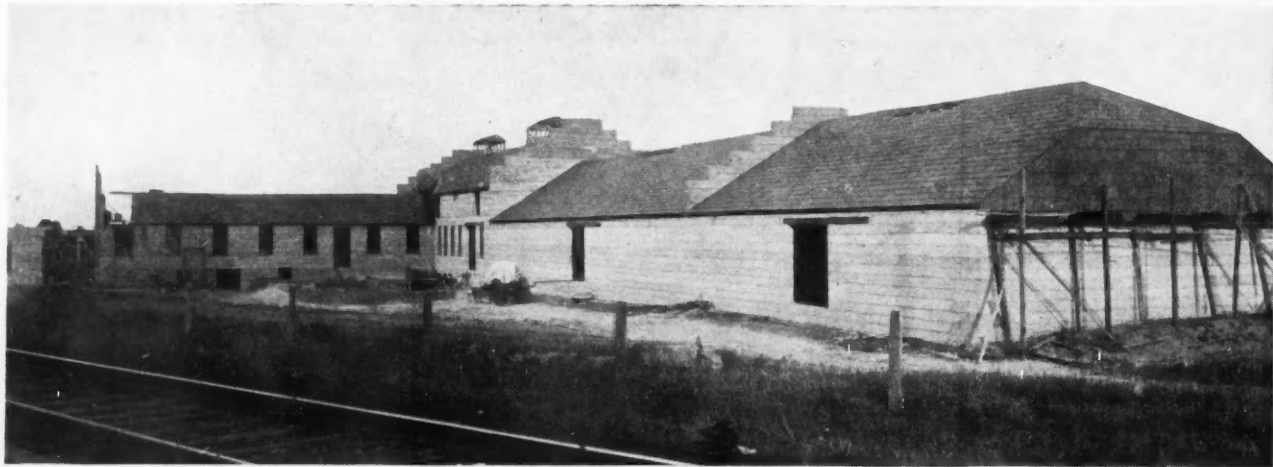
Send us your floor plans for quotation and correct heating plan.

Trying us is buying of us and  
“Holland Furnaces Make  
Warm Friends”

**M’F’D. BY  
HOLLAND FURNACE Co.  
HOLLAND MICH.**

Worlds Largest Direct Installers.

You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.



Plant of the Orrtanna (Pa.) Canning Co. Under Construction; Van Guilder Hollow-Wall System Used

3-in. and one 4-in. wall, with a 2½-in. continuous air-space, and reinforced throughout with wire and steel rods—two Van Guilder Hollow-Wall Machines were used, securing a building that is damp-proof and even in temperature, without the use of any forms. It is interesting to note that even the cider tank in the basement and the setting for the 150-H. P. boiler were built with these hollow-wall machines. Four hundred barrels of Tidewater cement were used for the walls of the building, and about 350 cubic yards of crushed stone.

The buildings are reinforced as directed by the makers of the hollow-wall machines.

All corners, including window-jamb, are rounded; and the entire building inside and out will be finished with a coat of cement plaster. The only wood used is in the door- and window-frames and the frame of the roof, the roof itself

being of slate.

The owners believe that they have secured the most satisfactory construction for this type of building yet devised, as the entire buildings were constructed by cheap, local labor under the supervision of the owners, who had had no previous experience with the Van Guilder Machines. The building could not have been erected by any other method, even of wood, at so low a first cost, and the upkeep charges will be very much less, yet the buildings are fireproof, and not affected by dampness or changes of temperature because of the insulation provided by the 2-in. air-space everywhere present between the outer and inner walls.

These Hollow-Wall Machines are made and sold by the Van Guilder Hollow-Wall Co., 720 Chamber of Commerce Bldg., Rochester, N. Y.

## Make That Smoky-Smokestack Smokeless!

And there are two big reasons why you should: You will save fuel money; and your city will be benefited.

### **KEWANEE** **Smokeless Firebox Boilers**

Get the O. K. of the Smoke Inspector—even when burning cheap soft coal.

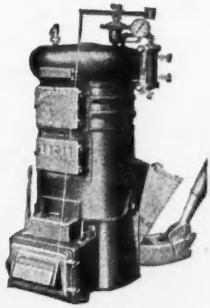
They will make any stack smokeless. Ask our Chicago office.

**KEWANEE BOILER COMPANY**  
KEWANEE, ILL.

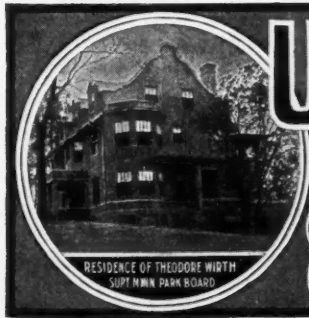
Steel Power and Heating Boilers  
Radiators, Tanks, and Garbage Burners

Chicago, St. Louis, New York,  
Kansas City, Salt Lake City

You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.



Boiler



# UNDERFEED

## FURNACE OR BOILER

### CUTS YOUR COAL BILL 1/2 to 2/3

**H**OMES like this of Mr. Theodore Wirth, Superintendent of Park Commissioners, Minneapolis, Minn., are kept warm as toast in zero weather by the Underfeed. "My Underfeed Boiler," he writes, "is the most economical I could have installed. During the last very cold winter I burned only 18 tons of soft coal screenings at \$4 per ton for my 15 rooms. Hard coal would have cost double the amount." To add emphasis to his recommendation he said: "The three Minneapolis park buildings heated by the Underfeed have given *very good* satisfaction."

## THE PECK Williamson Underfeed FURNACES BOILERS

**Saves \$2 to \$3 a Ton on Coal**

Instead of using *expensive* grades of coal the Underfeed requires no more tons of hard or soft coal, slack, pea or buckwheat sizes. Figure the difference in cost. It's YOURS.

**Smoke and Gases are Consumed**

Smoke and gases, at least 50% of heat values in coal, *wasted* in top-feed heaters, are forced by draft in Underfeed to pass directly *through* the fire, entirely consumed and turned into heat.

**All Heat is Fully Utilized**

Burning coals in the Underfeed are on *top*, *closest* to heating surfaces, which are thus kept free from heat retarding soot.

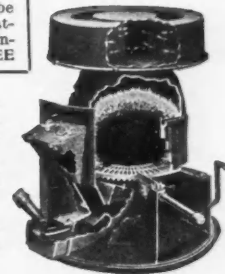
The Underfeed requires *least* attention. Perfect combustion does away with clinkers. Few ashes. Easily operated.

It will **PAY** every contractor and builder to *specify* the Underfeed as the most economical heater. Over 25,000 Underfeeds in use are *proving* that they **ADD** to either the **RENTING** or **SELLING** value of the building.

Send rough sketch or blue print of the floors to be heated and your basement, and we will forward Heating Plans and Estimate of Cost prepared by our Engineering Department, which is at your service—**FREE**

You can make your own next winter pleasanter and *save money* by installing an Underfeed **NOW**. Underfeed heaters are adapted for both large and small buildings. Installed in unit or battery form in residences, apartment houses, halls, churches, theaters, schools, etc.

Write **AT ONCE** for Underfeed Warm Air Furnace or Steam and Hot Water Boiler Booklet



Furnace

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

## 100% Solid Comfort



### THE SOLAR GRAND

Heats 3000 Cubic Feet of Space in Zero Weather

A handsome improved Gas Heater, operating under small expense and giving more and better heat than any other heater known. Perfect combustion; white flame; no odors; **NO FLUE NECESSARY**; no waste heat; lights without explosion.

**WANTED**  
3,000 Carpenters to install the Solar Grand or to act as our agents in every locality.

**WRITE FOR PROFITABLE PARTICULARS!**  
SANITARY HEATING CO., 233-37th Street, New York

## The Bovee Furnaces

AT

Manufacturer's Prices



Will give every one of your patrons most perfect results. They last longer and actually require about one-half the fuel used by other furnaces.

They are made heavy, of the very best material and workmanship. Take your rule and measure the fire pots, the large combustion chamber and the long travel of heat and compare it with all other furnaces and see **WHY** the Bovee

uses less fuel and lasts longer than others.

Get our special prices. We can save you 40% on a heating plant. Any handy man can install them.

### Bovee Furnace Works

50 Eighth Street

Waterloo, Iowa

You will get **SPECIAL ATTENTION** if you tell Advertisers you read American Carpenter and Builder.

# CORTRIGHT Metal Shingles

## "The Permanent Roofing"

will solve those roofing problems for you. Not only are they as easy, but they're fully as profitable for you to lay as wood shingles. Besides, they're fireproof, stormproof, and practically waterproof.

Here's a suggestion that we'd like you to try which will prove their worth and save you money. Next time you are asked to bid on replacing an old wornout shingle roof, do as the fellow shown here is doing. Your cost will be less,—Your customer will be pleased. No dirt—No inconvenience.

*In the meantime send for catalog.*

**Cortright Metal Roofing Co.**  
Philadelphia and Chicago

**Can Be Laid  
Right Over Wood Shingles**



CLIP, SIGN AND RETURN

Cortright Metal Roofing Co.  
Gentlemen: Please send me your free book and complete information.

Name.....

Address.....A.C.B.-10-13

You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.

### Information on Stucco Work

In connection with the well-known products of the Bostwick Steel Lath Co., Niles, Ohio, two new booklets have been issued which present some interesting arguments for ease in better building.

The book "Products" treats of Truss Loop metal lath, giving excellent specifications for metal lathing and directions for applying besides several detail illustrations of Truss Loop lath, Corner Bead and Metal Wall Plugs. The other book entitled "Stucco on Truss Loop Metal Lath" contains some remarkably good examples of the endurance of stucco when plastered on the Truss Loop lath. Fine illustrations of beautiful homes abound and the information given in connection therewith is decidedly instructive for the builder.

Such booklets as these two, coming from a reliable company whose interests lie close to this phase of building, must be helpful to our builders. In building as in all other trades, it is well to get all the good ideas possible. The Bostwick Steel Lath Co., have provided some practical ideas that are reliable guides in building with metal lath.



### Hand Drill No. 98

A two speed hand drill is offered having gear ratios of 1½ to 1 and 1 and 4 to 1. Change of speed may be made instantaneously. This change can be effected at any moment and under any conditions, without withdrawing the drill point from the work.

The pinions and shifting device are made from steel throughout, and are enclosed for protection. The chuck is nickel plated, of the Star pattern, holding and centering accurately drills from 0 to ¾ inch in diameter. This spindle has a ball thrust bearing at point marked "C." The change



New Millers Falls Co. Hand Drill

of speed is accomplished by throwing the knurled ring "B" to the right or left according to the speed required. The end handle is of the magazine pattern and may be detached by loosening the knurled check nut and pressing on the plunger at "A."

Malleable iron frame enameled black. Large gear painted French gray with red stripe. Length without handle, 10 inches. Length over all, 15¼ inches.

For further information address Millers Falls Company, 28 Warren street, New York.



### The Use of the Starrett Transit

The L. S. Starrett Co., of Athol, Mass., tool makers, have just published a 32-page instruction book the title of which is, "The Use of the Starrett Transit." This book will be found of great value by contractors, builders, ranchers, and others who must do their own grading, leveling, and general simple engineering work. Such problems as finding differences of level of two places measuring vertical angles, laying out building lots or foundations, finding irregular areas, measuring across water, etc., are dealt with in a simple, thorough manner so that by the aid of this book any man may avail himself of the low-priced Starrett Transit or Level to advantage.

A copy of the book will be mailed free to anyone on request and is also sent with each Transit sold.



Have you placed the best of all roofs on your buildings? West Bangor Slate outlasts the building itself. There's only one cost to figure. No repairs; no painting or staining; no leaks; no dirt. As a fireproof, durable roof, West Bangor Slate heads the list.

Consider these things before you roof your next building. West Bangor Slate is best for small or large buildings. Keep this in mind—West Bangor Slate as an inexpensive, classy, durable roof—has no equal. As for expense, don't worry. In the long run, you'll come out at the big end of the horn.

We'll send you samples of West Bangor Slate. Write us today for free samples, circulars and prices.



**BANGOR SLATE MINING COMPANY**  
Trust Bldg. Bangor, Pennsylvania



**INCREASE YOUR INCOME 33%**

You can actually do this by using



to get around from job to job. You can take on additional contracts and oversee all of them much better. The wonderful ball bearing motor makes the Flying Merkel motorcycle the most economical, reliable and durable motorcycle on the market today. It is the only motorcycle in the world with a self starter. If you have any spare time you can add to your income by riding and selling the Flying Merkel.

Write today for art catalog and agency proposition.

**The Miami Cycle & Mfg. Co.**  
601 Hanover St. - - - Middletown, Ohio

**MONTROSS METAL SHINGLES**



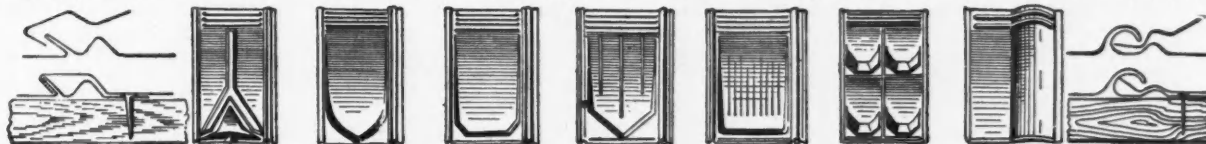
**Supply the Roof that Never Brings a "Kick"**

or a "stopped payment"—that looks good to your customer and remains good. That roof is Montross Metal Shingles—made in several grades and absolutely guaranteed for from 10 to 30 years. In Montross Metal Shingles you know and can tell your customer just what he is getting. Our best grades have been in actual use more than 34 years and look as good as new. Good material and practical scientific construction is the reason.

No space to tell you the facts about Montross Metal Shingles here—let us send you our Catalog Free—Its a handbook of roofing information gathered in 40 years.

Write for your copy today. Agents Wanted.

**Montross Metal Roofing Co., 2nd and Erie Sts., Camden, N. J.**



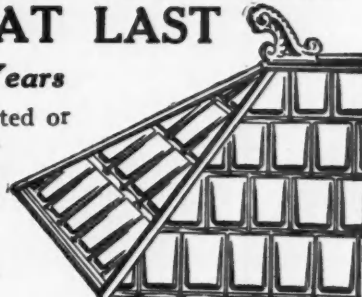
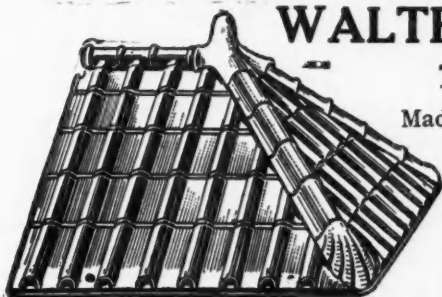
**WALTER'S SHINGLES THAT LAST**

*The Leaders for Twenty-nine Years*

Made from I. C. full weight roofing tin, painted or galvanized after stamping. Rust-, storm- and fire-proof. The most complete line of metal shingles and tiles manufactured.

Agents wanted in every community

**National Sheet Metal Roofing Co.**  
JERSEY CITY, N. J.



You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.

### "How to Build"

The Association of Arkansas Soft Pine Manufacturers again demonstrate their aggressiveness by preparing and issuing a neat little illustrated book bearing the above title. This is filled with practical pointers for carpenters and builders, giving approved details of construction and pointing out the advantages of building of wood.

The characteristics of Arkansas soft pine are brought out and the problems pertaining to the use of this lumber are satisfactorily dealt with. Our readers will find this booklet well worth writing for. Address Arkansas Soft Pine Co., 308 Sa. Canal St., Chicago Ill.



### A New Invention

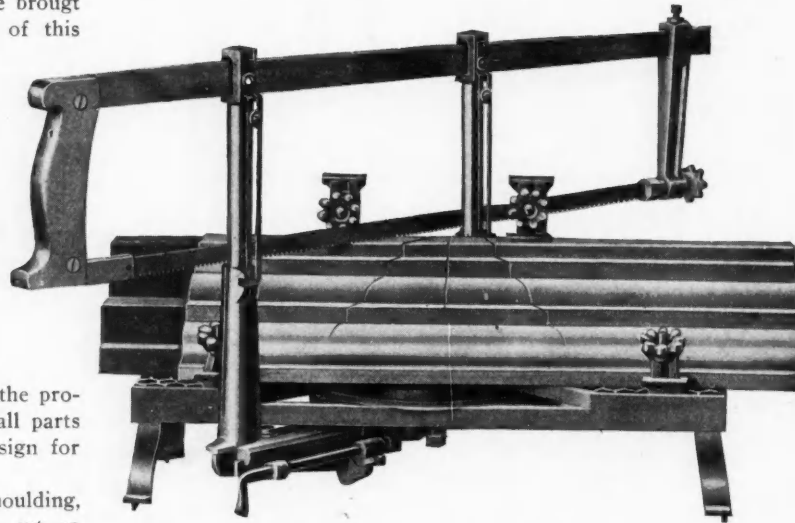
The Rockford Mitre Box Co., of Rockford, Illinois, have added another new feature to their line of mitreing tools, this being a mitre box for cutting metals of all kinds. The illustration shows the Honeycomb Mitre Box for doing work of this kind. The substantial steel frame and the provisions for moving clamp gauges to any and all parts of the mitre box, make it a very desirable design for the big average of work.

The illustration shows a six-inch steel moulding, and it is claimed that this moulding can be cut so accurately that when putting the mitres together, it makes an absolutely perfect joint, without having been touched with a file. It will saw any degree or fraction of a degree with the same satisfactory results. With the growing use of metal trim this is important.

The saw used in the frame can be adjusted to a fraction

of 1/1000 of an inch, and holds the blade securely. No twist made by the operator in sawing could move it one way or the other. These blades are made of the finest quality of steel that can be furnished, to cut any grade of metal or wood. The blade can be changed in a minute's time.

The manufacturers have sent in a cut from a piece of wood. They have driven nails close together forming their



New Mitre Box for Cutting Metals

name, this cut is only 1/16 of an inch thick, uniform thickness throughout, yet the saw had not disturbed any of the nails enough to loosen them. It is said that this is the most severe test that can be given a saw—or a mitre box.

## EDWARDS "OHIO" METAL SHINGLE

The very latest addition to the big Edwards Metal Shingle Family has just arrived.

The "baby" is named after our own great state. Note the handsome, novel design and clean cut embossing. This pattern is made in one size only, 14 x 20 inches.

Manufactured from the best quality Worcester Grade Terne Plate, painted or "Tightcote" galvanized.

The "Ohio" has the patent interlocking device and every other good feature that has made Edwards Shingles famous.

*Samples and Price on Application*

---

### The Edwards Mfg. Co.

*"The Sheet Metal Folks"*

401-417 Eggleston Avenue, Cincinnati, Ohio

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

New York Office: 81-83 Fulton St.      Branch Office and Warehouse: 1625-1627 Pacific Ave., Dallas Texas.

You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.



Beautiful houses from Illinois to Massachusetts are roofed with Reynolds Flexible Asphalt Shingles

A multitude of pretentious residences in a score of states are giving ample proof of the long-lasting surface of Reynolds Flexible Asphalt Shingles.

Every type of modern home can be protected and beautified, at lower cost, with these time-tried, weather-tested shingles. They withstand the ravages of driving rain, pelting hail, hottest sun and heaviest snow without warping, cracking, splitting, curling or blowing off. Sparks cannot set them on fire. Long exposure cannot dull their rich color. Adaptable to every style of pitched roof, and make possible unusual architectural effects, such as roll edges, that effects and rounded corners.

### Reynolds Asphalt Shingles

Guaranteed for 10 years—will wear many years longer

Rough-surfaced weather defiers made of crushed slate or granite securely embedded in pure asphalt. Natural colors of garnet, red or gray-green, which never fade and never need painting. We are the original makers of flexible asphalt slate shingles and tested them for ten years before putting them on the market. They are uniform in size—8 ins. by 12½ ins.—and are laid 4 ins. to the weather. Easily and quickly laid.

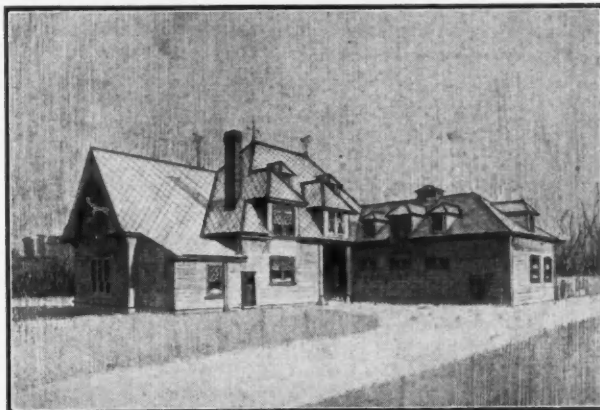
Let us send you a booklet showing photographs of modern houses roofed with Reynolds Asphalt Shingles—signed opinions of owners are included. Also opinions of leading architects and builders. Write for a copy TODAY.

### H. M. Reynolds Asphalt Shingle Co.

151 Grant St., West, Grand Rapids, Mich.

Established 1868

Members National Builders' Supply Association.



Stable on the Quintard Estate, Portchester, N. Y., roofed with Asbestos "Century" Shingles by John Gery, Contractor, Paterson, N. J.—Reproduced from an Artist's Drawing.

## Asbestos "Century" Shingles

"The Roof that Outlives the Building"

WHEN you stop to think of the beautiful appearance of Asbestos "Century" Shingles on a roof, and the way they stand up year after year with no painting or repairing it is easy to see why the demand for them is growing so steadily.

Come in three sizes, and many shapes and colors—adapted to every style of architecture.

They cost no more than you would expect to pay for a first-class roof. *And the first cost is the final cost.*

Good roofers know about Asbestos "Century" Shingles, and how to lay them. Write us for their names—and Booklet, "Roofing: a Practical Talk".

### Keasbey & Mattison Co.

Factors

Dept. B, Ambler, Penna.

Branch Offices in Principal Cities of the United States

*This advertisement appears in October Magazines read by the owners and tenants of the better class of buildings. Write to above address for terms and trade prices.*

### A NEW IDEA AND A GOOD ONE



### FLINTKOTE Rex-tile SHINGLES

As roofings go, the materials of which Rex-tile Shingles are made are old—they have been on the market over fifteen years.

But the bent-under end on Rex-tile Shingles is the NEW IDEA that has solved the shingle problem.

