

MARCH 1914

Sup. vol

AMERICAN CARPENTER AND BUILDER



THE WORLD'S GREATEST BUILDING PAPER



Price 10 Cents

Buy Saws with a Reputation Back of Them

¶ The Tools you use have much to do with your reputation as a fine, expert mechanic. You certainly cannot do the finest work, unless you have tools of the very latest pattern—that add speed, ease and accuracy.

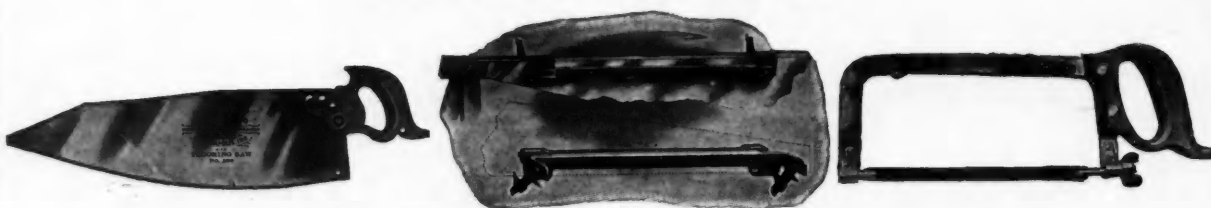
¶ The next time you buy a saw, why not look at the latest and most approved design. Compare the hang, the quality of steel, the grinding and general construction and satisfy yourself that you are getting the most for your money.

¶ Ask to see **Atkins** No. 53, 68 or 400 Skew Back Saws, or **Atkins** No. 65, 69 or 400 Straight Backs. These are splendid types of the up-to-date Saw with Atkins Perfection Handle.

¶ Or if you want the old-style handle, ask for **Atkins** No. 51, 52 or 66 Skew Back, or 54, 64 or 67 Straight Back. These saws bear the maker's name and will give you satisfaction.



Splendid Types of Up-to-date Saws



We Make a Perfect Saw for Every Purpose



Try Atkins Special Saws and Tools

ATKINS SILVER STEEL SAWS

¶ Your regular dealer will be glad to order for you any Atkins Saw you may select. He has our catalog or can easily get one. Most likely he has in stock the very saw you want.

¶ If this matter of fine saws is of any interest to you, you have a right to get what you want, and if you want to try an **Atkins Silver Steel Saw**, see that your dealer supplies you and take no other. If he won't—then write to the address below.

E. C. ATKINS & CO., Inc.

The Silver Steel Saw People

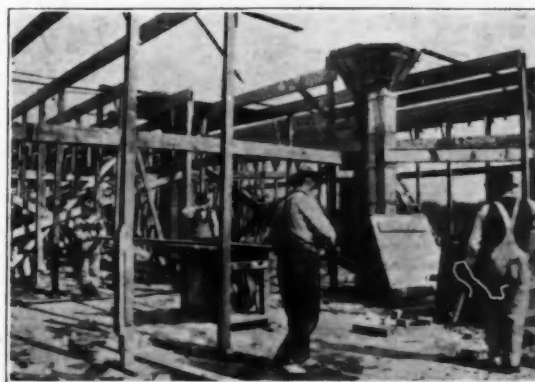
INDIANAPOLIS, INDIANA

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



Eveready Saw Rig Saves the Wages of Six Men

The handiest machine you ever saw for work on big or little contracts. Saves the work and wages of six men---saves the Contractor big money on every job. The "EVER-EADY" not only saws but does besides a lot of "hand work," such as cutting stair-joists, etc.; also joints, sands, jig saws, dados, bores, miters, and grinds tools. Write for all the facts about this wonderfully handy, time-and-money-saving machine. Description, prices and Special Offer on request.



Start an "Eveready" Rig Going on
Your Work

OSHKOSH MIXER

Study these remarkably efficient features of the Oshkosh Mixer; Quadruple or Four-Way mixing principle; that is, it turns, kneads, pours and flows four times to each drum revolution—Efficient **Chain Drive**—Main Sprocket Drum Ring in sections; each instantly replaceable—**Discharge Lever** can be operated from all sides of mixer—

The Mixer
with the
Effective
4-Way Mix



Also built for
Steam or Electric Power

Combination Drive and Hoist—heavy reinforced channel steel **Frame**—thick semi-steel **Drum** rotated on extra large rollers; can be stopped or started full or empty—all parts standard-

ized. Write for prices and Catalog today.

Live Agents Wanted in Open Territory

OSHKOSH MFG. CO., 316 South Main St., OSHKOSH, WIS., U. S. A.

Branch Dealers in Saw Rigs and Mixers

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Saw Rigs Exclusively

PHILADELPHIA, Dodge & Dodge, 118 Maplewood Street.
St. Paul, Minn., Raymer Hardware Co., 373 Roberts St.
Omaha, Neb., Sunderland Machinery & Supply Co.

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 parquet.

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

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

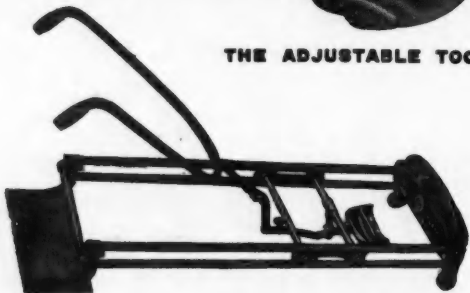
Manufactured by **The American Floor Surfacing Machine Co., Toledo, O.**



\$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 truck 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.

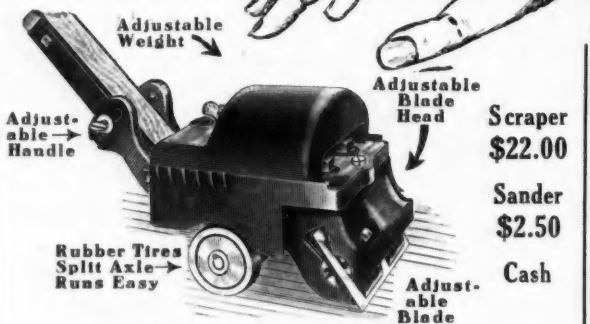
The only Floor Scraper sold under a
"money-back-if-you-want-it" guarantee

is the **ADJUSTABLE**

If it fails to please you at any time or for any reason through fault of the machine you can have your money back if you want it.