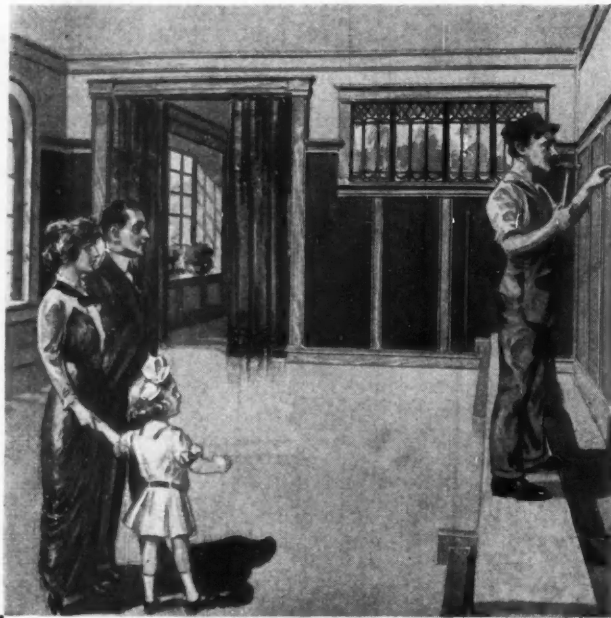
This bent-under end is for nailing and gives the thick effect at the butt—it prevents warping, splitting and cracking and makes it impossible for the exposed part to curl up or blow up.

Made in both red and slate colors. Easy to lay and long to stay—and the shingles you ought to know all about as quickly as possible.

Write for samples, prices and full information.

FLINTKOTE MFG. COMPANY 88 Pearl St., Boston, Mass.  
New York Chicago New Orleans

You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.



**“Best for remodeling”**

When business begins to slow up and you turn to repair and remodeling work to keep busy you will find Utility Wall Board the most satisfactory material.

**UTILITY WALL BOARD**

You can handle Utility easily and speedily, for it comes in lengths and widths convenient for nailing directly to the studding. The special process by which we make this tough fibre board renders it non-porous, sound and moisture-proof.

Using Alabastine or flat-tone paints or tints beautiful decorative effects can be achieved. Utility never chips, checks or falls off, and cuts to practically no waste. And by covering the joints with decorative strips of wood you can obtain a great variety of artistic panel effects.

**Utility Wall Board**  
your next remodeling job

Write today for a sample and the Book of Artistic Interiors

**THE HEPPE'S CO.**

Also manufacturers of Flex-A-Tile Asphalt Shingles, Asphalt Paint and Asphalt Roofing in any Finish

4503 FILLMORE ST. CHICAGO, ILL.

**Necessity of Using a Typewriter**

Today a typewriter is absolutely essential in writing business letters of any nature. It is an injustice to any business man to correspond with him in long hand.

Even though you write only one or two business letters a week, these letters should be typewritten. We all now-a-days have lost the ability to write in the beautiful flowing copper plate style of writing of our grandfathers; and the modern hand written letter is responsible for an enormous number of mistakes of all kinds; some of them costing far more than the price of a typewriter.

The man who is satisfied to write business letters with any old kind of a pen or possibly with a lead pencil has only himself to blame if he is considered a tenth rate proposition. He knows that the man or business house who has to puzzle his letters out will not pay very much attention to him.

But when he is equipped with a first class typewriter he knows that his letters will have just as much consideration and be just as easily read as those of the largest man in his line of business. There will be no question about his intentions, no mistakes about his letter, it will help his credit and every one will put him down for a thorough business man.

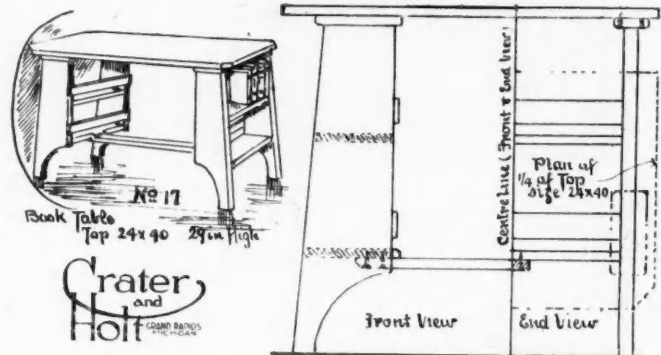
Most people, even completely recognizing the fact that business correspondence should be typewritten, find that an expense of one hundred dollars for a typewriter is beyond their reach—even though they realize that it is expensive and undignified to try to get along without one.

There is an enormous demand today for a thoroughly reliable and satisfactory typewriter, at a price within the reach of the man having even only one or two letters a week to write, a machine that anyone using the complete and detailed instructions furnished with each typewriter can operate to produce perfect work with half an hour's practice. Harry A. Smith, realizing this demand for a machine that can be relied on to do perfect work and give satisfactory service, is offering in this issue a typewriter that will write a clean cut and perfect letter and stand up under the hardest kind of usage, at a price making it possible for everyone to enjoy this convenience and business necessity.



**“Easy-to-Make” Furniture**

Grand Rapids, Michigan, is known as a furniture city and some have called it Paris of the furniture world. At any rate we all know that they manufacture fine goods there. Some of the leading designers of furniture have recently issued a portfolio of 100 designs of “Easy-to-Make” furniture—a collection of sketches with full details drawn to scale



DETAIL of No 17

of up-to-date designs. This portfolio is 12 by 18 inches in size. It is being distributed by Crater & Holt, 43 National Ave., Grand Rapids, Mich., who recommend it highly for use in manual training schools, and in arts and crafts workers, cabinet makers, carpenters and the handy man at home. Every piece of the furniture described, is extremely simple in construction and easy to make. This portfolio will appeal to everyone interested in the making of a home.

You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.





## Is an Improvement Over Lath and Plaster

It's stronger, more durable; keeps a house warmer in winter, cooler in summer; resists fire much longer. It has a smooth surface which lends itself readily to any desired scheme of decoration, whether with paint, kalsomine or wall paper—with or without panels.

It is cheaper in the long run—lasts longer, never needs repairing—holds wall paper longer.

The cross-section view below reveals the unique construction that gives Compo-Board its desirable features. The core or "backbone" is a layer of kiln-dried wood slats; on each side of this is a layer of air-tight cement, then on the outside layers of specially prepared paper—the whole pressed under intense heat into a straight, stiff sheet 1/4 inch thick.

### A Paying Proposition for Contractors, Builders and Architects

Compo-Board saves 15 to 30 days in completing the house—no waiting for plaster to dry, no muss to clean up. Pleases your client. Many contractors get jobs at highest bids on account of using Compo-Board.

Write for a sample of Compo-Board and interesting booklets.

## Northwestern Compo-Board Co.

5777 Lyndale Avenue North :: Minneapolis, Minn.



Nailing Beaver Board to studding of a new room.

Putting Beaver Board over old cracked plaster walls.

### Make Use of Our Free Design Suggestions

WHEN you land a Beaver Board job, get in touch with our designing department. We can help you in working out original panel arrangements and color schemes, as well as by giving many practical hints on construction.

Meanwhile learn the big, profitable possibilities of Beaver Board for you, by writing for "The ABC of Beaver Board Construction" and painted sample. Sent free.

#### The Beaver Companies

United States: 187 Beaver Road, Buffalo, N. Y.  
Canada: 387 Wall St., Beaverdale, Ottawa.  
Great Britain: 4 Southampton Row, London, W. C.

# BEAVER BOARD



Trade Mark



# PLASTERGON WALL-BOARD

Want a Bigger, More Profitable Business?

Investigate

## PLASTERGON

It appeals to a customer the minute you talk it. And it always gives such splendid satisfaction—no comparison with lath and plaster.

### Only Guaranteed Wall Board

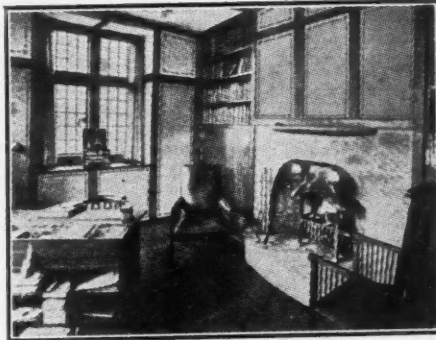
Plastergon is chemically treated by our own special process—is absolutely moisture-proof.

Carpenters and builders the country over are specifying PLASTERGON on every job. They're getting more enthusiastic about it every day—their sales are increasing—their profits growing larger.

No muss, no litter, no plaster-drying delay.

Used extensively for remodeling and repair work too.

Let us send you samples, literature and our money-making proposition. A postal card brings them.



PLASTERGON WALL BOARD COMPANY  
Dept. A, Tonawanda, N. Y.



## PAINTED WALL BOARDS

The embossed surface of the cream-white finish of

# NEPONSET WALL BOARD

is especially adapted for painting. It is beautiful when painted.

—And yet, like the other finishes of NEPONSET Wall Board, it absolutely requires no painting, or any further decoration.

For samples and information, write to

### BIRD & SON

Established 1795

210 RIVER ST., EAST WALPOLE, MASS.

New York Chicago Washington  
Portland, Ore. San Francisco  
Canadian Plant, Hamilton, Ont.

You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.

### Waterloo Corp. Opens N. Y. Office

The Waterloo Cement Machinery Corporation, Waterloo, Iowa, have opened a New York office at 11 Broadway with Parker U. Cole in charge of the New York and New Jersey territory.

The Waterloo Company are the manufacturers of the well known Polygon and Little Wonder lines of concrete mixers and will now carry a stock of these machines in New York for the convenience of their customers.



### "Honeycomb Method" of Laying Shingles

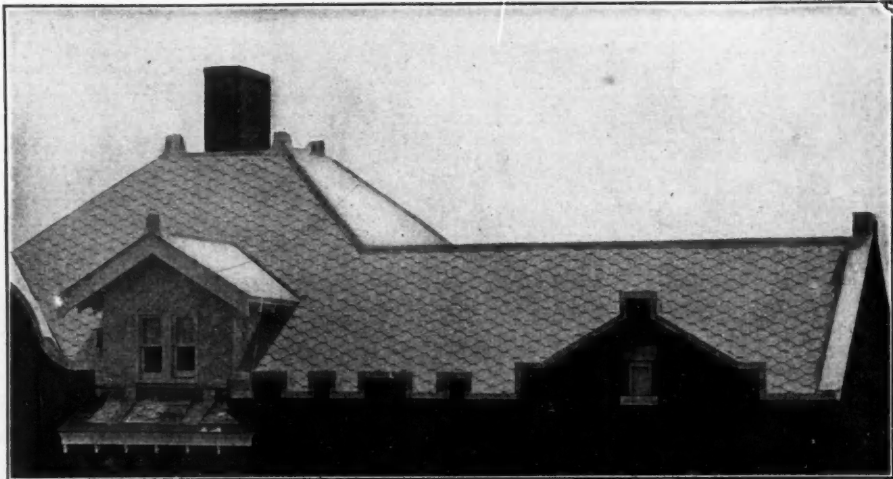
The introduction and gradually increasing use of the asbestos "Century" shingles in building construction has given rise to much comment and controversy over various merits of this type of roofing.

It is almost universally conceded by architects and building experts, to be an estimable product from an economic and fireproofing standpoint, but there has been some adverse criticism by the architects of more pronounced aesthetic ideas, based on the alleged flat and characterless appearances of these shingles applied on a roof in accordance with the French or diagonal method.

In searching about for a means of gratifying this demand for a heavier roofing effect, the manufacturers of this product have devised a scheme of application known as the "Honeycomb Method." Essentially, the detail of application

is precisely the same as the ordinary French or diagonal method; no more material is required to cover a given roof area than is required when laying the shingles according to the regular diagonal scheme, so that the economy of this method of application is preserved.

Each shingle is irregularly hexagonal in shape, a deep shadow resulting from the lower horizontal edge of an upper course overlapping the converging diagonal lines of the course below. Professional comment has been almost uni-

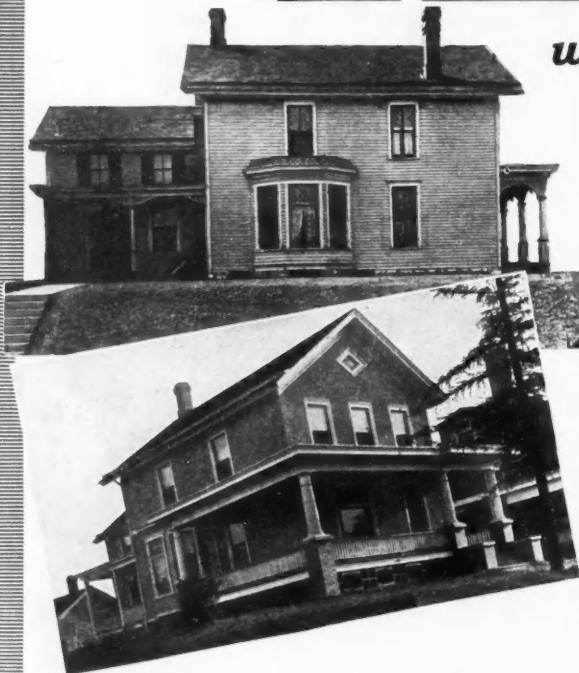


Asbestos "Century" Shingles Laid in the "Honeycomb Method"

formly favorable to this method.

The manufacturers, Keasbey & Mattison Company, Ambler, Pa., upon request, supply blue prints and full information needful for the specification and application of this really artistic shingle roof.

## Do Your Over-Coating Directly on the Studding



with

*KNO-FUR*

Expanded  
Metal  
Lath

Used Without  
Furring or Sheathing

**T**HERE are any number of houses, large and small, in every locality built on the old fashioned style of the one pictured above and which an overcoating of stucco will make like new, just as was done in this case.

There are two methods of overcoating an old house of this type. You can either apply KNO-FUR Metal Lath over the old boards and apply the plaster, or you can remove the clapboards and apply KNO-FUR Metal Lath to the studding direct without the use of sheathing. The diagonal ribs of KNO-FUR are as rigid as the trusses of a steel bridge and its use in overcoating or remodeling old houses is indispensable to the progressive contractor and builder having the work in charge.

KNO-FUR saves labor and expense of applying sheathing and furring. Furthermore, it is the only satisfactory stucco or plaster base which can be applied directly on the studding of the old building.

We have prepared a special booklet describing the uses and advantage of KNO-FUR on overcoating work of this character. It is a booklet replete with specific information of great value to builders and contractors. Upon request, we shall be glad to send you a copy by return mail. Simply ask for booklet No.

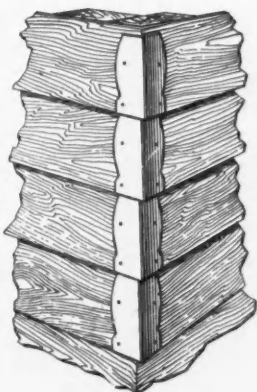
North Western Expanded Metal Co.  
903 Old Colony Building CHICAGO, U. S. A.

*These pictures are not unusual. There are dozens of old buildings in every locality that can be inexpensively over-coated—and improved in the same manner—provided KNO-FUR is used on the job as recommended.*

You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.

## A Stronger Neater, More Economical Building Corner

that has the old-fashioned corner boards beaten  
forty ways



Saves lumber,  
labor and "long  
green."

Made of sheets of galvanized steel, stamped to conform to the corner, concealing the clapboard ends and making mitreing and beveling unnecessary. The strong angular construction forms a firm grip on the boards and makes warping impossible.

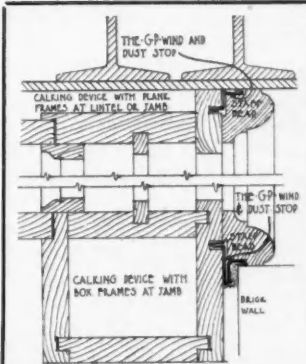
These metal corners have found great favor with carpenters and architects.

They are simple, attractive, inexpensive.

A sample with prices will  
be sent for the asking

**MERWIN MANUFACTURING CO.**

"The Wall Tie People"  
ERIE, PA.



## Don't Calk Window Frames

### USE THE G-P METAL CALKING DEVICES

The G-P Metal Calking Devices close the space between the box frames and the masonry. Prevent wind, dust and moisture from entering the building. Here's a practical, inexpensive way of calking around door and window frames without using oakum or elastic cements which shrink.

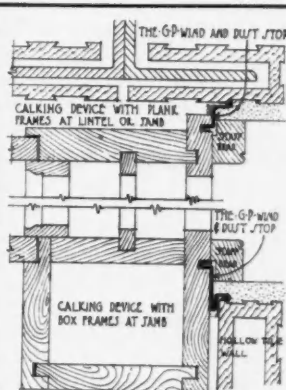
No other way is as good as the G-P Method. G-P Devices are handy to use—anyone can put them in. For hotels, hospitals, schools, and all other public and private buildings they cannot be beat. Especially good in new or old buildings of brick and tile and all forms of fireproof construction.

**A SANITARY NECESSITY**  
Saves 20% in fuel bills. Protect wall decorations, draperies, rugs and furniture from dust and dirt. Makes buildings practically air-tight, dust-proof and very warm in winter.

Write us for full description and prices. We want a few reliable Contractors and Builders to use the G-P Devices in their buildings on a liberal commission basis.

Every Architect, Contractor and Builder should write us immediately for full, free particulars. Prompt attention to all inquiries.

**GIFFORD-PIERCE CO.**  
175 W. Jackson Blvd.  
CHICAGO, - - ILLINOIS



# Save 50%

## on Your Building Material Bill!

No shrewd Contractor or Builder can afford to be without our newest catalog of guaranteed Millwork and Building Material. It's the best thing of its kind ever published. Has 3,000 superb illustrations and 8,000 dollar-saving prices—Buy your material from us, we ship direct to you and there are no jobber's or middleman's profits to pay. We sell at wholesale, guarantee satisfaction and safe delivery.

H. B. Munger, Pres.

## 8000 BARGAINS

Everything in Lumber, Flooring, Doors, Windows, Mouldings, Porchwork, Building Paper, Hardware, Tinwork, Roofing, Paint—All at Even Less Than Wholesale Prices! Buy From Us Direct And You'll Save 33 1-3% to 50% On Everything You Buy.

### PLAN BOOK OF MODERN HOMES

Illustrates 50 up-to-date modern houses and barns ranging in price from \$400.00 up and tells how to secure free blue prints, specifications, itemized bill of materials, complete with price. Our method of furnishing material complete saves 50% in price and 100% in trouble and worry. Get our 2 Great Books Today.



### Hardware

Get our money-saving prices on reliable building hardware—You take no risk—our designs are standard and every item is fully guaranteed—Our regular lock sets carried both in genuine bronze and steel—Just get our prices.



**\$838** We will furnish complete all lumber, shingles, millwork, hardware, spouting, paint—everything except masonry and labor to build 7-room house. Plans free. A113.



### Economy Rubber Roofing

2 Ply, 45 Lbs. Guaranteed 7 Yrs. \$1.35  
3 Ply, 55 Lbs. Guaranteed 10 Yrs. \$1.60  
Rolls Contain 108 Sq. Ft.

Free from tar. Made from long woolen felt saturated and coated with pure asphalt.



### Storm Sash

Double windows save their cost each season in coal bills. All sizes in stock. Clear White Pine Glass. 72c Net up. Storm Doors \$1.44 Net up. Write for FREE BOOK.

**CHICAGO MILLWORK SUPPLY CO.**  
1422 W. 37th Street Chicago

Fill in This Coupon Now **DATE**  
Mail It To Us .....

**CATALOG OF 8000 BARGAINS**  
**PLAN BOOK**

**Chicago Millwork Supply Co.,**  
1422 W. 37th Street  
Chicago, Ill.

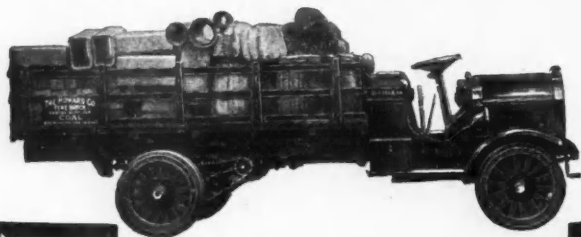
Gentlemen—Please send your Books listed below, to—  
(If Plan Book is wanted enclose 10c.)

Name .....

Address .....

**CATALOG—No. 43 of Building Material**  
**PLAN BOOK—No. 53 House and Barn Plans**

You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.



## Test of Years Proves Truck Efficiency

In buying a motor truck it is wise to select a kind that has been on the market long enough to make a record—one that has proved itself by **actual duty tests** and continuous efficiency.

The Howard Company of New Haven, Conn., have three KisselKar trucks, one of them in service nearly three years and still in first class condition and doing continuous work at minimum upkeep cost. The two additional trucks were purchased on the record of the first and are doing equally well. The three Howard trucks have replaced sixteen horses.

A truck to be **right** must have power plant, transmission and radiator suspended on sub-construction—four speed gearset—lock on the differential to pull a stuck or slipping wheel out of difficulty—motor of tried and unquestioned power and ability—plenty of reserve strength—general construction that will resist vibration. In brief it **must be like the KisselKar.**

### KisselKar Service Contract

insures prompt and skillful attention to truck owners, offering a definite and liberal service policy, ample and accessible facilities and factory-trained mechanics. Kissel-Kar Service Buildings are at all principal points, while the system reaches the most remote agency.

### SIX SIZES

1500 lbs., 1, 1½, 2½, 3½, 6 tons.

Send for Truck Portfolio with hundreds of illustrations of KisselKar Trucks in actual use.

### Kissel Motor Car Co.,

546 Kissel Ave. - - - Hartford, Wis.

New York, Minneapolis, Chicago, Philadelphia, Milwaukee, Los Angeles, San Francisco, Oakland, Dallas, Boston, St. Paul, Kansas City, and 300 other leading points.

# KISSELKAR TRUCKS

You will get **SPECIAL ATTENTION** if you tell Advertisers you read **American Carpenter and Builder.**

### How Mack Tools are Made

Many of our readers will be interested in the 12 page illustrated pamphlet now being distributed by Mack & Co., Rochester, N. Y. manufacturers of the well known "Barton" hand forged edge tools. This pamphlet is a reprint of an interesting article which appeared in the American Machinist of January 30th, 1913. It describes vividly and illustrates very satisfactorily just how these well known hand forged tools are produced. The author, Mr. Fred H. Colvin, has taken for his subject "Workmen's Skill vs. Modern Machinery." All users of edge tools will be glad to read this article. Mack & Co. Rochester, N. Y. will gladly send a copy of this pamphlet with their compliments to any of our readers who will write them.



### You Want this Free Book

An entirely new and original form of catalog of five books in one, one book being built over the other, stair-step fashion, with a judge high up above the top of all the books, on a bench, is shown by a Waterproofing Company. It is an innovation in catalog building in which a building material is "put on trial"—a radical departure from the staid, old, dry and uninteresting style. The contention of the manufacturers is that their product "has all the good points and none of the bad." First, the case is outlined. Then the five "witnesses"—Prof. Scientist, Mr. Engineer, Mr. Builder, Mr. Owner and Mr. Demonstrator—are called to the "stand" to "testify." The individual story of each "witness" is told separately in one of the unique books.

Prof. Scientist, the first witness, explains in simple terms the scientific secrets why this waterproofing destroys capilarity. Strange to say, the testimony is interesting instead of being dull and dry statistics. Mr. Engineer, witness No. 2, offers exhibits of the reports of tests by American and European experts, adding records of highest awards at 8 principal World's Fairs. Witness No. 3, Mr. Builder, presents to court a book of photographic reproductions of buildings in all parts of the world, specific records of the accomplishments of this product. The next witness, Mr. Owner, introduces testimonials of scores of disinterested builders, and therefore indisputable evidence of the merits of this particular waterproofing material. The fifth and last witness is Mr. Demonstrator. He offers the clincher argument that shows you how you can prove the case for yourself. The demonstration is then explained. The "Summary of the Evidence"—how it has proven its case—comes next. Complete specifications, a valuable guide in solving various waterproofing problems, ready for the office files, follow; and finally the verdict—torn from a newspaper. The verdict of the court is, of course, in favor of the Ceresit Waterproofing Company, the firm which issues this unusual catalog.

This unique, odd-shaped, peculiarly bound catalog—"The Court Record of Five Witnesses"—is printed on heavy gray stock with appropriate border work of orange. It is just the kind of catalog that, when the mailman brings it into the office, will attract the attention of every one, and the man who usually hurls all advertising literature into the waste-paper basket, because "it is all alike" and fails to tell anything that anyone really wants to know or anything that will help him in his business, places it in his permanent file.

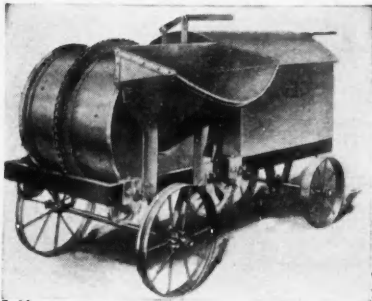
Copies may be had by our readers addressing the Ceresit Waterproofing Co., Chicago.



### Oldest Steel Pulley Concern Adds to Plant

The American Pulley Company, of Philadelphia, makers of steel split pulleys, have increased their equipment with another big building.

The wonderful growth of this concern shows how much



**Large  
Output  
Low  
Cost**

Simplicity of design, and manufacturing in large quantities enable us to build these machines at a very low cost each. We give you the benefit of this by selling them at a price much lower than other manufacturers can build machines of this quality.

**Atlas Concrete Mixers**

**Are Built For Your Conditions  
And Sold At Your Price**

**CAPACITY—50 CU. YARDS A DAY**

**4½ Foot Batch  
\$275 Complete**

**With Side Power Loader  
\$400 Complete**

**Atlas Engineering Co.**

784-790 Thirtieth St.

Milwaukee, Wis.

**Weather Proofing  
For Sliding Doors**

Get and use the Schouler Patent Weather Stripping and Guide. It is made of heavy metal. Will not wear out. It is easily applied and a positive protection against wind, rain, sun and dust. Doors slide easily and firmly.

*Get catalog and other particulars. Write NOW.*

**Schouler Cement Construction Co.**  
144 Frelinghuysen Ave. NEWARK, N. J.



**This is the  
Standard  
Take Down  
Square.**

**It makes  
good with  
the user.**

**Send and  
know  
more about it.**

**Southington  
Hardware Co.**  
Southington, Conn.



*Eureka*

**Mixer for Building  
Contractors**

*50 to 80 yards per day  
Furnished in all sizes  
from 5 to 35 yards per  
hour*



*Over 300 Eureka's used in New York City*

**These Striking Eureka Advan-  
tages Compel Attention**

**It will save one-half in labor over hand mixing.**

**A thorough uniform mix is guaranteed and full rated capacity.**

**The average life is six to eight years.**

**It can be operated by three men or will accommodate a dozen.**

**Costs about 50 cents a day for gasoline. Built extra strong and can be depended upon for hard, continuous service.**

**Easy to move and operate.**

**Material shoveled direct into bins—no wheeling.**

**Only necessary to keep bins supplied with material—measured automatically.**

**One lever stops and starts mixer—another the feeders.**

**Equipped with a strictly high-grade engine Bosch magneto if desired.**

**Eureka mixers are in use everywhere and always satisfactory.**

**On this satisfaction to the user Eureka prestige has been built.**

*Ask for catalog No. 30 and names of Eureka users in your territory.*

**EUREKA MACHINE CO.**  
85 Handy Street LANSING, MICHIGAN

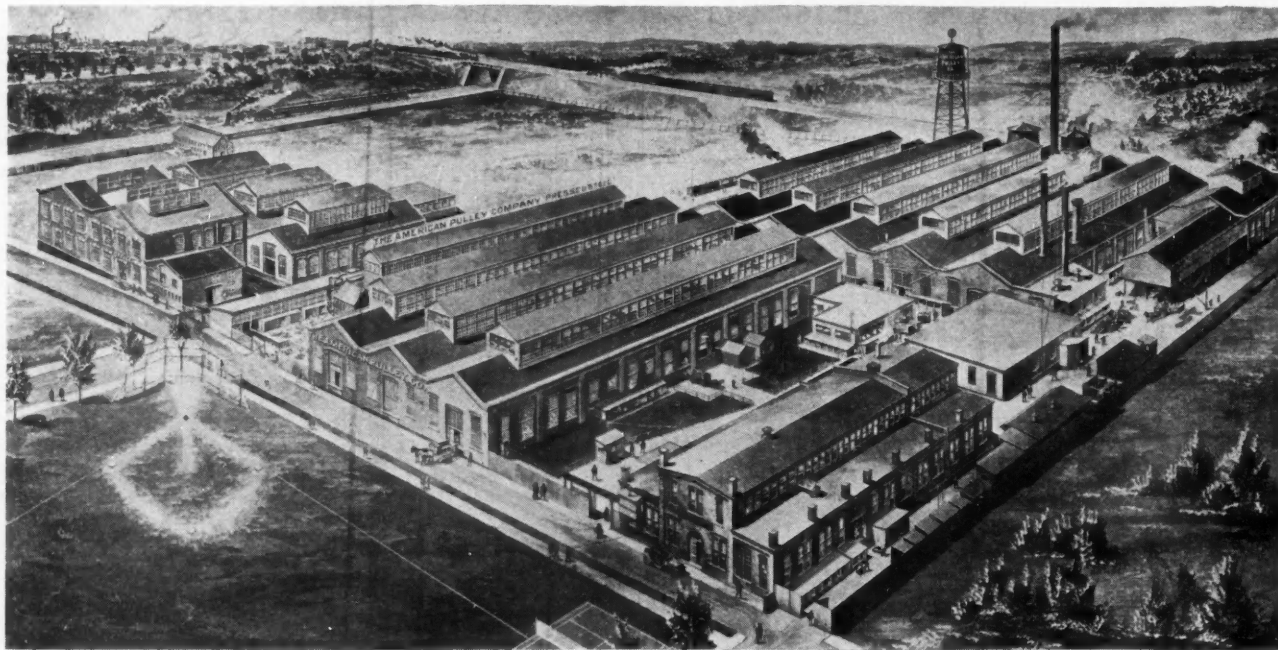
W. V. JOHNSON & CO., General Eastern Agents  
1 Madison Avenue, New York City

Atlanta  
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St. Louis  
Salt Lake City  
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You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.



Birds Eye View of Enlarged Plant of the American Pulley Co., at Philadelphia, Pa.

can be done by right business methods. With the American Pulley Company, business has been more than the mere consideration of finding a market for "American" pulleys. The establishing of this market (there are over 2,000,000 "Americans" in service), has been the natural outcome of strict adherence to a well-defined high standard.

A business conducted on such principles, cannot fail to grow—and so this new building, containing 54,000 square feet of floor space, or about 1¼ acres, became necessary. It will

easily store 40,000 belt pulleys; but will also be devoted to the storage of sash pulleys, bushings and all finished products.

The entire structure is absolutely fireproof. It has brick walls, tile roof, concrete floors, metal racks, metal bins and shelving, and metal window frames. There is more floor space under this one roof than was occupied by the entire plant when established here 13 years ago. There will be a second story office 80 ft. by 100 ft. The office staff will move into its new quarters in October.

## The Finer Edge for Your Finer Tools

**C**ARPENTERS, pattern-makers, craftsmen, will welcome to their tool-kits the extra hard, extra fine

### Carborundum Sharpening Stone

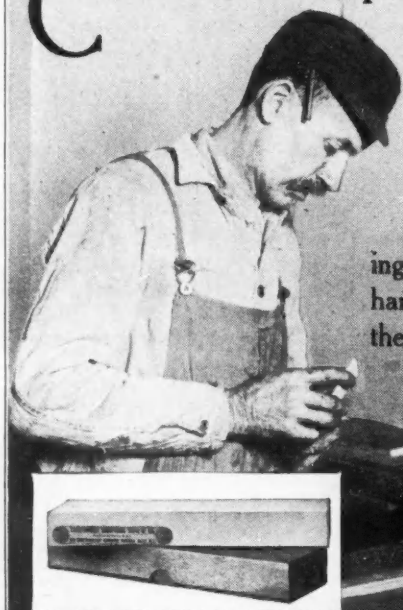
Certain chisels, carving-tools, gouges, etc., require a fine, delicate edge—keen and smooth—an edge that will hold.

The Carborundum extra hard, extra fine stone is just the stone for giving such an edge.—It is velvety, smooth, yet fast-cutting—it is graded hard enough to give the edge the smoothness required for fine work—and the stone is absolutely uniform—it won't glaze or lose its shape.

Made in several sizes of the rectangular stone and beveled slips.

For general bench-work the regular round or rectangular Carborundum Combination stones are recommended.

From your hardware dealer, or direct.

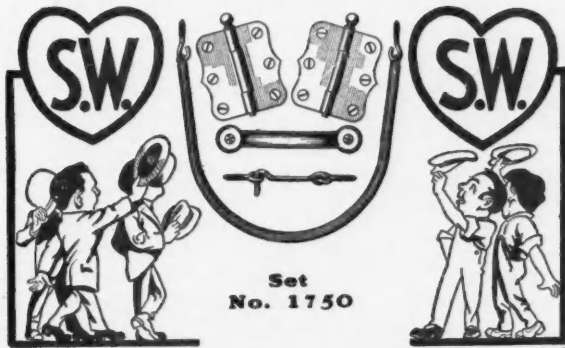


**THE CARBORUNDUM COMPANY, NIAGARA FALLS, N. Y.**

You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.

# STANLEY'S

## Wrought Steel Screen Door Hardware



Set  
No. 1750

### Each Set Complete with Screws Ready to go on the Screen Door

Owners and Builders alike are pleased with the high quality of the hardware and the convenient way it is packed ready for use.

Butts, pull, spring, hook and eye and screws, all of the highest quality of material and workmanship

They can be furnished in Japan, Antique Copper, Brass or "Stanley" Sherardized rust-proof finish, the proper finish for outside doors.

Write us for Circular "A". It tells the story.

### THE STANLEY WORKS

New York New Britain, Conn., Chicago

## The Razor That Shaves

Get acquainted with the cleverest safety razor you or any other man ever drew over his face. It's the

# KEEN KUTTER

Junior Safety Razor and sells for \$1.00, packed in a neat traveling box.

No matter how many Safety Razors you have tried, buy a Keen Kutter Junior. It is the safe Safety Razor. It is a revelation in shaving. It makes the natural sliding stroke possible to the most awkward shaver. It is always ready for a fine, cool, close shave—not a pull or a balk

*"The Recollection of Quality Remains Long After the Price is Forgotten."*

Trade Mark Registered. —E. C. SIMMONS.  
If not at your dealer's, write us.

### SIMMONS HARDWARE CO., Inc.

St. Louis New York Philadelphia  
Toledo Minneapolis Sioux City Wichita

## The Simonds Saw

is built on honor. Every saw which leaves the Simonds factories is inspected and its quality is guaranteed.

Ask your dealer

### Simonds Mfg. Co.,

Fitchburg, Mass.  
Chicago, Ill.

## You are the Builder—

the competent authority on all subjects relating to the building you are putting up. Talk ventilation to the owner. He'll be pleased that you show such interest in what he knows and you know to be one of the best details of modern construction.

It is to your credit to ventilate every barn, stable, house, school, store, theatre or factory you build.

# ROYAL VENTILATORS

provide the surest method of perfect ventilation. The exhaust of foul air is at all times and under every condition steady and strong—not draughty. The double cone principle does it. You can get ROYAL VENTILATORS in all sizes, all shapes, thoroughly guaranteed at a price that is reasonable, and that will show you a nice profit.

Get Our Catalog and Study It

### ROYAL VENTILATOR CO.

417 Locust St  
PHILADELPHIA, PA.

You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.

# \$1200 IN COLD CASH

## Made, Paid, Banked in 30 Days by Stoneman--\$15,000 To Date

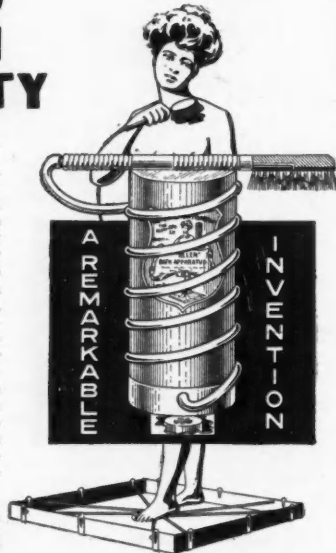
Reader, this offer is open to you—this money—the cold cash—can be yours. You and you alone by waiting too long can lose it. Investigate today—get the proof. Send your name and address—but NO MONEY—this very minute.

## \$1000.00 PER MAN PER COUNTY

Don't worry—don't find excuses—no experience is necessary—business supplies the capital. You don't have to wait a month—not even a week—payments can start the first day—and continue daily up to \$1,000.00 per month per county. For years we have been quietly picking men from all walks of life, ministers, clerks, farmers, preachers, doctors, lawyers, teachers and so on—enabling them with our co-operation and \$50,000 appropriation to get what we here offer and can do for you—\$1,000.00 per man, per county. Some of these men you may know—possibly have envied without understanding the reason of their prosperity.

## INVESTIGATE AND BE AMAZED

Demand absolute proof—accept no other kind. Either we have the best thing that ever happened or we're colossal liars. Ask Schleicher, minister, whether it's true that he received



## \$195 TWELVE HOURS AFTER APPOINTMENT

Langley, liveryman, \$115 first day; Rasp, agent, \$1,685 in 73 days; Beem, solicitor, \$164.25 weekly for 12 weeks; Korstad, farmer, \$2,212 in a few weeks; Zimmerman, farmer, \$3,856 in 30 days; Juell, clerk, \$6,800; Hart, farmer, \$5,000; Wilson, cashier, \$3,000 in 30 days. Let us refer you to these men, to the U. S. Government, to banks, business houses, noted people at home and abroad. Heed this caution from Chas. Starr, of Mich., who writes, "Sorry this field is closed. Should have acted sooner, but was skeptical. Your local man's great success has set everybody talking and proves I was a chump. Wonderful what a man can do with a real opportunity." Then read this from Lodewick who acted quickly: "Lucky I answered ad. It's great. Money coming fast." Which will you be, Starr, a victim of "neglected opportunities," or Lodewick, the "early bird"? To escape Starr's fate, send your proposal this very minute—

## SPEND ONE CENT TO MAKE THOUSANDS

Strang invention startles world. Gives every home that long desired blessing a modern bath-room with hot and cold running water facilities for only \$6.50. No plumbing—no water works—self-heating. Only ten minutes to install. Gives cleansing plus friction, massage and shower baths in any room. Equivalent to any \$200 bathroom. Over 200,000 delighted users. Used by U. S. Government.

More remarkable than this invention is our startling plan of universal distribution through special representatives who become virtually profit sharing partners in a business that's immense—exciting—fascinating—dignified—and above all, has enabled them, will enable you, to get \$1,000.00 per month, per county. Asking to be shown doesn't obligate you one bit. Investigate today by all means.

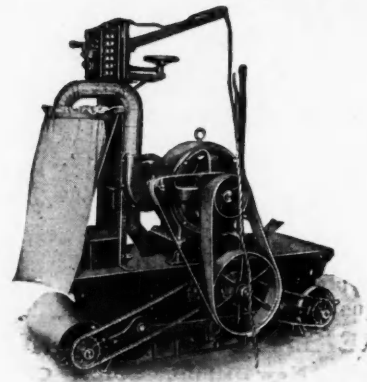
## ALLEN MFG. CO. 3786 Allen Bldg. - Toledo, O.

You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.

## Superiority of Machine Finished Floors By J. H. Cauffiel, Bus. Mgr. The American Floor Surfacing Machine Co.

Contractors and builders are too busy and practical to lose time experimenting and testing out untried devices, simply because they can get a free trial offer. There are many devices in use for finishing floors, some of which have a particular field of their own, most of them being new in the field. There have been many contrivances used for finishing wood floors, planing, scraping and afterwards sandpapering by hand to finish. It is a well known fact that a good floor cannot be produced by scraping without afterwards sandpapering it.

More than 10 years ago the American Floor Surfacing Machine Company obtained the original and basic patents on self propelled, two roll, dust collecting, sandpapering floor surfacing machines, which are used by the Governments of the United States and Canada as well as by the largest con-



tractors and hardwood floor companies throughout the western hemisphere and the principal countries of Europe.

It has not only stood the test of time, but has been imitated by single roll machines that are pushed around over the floor, many of them sold on the reputation of the work of the American Floor Surfacing Machine. The manufacturers of the American Floor Surfacing Machine not only have a standing offer to put this machine against any other floor surfacing machine in the world, and do several times as much work as any other machine, but do a quality of work that no other machine is able to do, and at much less cost.

No building can be considered complete until the floors are finished in harmony with the balance of the interior trim or wood work nor is there any work in any part of the building that adds more real value as well as profit, than that of finished floors, not only to the contractor but to the owner as well; and this can only be done with machines that are properly built and have been thoroughly tested on every kind of floor laid.

Any contractor or hardwood floor man who is in the market for something that will do his work better and cheaper than he is now doing it for, or than it can be done by any other process, will be interested to know that these machines are sold strictly on their merits, set up on the job, and if it will not make good in every particular he is under no obligation to purchase. In its 10 years' experience this company have not only sold their machines strictly on this basis, but in every instance where they have had an opportunity to show what the machine would do by putting it on the job, they have made a sale, and in not a single instance has one of these machines been returned on account of its inability to make good in every particular both as to quality and quantity of work turned out.

You are invited to write the American Floor Surfacing Machine Co., Toledo, Ohio, for their free booklet.





**STAMPED STEEL TILING**

Just the thing for  
Bathrooms, Kitchens, Restaurants,  
Butcher Shops, etc.

**AND ITS RIGHT IN YOUR LINE**

Real tile frequently becomes loose and falls off. This cannot. The studding or plaster is first sheathed with narrow, dry boards and the metal put on with small nails

**SIX PATTERNS**

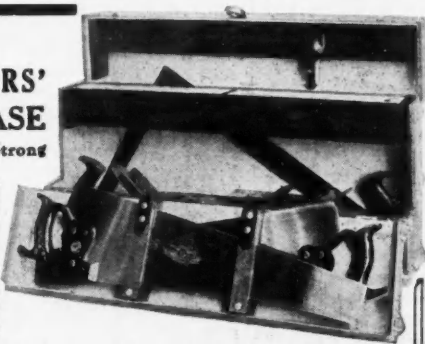
Furnished with Baked White Enamel finish—or simply prime painted Metal trim Cap Base, Corners, etc., supplied or you can use wood trim.

**NORTHROP, COBURN & DODGE CO.**  
29 Cherry Street, New York

**Indestructo  
CARPENTERS'  
TOOL CASE**

Neat, Light, Strong

Suitcase style. Saves carrying a heavy tool box. Made of 3 ply veneer covered with heavy canvas and painted. Edges and corners bound and reinforced with steel. Two brass catches and lock. Made in two lengths—31 ins. and 33 ins., for 26" and 28" saws. Has a place for every tool.

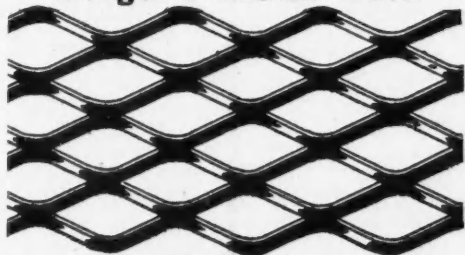


Handsome and indestructible. Special sizes to order

Write for Price List.

**WEDELL & BOERS, 157 Jefferson Ave. Detroit, Mich.**

**Berger's Metal Lath**



Write for catalog

**The Berger Mfg. Co., Canton, Ohio**

For the best service address nearest branch.

New York      Boston      Minneapolis  
St. Louis      San Francisco      Philadelphia

**Typewriter Sensation**

**2** Dollars A Month



**Buys a Genuine  
Standard  
No. 2  
SMITH-  
PREMIER  
Typewriter**

**and at \$71.20 less than the manufacturer's price**

Never before has anything like this been attempted. Dealers get \$3.00 a month rent for this make of machine, not nearly as perfect as the one we will send you, and you pay only TWO DOLLARS A MONTH AND OWN IT.

**Send the Coupon and We Will Ship  
You This Smith-Premier Typewriter**

When the typewriter arrives, deposit with the express agent \$8.80 and take the typewriter three days and try it. If you find it to be the best typewriter you ever saw, satisfactory in every respect, keep it and send us \$2.00 each month, until our special price of \$28.80 is paid. If you don't want to keep it, return it to the express agent, and he will give you back your \$8.80, and return the typewriter to us. We will pay the return express charges.

You won't want to send this machine back after you have seen it and tried it. You can't imagine the perfection of these machines till you see one, and the price is \$71.20 less than the catalogue price, and it is guaranteed just as if you paid \$100.00.