Take It—Use It

as long as you like—
return it at my ex-
pense if it don't suit,
and **back comes**
your money.



Scraper

\$22.00

Sander

\$2.50

Cash

Mail me this coupon TODAY

H. P. DIDRIKSEN, Anderson, Indiana

Please tell me about the **ADJUSTABLE** and your liberal guarantee.

Name.....

P. O..... State.....

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.

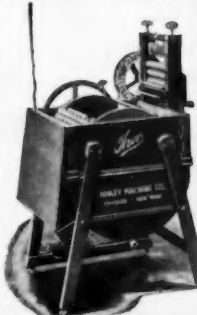
Electric Washers from \$30 up

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.

OF COURSE YOU TAKE PRIDE IN the appearance of your work

Whether you are building a \$5,000,000 building or a \$500 addition you want to stand by and say

"I Did That"

Of course you must use only the best materials obtainable together with good labor to get the best results.

We therefore advise the use of

ARTONE

on all interior walls and ceilings on plaster, cement, wood or metal surfaces.

THE MODERN INTERIOR FINISH

Is sanitary and durable, can be washed repeatedly with soap and water. The colors are permanent, do not fade nor get darker after being applied.

Send for booklet No. 5-A—"It tells you why"

THE BILLINGS-CHAPIN CO.

1163 East 40th St.

Boston

CLEVELAND

New York

*We are the first
to recognize that the
Secret of non-cracking Stucco
is the use of Lean Mortar.*

LEAN mortar, applied according to our "Stucco Specification," will not crack, and the use of Impervite makes it Waterproof.

IMPERVITE makes mortar so waterproof that we guarantee a 1" facing to withstand the highest water pressure. This facing will bond to the INSIDE of a wall, and is therefore widely used to repair below-grade construction after the failure of tar-and-felt waterproofing.

IF you want four Booklets about STUCCO and WATERPROOFING, telling HOW, WHY and HOW-MUCH, send a postal card asking for "Impervite Costs and Data."

The Standard Paint Co., New York Chicago

In Business over a Quarter of a Century



AUTOMATIC Ball Bearing Electric FLOOR SURFACING MACHINE

Quickly dresses new floors to stand inspection against the light, or rapidly refinishes old floors. Self propelling; has automatic brake for easy, continuous and uniform work. Surfaces to base board with Edge Roller quickly adjusted to either side

doing away altogether with hand scraping.

Our Price Will Interest You

If you are interested in the best floor finishing, we want to show you what others are doing with our machine. Send for the names of well-known users. You should have our booklet too. Above all, get particulars about our Free Trial Offer. Made in 3 sizes for small rooms and large areas.

WAYVELL CHAPPELL & CO. Dept. 4847 E. Ravenswood Ave.
CHICAGO, ILLINOIS

\$20.00 IN GOLD and the machine Free if the Boss leaves a square cut on the Floor where you start; that's our Offer and we prove it. The Boss cuts more level than any other Scraper. The Gage on Front of the Knife is more like a Plane on Wheels. The thickness of shavings is regulated with two Thumb Screws over the Gage. The Knife can be set to any shearing cut.

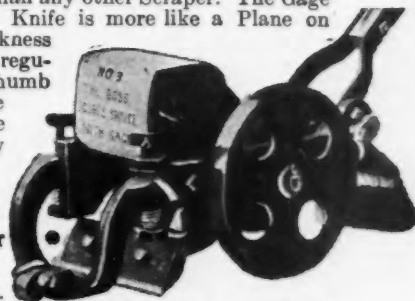
Write for Prices.

G. J. Kepplinger

Main Office:

DWIGHT, ILL.

Factories: Dwight, Ill., and London, Canada.



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. Schluter

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.

PHOENIX INSIDE SLIDING BLINDS

WILKES BARRE, PA.

The Phoenix Sliding Blind Co.

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

Comfort!
Economy!
Convenience!

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.

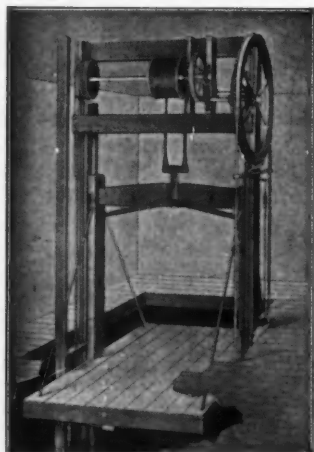
PHOENIX SLIDING BLIND CO.

BRIDGE & CANAL STS.

PHOENIX, N. Y.

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A Good Elevator Is a Good Investment Saves Time and Labor



Our product includes *Dumb-Waiters, Carriage, Auto and Store Elevators*—Hand and Power.

These machines are serviceable and will pay for themselves in a very short time. Being practically self-contained, they can be erected by any carpenter or "handyman" in a few hours. Plans for erecting furnished with each elevator.

The Reasonable Cost Will Interest You

Write to us today stating your requirements, giving style of machine wanted, size of platform and number of feet travel and we will name you a money-saving price on equipment made to serve you well.

SIDNEY ELEVATOR MFG. CO. - SIDNEY, OHIO



CARPENTERS WANTED AS AGENTS During Fall and Winter Months. Big Money; Ready Sales.

SANITARY AUTOMATIC DUMBWAITER
saves carrying food to and from the cellar. Perfectly ventilated; screened openings; finished inside with durable white enamel. Keeps food perfectly. Top lies flush with kitchen floor. You can walk over it. Operates with push button or lever. Also furnished as a Refrigerated Dumb Waiter. Write for Particulars and Price.
YORK AUTOMATIC DUMBWAITER WORKS
639 W. Market St. YORK, PA.

STOP THOSE RATTLING WINDOWS

Do away with sash weights, cords, pulleys and pocket frames and save money by using
AUTOMATIC SASH HOLDERS

Proved by Use—
Unexcelled for windows without pocket frames. Excellent for new windows.