Perfect machines only, complete outfit, nothing extra to buy, no strings of any kind to this offer. Just think of buying such a typewriter for \$8.80 down and \$2.00 a month. Cash price \$27.40. Thousands of people have paid \$100.00 cash for Smith-Premiers. It's standard, by many considered the best typewriter ever built. A key for each character, so each character is always the same, a type brush for cleaning the type built into the machine; the tilting carriage throws all previous writing instantly in sight; comes to you with tools, complete operating instructions, rubber cover, everything ready. It runs beautifully. Writes as perfectly and clean cut a letter as any machine you could buy for \$100. It's wonderfully simple and strong. It will last a lifetime. I sold a similar supply of these beautiful machines about a year ago to everybody's satisfaction.

**Only 200 orders will be filled on  
this offer. Act today to be sure**

This coupon states the terms. Fill it out, send it now, today. You can't lose, and it's the greatest economical typewriter opportunity you will ever have.

**COUPON**

**HARRY A. SMITH**

No. 180 North Dearborn Street, CHICAGO, ILL.

Ship me a No. 2 Smith-Premier f.o.b. Chicago, as described in this advertisement. I will pay you the \$20.00 balance of the SPECIAL \$28.80 purchase price, at the rate of \$2.00 per month. The title to remain in you until fully paid for. It is understood that I have three days in which to examine and try the type writer. If I choose not to keep it I will carefully repack it and return it to the express agent. It is understood that you give the standard guarantee for one year.

Name.....

Address.....

Shipping Point.....

**E**

You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.

**Red Devil Price List**

The Red Devil Tool Factory has just issued a new net illustrated booklet giving net prices of 3,000 Red Devil tools. The Smith & Hemenway Co., 150 Chambers St., New York City, will be pleased to mail a copy on request to all interested.

**How Pete Was Fooled**

"Say," remarked Pete as he came into the office the other morning, "I had one slipped over on me yesterday that sure did have me guessing."

"How's that, Pete?" we asked, for when anyone puts anything over on Pete it's worth knowing about.

"Why, the wife and I were out looking for a flat on Sunday afternoon—you know we're going to move. We went around to a new apartment building that had just been completed. "For Rent" signs decorated all the windows. It was a mighty nice building, in a nice neighborhood and naturally would attract desirable tenants."

"And did you sign a lease?" we inquired. "Yes, but wait

until I tell you the joke. There was nothing to indicate what rent they were asking for those flats and at the time we went in, there was no one to give us any information. So we strolled into a nice five room apartment on the second floor and started to inspect it from stem to stern. Everything went all right until we came to the dining room. I gave one glance around and saw the most beautiful mahogany paneling I ever laid eyes on. I gasped and hollered to my wife—"Here, let's get out. These rents are away beyond us."

"They're not charging us anything to look around," she replied sweetly. "No," I said "but Holy Smoke—mahogany paneling like that costs like the dickens." "It certainly is beautiful" she admitted just like that.

Just then the agent for the building came in. "Looking them over?" he asked. "Yes, just looking."—I answered. "What rent are you asking for this flat?" "Forty dollars" He said. "Forty dollars!" I shouted not believing my ears. "Forty dollars" he chirped again. "Here give me a lease right away quick" I told him for I was beginning to get excited.

After the lease was all signed I calmed down enough to ask him how he could rent a beautiful flat like that for forty dollars, when the dining room was paneled five feet high in fine mahogany. "Did you look at the mahogany," he said with emphasis on the mahogany. "Did I look?" I exclaimed, "Can't I see?" "Look close" he told me. I went over to the wall and took a good squint at it. Lo, and behold! it was paper mahogany.

"You see" explained the agent, "this is only one of the modern things that go into building now-a-days. That finish is a reproduction of actual wood on paper. It comes in several finishes—mahogany, straight and quartered oak in antique, mission, natural and golden finish." "Who makes it," I asked him, at the same time pulling out my note book. "The Cott-a-lap Company of Somerville, N. J." and I jotted the name down. "They'll send you a catalog and free samples for the asking" he volunteered.

"So you were stung, eh, Pete?" we asked. "Not a bit of it," he came back. "I signed that lease and I'm glad of it even if it ain't mahogany. It makes me kinda sore though to have one like that slipped over on an old builder like me, but just the same I've learned something that will make a big hit with our builders. Tell them about it will you?" he begged.

"Sure, we will"—so here you are with Pete's story of how this modern imitation wood paneling got the old builder's "goat." Maybe you'll want to know more about the paneling. If so, write the Cott-a-lap Company for samples and catalog. Pete says he's going to get better acquainted with this stuff that got the best of him.

# We Pay The Freight On These Houses

## \$10,000 BOOK OF PLANS FREE

*Design No. 73*  
Eight Rooms and bath all rooms convenient and roomy. Size 28x24 feet.



**\$890**

*Design No. 93*  
7 Rooms and bath, very attractive exterior; sleeping porch, balcony. Size 20x22 feet.



**\$899**

**Freight Prepaid No Money Down**

Here is an opportunity for any man to own a home of his own, no matter how limited his means. Even if you have not definitely settled on any building plans, it will pay you big to take advantage of this sensational offer. Order your material NOW and build later. We are determined that the Fall of 1913 shall be the biggest, busiest season in the history of this company. Hence these unprecedented offerings, the like of which have never before been made in the history of building material business.

**Think of the Enormous Saving** Nowhere else, in all the world, can you duplicate these prices. We will save you from 1/3 to 1/2 what you would have to pay elsewhere. Look well at the illustrations of the 4 homes here shown—note the brief descriptions. We will furnish you the material needed to construct any of these homes strictly according to our Plans, Specifications and Material list at the prices quoted for each. But that is not all. We will deliver all of this material right to your railroad shipping point, FREIGHT PREPAID BY US—no charge to be paid by you at all. You are not even required to pay one cent down. We ship subject to examination wholly at our own risk. We positively guarantee every item we send you to be high grade, clean, brand new stock. We would not dare ship from \$500 to \$1000 worth of material on these liberal, no-money-down, freight prepaid terms, were it otherwise.

**Special Notice:** These freight prepaid prices are for all points in Ill., Ind., Ohio, Southern part of Mich. and Wis. and Eastern part of Iowa and hold good for these 4 designs only. Special freight prepaid prices to any point outside of above territory.

**These Prices Good Only For 30 Days**

Please remember, the prices quoted in this advertisement hold good only for 30 days. After that they will positively be withdrawn. If you are wise you will not let this chance go by, as it may never come again. So be sure to write us today.

**50c Buys Complete Set of Blue Print Plans** This is the first time we have ever offered a complete set of plans for only 50c. Plans offered at this price are only for the designs shown in this advertisement. This is a part of the building material offer and like it, is good only for 30 days. Usually, when you go to an architect, plans like these would cost you about \$20. If you buy the bill of material from us we will absorb the 50c charge and the plans will cost you nothing.

**\$10,000 Book of Plans Free!** The houses here shown are four of our regular designs taken from our wonderful Book of Plans, containing 100 pages of beautiful modern homes. Let us send you a copy of this magnificent Book FREE. Not only do we save you from 25% to 50% on your complete building, but we give you all the assistance you need for its proper and economical construction free of charge.

**\$736**



*Design No. 57*  
Six Rooms and bath. A Modern Home, Excellent Interior. Size, 24 ft. by 26 ft.

**\$762**



*Design No. 60*  
Five Rooms, bath, Large Living room; Private Porches, Modern in every respect. Size 37x29 ft.

**Our Guarantee Your Protection** We guarantee all brand new stock, sufficient quantity, prompt shipment. Guarantee backed by \$10,000,000 capital.

**CHICAGO HOUSEWRECKING CO.**

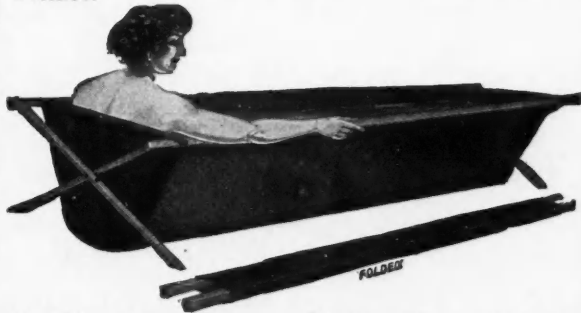
Prominently known to the public for 20 years as the great "Price Wreckers", and now owned by the Harris Bros. Co., have decided that their best interests require that the name of the principal owners of the company be more prominently brought to the public's notice. There is no change in our business, except that the four Harris Brothers will, in the future, advertise and sell their goods, heretofore advertised and sold under the name of THE CHICAGO HOUSE WRECKING COMPANY, under the name of the Harris Brothers Company.

**Harris Bros Co. 35<sup>th</sup> and IRON Sts. Chicago** Dept BR-149

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Thousands of dollars paid to agents already in the field. Will Gunkel of Ohio, got \$240 worth of orders first week. A. Bernider, of Kansas, made \$30 in four hours; made 8 calls, took 6 orders. Weil, of Mo., made \$10 in one hour. Hamilton, of Wyoming, made \$60 first two days. We want good agents in every county in the United States, Canada and Mexico.



**New Invention.** Just out. Nothing like it. Folding Bath Tub. Gives to every home a complete bath room in any part of the house—without expense. Biggest, quickest, surest money-maker of the century for agents. Territory being rapidly assigned. Send your application today.  
**100% Profit.** We back you with our capital and experience. We give you complete instructions, assistance and co-operation. No charge for territory. Don't delay. Send your name at once. Write plainly and give name of your County. Complete particulars FREE. Write today.

**Robinson Mfg. Co.,** 211 South 15th Street  
 TOLEDO, OHIO

# Satisfy Your Customers Build with SEIPPEL'S Quality Lumber



### GET MORE CONTRACTS

Your interest as a contractor and builder lies in satisfied customers. But your good work is wasted if you build with poor stock.

**It takes quality lumber to build a quality house.**

Our lumber is all carefully graded up to the manufacturers' grading specifications; and with our enormous stock we fill your order exactly, item for item—no trouble-making substitutions in dimensions or quality.

**We carry everything you need, including roofing and mill work—all guaranteed high quality.**

You get quick service and low freight rates from Dubuque.

If you're in the market for a carload, come to Dubuque and let's talk it over. We'll refund your railroad fare both ways and you select what you want.

**OUR DUX BAK ROOFING** has no equal in the market for the money. Sells for less and is backed by a longer guarantee than any other standard goods.

Besides, we have a special proposition in which you'll be interested.

We'll save you money on small orders, and guarantee satisfaction.

Write us at once. Place yourself in position to make more money during this building season.

Orders solicited only from Iowa, Illinois, Southern Wisconsin, Indiana, Northern Missouri, Southern Minnesota, Southeastern South Dakota.



**PETER J. SEIPPEL LUMBER COMPANY**  
 212 S. Locust Street DUBUQUE, IOWA

# There's But One Best in Anything in Pliers—



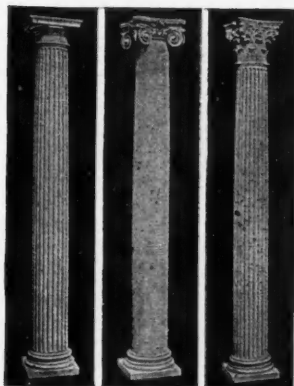
## It Is UTICA

"The Memory of Quality Lingers."

The most scientifically designed line of Nippers and Pliers made. The result of careful development to make an absolutely perfect tool. Guaranteed to do its work without breaking and without tiring the workman's hand.

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**UTICA DROP FORGE & TOOL CO., UTICA, N. Y.**



## COLONIAL COLUMNS

Hegener's Patent Lock Joint Columns

We make columns from the smallest size up to 40 inches in diameter and 30 feet long.

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MANUFACTURED BY

**RUDOLPH HEGENER CO.,** 9232 TO 9234 HARBOR AVE. CHICAGO

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Roman Corinthian



Italian Renaissance

We are prepared to furnish composition capitals of standard design.

DEPARTMENT B

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# Clow Cast Iron Specialties



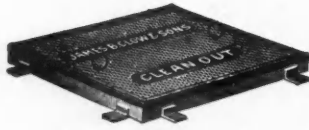
A-2187  
Ex. Hy. Cesspool, Long Outlet

Size of top.....In.	12x12	16x16	18x18
Depth.....In.	10	10	10
Size of outlet.....In.	3	4	6
Length of outlet in.	10	10	10
Painted, net Each	3.09	3.88	7.15



A-2185  
Extra Heavy Cesspool

Size of top.....Inches	16x16
Depth.....Inches	10
Size of outlet.....Inches	4
Painted, net.....Each	2.00



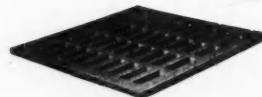
A-1700  
Cleanout Cover and Frame

Size.....Inches	27x27
Size of frame, outside.....Inches	27 1/4 x 27 1/4
Height of frame.....Inches	4
Price, Standard, net.....Each	\$ 9.00
Price, Extra Heavy, net.....Each	18.00



A-2015  
Grating with Loose Frame

Size, inches	8x8	10x10	13 1/4 x 13 1/4	18x18
Grate only net.	.60	.98	1.43	1.80
Grate and frame, net	.83	1.28	1.88	2.25



A-2020  
Grating  
Size, inches..... 9x9 13 1/4 x 13 1/4  
Price, each, net..... \$1.13



A-1945  
Concave Grating  
Concave, diam. 19 in., net, each \$3.38  
Convex, diam. 22 1/2 in., net, each 3.75



A-1950  
Cast-Iron Grating

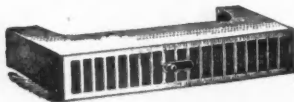
Diameter.....Inch	Each net
.....14	\$1.88
.....16	2.06
.....18	2.25
.....20	2.43
.....21 1/2	2.81
.....23	3.19
.....28	3.56
.....30	3.94



A-1955  
Cast Iron Bar Strainer  
Diameter . 4 5 6 7 8 9 10  
Net, each. .07 .09 .11 .18 .23 .28 .37



A-1710  
Cleanout Cover and Frame  
Opening, diam., in. 18 24 34  
Top, outside, diam., in. 22 28 38  
Price, net, ea \$4.13 \$6.00 \$9.00



A-2200  
Air Brick with Sliding Ventilator  
Size.....Inches 8 1/4 x 5 17 x 2 1/4 17 x 5  
Price, net...Each 2.59 2.59 5.17



A-1720  
Cleanout Cover and Frame  
Opening, diameter, inches... 18  
Top, outside diam., inches... 22  
Base, outside diam., inches... 28  
Price, net, each.....\$4.88



A-2201  
Air Brick  
Size.....Inches 8 1/4 x 5 17 x 2 1/4 17 x 5  
Price, net...Each 2.20 2.20 4.40

Send For Catalogue 39

## James B. Clow & Sons

CHICAGO, ILL.

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## Beautiful Metal Ceilings

Nowhere have we seen a more completely illustrated book of metal ceiling designs than that just sent us by the Edwards Manufacturing Co., 401-417 Eggleston Ave., Cincinnati, Ohio. The cover of this book, illustrated in four colors, shows the possibilities of metal ceilings from a decorative standpoint.

Not only have these manufacturers added new designs to their already large assortment, but the patterns shown are some of the most beautiful one could possibly think of. From the interior views reproduced from actual photographs, it is safe to conclude that a metal ceiling is not only handsome, durable and inexpensive, but a very appropriate thing for churches, homes, schools, offices, moving picture theatres and many other buildings.

The best in building is none too good for the builder who wishes a reputation for reliability and excellent work. Our builders will find the Edwards Manufacturing Co. can satisfy their demands for excellent quality at a fair price. As time goes on, the demand for pressed steel ceilings and walls grows apace and this demand has resulted in the production of such beautiful effects that our big family of builders will find great pleasure in looking over the book illustrating them. A postal card addressed to the Edwards Manufacturing Co. will get this book for you free of charge.

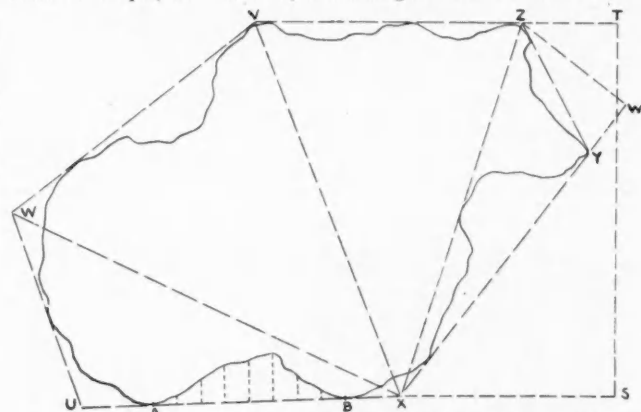


## To Find the Area of a Pond of Irregular Shape

NOTE: Previous installments of these instructive papers on the use of the Transit and Level appear on page 110 April, page 96 June, page 110 July and page 120 August.

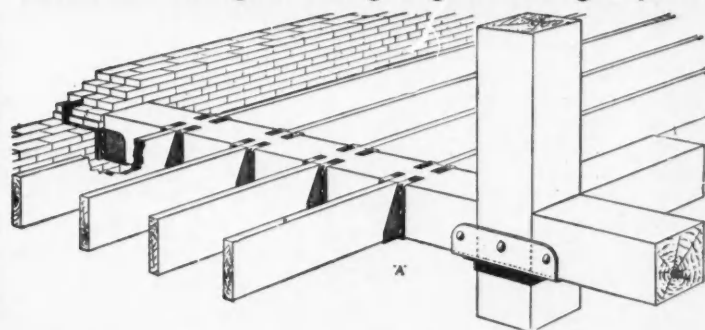
It is sometimes necessary to determine the area of a small body of water in a piece of property, either for the purpose of finding out how much area is removed from the production crops, or to determine the amount of ice that can be cut when it reaches a given thickness, or for any other purpose. In this case, the easiest way is by means of some inexpensive transit, such as the Starrett, using this instrument to take sights and measure angles and distances in straight lines, so as to form an irregular polygon, *UWVZYX*, all around the pond as shown in the accompanying figure.

The area of this pond is then obtained by getting the area of the several triangles of which it is composed, such as *XYZ*, *XZV*, *XVW*, and *XWU*. The method of obtaining these areas is simple, for instance, the triangle *XYZ* has two sides



measured *XY* and *YZ*. They are not, however, at right-angles to each other. If we extend the side *XY* to some point, such as *W*, where the transit shows the angle *XWZ* is a right angle, then by measuring the line *ZW* we have the altitude of a triangle with base *XY*. The area of this triangle will be  $\frac{1}{2} XY \times ZW$ . In a similar manner all of the triangles making up the total area can be figured and the area found.

**Plan of Framing Showing Regular Hangers, Wall Hangers and Three-Way Post Cap**



We are aware that cast iron has generally been adopted for post caps and bases in this kind of work. The architect or engineer is never certain what the strength of cast iron will be, owing to flaws or uneven shrinkages, which often cause trouble after the strain is applied. With steel of good tensile quality no risk is taken, and the difference in the weight of the steel necessary to sustain the load required and the cast iron as usually made, renders the cost of the steel about the same as the cast iron, with all the advantages in favor of the steel, not only in appearance but in every other possible way. **High grade steel only is used in our Hangers and Post Caps.** The additional security of steel fittings for this work is apparent without argument.

**THE VAN DORN IRON WORKS CO.**  
2687 E. 79th Street, CLEVELAND, OHIO



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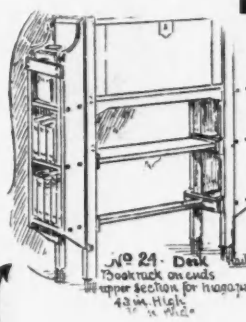
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can be used on almost every building. They are attractive, as well as useful.

We make all styles of vanes, church crosses, flag poles, lightning rods, finials and cresting, emblematic signs, interior indicating vanes, copper balls, etc. Special prices to the trade.

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Thomas W. Jones 155 Maiden Lane, New York

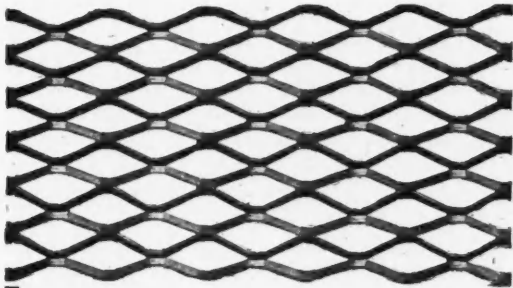


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100 designs drawn to scale by expert designers, easy to understand. Carpenters and contractors make one piece of furniture and save the price of the entire portfolio. Sent prepaid on receipt of \$2.00.

Satisfaction guaranteed or money refunded.

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**SYKES METAL LATH**

**Entirely Different and Better**

Sykes Expanded Cup Lath is thoroughly dependable for any purpose. The width of the strands make it especially rigid and assists in forming a quick and perfect key. The sheets are uniform in width and length; both sides alike.

**SYKES EXPANDED CUP LATH**

**FOR STUCCO WORK** this lath has no equal. It is *self furring* and you get a perfect key when nailed directly to sheathing boards or where passing over studding without the use of furring strips. It is cut with a wider strand and weighs more to the square yard than other laths on the market in the same gauge. Its formation is such that it becomes thoroughly imbedded in the mortar, bracing it from all directions, practically making a reinforced concrete wall. This lath is made in sheets 18x96 inches; packed 20 square yards to the bundle. It is made with Anti-rust coating, Painted Black or Galvanized in the following gauges: 27, 26, 25 and 24.

**SYKES TROUGH LATH**

**Proved by Use --- Durable and Cheap**

Sykes Trough Sheet Lath has been successfully used for all kinds of plaster work and on every character of building. It has corrugations running the entire length of the sheet. This, together with the unusual design and shape of the trough makes it the strongest sheet lath on the market. It keys perfectly. It is made with Anti-rust coating, Painted Black or Galvanized. Size of sheets, 13½", 15½", 18½" and 23½" wide by 96 inches long. This lath is easier to erect, easier to plaster on, and saves mortar over any Metal Lath on the market.

Though our factory may be far distant from you, our prices will enable you to order Sykes Metal Lath with good advantage to yourself. Besides, you get a broad assurance of Quality and Fair Dealing.

Write us to send you Full Description and Samples

**THE SYKES METAL LATH & ROOFING CO., NILES, OHIO**



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**"I advise Flex-A-Tiles"**

This is the story in a sentence of the way the qualities of Flex-A-Tile Asphalt Shingles have impressed carpenters and builders all over the country.

**FLEX-A-TILE ASPHALT SHINGLES**

For homes, garages, barns and factories Flex-A-Tiles have again and again proved their long-wearing, time, fire and weather resisting qualities. And their beautiful natural colors give a distinctive appearance to any building.

Flex-A-Tiles are thoroughly amalgamated sheets of fibrous asphalt and fine wool felt. Into the surface is imbedded under tons of pressure 3-time sifted, chipped Vermont slate or granite. They are uniform in size, cost no more than ordinary stained wood shingles and can be laid in half the time for they are larger. Nails when driven into Flex-A-Tiles become coated with asphalt and never rust nor rot.

**Flex-A-Tile Your Next Roofing Job**

Write today for a sample and the Flex-A-Tile Book

**THE HEPPE'S CO.**

Also Manufacturers of Asphalt Paint, Asphalt Roofing in any Finish and Utility Wall Board

1010 45TH AVE. CHICAGO, ILL

Flex-A-Tile Shingles come in red, garnet, grayish-green, emerald or brown colors

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In case of the triangle  $XZV$ , where all of the angles are less than  $90^\circ$ , and the altitude would therefore have to be measured across the water, this altitude may be obtained by extending  $VZ$  to some point  $T$  and drawing from  $X$  a line  $XS$  parallel to  $VZ$ , such that it may be possible to measure a line from  $T$  to  $S$ , (which line will be perpendicular to  $VZ$  and also  $XS$ .) Then the line  $TS$  will be the altitude of a triangle with base  $VZ$ . Of course, the line  $XS$  is made parallel with  $VZ$  by making the angle  $ZXS$  measured by the transit at  $X$  equal to angle  $XZV$  measured at  $Z$ . This is easily done by means of the instrument, which is also used for getting the right angle at  $T$ .

There will be a number of places where the land juts out into the pond. The area of all these portions must be deducted from the area of the polygon in order to get the net area or water surface of the pond. The method of treatment is shown near the lower left corner of the drawing, where one of these areas has been subdivided by lines perpendicular to our polygon line, and running from that line to the water's edge. Taking the distance  $AB$  between two points touching the edge of the pond, this is measured and then subdivided into any convenient number of parts (8, 9, or 10). From the points of division off-sets are taken at right angles to the line  $AB$ .

Let us suppose that in the present case the line  $AB$  has a length of 120 feet and that eight sections are taken 15 feet long. Setting down the lengths of off-sets from these stations in order, we have as follows:

Station	Off-Set	Corrected Off-Set
A	0	0
1	4	4.4
2	11	11
3	16	16
4	17	17
5	21	21
6	10	10
7	5	5.5
B	0	0
Sum		84.9
Interval between stations		15
Area of Plot		1273.5

This method of finding irregular area by off-sets is a very simple one. The rule may be stated as follows:—Add together all of the off-sets or ordinates; add 0.1 of the second ordinates from each end; deduct 0.6 of the end ordinates; multiply the result by the distance between ordinates. This will give very close results—much closer, of course, with a large number of ordinates than with a small number, but in a case like the present, 8 or 10 will usually be found sufficient.

To use the transit, the legs of the instrument must be firmly set into the ground so that the adjustment may not be disturbed. The transit is then made as nearly level as possible by adjusting the lower parts of the extension legs. It is brought to a perfect level by use of the leveling screws between the plate and the tripod head. This is done by bringing the level over one of the leveling screws and turning one screw in and another out until the bubble appears in the center of the level glass. Then the sight tube or telescope is turned through an angle of about  $90^\circ$ , and again the bubble is adjusted to the center of the glass by means of two leveling screws. This operation is continued until the bubble stands in the center of the glass, no matter what directions the level may be turned.

More than 3,000 small logging operators now buy national forest timber; at least 25,000 persons, settlers, miners, stockmen, and others, obtain timber from Uncle Sam's big woodlot for their own use free of charge.

The forests of Corsica, the little island upon which Napoleon was born, are managed by the French government. They produce lumber, firewood, and turpentine, and all parts of the tree are far more closely utilized than in America.

**BAYONNE  
ROOF AND DECK  
CLOTH**

Weatherproof Your Porch Roofs  
and Floors by covering them with  
the Best Canvas Roofing made.



Arthur T. Kemick, Architect.

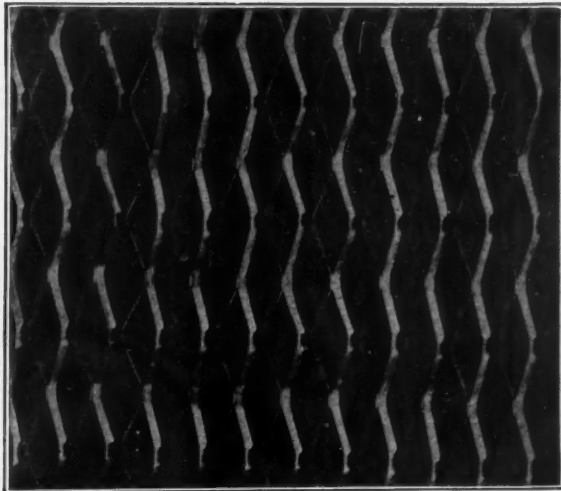
Bayonne  
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It will not rot, leak or peel, is waterproof—  
weatherproof. Requires but one coat of  
paint, costs less than ordinary roofing—  
is easy to lay and pays to lay.

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on Bayonne Roof and Deck Cloth.

**John Boyle & Company, Inc.**  
112-114 Duane St., 70-72 Reade St. New York City  
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You need our EXPANDED CUP LATH for good,  
true LEVEL WALLS AND CEILINGS.

It is made from sheet metal not pickled in an  
acid bath.

It comes so you coated with ANTIRUST or  
PAINTED or GALVANIZED.

We invite the comparison of other makes with it  
in MERIT and PRICE.

Write us at once for further particulars.

**BROOKLYN METAL CEILING CO.**  
287 GREENE AVENUE, BROOKLYN, N. Y., U. S. A.



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"AMERICA'S BEST FLOORING"

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

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

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

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

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

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

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**MAPLE FLOORING. Diamond Hard**  
A SUPERIOR FLOORING. One that can be depended upon at all times to give maximum value at reasonable cost. It is all thoroughly kiln-dried, side and end matched, hollow backed, bored for blind nailing and STEEL POLISHED. For continuous wear and grind "Diamond Hard Maple Flooring" has proven its superiority.

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"Than Which There Is None Better"

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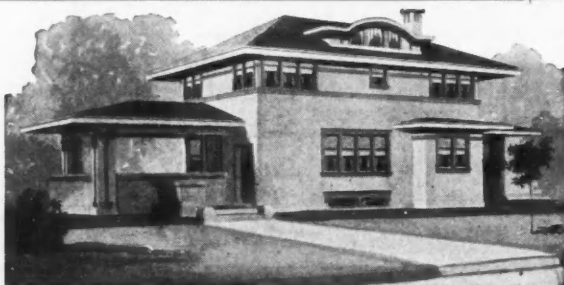
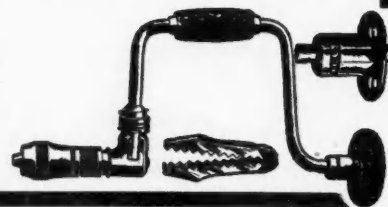
when they were young, are still using the same tool because of its many good qualities.

Our latest pattern, Nos. 30 to 34, includes every feature that can in anyway add to convenience and durability. It is free acting and nonsplitting; has ball thrust, forged steel jaws and will outlast the average brace two to one. Send for details and complete catalog.



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## BUNGALOW PLAN AND DESIGN BOOK—FREE

Before you build, write for our free BUNGALOW BOOK, containing beautiful, practical and up-to-date designs and miniature floor plans, cost to build and suggestions for building true and modified types of Pacific Coast Bungalows and two-story residences suitable to all climates. This book also tells how to build "from crest to foundation" with Red Cedar Shingles, for less money, how to make new shingles last an average life-time, and how to save frequent paintings.

We have no plans or books to sell, but manufacture Red Cedar Shingles, and want you to know about their durability, beauty and utility. **RED CEDAR SHINGLE MANUFACTURERS' ASSOCIATION**  
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## Cement Houses and How to Build Them

This large book of 176 (8x11 inch) pages contains illustrated details of cement construction—standard specifications for cement—concrete blocks—general information concerning waterproofing, coloring, aggregates, mixtures, paving, reinforcing, foundations, walls, steps, chimneys, floors, etc., together with perspective views and floor plans of 87 stucco and concrete block houses.

The illustrations show the houses exactly as they will look when built. All the floor plans are shown, giving the location and dimensions of all rooms, closets, porches, etc.

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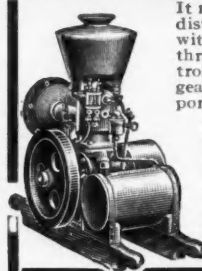
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CHICAGO, ILLINOIS

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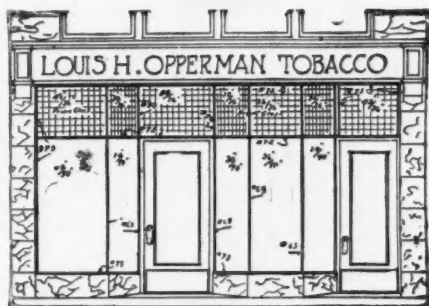
It runs on kerosene (coal oil), gasoline, alcohol or distillate without change of equipment—starts without cranking—runs in either direction—throttle governed—hopper cooled—speed controlled while running—no cams—no valves—no gears—no sprockets—only three moving parts—portable—light weight—great power—starts easily at 40 degrees below zero—complete, ready to run—children operate them—5-year ironclad guarantee—15-day money-back trial. Sizes 2 to 20 horsepower.

Send a postal today for free catalog, which shows how sandow will be useful to you. Our special advertising proposition saves you one-half cost of first engine sold in your county. (164)

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That's the strong feature of *Petz Bars*. You can specify it for that modern store front, and feel absolutely safe about it.

It is easy to install, stylish and artistic in appearance and finish, will not break glass, and allows perfect ventilation. Stormproof by actual test. Does not increase insurance rates.

Write and let us tell you some of the big concerns that have used *Petz Bars*. Our latest booklet on "Modern Store Front Construction" is ready to send you.

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*Sole Makers*

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**Architects—Contractors—Builders**

Perhaps you do not use a steel tape often, but one would come in handy many times, wouldn't it? And occasionally you need one badly, and an accurate one, a



Our tapes embody many exclusive features and are guaranteed to give complete satisfaction.

CATALOG ON REQUEST

**THE LUFKIN RULE CO.** Saginaw, Mich.  
New York



**This COLONNADE**

consists of Columns, Pedestals and Beam Brackets. The workmanship and materials are first class in every respect. We offer this colonnade for \$20 for a limited time only. Send your order today, give exact width and height of opening. State what kind of wood.

F.O.B. Your Station.

**Chicago Grille Works**

828-838 Wells Street

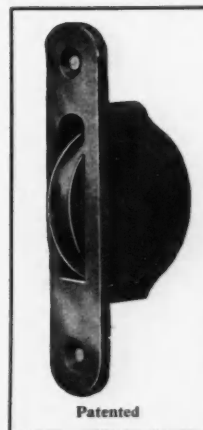
Chicago, Ill.



Metropolitan Tower, New York

The famous architects who planned these buildings fitted them with

**"American"  
Pressed Metal  
Sash Pulleys**



Patented

YOU may be sure they satisfied themselves by investigation, that "American" pulleys were, in every way, worthy to become a part of these structures, on which no care or expense had been spared. "American" pulleys are made with plain, ball bearing, or roller bearing axles, face plates lacquered, plated, or of solid brass or bronze, to match any hardware. All wheels have combination groove for cord or chain.

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**THE AMERICAN PULLEY COMPANY**

Offices and Works: Philadelphia, Pa

**Warehouses:**

New York, Corner Grand & Greene Sts.

Boston, 165 Pearl St.

Chicago, 124 So. Clinton St.



Hudson River Terminal Bldg., N. Y.

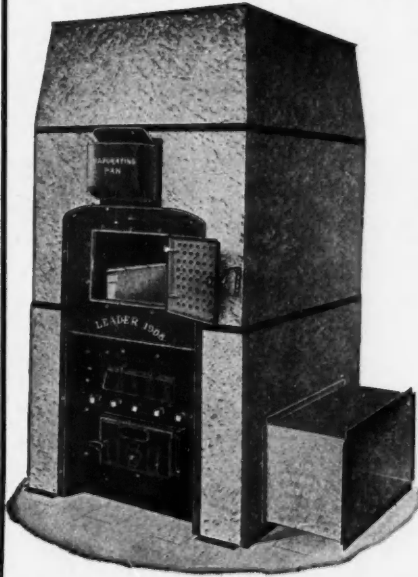
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**ASHBY'S**  
**Designs of Schools and Libraries**  
 display a composition of utility, durability and good, pure architecture without any "gingerbread."  
 No buildings are too large or too small for our personal and prompt attention.  
 We develop your own ideas into a practical set of plans and specifications which can be executed to the smallest details into a building that can be built within your means and to your entire satisfaction.  
 Ashby's "Designs of Schools and Libraries" will be sent to parties interested in the erection of a school building or library for which plans have not yet been procured.  
**G. W. ASHBY—ARCHITECT**  
 11th Floor, Medinah Bldg.  
 CHICAGO, ILL.

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# FURNACES

**Y**OUR furnaces are costing you too much, and a good share of the cost goes where it does not add to the value of the heater. Furnaces generally are made "for the trade," and one or two middlemen must have a profit besides the manufacturer. The contractor and consumer pay the profit and receive no benefit for that portion of the price.



**We Are Manufacturers** and we sell direct to contractors and consumers. We save you a lot of money, but we accomplish more than this, for we study the plan of your house, and we furnish you, besides the furnace, a drawing showing just how the work should be arranged; just what size of pipes and registers should be used, and where to put them, and when we have done this, and you have carried out our plan, we guarantee that the furnace will warm your rooms comfortably in coldest weather. We back up that guarantee with an agreement that your local banker may hold the purchase money until you have tested the equipment and proved that it is satisfactory, then the money is sent to us. If the furnace does not please you it may be returned at our expense for freight both ways, and your banker will hand back your money.

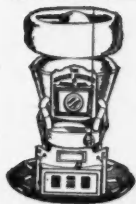
There never was a more liberal nor fairer offer than this. We take all of the risk; we sell to you at a price which saves you the middleman's profit; we plan the arrangement of your house; we give you full directions for setting up and installing, and loan you any tools you need, and then we wait for our money until you have tested the equipment and know that it is going to please you.

Send us a sketch of any house you want to heat, and we will tell you what it will cost, and we will show you by a complete plan we will send with our bid just how we would arrange the work. You don't have to buy our furnace, and our proposal puts you under no obligation. If it doesn't look good to you, buy something else, and we won't feel hurt.

We are selling thousands of furnaces in this way, and our customers come back to us again and again. We can refer you to customers who have bought direct from us in this manner in almost any neighborhood, from Alaska to Florida.

Now let us hear from you and let us show you what we can do. We issue a forty-eight page booklet on furnace heating. Send us your name on a postal card and we will mail this booklet to you without delay.

**Hess Warming & Ventilating Co., 1220 Tacoma Bldg., Chicago, Ill.**



## Write at Once for the Jahant Specification Hand Book—It's Free

This book tells you what you ought to know about proper heating and ventilation, and tells why you ought to specify the Jahant Down-Draft Furnace.

It tells how to estimate on the cost of proper heating equipment; how to reduce your bids and at the same time turn out a better job with a better profit for yourself.

It explains the construction and operation of the Jahant and how it delivers plenty of heat wherever and whenever heat is needed at a saving of one-third to one-half in fuel bills.

It tells how we back your recommendation of the Jahant Furnace with a legal binding 360 Day Guaranty Bond—and it contains a lot of other information which you cannot afford to be without. Write for the book today.

**THE JAHANT HEATING CO. 164 Mill St., Akron, Ohio**  
Furnace Builders for more than 30 years.

**SPECIFY THE JAHANT DOWN DRAFT FURNACE**

## PLUMBING AND HEATING SUPPLIES AT WHOLESALE



When in the market for Plumbing and Heating Supplies and you wish to

**SAVE 20 to 40 Per Cent**

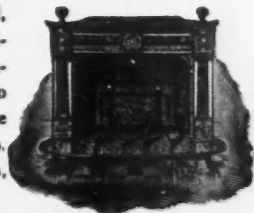
on every article, write for my free illustrated Catalog. The only house that sells first class guaranteed goods at wholesale prices direct. Shipments are promptly made from a very complete stock.

Small orders are as carefully handled as large ones.

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We manufacture, import and sell, wood, tile and cement mantels; and-irons; leadders, spark guards; the Jackson ventilating grate, heating on two floors; Franklin stove for use where there is no chimney; cleanout doors, ash dumps and dampers for fireplaces, Iron column plinth bases.



The Majestic coal chute for foundation walls.

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For Less Than \$50 Complete

For 5 and 8 Room Dwellings

An Unheard of Price and a most Remarkable and Indestructible Furnace

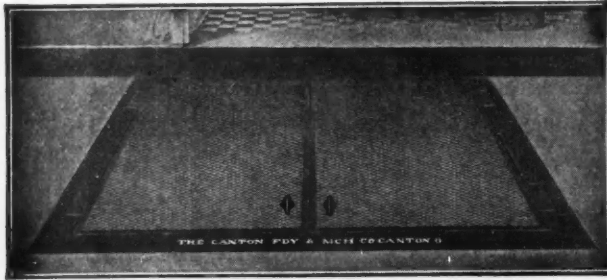
No Pipes No Lost Heat

**AMERICAN BELL AND FOUNDRY CO.**

NORTHVILLE - MICH.

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**SIDEWALK DOORS THAT ARE FLUSH, FIRM AND NEAT**



Are a credit to any building and an everlasting advertisement to the Contractor who installs them.

**OUR SOLID IRON AND STEEL DOORS**

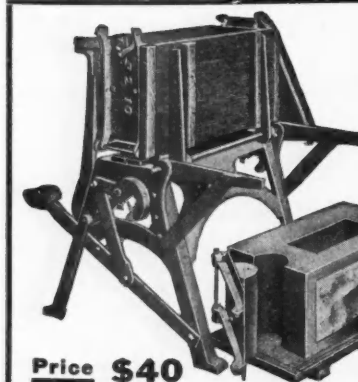
ARE ALWAYS FLUSH, FIRM AND NEAT—No obstructions to stomp your toes. Locked and unlocked from either side. When open, passers-by are protected. Have water-drain to carry water to the curb. Illuminated doors also furnished.

**WE ALSO MANUFACTURE**

Coal Hole Rings and Covers, Coal Chutes, Cast Iron Conductor Connections, Area Gratings, House Movers Jacks, Cast Iron Columns, Auto Turntable etc.

Write today for Booklet "B-1" illustrating and describing above and many other builders accessories of interest to you.

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It isn't exactly a catalog because it gives you the cost of making concrete Blocks, Bricks, Porches and Chimneys. It tells all about making Drain Tile, Sewer Pipe. How to make them at a good profit, etc

You should have this 64 page book if interested in concrete. Write at once indicating machine you are mostly interested in

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All About Concrete

Blocks Bricks Porches Chimneys Drain Tile Sewer Pipe Mixers



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

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Roofing Slate Structural Slate Blackboards

Large Facilities, Prompt Deliveries  
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If you are located where we have no representative, we will give you our dealers confidential prices.

Are you interested? Of course you are. Write at once for further information.

The Purcell Paint Mfg. Co., Dept. C, Elyria, Ohio

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

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

**Costs Less Than Wood**

Never warps, shrinks nor swells. Dust and vermin proof, easily cleaned. Should be in Every Bath Room. Four styles—four sizes. To recess in wall or to hang outside. Send for illustrated circular.

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Makers of Steel Furnaces

Free Booklet

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These articles were selected from our big Catalog and you can order them direct from this ad on our legal guarantee of satisfaction or your money back.

No. 1E426

**Imperial Spanish Leather, Mission Rocker.** Made of finest solid oak, elegantly finished. Double panel back and seat are upholstered with Spanish imperial leather, while seat is set over "Monarch" steel spring construction. Has broad arms, strong posts, heavy runners and arm slats. A bargain for the money.

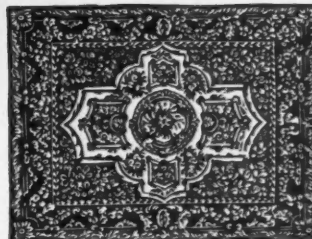
**Price Only \$3.65**

TERMS: 50c Cash—50c Monthly

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One Year To Pay



**No. 0E877. Beautiful Velvet, Room Size, Rug.** This elegant 12 ft. rug is of the very newest pattern. It has a medallion center and floral border, with Tan, Brown, Red and Green colors predominating. Is woven of best selected worsted yarns, guaranteed for hard wear. Easily worth twice our low price. **Price only \$16.75**

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Take a year or more to pay us for anything you need in your home. Over 8000 bargains, including: All Home Furnishings, Carpets, Rugs, Chairs, Tables, Parlor Sets, Bed Room Sets, Curtains, Heaters, Stoves, Ranges, Lamps, Baby Carriages, Bedding, Blankets, Bicycles, Clocks, Jewelry, Kitchen Cabinets, Cameras, Dishes, Glassware, Guns, Refrigerators, Sewing Machines, Phonograph Records, Silverware, etc., etc. All shown in many actual colored photographs in our new Big FREE Book. **WRITE FOR IT.**

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**8000 Bargains Exactly Pictured and described in this greatest of all furniture catalogs. GET YOUR FREE COPY.**

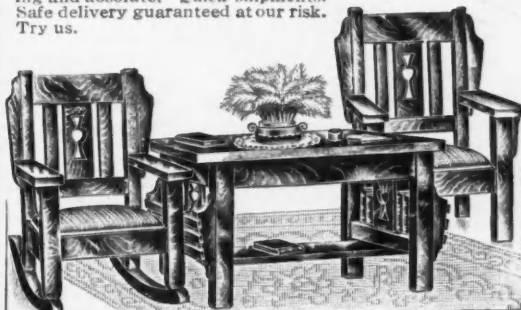
# Here Are 7 Regular Credit Bargains

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Every customer must be satisfied and more than satisfied. You can get absolutely anything you want from our immense stock on 30 days' free examination in your own home. Your money back in full to the last penny, without a word or question if you are not positively and thoroughly pleased. You are the judge—our guarantee is legally binding and absolute. Quick shipments. Safe delivery guaranteed at our risk. Try us.