Send for circular and prices, or \$1.00 for trial set prepaid; state approximate weight of sash.

AUTOMATIC SASH HOLDER MFG. CO., 52 Church St., New York.



Excelsior Dumb Waiters

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

Up-to-Date in Every Particular

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

Send for Printed Matter

R. M. RODGERS & CO.

74 Emerson Place - - Brooklyn, N. Y.

Warner Elevators

**OVER 10,000 ELEVATORS
IN DAILY OPERATION**

Hand Power Elevators

Dumb Waiters

Carriage Hoists

Automobile Lifts

Automatic Residence Elevators

Automatic Dumb Waiters

Hospital Elevators

All Kinds of Elevators for

Passenger and Freight Service

THE WARNER ELEVATOR MFG. CO.
CINCINNATI



HOISTS & ELEVATORS

Columbia Dumb-Waiters
Pavement or Cellar Hoists
Jumper Disappearing Dumb-Waiters
Chain Blocks, Cranes and Trolleys

Send for Catalog

J. G. SPEIDEL Reading, Pa.



CHELSEA
EXEMPLAR OF QUALITY

Send for our Elevator and Dumbwaiter catalog

CHELSEA ELEVATOR CO. 330 W. 26th St., N. Y.

WHERE A DUMB WAITER IS WANTED A "SEDGWICK" IS NEEDED

Under the most favorable conditions a Dumb Waiter or Hand Power Elevator is subject to the hardest usage. It is in continual operation. It must render continual satisfaction. Because of these exacting demands each installation requires special equipment.

Every particular demand can be best fulfilled by the "SEDGWICK" that is specially designed for the purpose.

Catalogue L gives complete descriptions, and the easiest and best methods of installation. Write for it.

SEDGWICK MACHINE WORKS
132 LIBERTY STREET NEW YORK CITY

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

My Biggest Profits are From

THE TRIPLE "A"

Every Carpenter who buys a Triple "A" Spring Driven Floorsmoothener says this. He finishes 1000 square feet of floor a day and makes from 1 to 3 cents a square foot, or an average of \$20 a day.

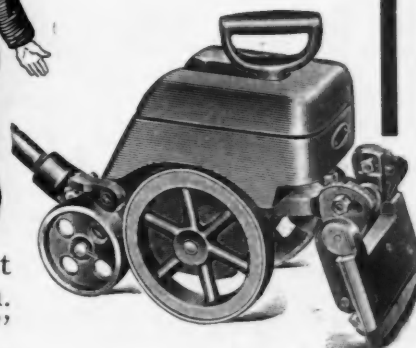
ACCOUNT BOOK

Profit from
Using the
TRIPLE "A"
FLOOR-
SMOOTHING
MACHINE

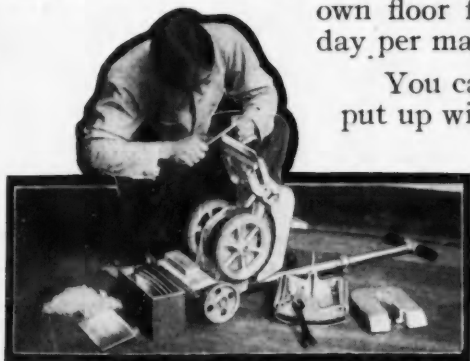
\$20⁰⁰
PER
DAY



FLOORSMOOTHER



We couldn't make this statement if it were not so. But we've proved to every one's satisfaction that it's the truth. There is such good money in floor finishing the Triple "A" way that we won't sell a machine in Chicago. We have our own floor finishing crew and it makes on an average of \$20 a day per man.



You can do this with the Triple "A." Every house you put up will yield at least \$30 for floor finishing. Then there are the old floors—painted, varnished and oiled—that you can finish at odd times. Lots of work, good pay, all from a machine that will last a lifetime.

The Triple "A" Floorsmoothener

weighs 75 pounds. Two extra adjustable weights of 50 lbs. and 25 lbs. furnished with the machine.

Blade holder adjustable to any shearing cut. Double-edged blades. Handle adjustable in length and height. The big steel spring drives the machine on the cutting stroke and takes two-thirds of the work off the operator. Sanding device and **Free Kit of Tools** furnished with the machine.

Reduced Price During March!

It will pay you to buy a Triple "A" Spring Driven Floorsmoothener during our Special Sale. Low price for this month to introduce our machine into every town. Only one machine under this proposition will be sold in each locality. You can easily afford to buy a Triple "A" at the reduced price. Backed by our **Guarantee**. Money back if unsatisfactory. Send Special Coupon and get full particulars.

Triple "A" Machine Company

Room 315

300 West Grand Ave., Chicago, Ill.

SPECIAL COUPON

Triple "A" Machine Co., **REDUCED**
Room 315, 300 W. Grand Ave., **PRICE**
CHICAGO, ILL. **OFFER**

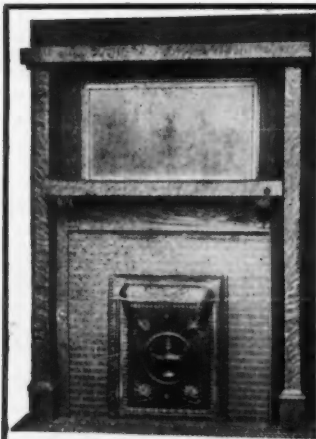
Please send me full description of the Triple "A" Floorsmoothener. It is understood that if I wish to buy this machine I am to have the benefit of your **Special Price Reduction**.

Name

Street

Town and State

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



\$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

MOORMANN & OTTEN

611-613 Main Street

CINCINNATI, OHIO

MAKE MONEY

BY SELLING

FIRE PLACES



TILES and MOSAICS

for FLOORS and WALLS

Write for our Large Illustrated Catalogue of Fire Places in Tile, Wood, and Brick Andirons, Gas Logs, Consoles and Colonnades Sent Free on Request.

Write For Discounts to Carpenters and Builders

CHAS. F. LORENZEN & CO.

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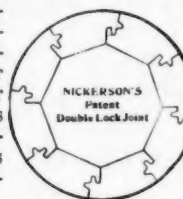
Cor. Clark & Washington Sts., CHICAGO

THE BEST COLUMNS

for Porch, Interior and Pergola use the NICKERSON Patent DOUBLE LOCK JOINT

THEY CANNOT COME APART

We Specialize on Detail-work. "Vignola" is our Standard for proportions when Architect's details are not furnished.



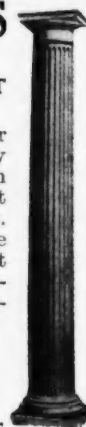
Clinch your Trade by giving them the very best Columns. Ours have the best Construction and correct shape.

All kinds of interior trim to detail.

Write for Catalogue No. 4.

NICKERSON MFG. CO.

KNOXVILLE - - - TENNESSEE



\$20.⁰⁰

in Yellow Pine, Oak or Birch, in the White.

Any size up to 8x8.

Freight paid to your station

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.



\$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

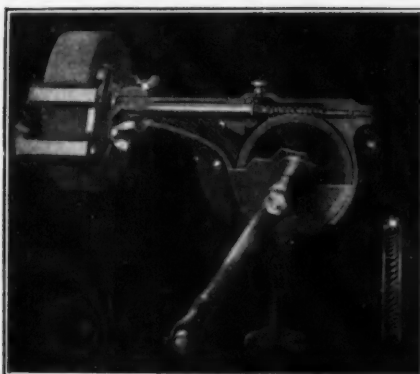
1247 Olive Street

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St. Louis, Mo.

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Ball Bearings
Worm Gear
Steel Shaft
Tilting Frame
Dust-Proof
Parts
Oil Bath
Dimo-Grit
Wheels

Luther "BEST-MAIDE" Hand Power Tool Grinders *Sharpen Any Tools Quickly*

You'll find the Luther "Best-Maide" the handiest, lightest running tool sharpener you ever used. It puts on a keen edge quickly, makes it easy for you to keep your tools in the first-class shape that increases their efficiency—and yours. Runs true and without vibration. Special attachments furnished for drill sharpening, drilling, etc.

Double Faced Sharpening Wheels of Dimo-Grit

Bring tool to edge on medium grit body, smooth off and finish it on fine grit side face. DIMO-GRIT cuts hardest steel as easily as emery does copper. No water needed, cannot draw temper. Guaranteed for five years.



Ask Your Dealer to show you the Luther "Best Maide" Grinder. If he cannot, write for descriptive folder and we will tell you how to get a handy Dimo-Grit Pocket Hone Free.

Luther Grinder Mfg. Co.

870 Point Street Milwaukee, Wisconsin

Pay Me As It Pays You!

YOU don't have to put up any money to get my Scraper. Just make a small deposit five days after arrival of machine. Then, on the first of the following month, pay me 10% of the profits the Scraper has paid you, with small payments thereafter for six months.

The WEBER DOUBLE ACTING Floor Scraper

will earn enough extra profits to easily pay for itself in six months on my liberal Special Payment Plan. Write for my Free Trial Offer today, if you want to get the *right* Scraper on the *right* terms.

Opening for One Live Agent in Each Town.

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

"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

MAYHEW

NAIL SETS and PUNCHES

No. 435

No. 437

No. 439

Should be in
every Kit

Protected by
Patents. Infringers
will be prosecuted.

No. 435, Nail Set

a strictly new, high quality tool. Hand-forged from the finest crucible steel electrically tempered. Each set is warranted. The finely knurled body is easy for the fingers, and the $\frac{3}{8}$ " square head prevents tools from rolling off the bench. Length, 4 inches. Points $1/32$ ", $2/32$ ", $3/32$ " and $4/32$ ".

No. 437, Center Punch—another reliable tool, hand-forged from the finest crucible steel, electrically tempered. A companion to No. 435 Nail Set, with the same square head and knurled body. Length 4 inches.

No. 439, Prick Punch—construction identical with No. 437 Center Punch, except for the point. Fully warranted. Length, 4 inches.

In addition to the above tools, we especially desire to call the attention of all carpenters, builders, and cabinet makers to Hand-Forged **Nail Set No. 434**, another of our new tools. Also **Solid Punch No. 490**, and **Center Punch No. 491**. The diameter of stock in these punches is $\frac{1}{2}$ ". Points are at a correct angle to stand hard usage. Diameter of points of Solid Punch from $3/32$ " to $12/32$ ". These punches, as well as **Prick Punch No. 492** and **Pin Punch No. 493**, have our new embossed hand hold. Prevents tool from slipping or turning in the hand.

These tools are accurately described and illustrated in our new Catalog No. 14, which is sent free on request. Write us. If your hardware dealer does not sell Mayhew Tools, write us and we will see that you are supplied.

H. H. MAYHEW CO.,
Shelburne Falls,
MASS.

C. E. JENNINGS & CO'S

71-73 MURRAY ST., N. Y., U. S. A.

TRADE MARK.

COMBINATION SET OF SAWS No. 131

This set of saws is just what you need. Takes up very little room in the kit and is less expensive than if you bought all the saws separately.

Each blade is fully backed by our guarantee both as to quality and workmanship. The saws are hand-forged from extra refined spring steel, hand filed and set. Warranted to hold edge and set for longest possible time and to run smoothly and easily.



An adjustable lever in the handle operates the screw that holds the blade. Blades may be removed from the handle instantly and another blade substituted. Blade is held firmly and evenly.

Combination Set No. 131 consists of:

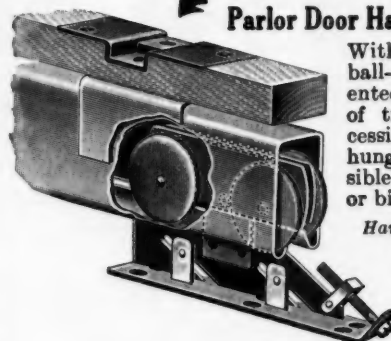
- 1—Garland Adjustable Handle
- 1—18-inch Hand or Panel Saw
- 1—18-inch Rip Saw
- 1—16-inch Double Edge Pruning Saw
- 1—15-inch Hack Saw
- 1—14-inch Compass Saw
- 1—12-inch Keyhole Saw

A Waterproof Canvas Case for this set with seven pockets—one for each blade and one for the handle, will be furnished at a slight extra cost.