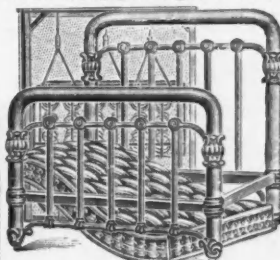
Beautiful your home now. Enjoy all you need. Let us trust you. **PAY US** as you get the money, in small easy payments. This large, old, well-known, fair-dealing, home furnishing concern—with 58 years of deserved success—22 stores and over 1,000,000 customers, will treat you right. Through our wonderful buying and trusting power—taking whole factory outputs at lowest prices and discounts—we save you big money, on credit too, and give you the latest designs and highest quality goods of all kinds. All shown in our big new catalog.

**Easiest, Fairest Credit.** No interest—no extra charges—no red tape—a square, honest plan of allowing you rock-bottom prices, with privilege of arranging payments to suit your convenience. Our multi-million dollar resources, buying power and trusting power enables us to offer you terms no ordinary concern could offer.

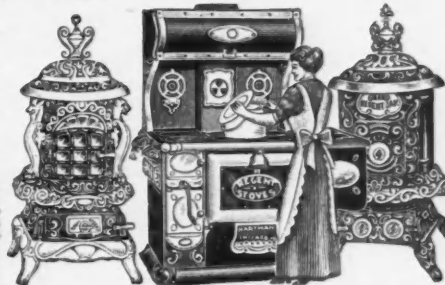


**No. 5E427. 3-piece, Solid Oak, Mission Library Set.** This set is high grade in every particular, being made of the very best solid oak stock, with a rich fumed finish. It is most artistically designed and strongly constructed. Chairs have broad seats, set over oil-tempered springs and upholstered with imperial leather. Arms are broad and restful. Backs are braced with strong panels. Table has large top measuring 34-24 inches, is expertly put together, has large magazine or book rack on either side and staunch shelf below. A bargain not to be overlooked. **Price only \$11.75**

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**No. 3E605. Special Bed, Spring and Mattress Outfit.** Surely a grand value. The bed is of continuous post style made of 1-1/2 inch tubing and 2-3/4 inch fillers; is beautifully adorned with large ornamental cast and can be ordered in White, Pea Green or Vermilion. The all-metal spring is made of best woven wire fabric, strongly supported by spiral springs and fitted to angle iron frame. The mattress is our elastic felt top with mattress fibre filling and double stitched edges. Outfit comes in full size (4 ft. 6 in.) only. **Price only \$8.75**



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**Our "Magic" Regent Hot Blast Heater.** A powerful quick heating stove made of elegantly designed, heavy cast iron and cold rolled steel. Has mica lights in front feed door, perfect hot blast tube and draft features, and is full nickel trimmed. A most wonderful fuel saver and fully guaranteed in every way. Has 14-inch fire pot and is 57 inches high. **Price \$11.98 Only**

TERMS: \$1.00 Cash—75c Monthly

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**Our "Merit" Regent Steel Range.** This is without a question one of the finest ranges on the market. Made of finest cold rolled, blue steel and constructed so as to last a lifetime. Has large oven, 16x18x12 inches in size; duplex grates in large fire-box; finest flue system for distributing heat, and steel high chest as shown. Magnificently trimmed with nickel. **Price without Hot Water Reservoir, only \$21.75**

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**Our "Grand" Regent Oak Heater.** At the price we quote this elegant heater, it is a value absolutely beyond duplication, and is a great heat radiator. Very economical as to consumption of fuel. Is built of cold rolled steel and heavy ornamental cast iron. Has heavy grate and 14-inch fire pot of best materials. Stands 50 inches high. **Price Only \$8.95**

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**HARTMAN FURNITURE & CARPET CO.** 3825 Wentworth Ave., Chicago. Established 1855  
58 Years of Success 1,000,000 Customers 22 Great Stores

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**SHEET METAL BUILDING MATERIAL**

Roofing, Siding Gutter Spouting)	Shingles Skylights Cornice Ventilators	Metal Ceilings Metal Lath Store Fronts Everything
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**"JUSTRIGHT" ROOFING**  
*That Simple Roof That Don't Leak*

A catalogue containing the largest variety of Sheet Metal Products in the world will be mailed free by addressing

**The Moeschl-Edwards Corrugating Co.,**  
Covington, Ky.

*"There With the Wear."*

**TONCAN METAL**

The Anti-Corrosive Rust-Resisting Sheet Metal for all Exposed Work.

Ask Your Jobber

*"Text Book on Corrosion" — Write for it Today.*

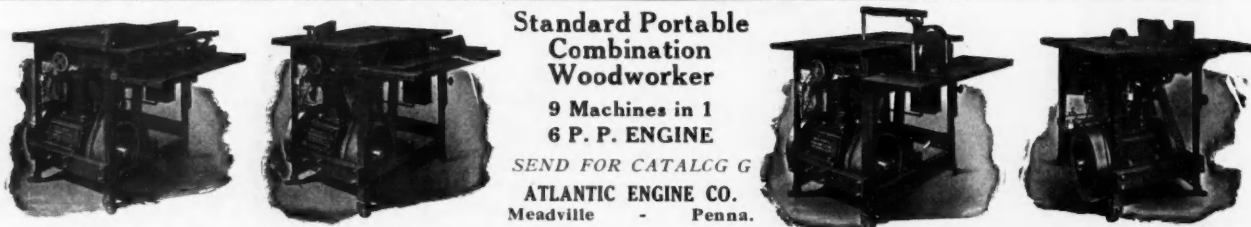
**The Stark Rolling Mill Co.**  
Canton, Ohio

General Distributors for the Dominion of Canada, The Pedlar People, Ltd., Oshawa, Montreal, Toronto, Winnipeg.

Also manufacturers of Open Heart Steel Sheets, black, galvanized, blue annealed and various forms of steel roofing.

Furnished in  
Black and galvanized Sheets and other products.

*"The Brand to Demand"*



**Standard Portable Combination Woodworker**

9 Machines in 1  
6 P. P. ENGINE

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ATLANTIC ENGINE CO.  
Meadville - Penna.

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Adjustable to any angle. Suitable for any saw.

Wood and iron mitre boxes with adjustable saw guides. Suitable for any cross cut or back saw. Insure perfect mitres. Carefully made from best material and sold at very reasonable prices. Several styles to choose from. Quality and price considered, these are the best mitre boxes on the market.

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**Introducing the New Sasgen Peerless Steel Derrick**

with a full circle swing. Capacity 2,000 lbs. Drum runs in SELF-LUBRICATING BEARINGS. Bottom sills and mast can be folded together.

**PRICE ONLY \$45.00**

equipped complete for hand and power with 125 ft. crucible steel cable, swivel block and fasteners. \$2.00 less for hand power only.



Write for Illustrated Circular No. 2

T. P. Setter Pole Regular Setter  
Our motto — "Satisfaction or No Sale."

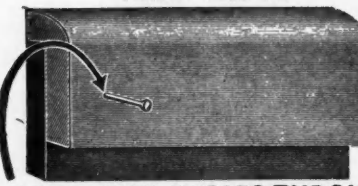
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CHICAGO, ILL.

CANADIAN OFFICE, 13 JARVIS STREET, TORONTO, ONT.

**THE DENNIS "CLINCHER" FELT WEATHER STRIP**  
PATENT PENDING)

Specify The  
**W. J. Dennis Clincher Felt Weather Strip**

**If You Want the Best Made**



**NOTE - NAIL PASSES THROUGH BOTH MOULDING AND FELT.**

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

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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 other architectural ornaments. Many thousands of designs to select from.

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

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

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

## The W. H. Mullins Co.

214 Franklin St.

SALEM, O.

# GALESBURG SHEET METAL WORKS

Manufacturers of

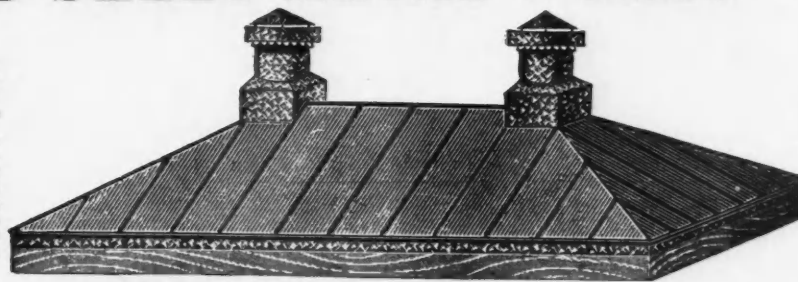
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After careful study of the form of such bars we have selected the style known as the "Hayes pattern" rafter bar, and combined it with improved curb and ridge bars of our own invention, and have perfected a combination of ingenious joints that enables us to construct skylights on a *knocked-down* principle, the advantage of which is obvious to anyone who has had anything to do with the transportation of skylights.

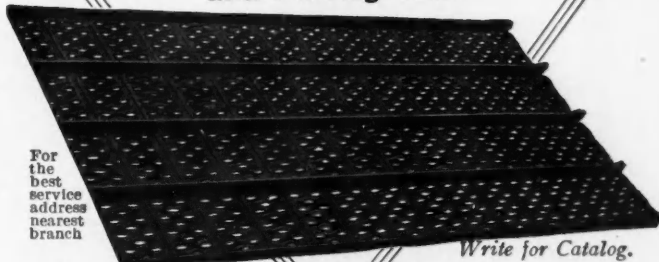
While our skylights are shipped in parts, these parts are so constructed that no skill is required to erect them and no special tools or soldering is needed.

SEND FOR OUR BOOKLET ON "DARKNESS TURNED TO LIGHT."

GALESBURG SHEET METAL WORKS, GALESBURG, ILL.



## Berger's Rib-Truss Reinforcing and Furring Plate



For the best service address nearest branch

Write for Catalog.

### The Berger Mfg. Co., Canton, Ohio

New York Boston Minneapolis St. Louis San Francisco Philadelphia

## WINTHROP

*Tapered*

## Asphalt Shingles

Made at ARGO, ILLS.

—By the—

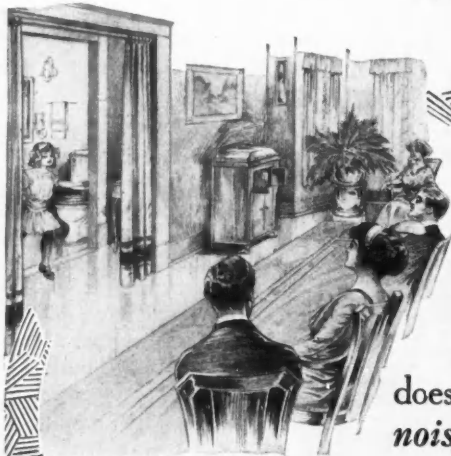
### Winthrop Asphalt Shingle Co.

Sales Office: Room 1414, 19 So. La Salle St. Chicago, Ill.

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# "Silentflow"

**A Noiseless  
Water  
Closet**



**"SILENTFLOW"**  
Water Closets are the results of years of study of home builders' requirements. You will be quick to see the desirability of a closet that flushes without noise and does away with the *hissing caused by a noisy Water Closet.* :: :: :: ::



## L. WOLFF MANUFACTURING CO.

MANUFACTURERS OF PLUMBING GOODS EXCLUSIVELY  
THE ONE LINE THAT'S COMPLETE—COMPLETELY MADE BY ONE

General Offices, 601-627 W. Lake Street. Showrooms, 111 N. Dearborn Street  
**CHICAGO**

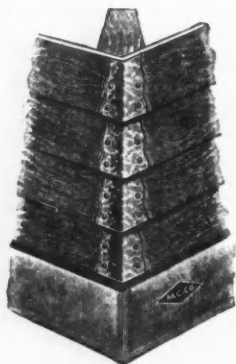
**BRANCH OFFICES**

Denver, Colo. Trenton, N. J. Omaha, Neb. Minneapolis, Minn. Dallas, Tex.  
Rochester, N. Y. St. Louis, Mo. San Francisco, Cal.  
Washington, D. C. Cincinnati, O. Cleveland, O.  
Kansas City, Mo.



Our Trade Mark is Your Guarantee

Prestige THE REFLECTION OF Quality



SHOWING OUTSIDE CORNER APPLIED

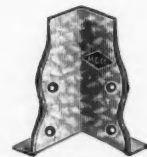
### "MILCOR" METAL BUILDING CORNERS

Metal Corners are being very extensively used and are very popular with the carpenter. They take the place of Corner-board or lap siding is used. Time and expense is saved because it is not necessary to mitre the Weather-board siding. The mitre effect is perfect and the appearance superior to wood Corner-board.

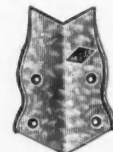
Made from tight coated galvanized steel. Furnished in two sizes. 4 inch and 6 inch inside and outside. Packed 500 corners per box.

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**MILWAUKEE CORRUGATING COMPANY**  
BRANCH, KANSAS CITY, MO. MILWAUKEE, WIS.



INSIDE CORNER

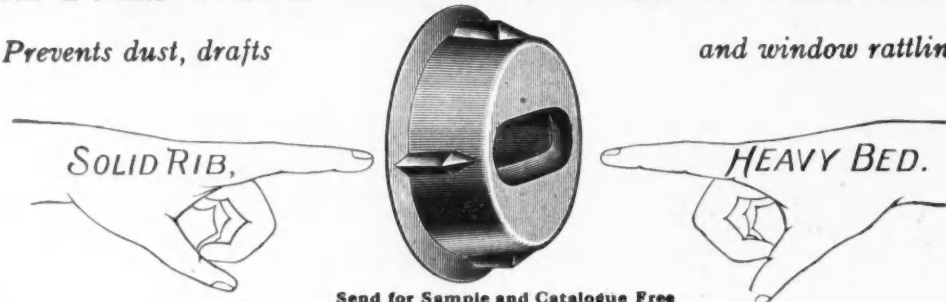


OUTSIDE CORNER

## THE IVES PATENT WINDOW STOP ADJUSTER

*Prevents dust, drafts*

*and window rattling*



Send for Sample and Catalogue Free

1 piece of metal, will not cup, bend or turn in tightening screw.

**THE H. B. IVES CO., Sole Mfrs. New Haven, Conn. U. S. A.**

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In Position

# Mr. Mill Man!

For Your Attention

Write us today. Don't put it off until you forget it, but do it today — *this minute*. We will send you our proposition in detail. We know it will interest you.

Do you want to add a profitable line to your business? We want a responsible Mill Man to manufacture and sell the Bessler Movable Stairway in your territory.

There is money in it for the right man.

Are you the Right Man?

## What the Stairway Is

Rent is too high to waste a single square foot of floor space. The Bessler Movable Stairway replaces the stationary type in old or new homes, bungalows, stores, hotels, yachts, boats, etc. When in use it is in position shown. When not needed a light touch of the hand swings it into the ceiling, out of the way and sight. Nothing is visible but a neat panel.

The demand is stronger every day. You can sell scores in your territory. TRY IT.

**The Bessler Movable Stairway Co.**

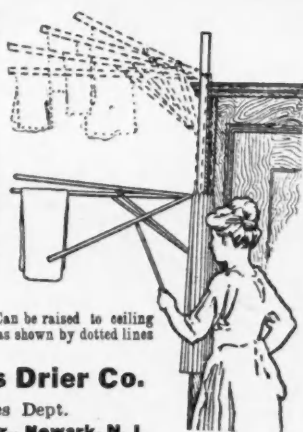
Akron, Ohio

## SOMETHING NEW

### The Universal Clothes Drier

The kitchen wonder.—Indispensable to every housewife. Can be attached to wall or casing. Easily removed. Contains 30 feet of drying surface. Adjustable to suit convenience of operator. Does away with lines and the cumbersome clotheshorse. No kitchen or laundry complete without a UNIVERSAL-DRIER. Neat, durable, irresistible. Every demonstration a sale.

Retails for \$1.50—Special inducement to agents through our Co-operative selling plan. Write today!



Can be raised to ceiling as shown by dotted lines

**The Universal Clothes Drier Co.**

Factory: Rutherford, N. J. Sales Dept. Ordway Bldg., Newark, N. J.



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

## IRON, BRASS and BRONZE

we will send you catalog that is attractive enough to go in any man's library. Do you want it?

**DOW WIRE & IRON WORKS**

Incorporated  
Louisville, Kentucky

# An Architect That Figured Right



Some men that receive from \$10 to \$15 a week for their services claim that they have no chance of advancement. They figure that they must have reached their limit. Thinking that they have solved their problem, they drop into a rut and stay there.

But such men do not figure correctly. This is clearly shown in the experience of Mr. J. Alfred Larralde, formerly of Hastings, Neb., but now at 1121 South Olive St., Los Angeles, Cal. Six years ago this young man's earning capacity was less than that of the average day laborer. He might have reasoned that he had reached his limit, but he didn't. He figured that the only way to earn more would be to learn more, and accordingly he enrolled for a Course in the International Correspondence Schools. Today as a result of the instruction received from the Schools, Mr. Larralde is a high-class architect specializing in the designing of bungalows, schools, and residences, earning more money in a day than he formerly earned in a week. And all because he figured his problem right. If you are earning only \$10, \$12, or \$15 a week you are only at the threshold of your career. If you want information about the same instruction that Larralde received—if you want to know how your future can be made as bright as his—Mark and Mail the attached Coupon TODAY.

## International Correspondence Schools

Box 910, SCRANTON, PA.

Please explain, without further obligation on my part, how I can qualify for a larger salary and advancement to the position, trade, or profession before which I have marked X.

Architect	Estimating Clerk	Automobile Runn'g
Arch'l Draftsman	Civil Engineer	Foreman Machinist
Contract'g & Build.	Surveying	Sh.-Met. Pat. Drafts.
Building Inspector	Mining Engineering	Textile Manufact'g
Structural Eng.	Mechanical Eng.	Bookkeeper
Structural Draftsman	Mechanical Drafts'n	Stenographer
Plum. & Heat. Con.	Stationary Eng.	Advertising Man
Supt. of Plumbine	Electrical Engineer	Window Trimming
Foreman Steam Fit.	Electric Lighting	Commerc'l Illustrat'g
Plumbing Inspector	Electric Railways	Civ. Service Exams.
Heat. & Vent. Eng.	Concrete Const'r'n	Chemist

Name \_\_\_\_\_

St. and No. \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

Present Occupation \_\_\_\_\_

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**RADFORD**  
CHICAGO NEW YORK

# CYCLOPEDIA OF BUILDING

**Sent for Only \$1.00**

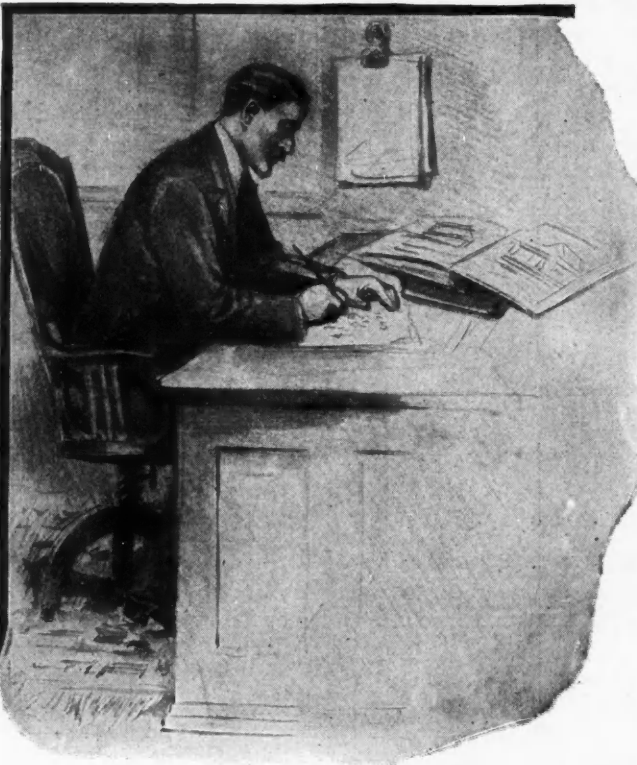
## Carpentry, Building

¶ The difference between the man at the desk and the man at the bench is training—the kind of training that demands well paid positions of dignity and importance.

¶ We don't mean by this that the desk job is always better than the bench job. We don't mean that you should change your present work. We do mean, however, that you must combine more of the desk man's kind of training with your work if you want to continue a live factor in your trade.

¶ The desk man uses one kind of tool that too often the bench man neglects entirely. That tool—the best one in the whole kit—is books; practical books that tell how to do your work in the easiest, the best and latest ways; books that tell you all about each and every feature of your work to the smallest detail; books that keep you in touch with the biggest and smallest details of building construction.

¶ Government Statistics prove that the average desk man earns \$22,000.00 more in a lifetime than the average bench man simply because of this main fact—he trains the brain as well as the eye and hand.



¶ The up-to-date mechanic in every kind of work trains his brain even more carefully than he ever trained his hand. That is the slogan of Twentieth Century Success—the trained mind in a trained body.

¶ The man who uses the compass, the steel square, the chisel or the saw has got to have a true eye and steady hand. He learns in his apprenticeship how to train his eye and hand to the top notch of efficiency. Too often, however, this same man of the trained body forgets to train the mind that directs the work of the body. This kind of a man with the untrained mind, while he may be able to do mechanical work well enough, cannot do brain work and is bound to get in a rut in the long run. It takes a trained mind to read plans and blue prints; that's why so many workers live and die in the same kind of a position. The untrained man becomes THE MAN WHO STOOD STILL.



### THE FOUNDATION OF HIS SUCCESS

¶ Today is the day of big things, but even so, \$100,000.00 is a big sum of money to spend in producing a set of building books. That's what we thought when we started to compile this great library. But when you consider that it has taken over three years of persistent, hard work to collect the material necessary; that it required an army of experts, practical architects, builders, contractors of national reputation, in addition to our own big regular force, including a score of editors, you begin to have a slight idea

of the gigantic nature of the task. We did not stint on the price to be paid for anything we thought valuable and the result is we have produced the best there is—the biggest, most practical, thorough and understandable HOME STUDY set of books in existence—RADFORD'S CYCLOPEDIA OF CONSTRUCTION, CARPENTRY, BUILDING AND ARCHITECTURE—invaluable alike to the student, the practical man or the young man.