Ask your hardware dealer to show you Set No. 131. It is so handy and the price so reasonable that you'll like it. Write us for descriptive Circular.

LANE'S TROLLEY

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.

Have you our Catalog?

LANE BROS. COMPANY
Cherry St.,
POUGHKEEPSIE,
N. Y.

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

LUFKIN STEEL TAPE

Our tapes embody many exclusive features and are guaranteed to give complete satisfaction.

CATALOG ON REQUEST

THE LUFKIN RULE CO. Saginaw, Mich.
New York

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



TRY THIS OUTFIT AT MY EXPENSE—

For years I have been shipping to responsible
Carpenters and Contractors on Free Trial the

ACME FLOOR-SCRAPING OUTFIT

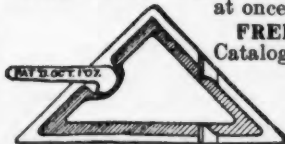
Thousands have accepted my offer, greatly to their profit. If you
haven't investigated into the merits of my machines, then do so at once—
it will cost you nothing.

Send for catalog and full particulars of my Free Trial Offer, Now

JOSEPH MIOTKE, 247 Lake St., MILWAUKEE, WIS.

Buy 1—Get 3 TOOLS IN ONE Mitre—Square—Line Gauge

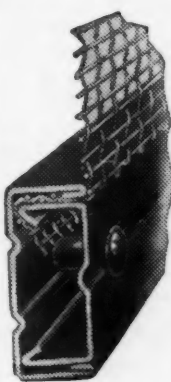
If you haven't a Rule Tool Gauge in your kit, order one
at once. 25c each, postpaid.



"THE RULE TOOL"

FREE—No. 5 Builders Hardware
Catalog and price list to Contractors
and Material Men. We do
not sell to contractors or
carpenters in Cook County,
Illinois.

Rehm Hardware Company
1501 Blue Island Avenue CHICAGO, ILL.



Fly Screens

Metal Frame
REWIRABLE CIN-MAN-CO.

See method of securing wire cloth,
held by rounded corners, which pre-
vents cutting by vibration.

Special inducements to
Carpenters and Builders
Booklet Free

The Cincinnati Fly Screen Co.
1010-1026 Evans St., Cincinnati, O.

FOX "UNIVERSAL TRIMMER"

TRADE MARK

**A
Machine
For
Every
Need**



6A. FOX "UNIVERSAL TRIMMER"

**A
Need
For
Every
Machine**

**You Will Never Know What Perfect Work is Until You
Use a Fox "Universal"**

*One Stroke of the Knife Produces a Perfect Angle—
This Means a Great Saving of Time to You.*

Write TODAY for Our New Catalog

FOX Machine Co.

22 FRONT AVENUE N. E.
GRAND RAPIDS, MICHIGAN

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



90 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 from machine. This alone saves one-third the labor necessary to operate other mixers.

Not a Man-Killer
Has an enormous capacity

SIMPLE—COMPACT—HANDY—SUBSTANTIAL

New Principle—Quick Charging—Quick Action—Quick Discharge

Its 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.

The SLUSH mixer mixes 4 cu. ft. of finished concrete per batch. A batch per minute or 90 cu. yds. per day is easily possible under favorable conditions. 30 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. When operated by power—one man alone can mix mortar fast enough for a crew of 20 brick layers.

The DRY or WET mixer is good for any kind of mixing—either Dry, Wet or Sulsh. Is extra fine for brick or block plants, core sand, plaster, brick mortar, chemicals, etc. Capacity—2 to 3 cu. ft. per batch—or 15 to 45 cu. yds. per day. Is just like the SLUSH mixer except a slight change in the drum heads and agitator. Is the best for an all-purpose mixer. The SLUSH mixer is best for big jobs and rapid contract work where slush mixtures are used.

Two men turn either machine easily and do not work as hard as the shovellers. A pump engine will run them. 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.

Write direct to factory for catalogue, prices and terms.

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

GET THESE BOOKS

FREE!!!

A post-card, or this ad cut out, with your name and address, designating what books you want is all that is necessary. These books will interest you, and also place you in touch with equipment that you can buy for LESS MONEY than any other. Our

DIRECT FROM FACTORY PRICES

ON World-Renowned "CRESCENT" Machines

will make you ask yourself why you never got in touch with us before.

Find out how the other fellows make money. You're never too old to learn!

Mark the Books You Want

- ☐ Book 10, "Crescent" Continuous Concrete Mixers
- ☐ Book 11, "Crescent" Sewer Pipe and Tile Molds
- ☐ Book 12, "Bull-dog" Hand Batch Mixers
- ☐ Book 14, "Crescent" Vertical Tamping Brick Machines (Foot-power)
- ☐ Book 16, "Bull-dog" Power Batch Mixers
- ☐ Book 17, "Crescent" Power Brick Machines
- ☐ Book 18, "Little Wonder" Hand Brick Molds

GET OUR QUOTATION ON ANYTHING YOU NEED

RABER & LANG MFG CO.
Kendallville, Ind. 810 Mill Street

Supplies the Demand for a Small Perfect Mixer



Capacity
3 Cubic Feet
Per Batch

Weight
800 Lbs.

On Trucks
1000 Lbs.

On Trucks
with
Engine
1400 Lbs.

McCracken Batch Mixer

The McCracken Portable Batch Mixer

is designed and built to meet the demand for a strong, simple, durable and practical mixer, that is large enough for all ordinary contract work, yet light enough to be profitable on the small job as well as on the large. Mounted on good steel trucks, EXTRA LARGE DRUM OF THE PROPER SHAPE, equipped with our own high-grade 2-HP. SIOUX engine, enclosed in a good steel housing (not a cheap box), also has friction clutch, so that drum can be started and stopped without stopping the engine. Capacity, twenty-five to thirty-five yards per day. Cost for power, twenty-five cents per day. The largest, best and most complete mixer on the market for the money. Write today for prices.

Write for Further Particulars

Sioux City Engine & Machinery Company
9th and Division Sts. SIOUX CITY, IOWA

Buy The SIMPLEX 1914 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.

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



Be Sensible

The Cement Show is over. Mixers of many types came into the limelight for your edification--or bewilderment.

The most successful man is the one who is the most willing to learn. It was good for you to be there. You found that all the machines would mix concrete--more or less. In *theory* they might have been mechanically correct. In *theory* they might do your work--in *theory* they might do it economically, etc., etc., but in *practice*--what? Why--you must *prove* them at your own expense.

WONDER MIXERS

long ago passed the theoretical stage. WONDER MIXERS have *proved* their efficiency, their remarkable durability, their great earning capacity--their superiority in every essential point, to thousands of contractors. They have done this in the only really convincing manner--through our famous "MAN TO MAN" proposition of

TEN DAYS' FREE TRIAL

ANYWHERE IN THE UNITED STATES OR CANADA

and without a cent of cost or any obligation whatever to any man.

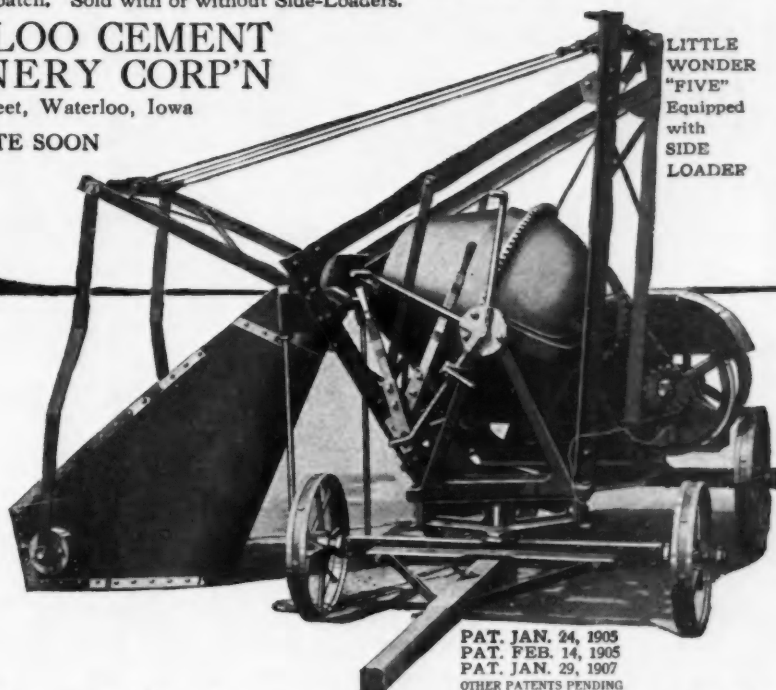
BE SENSIBLE. Keep on the safe side of certainty by availing yourself of this buying advantage--of nation wide agency service--of co-operation that no other mixer manufacturers offer and which does not end with the sale of a mixer to you, but opens the way to greater profits--"*Things as they ought to be.*"

Two sizes--LITTLE WONDER "FIVE" 5 cubic feet, and WONDER "TEN," 10 cubic feet capacity per batch. Sold with or without Side-Loaders.

WATERLOO CEMENT MACHINERY CORP'N

103 Vinton Street, Waterloo, Iowa

WRITE SOON



LITTLE
WONDER
"FIVE"
Equipped
with
SIDE
LOADER

PAT. JAN. 24, 1905
PAT. FEB. 14, 1905
PAT. JAN. 29, 1907
OTHER PATENTS PENDING

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



The GRAND

¶ A thoroughly dependable mixer for the General Contractor and Builder. The only continuous mixer with hoist attached. Economical because it is the very machine for use on jobs where a large machine would be too expensive.

¶ The Grand is highly efficient on all construction jobs. The price is very moderate and the saving

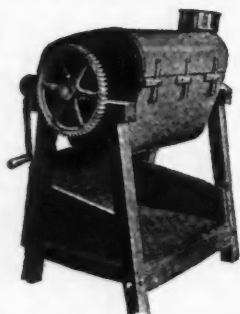
made in one season by the Grand recommends it as a prudent investment. It is a durable mixer, easily portable and simplicity itself in the matter of operation.

¶ The Material Hoist is mounted on the same frame as the mixer and can be run independently or with the mixer. Lifts 400 lbs. 100 feet per minute. Simple friction clutch for starting and hand brake for holding load.

¶ We manufacture the Grand and the Hartwick machines. We'd really like you to have our latest catalog. It's so full of interesting points about *good* machines. Send us your name and address so we can send this catalog.

HALL HOLMES MFG. CO., 435 Oak St., JACKSON, MICH.

Mix with a Mixer



With mixers selling at the prices we are offering them, no one doing concrete work can afford 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 and uniform.

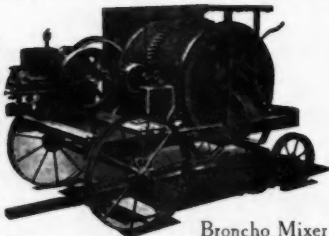
Lansing hand mixers for shop use sell from \$24 (like cut) to \$75 each—three sizes.

Power mixers (like cut) sell from \$300 up—five sizes. Can be equipped with side loaders, automatic water tanks and all up-to-date conveniences. Capacity, a batch a minute.

This mixer is the ideal machine for the country contractor. Light in weight, wide gauge; can be moved anywhere; will stand the racket of rough streets and country roads.

Don't tie yourself down to the small, unprofitable jobs by not having a mixer. You can do a big job and make a nice profit with a machine in the same time that you would do a small one by hand and pay out all your profits for hand labor.

Write for catalogs and address of the nearest stock.



Broncho Mixer

LANSING CO., 708 Cedar St., Lansing, Mich.

The home of the famous "Broncho" mixer
Agents Everywhere

THE WINNER MIXER



Will make money for you even if you don't have work enough to keep it running all the time. The cost is very small, and one gallon gasoline will run it a day.