**12 BIG VOLUMES SENT FOR ONLY \$1.00**

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# CONSTRUCTION



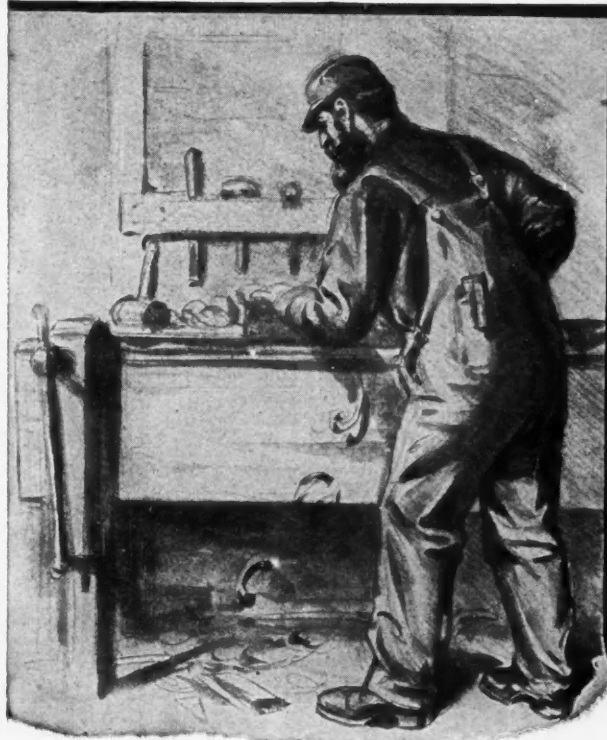
## and Architecture

**Sent for Only \$1.00**

Do you want to stick to the plane, the saw and the hammer all your life? If you are a contractor or a builder, don't you want bigger work than just barns, sheds and now and then a house or two?

If you are a draftsman, an apprentice or assistant in an architect's office you don't want to remain in your present position any longer than you have to; you want to make your present work the stepping stone to a bigger position, which will be your life's work.

You don't want to stand still and see your friends step up ahead to enjoyable, well paid, independent work, simply because they "snap up" the same opportunities, the same chances that are offered you. It is the natural ambition of man to want to keep up with his fellows.



The only way that you or any other man can keep up is through study—study of your chosen work. If there is a certain part of your work that you don't thoroughly understand then some time when that kind of work has got to be done some other man is going to step up ahead of you and do it. He learned how. **KNOWLEDGE IS THE GREAT LEVELER.** There is no true independence where there is lack of training.

**\$100,000 Set of Books**

**Sent for Only**

**\$1.00**

THE MAN WHO STOOD STILL

### PARTIAL TABLE OF CONTENTS

To Realize Their Tremendous Scope You Must See the Books

Carpentry  
Stair Building  
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Correct Measurements  
How to Test Steel Square  
Key to Steel Square  
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Plastering Hardware  
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Handicraft Work in the Home  
Finishing Wood of all Kinds

A C.B.  
10-13

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1827 Prairie Ave.,  
CHICAGO

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Never before has this subject been so completely treated

Cement Plaster Work  
Cement Mortar  
Monolithic Concrete Construction  
Sidewalks, Pavements and Floors  
Expansion Joints  
Concrete Floors  
Walls and Foundations  
Steps and Stairs  
Concrete on the Farm  
Concrete Tanks and Cisterns  
Roofings, Chimneys, etc.

Specification for Portland Cement  
How to Test Cement  
Standard Specifications for Concrete Blocks  
Reinforced Concrete Bridges  
Railroad Work, Concrete Ties, Abutments, Culverts  
Concrete Dams  
Retaining Walls  
Establishing a Concrete Block Business

Concrete Block Systems  
Proportions Sand, Stone, Gravel and Water  
Reinforced Concrete  
Various Systems, Tables Showing How to Reinforce  
Lawn Ornaments—Fountains, Seats, Vases, Sun Dials  
How to Overcome Concrete Troubles  
Curing Stone by Steam

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Waterproofing  
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Farm Buildings  
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This subject is handled thoroughly

General Principles  
Practical Applications  
Practical Problems in Construction  
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Use of Tiles  
Ventilation and Plumbing

Heating—Steam, Hot Air, Hot Water, Furnace  
Placing Radiators  
Placing Pipes, etc.  
Steam Fitting, Gas Fitting, etc.  
Architectural, Mechanical, Free Hand and Perspective Drawing

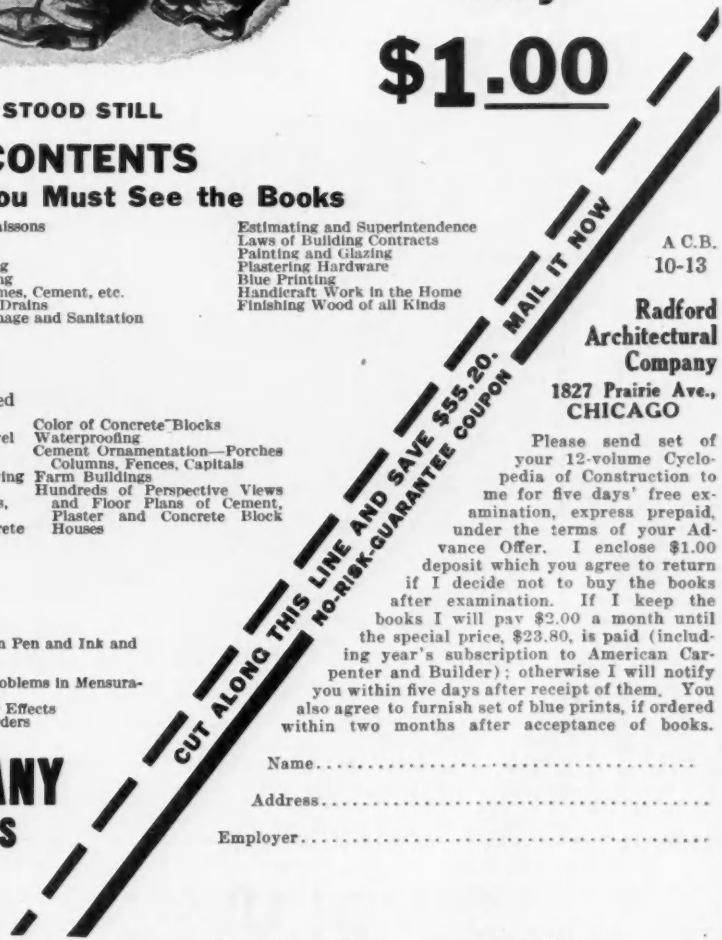
Rendering in Pen and Ink and Wash  
Lettering  
Practical Problems in Mensuration  
Water Color Effects  
The Five Orders

## RADFORD ARCHITECTURAL COMPANY

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Name.....  
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Please send set of your 12-volume Cyclo-pedia of Construction to me for five days' free examination, express prepaid, under the terms of your Advance Offer. I enclose \$1.00 deposit which you agree to return if I decide not to buy the books after examination. If I keep the books I will pay \$2.00 a month until the special price, \$23.80, is paid (including year's subscription to American Carpenter and Builder); otherwise I will notify you within five days after receipt of them. You also agree to furnish set of blue prints, if ordered within two months after acceptance of books.

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Improved Steel Ceilings  
Skylights

Special Sheet Metal  
Work of all kinds.  
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our branch houses.  
Get our prices.  
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GALVANIZED SHEETS BLACK SHEETS



**A Sensation in Wall Paneling**  
For Dining Rooms, Halls, Offices, Show  
Windows, Etc.



**CAL-CO-CRAFT** is a reproduction of wood grain (taken from the actual wood), transferred to paper—hung like any wall paper and paneled off with simple mouldings — note cut above.

Cost is negligible compared with wood, and **CAL-CO-CRAFT** on the wall cannot be distinguished from heavy wood, except on closest inspection.

*Send to Dept. C for samples and give name of decorator*

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Somerville ❖ ❖ ❖ New Jersey

**DIRECT FROM FACTORY**  
—Quality Electric  
and Gas Fixtures



**HIGH-GRADE** Lighting Fixtures—gas, Electric and combination — **at bed-rock prices.** Strictly modern designs — shipped complete, ready to install.

**Satisfaction guaranteed!** Money back immediately if fixtures do not prove to be exactly as represented.

**New Portfolio of Selected Designs Sent on Request**

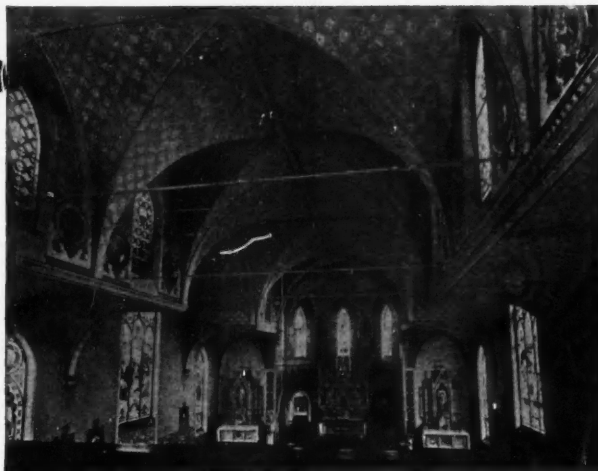
If you need **one fixture only** —or complete lighting equipment for home, store, bank or office—write today for handsome Portfolio which is yours for the asking.

**CHICAGO GAS APPLIANCE CO.**  
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Quality Electric and Gas Fixtures

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**Here's Some Easy Money You Cannot Afford to Pass Up**

If you will handle our Classik Steel Ceiling, orders will come piling in so rapidly that you will be compelled to employ a clerical force. **BERGER'S Classik METAL CEILINGS** are decidedly in advance of others.

The demand is there waiting for some one to supply it.



They offer beautiful, deep embossed effects which make competition a very easy matter to overcome.

Hundreds of rich looking combinations are included in the Berger line.

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*For the best service address nearest branch.*

Also manufacturers of Ferro-Lithic and Multiplex Reinforcing Plates, Metal Lath, Roofing, Eaves Trough and Conductor Pipe, and sheet metal building products of all kinds.

**Quality and Price**

DEFINE



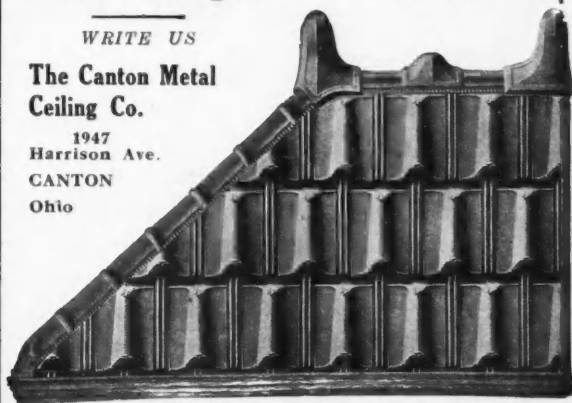
A brand new factory with finest equipment known to the business—A life-time experience of the management and a determination to deliver to our customers the last word in

**Metal Ceilings      Metal Roofing**  
**Metal Shingles      Are Our Guarantees**

WRITE US

**The Canton Metal Ceiling Co.**

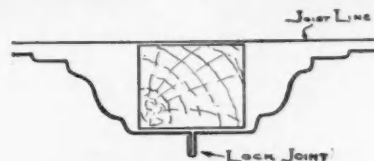
1947  
Harrison Ave.  
CANTON  
Ohio



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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**JERSEY CITY, N. J.**

**METAL CEILING**



**See that Joint?**

The Acme of perfect construction. Don't nail or slip the joints. Lock them. Full information in catalogue E.

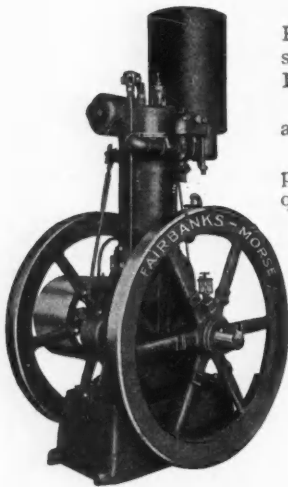
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**PITTSBURGH, PA.**

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## Inexpensive Power

for your mill or shop is secured by installing

# Fairbanks-Morse Oil Engines



More than Full Rated Power Developed on Kerosene, Gasoline or Low Grade Distillates.

Run with practically no attention. Quick starting. Less than 1 pint of fuel per horse power hour required. Figure the power you need and see how remarkably low these engines will cut the cost.

Vertical engines: 2, 3, 4, 6, 9 and 12 horse power.

Horizontal Engines: 1, 2, 4 and 6 horse power.

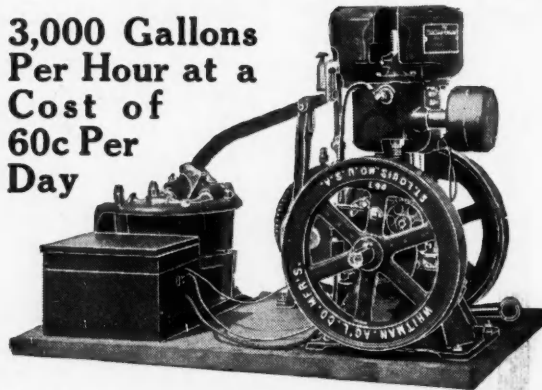
Large units up to 500 H. P.

Write for Catalog No. 149TT

## Fairbanks, Morse & Co.

800 S. Wabash Ave. Chicago, Ill.  
Hoists, Trench Pumps, Water Systems, Electric Light Plants

3,000 Gallons  
Per Hour at a  
Cost of  
60c Per  
Day



## This is what Whitman's Sultan Engine and Trench Pump will do

**P**UMP water at the lowest cost without breakage, worry or expense. No water will delay the job. Works from morning until night—always on the job. Can you be without one, Mr. Contractor? Buy the best at the start by getting a *Whitman Sultan Outfit*, either mounted or skidded. Agents wanted in every city—Liberal proposition to live representative.

WRITE FOR CATALOG ON HOISTING OUTFITS CENTRIFUGAL PUMPS.

**Whitman Agricultural Company**  
6921 South Broadway, St. Louis, Mo.

## Why Buy a Common Engine on Your Mixer?

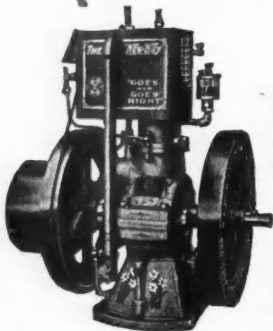
WHEN YOU CAN GET

### The "New-Way" Air Cooled Engine

WHICH ALWAYS

"Goes and Goes Right"

The "New-Way"



saves you money because your men are not idle waiting for engine to be fixed.

Time Lost is Money Lost.

Time saved by the New Way Air Cooled Engine is money made.

Demand the New Way Air Cooled Engine on your Mixer and Hoist and Accept No Substitute. Quality and Reliability Count Always.

Write for Catalog "X"

**The "New-Way" Motor Company**  
LANSING, MICHIGAN, U.S.A.

## Detroit Kerosene Engine Saves Time, Trouble, Expense

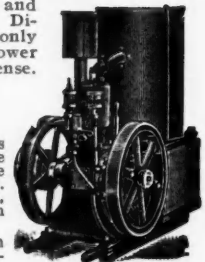
The Detroit Kerosene Engine is the simplest and most powerful engine you ever saw or heard of. Direct transmission of power with 3 moving parts only—no useless cams, gears or valves to take up power or get out of order. No trouble—no extra expense. Starts without cranking.

### Runs on Cheap Kerosene

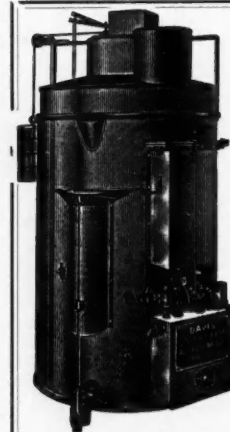
Will run on distillate and gasoline; but kerosene costs less than half as much as gasoline. Besides, kerosene contains more heat units than gasoline. Result—more power—steadier power—at one-half the expense of fuel. Comes to you all ready to run feed grinders, separators, pumps, saws, electric light plants, etc. All sizes in stock ready to ship.

GUARANTEED 5 YEARS—Sent on trial direct from our factory at lowest factory prices. Don't buy an engine until you have seen the "Detroit." Write today for catalog and agent's special introductory price on first order from your territory.

DETROIT ENGINE WORKS 495 Bellevue Avenue Detroit, Mich.



## LIGHT YOUR HOUSES With Davis Acetylene Lights



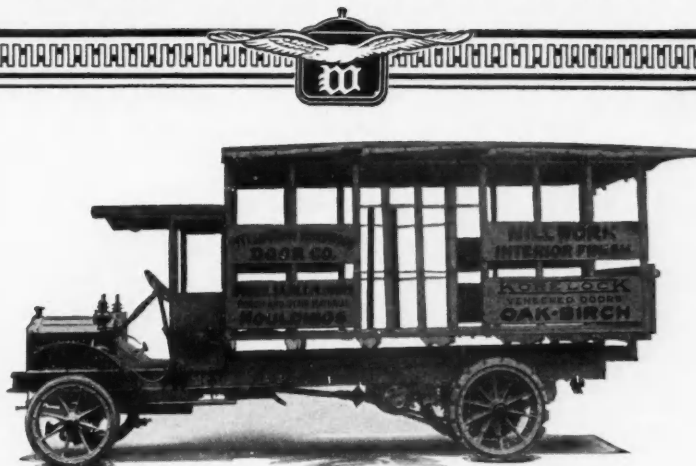
The Davis System provides a perfectly safe and reliable means of lighting any building. No experience is required to install this system in new or old buildings. The excellent points of Davis Acetylene Lighting Systems cannot be fully appreciated until you have read what we have to say about them. They are vastly different from any other acetylene lighting system because there is positively no danger from leakage or explosion. The light is always strong and steady.

### Architects and Builders

will find it profitable to accept our offer to local representatives and salesmen. Write for complete details and description.

Get the Best Light—The Best is the Davis  
**DAVIS ACETYLENE CO.**  
80 Crawford St. Elkhart, Ind.

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White 5-ton Truck owned by the Pittsburgh Hardwood Door Co., Pittsburgh, Pa.

## The Right Kind of Service Requires White Trucks

**P**OSITIVE service at all hours, in all seasons, long hauls or short, heavy loads or light deliveries—it is a White Truck that is best fulfilling these requirements somewhere for some owner. Your business promises will not suffer if White Trucks do your hauling and the efficiency of your service will bring business your way.

47 Companies in the lumber business own 80 White Trucks. These trucks are producing wonderful results in improving service and reducing hauling expense. For example:

### White Trucks Cost More to Buy—Cost Less to Operate

"At the present time we are hauling from our mill which is situated about ten miles outside of the city limits, making two trips a day on an average of about 40 miles, and we figure that one of our 3-ton trucks is doing the work of between 4 to 6 teams of horses, and sometimes more when road conditions, etc., are in the most favorable condition. We also estimate the cost at a little more than that of one team of horses, this, of course, being outside of the original outlay. We keep a complete cost system on our truck.

"We do not hesitate in endorsing the 'WHITE TRUCK' over all others on the market. Along this line might say that the writer had considerable experience with motor cars and did not hesitate in expense to find out which was the best for our purposes, and although we could have bought several other makes at considerable less cost, at the same time we feel that our truck has more than paid for the difference already."

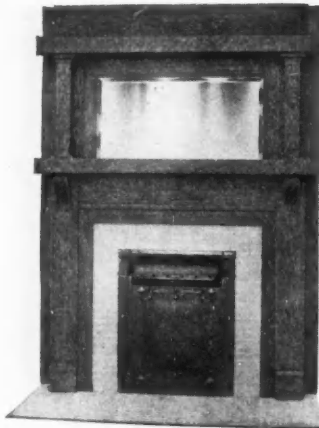
Canada Lumber Company, Limited,  
Toronto, Ontario.

*Send for Catalogs and Folder on White Trucks in the Lumber Business*

THE WHITE  COMPANY

Manufacturers of Gasoline Motor Cars, Motor Trucks and Taxicabs  
CLEVELAND, OHIO

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**\$22.50 "From Factory to You"**

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

Price includes our "Queen" Coal Grate with best quality enameled tile for facing and hearth. Mantel is 82 inches high, 5 feet wide. Furnished with round or square columns, as shown in cut. Dealer's price not less than \$35.00.

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

**CENTRAL MANTEL COMPANY**

1247 Olive Street

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St. Louis, Mo.

**High Grade Mantels and Fireplaces**



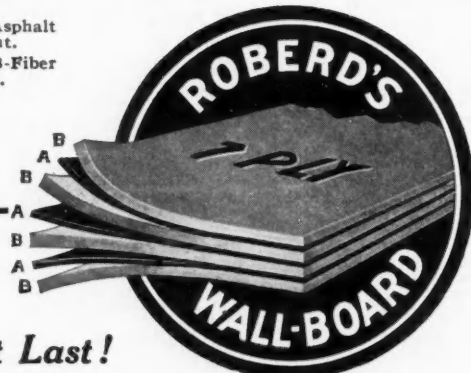
Our line of Colonial, Mission and Standard Mantels is the most complete in the country. All goods are guaranteed as to quality. Our large new catalogue, showing also brick mantels and a large selection of fireplace fixtures, consoles, colonnades, etc., sent free on request.

*If building or remodeling be sure and write us.*

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701 N. Sangamon St. CHICAGO, ILL.

A-A-A-Asphalt Cement.  
B-B-B-Fiber Board.



**At Last!**

**Seven-Ply Wall Board**

At last you can have a perfect wall board, stiffer, harder, tougher, more easily handled, more quickly applied and more satisfactory when on the walls. We have solved the problem. We are now making

**Roberds Ideal Wall Board**

with four layers of fiber board and three layers of asphalt adhesive compound. Our discoveries, our special machinery, our secret methods of manufacture and our original asphalt cement make possible the production of this IDEAL WALL BOARD.

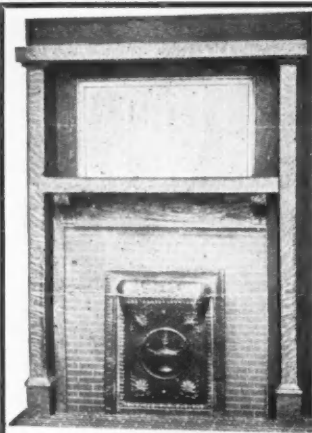
Dealers everywhere are enthusiastic about it. Contractors prefer it to all other brands. Home owners delighted with the fine finish and the perfect butting of edges which enables them to paper direct to the wall board.

We have doubled the capacity of our plant to take care of the increasing demand for Roberds Ideal. No advance in prices. Special inducements to the trade. Write today for our dealers' proposition.

**The Roberds Manufacturing Co.**

100 Railroad Street

Marion, Indiana



**\$27.00 Our Price to You**

**For Mantel as illustrated with trimmings**

Mantel is made of solid oak with 18x36 bevel mirror at price quoted we include any shade enameled tiling for facing and hearth, with recess grate and plated grate frame and front—Tile Facing 42x39 inches.

ILLUSTRATED CATALOGUE FREE ON APPLICATION

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611-613 Main Street

CINCINNATI, OHIO

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to send you our free book-  
let entitled

**ORNAMENTAL  
ILLUMINATION**

which describes our

# REINFORCED CONCRETE LIGHTING- STANDARDS

They are—

**HANDSOME, DURABLE  
ARTISTIC & INEXPENSIVE**

Require no Painting or Repairs

WRITE FOR BOOKLET

**PETTYJOHN CO.**

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## Be the Man Who Gives Orders

Don't forever be at the beck and call of some petty, tyrannical "boss." It is every American's right to be independent. Your "boss" of this year may be your subordinate of next if you make the effort to better your position. But you must have special and individual preparation to rise above the rank and file. We offer you an opportunity to become the man who gives orders. To carpenters, bricklayers and all men in building trades, we offer a short but complete course in DRAFTING,

## Estimating, Plan Reading, etc.

BY MAIL

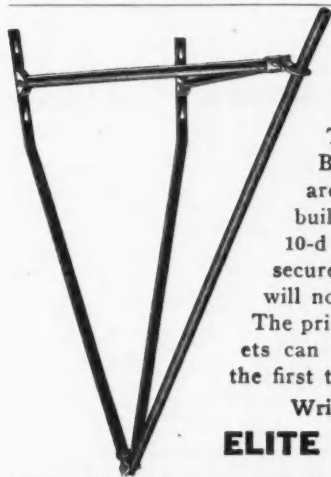
You know the advantages of being able to read plans and to estimate, and the opportunities for promotion and prosperity that come to those with that ability. Study at home in leisure hours. We can positively teach you, with our simply written, practical lessons. Hundreds of plans of buildings, in course of construction in Chicago, are studied from.

If you are a bricklayer, mason, carpenter or builder, you need this course—it will bring you higher wages. If you are a foreman or superintendent, you need this course—it will enable you to become a successful contractor. If you are a contractor, you need this course—it will help you to figure closer. It will eliminate mistakes and increase your profits.

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1810

# THE JAMES SWAN COMPANY

1913

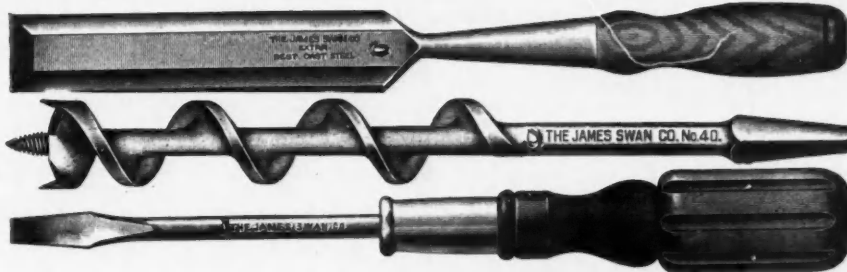
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Manufacturers of

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

Send for Catalogue

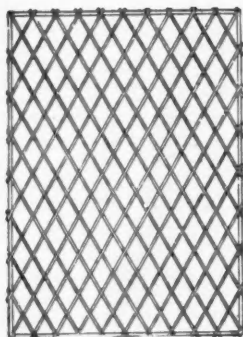


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GRIMM'S CORRUGATED GALVANIZED AND GREENING'S PATENT TRUSSED STEEL WIRE LATHING WHICH WE MANUFACTURE AND WILL BE PLEASED TO QUOTE YOU ON.

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Formerly SCHEELER'S SONS

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

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

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

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

Write for catalog and prices.

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344 Trussed Concrete Bldg.

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Don't Ask the Dealer for Sash Cord. Ask for

## "SILVER LAKE"

and see that he gives it to you. It is impossible to



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

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Parlor Door Hangers and Track



With bicycle quality ball-bearings and patented side adjustment of track (readily accessible after it is hung) makes it impossible for door to scrape or bind.

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N. Y.

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

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

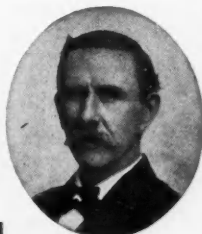
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ROCHESTER, N. Y.

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Architect

LINCOLN :: NEBRASKA



I AM LOOKING FOR  
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I DO GENERAL ARCHITECT-  
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CIALTY IS

**CHURCH WORK**

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You know the faults of hand-mixed red lead and oil—the high cost, the poisonous nature of the dry powder, the trouble of mixing, its rapid setting and hardening, its tendency to fatten and set, the impossibility of getting an even coating—all of which are eliminated when you use

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**Red Lead LUTE**

This is a true metal preservation which will prevent oxidation of the metal. It is thoroughly milled by heavy machinery, does not settle or become hard, spreads freely and works fast and is impervious to moisture and gases. It insures a thick, uniform and most durable coating.

Ideal for shop use or on outside iron or steel structures. Write for free booklet, "Metal Protection and Preservatives," giving full information.

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Quality - So Our  
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Be your own judge of the Harris Visible Typewriter. Try it alongside of any \$100.00 machine made. The Harris has the Universal keyboard with twenty-eight keys, eighty-four characters, two sets of shift keys, shift lock, release key, complete and perfect tabulator, back spacer, marginal release, light touch 11-inch carriage with 9-inch writing width, excellent filling in and manifold features. It's the greatest front strike visible writing machine ever made. Regulation size and shape.

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You can't afford to pay more than our price—and anything less cannot buy a standard machine. We sell the Harris for \$39.80 cash, or to responsible people on easy terms—\$7.80 cash and \$5.00 a month for seven months. Write for our Book of Typewriter Facts and our 30-Day Trial Offer. Please request Typewriter Book No. 56A30

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**Lightning  
Estimator**  
6th. Edition  
PUBLISHED BY  
**BRADT PUBLISHING CO.**  
JACKSON, MICH.

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at the top instead of the  
man with the dinner pail.

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

### The LIGHTNING ESTIMATOR

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

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

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

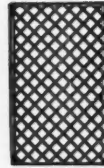
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JACKSON, MICH.

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Counter Railings  
Elevator Enclosures  
Tubular Hand Rails  
Brass and Bronze Work

The Cincinnati Mfg. Co. Cincinnati, O.

## ART GLASS

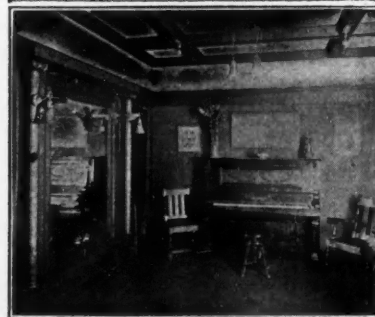
In business 25 years in which time we have furnished thousands of homes and churches with our beautiful and artistic windows.

Catalogue and designs furnished free. Write us now.

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Telephone North 5650



**TWO** Rooms  
in **ONE**

Utilize every inch of space in building—make 3 rooms equal 5.

Save space for the owner and yet

build an attractive, convenient home for either his use or rental.

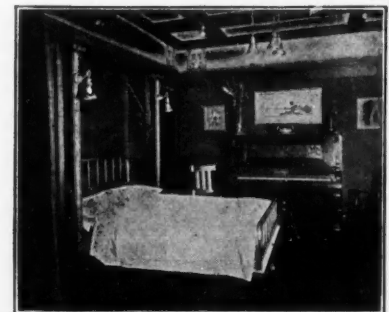
**PERFECT WALL BEDS** have solved the space question. An attractive, richly furnished console or side board conceals bed. Ample ventilation is provided. Entirely sanitary. Space beneath bed easily cleaned—no moving of bed necessary.

Builders investigate **PERFECT WALL BEDS**. Let us

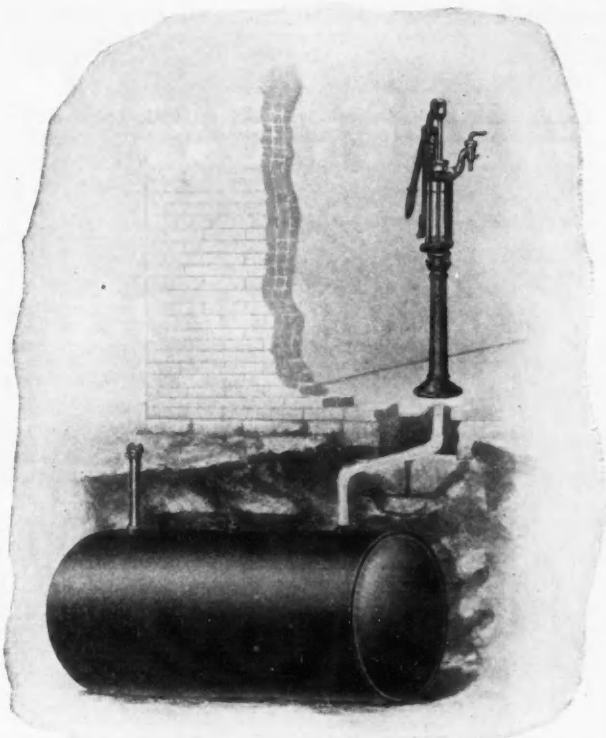
explain them to you in detail—show you how and why your clients like them. Write for full **FREE** particulars.

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**LOCKS**

**The Sign of Quality**  
**SARGENT & COMPANY**  
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THE PRESS!**

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

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Sole Manufacturers of  
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The best columns for porches, pergolas or interior use.

Send Us Your Plans for Estimates  
**—ORNAMENTAL IRON—**

Iron Stairs  
Railings  
Balconies  
Elevator Enclosures  
Fire Escapes  
Side Walk Doors  
Etc.

OUR PRICES WILL INTEREST YOU

**THE MACK IRON & WIRE WKS. CO.**  
Sandusky, Ohio

**MADE TO ORDER** **Fly Screens and Screen Doors**

We use the best grades of wire cloth, black enamel, galvanized, pearl and copper bronze, fastened by the improved Standard Shoulder Strip Method, which makes the wire drum tight and firm, can not sag or pull away.

See That Corner? Notice how stiles are fitted into rails.

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Our screens are all mortised, tenoned, joined with waterproof glue and pinned with steel pins, will last a lifetime.

**A Better Job For Less Money**

That's what you get when you use Kees Metal Building Corners. They are little galvanized iron corner pieces that fit over the ends of lap siding, make a perfect, weather-proof mitre corner. No bevels to cut. Any workman can apply them.

Drop us a card for free samples. If you've never used Gossett Hinges for full length screens, say so, and we'll send you a set for trial.

**E.D. KEES MFG. CO. BEATRICE, NEB. Box 552**

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Want Help, Agents, or a Situation? Use our

## Classified Department

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No Display Type Allowed in Classified Advertisements

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AGENTS WANTED for house lighting machines, supplying gas for small country homes as well as large. Simple and economical. Guaranteed. A live proposition. Write for terms. THE ALEXANDER F. MILBURN CO., Baltimore, Md.

WANTED—Every reader to use my Perfect Window Ventilator. Price, 50 cents a window. Catalogue Free. H. A. TAYLOR, Morris, Ill.

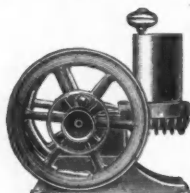
### Miscellaneous

FREE—\$1.00 Self-Setting Plane Certificate and Pencil Free. See advertisement on page 27. Self-Setting Planes on trial. GAGE TOOL CO., Vineland, N. J.

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FOR SALE—Planing mill in town of 2,500 population. Mill run by electricity. Cost to build and install machinery over \$5,000.00. Will sell worth the money for quick sale. Address SCOTT MORLEDGE LUMBER CO., Riverton, Ill.

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Right design, right materials, best results, runs on kerosene or gasoline for power. Write for facts and figures.

CANFIELD ENGINE WORKS

6-16 Abbott St. - Binghamton, N. Y.

### THE UNIVERSAL PITCH GAUGE



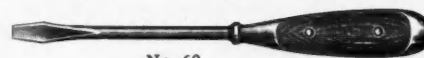
marks more roof-framing in less time than any other tool or method. Any one pitch — of 100 — in FIVE MINUTES, with 22 cuts, lengths, etc., for each pitch; including plancher, fascia, and pelline bevel, etc. This done by those who don't even understand framing. Gauge marks hundreds of irregular hips; octagon hips and jacks; hopper bevels and much more framing. Fits any square. Makes a most perfect stair and brace gauge. Steel nicked.

Price, \$1.00  
prepaid. Ten  
days to test.

Money back if returned.

JOHN PARKHILL, Rochester, Minn.

### Pioneer Drop Forged Screw Drivers



No. 60

One piece. Bead prevents slipping. Most practical, durable, improved driver made.

Show this ad to your hardware dealer, or write us for catalog.

SOUTHINGTON MFG. CO., Southington, Conn.

### THE ZIMMERMAN IRON BASE

is the ONLY BASE having a CENTER BEARING.

It carries the required weight without allowing the corner supports to sink into the floor and prevents the base of column and floor from rotting.

See "SWEET'S" page 956.

S. CHENEY & SON, MANLIUS, N. Y.



Bottom  
View  
Showing  
Center  
Bearing

### YOUNG MEN

Prepare for

### Good Positions in Carpentry and Building

Class forms in September. Nine months course. Low expenses

For Illustrated Circular, Address

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### Improved Model



The PRICE Automatic Brad Driver. For driving ¼ to 1-inch brads and small nails that are hard to hold—just place the brad in nozzle and PUSH. Length 9 inches. The handiest tool yet for stair builders, cabinet workers, inside finishers, etc. Fully guaranteed. At your dealers, or sent on approval for \$1.00.

THE TOM PRICE MANUFACTURING COMPANY

Cooper, Texas.



### Order the "HYNAILER" 75c

Best single claw hammer ever made. Holds the nail for high, low or far across driving. Grips plain part of nail so strongly as to pull the head of nail clear through the wood.



DOUBLE CLAW \$1 PARCELS POST

### Order the "DOUBLE CLAW" \$1.00

Best Hammer ever made. Holds the nail for starting to drive where you cannot reach with two hands. Pulls the nail out straight without a block. Ask Your Dealer.

Double Claw Hammer Co.

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**EVERYBODY WANTS BETTER LIGHT. HERE IT IS**



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**NO** FALLING WINDOWS  
SMASHING GLASS  
POCKET FRAMES  
SASH WEIGHTS  
RATTLING  
BINDING  
CORDS with



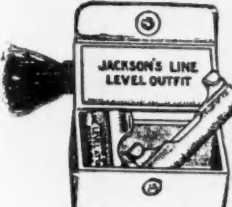
**AUTOMATIC SASH HOLDERS**

**SPECIFY USE DEMAND**

**Automatic Sash Holders** and save labor, lumber and money. Send for trial set (\$1 prepaid) stating approximate weight of sash, or our circular

**Automatic Sash Holder Mfg. Co.** Church St., New York.

**A UNIQUE TIME SAVER.**



The Jackson Aluminum Line Level is a mighty small device ut it brings about a tremendous saving of both time and labor. It takes the place of the old-fashioned sixteen foot straight edge, yet it can be carried in your vest pocket. No contractor, builder, carpenter, mason, bricklayer, architect or plasterer, etc. can afford to be without one. Just stretch your line and hang the level on it—It's positively accurate. The complete outfit is put up in a neat leatherette case and consists of the level with a 40-ft. line also a spring clamp for attaching the level to a steel square or pocket rule, thereby serving as a plumb rule or bench level. Ask your hardware dealer or send \$1.00 for the Level outfit complete post paid. Send for our Catalogue of Tools.

**JOS. WOODWELL CO., Sole Agents**  
201-203 Wood St., Pittsburgh, Pa.


**CORKS the CRACKS**



The Introstile Doorbottom automatically shuts the aperture. Thresholds not needed. Door faces not altered. Durability permanent. Value great for both new and old buildings. Price moderate.

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**Guarantee Lightning Protection**



Carpenters and Builders should sell our Pure Copper Cable Lightning Rods and Fixtures for every building they erect. Our rods are in big demand, good profit in selling them. We issue our binding guarantee to every purchaser. Write today for agents' prices and catalogue. Address

**JOS. L. BARNETT & CO. Box No. 2 Riverside, Iowa.**

**SLATE WE HAVE WHAT YOU WANT**

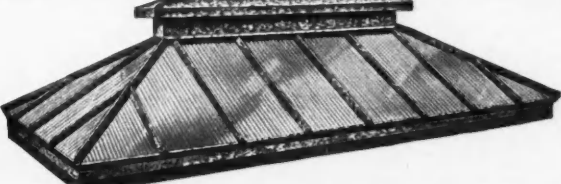
*In Roofing Slate. Slate Blackboards  
Structural and Plumbers' Slate*

SATISFACTION GUARANTEED IN QUALITY AND PRICE

*ASK FOR DELIVERED PRICES*

**J. K. HOWER, Station, C., Slatington, Pa.**

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**Willis Skylights**

are Self-Installing, designed and constructed to be installed with the least possible labor and expense. Any handy man can erect them with no tools other than a hammer and screw driver. We guarantee them absolutely watertight without the use of putty.

The ridge and gutter bars are so formed that it is impossible for the skylight to sag, buckle or spread.

Send for our Catalogue No. 6 showing our full line of Sheet Metal.

**WILLIS MANUFACTURING CO. GALESBURG, ILL.**



**SAMSON SPOT SASH CORD**

Reg. U. S. Pat. Off.

**Samson Cordage Works** Boston, Mass.

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

**CON-SER-TEX CANVAS ROOFING**

**HAS BEEN TRIED AND CONVICTED ON TWO COUNTS**

1st—Of producing results as promised.  
2nd—Of being the best canvas roofing on the market.

Its neat appearance; satisfactory service; low initial cost and extreme durability—warrant the Home Builders' close investigation.

Allow us to put our organization at your disposal by co-operating with you.

CON-SER-TEX has no equal as a covering for Porch Roofs, Piazza Floors, Sleeping Balconies and all places where a lasting fabric is desired.

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California Distributor **Waterhouse & Price Co.** San Francisco Los Angeles

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# Make An Investment in Roof Security

Safeguard the interests of your clients, by selecting your roofing as you would stocks, bonds or other securities, viz., on the proved value of the material itself and the reputation of its makers.

Render a service to roof investors by accepting no roofing experiments simply because they are cheap.

Demand a roofing that shall be water-proof, fire-resisting, durable, and that shall require no expensive repair bills.

Specify—

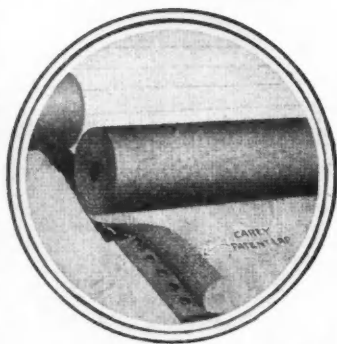
*Carey  
Flexible Cement  
Roofing*

and the next generation will benefit in roof satisfaction equally with the present.

The Carey Patent Lap—an exclusive Carey feature—makes absolutely water-proof joints. The flexible asphalt cement composition ensures tenacity, elasticity and security against breakage from contraction and expansion.

The advice and assistance of the makers of Carey Flexible Cement Roofing is worth much to architects and builders.

See How the Carey Patent Lap Protects the Nails



Write today for our book, "Facing the Facts About Roofing," and a convincing sample of Carey Flexible Cement Roofing.

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General Offices and Factory

58 Wayne Avenue, Lockland, Cincinnati, O.

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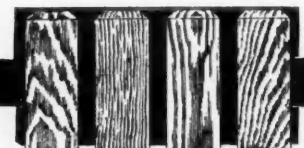
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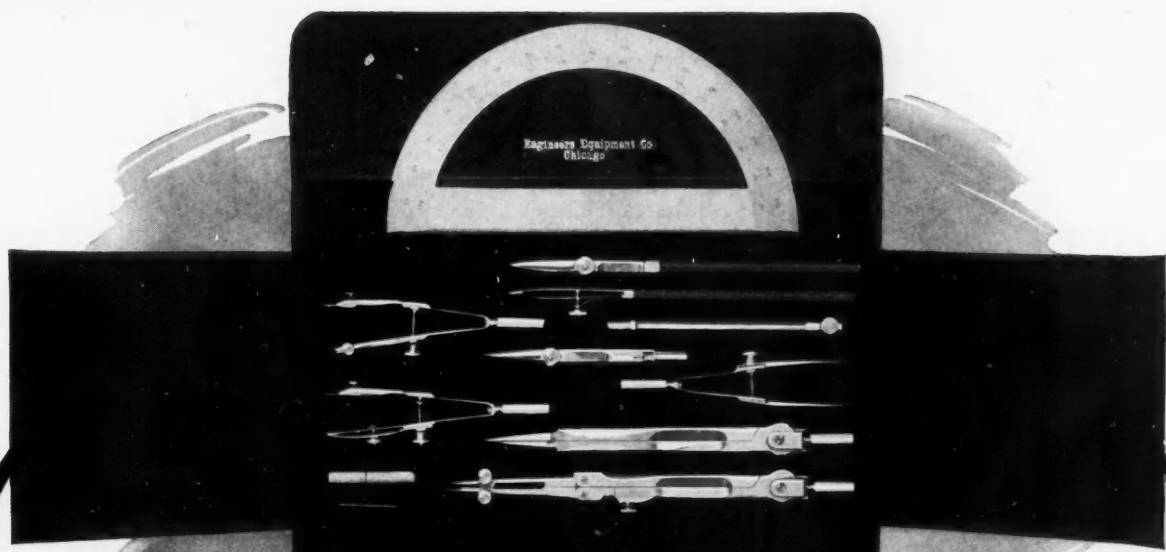
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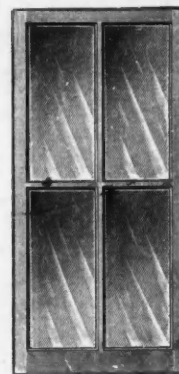
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