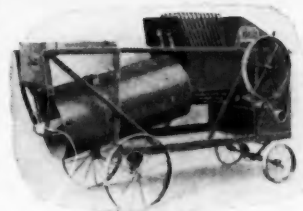
Mixes 4 and 5 cubic feet per batch
Daily capacity, 30 to 40 cubic yards

Ask for our FREE Catalog

THE CEMENT TILE MACHINERY CO.
133 Rath Street Waterloo, Iowa

The advantages of a Light, Portable Power Mixer such as the Bolte, weighing less than 1000 lbs., with a capacity of 120 cubic yards per day are features that produce the profits for the contractor.

ASK FOR CATALOG AND PRICES.



Address—

The Bolte Mfg. Co.
Avenue, A.
KEARNEY, NEBRASKA

Address—

The Bolte Mfg. Co.
420 East 2nd St.
CINCINNATI, OHIO

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

A REAL MIXER FOR BUILDERS

The Boss Batch Mixer, 5 Cubic Feet Capacity
On Steel Trucks with 3 H. P. Mandt Engine **\$198.00**

We have made the price of the Boss Batch Mixer extremely low, yet we claim for our machine as many good qualities as other manufacturers claim for higher priced mixers. The "Boss" stands apart from all other mixers. It is as heavy, strong, and compact, and does as good work as mixers costing twice as much.

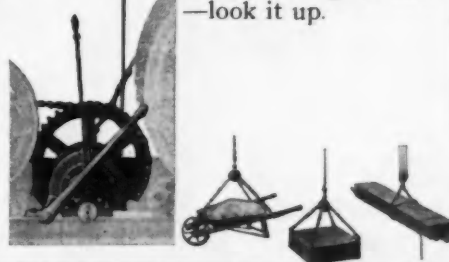
The Boss Batch Mixer can be used for all classes of concrete work. It will be found that the operating expense and economy in the use of materials makes it the mixer for the contractor who wants to reduce construction costs.



\$198.00

Turn Your Mixer into a Hoisting Engine—

with a capacity for lifting 500 lbs. 80 ft. per minute by simply attaching this drum to the BOSS. Another money-saving feature—look it up.



More Strength—Less Bulk

The trucks, wheels, blades, braces, chutes, and shell of drum are all made of the best grade steel. Cold rolled steel shafts. Ends of drum and sprockets are cast from pig iron, 80% pure. The drum of the Boss is lighter than that of other mixers. Saves a dead load pull on the engine of 300 lbs. Never breaks or gives in any way. Stronger, yet weighs less.

Mixes and Re-Mixes

Four blades on each side of the drum pick up the materials at the bottom, carry them up 30 inches and hurl them toward the center of the drum. The entire mass is torn apart and remixed 40 times a minute. Does not "roll" or "ball" the materials.

"Boss" with Side Loader



Reversible BOSS Hoist

A Contractor's hoist that is unusually strong and simple. Any man can operate it. 4½x6 in. cylinder; Mandt engine; lifts 800 lbs.; weight 825 lbs. Suitable for steel cable or ½-in. or 1-in. manila rope. No springs or complicated parts to wear out. Fully guaranteed. Get particulars. We can prove to your satisfaction that the Boss Hoist is the best piece of equipment you can buy.

Price
\$195.00



Easy Payment Plan

By this plan you can pay us one-third the amount of your order in cash and the balance in three payments due in 30, 60 and 90 days from date of shipment. We will make the matter of payment just as easy for you as we can and assure you of the best treatment you ever experienced.

Write for our circulars describing our complete line of machines. We can save you money on whatever you need.

American Cement Machine Company
1006 Johnson Street
KEOKUK, IOWA

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

"The No. 5 Coltrin Mixer I Bought of You Five Years Ago Has More Than Proven Satisfactory."

—*E. B. Stout, Maitland, Mo.*

Maitland, Mo., Feb. 16, 1914

THE KNICKERBOCKER CO.,
Jackson, Miss.

Gentlemen: The No. 5 Coltrin Mixer I bought of you five years ago has more than proven satisfactory. I have a machine that turns out three thousand tile per day, two block machines and one brick machine which I run a lot ten months in the year. The Coltrin Mixer has mixed all the concrete for these machines. All the expense I have been to is one drive chain which I bought about one month ago that cost 60c.

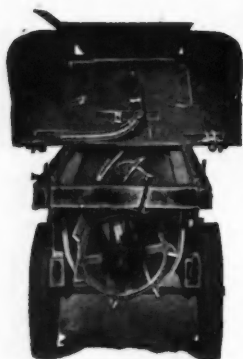
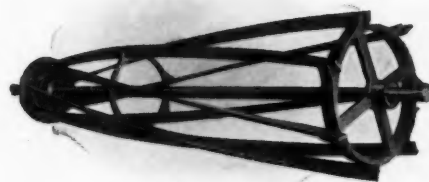
It looks like it is ready for five years more work. It certainly is hard to beat. It is easily cleaned, easy to operate and does its work well. Were I to get a mixer, it would be a Coltrin. It is good enough for me.

Yours very truly,

(Signed) E. B. STOUT.

The Spirally Tempered Blades of the Coltrin

**Do Not Give Merely a Pug Mill
Mix or Serve Simply as a Screw
Conveyor**



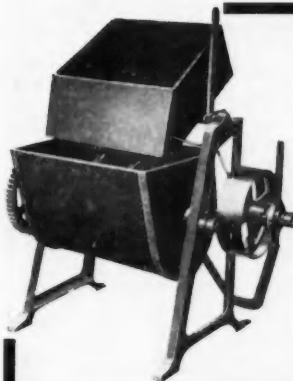
No. 12 Coltrin Mixer

They thoroughly cut through the mass at bottom of mixing shell and lift and pour from the side same as is done with the highest type of batch mixers.

Write for Catalog

The Knickerbocker Co., Jackson, Michigan

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



Think of It!

This **HELPER** mixer that will mix mortar and concrete, only **\$35.00**

It will mix two cubic feet at a time. The measuring box enables you to get another batch ready while one batch is being mixed. Requires 1½ h.p. engine to run it. Daily capacity 15 to 20 cubic yards.

Send us your order now, or ask for **FREE** catalog giving more information.

THE CEMENT TILE MACHINERY CO., 132½ Rath St., Waterloo, Iowa

THE BEST CEMENT BLOCK IN THE WORLD

Continuous open air space; reinforced all around; staggered bearings. Makes strongest buildings and silos at least cost.

Block Machines, Automatic Tampers, and Continuous Mixers made by the

BRAGSTAD CONCRETE MACHY. CO. - CANTON, S. D.

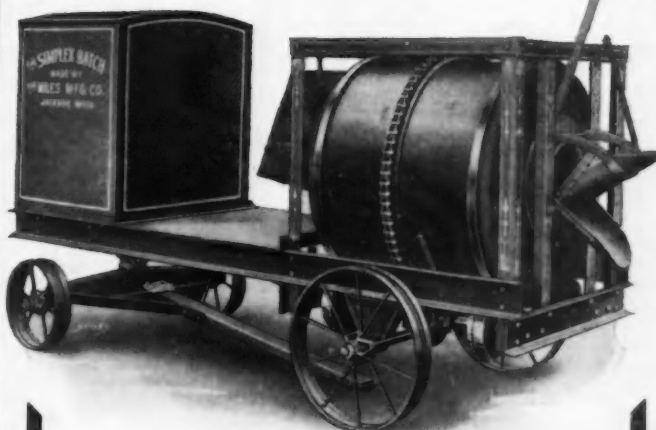
Write for Catalog and Prices.

See our Exhibit
Space 4 Building
Material Exhibit.
Insurance Exchange
Bldg. Chicago, Ill.



BUY THE SIMPLEX BATCH MIXER

1914 Model



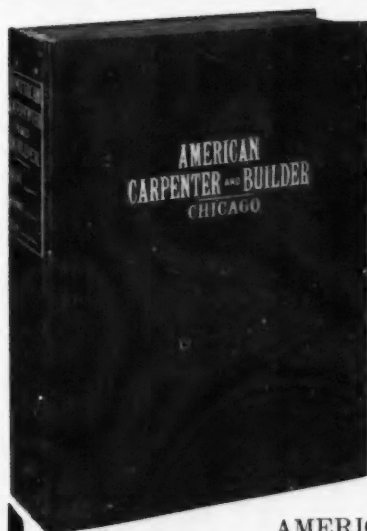
Note the heavy, substantial construction, Low Hopper, Heavy Cast Heads, Drum of No. 8 Steel, Concealed Gears, All-Steel Frame, Rear Discharge, also Side Discharge if desired. And best of all our attractive offer.

Write to-day for catalog.

THE MILES MFG. CO.

309 E. Franklin Street ::1 Jackson, Mich.

Have Your Own Reference Library At a Trifling Cost:



Here's a good way to keep your magazines. What's the use of cutting them up? It's just as easy to save the complete magazine and have the use of **ALL** the good information it contains.

We have had 10,000 Binders made up for our readers. We don't want to make any money on these, so we're selling them at actual cost. We do want you to save every number of the **AMERICAN CARPENTER AND BUILDER**, because we know that you'll always find it a handy and valuable reference.

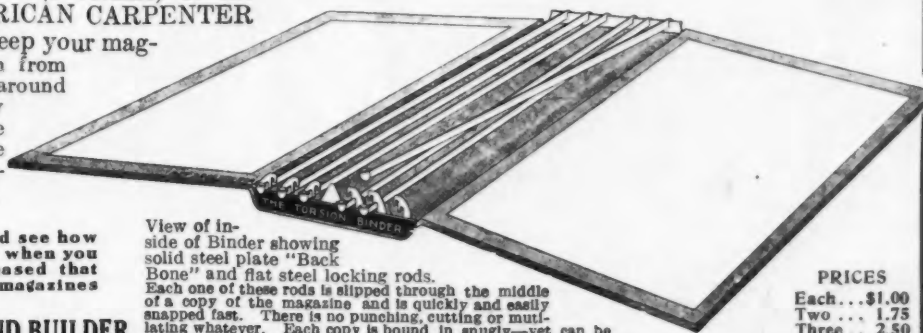
These "**TORSION**" **STEEL WIRE BINDERS** are made of maroon art canvas and lettered in gold. On the back of each one is a three-color label with spaces for dates and volume number. Each binder holds six numbers (1 volume) of the

AMERICAN CARPENTER

AND BUILDER. They keep your magazines neatly and save them from being torn, soiled or kicked around the house. When bound neatly in one of these Binders, the magazines are never in the way and look fine in any bookcase or on any bookshelf.

Send for Binders today and see how nice they are. We are sure when you have one you'll be so pleased that you'll want to bind all your magazines

AMERICAN CARPENTER AND BUILDER
1827 Prairie Ave., Chicago, Ill.



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 absolute y flat. Keeps your magazines clean and fresh—and right where you want them for ready reference.

PRICES

Each...\$1.00
Two... 1.75
Three... 2.50
Four... 3.25
Five... 4.00

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



Concrete and Lumber Go Hand in Hand

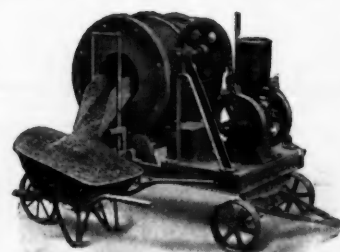
Builders, Carpenters, Contractors, have discovered the great money making possibilities of making Ideal Concrete Blocks and Concrete Stone in general.

It is the Legitimate Side Line

That is the reason Ideal Machines are busy in hundreds of Lumber Yards.

We build and install Hand Power or Machine Power Equipment.

We build Mixers for any kind of service.



Makers of High Grade Concrete Machinery

Block Machines

Brick Machines

Dimension Stone and

Curb Stone Machines

Automatic Power Tampers

Conveyors and Feeders

Batch and Continuous

Mixers

Ornamental Molds, Sill and

Cap, Fence Post, Drain and

Sewer Pipe Molds, Tycrete

Waterproofing and Colors

Ideal Concrete Machinery Co.

London, Ont. Canada

1308 Monmouth Avenue, CINCINNATI, OHIO

Finishing Tools For Cement Work

¶We want you to get acquainted with the Arrowsmith Line of Long-Handled Finishing Tools.

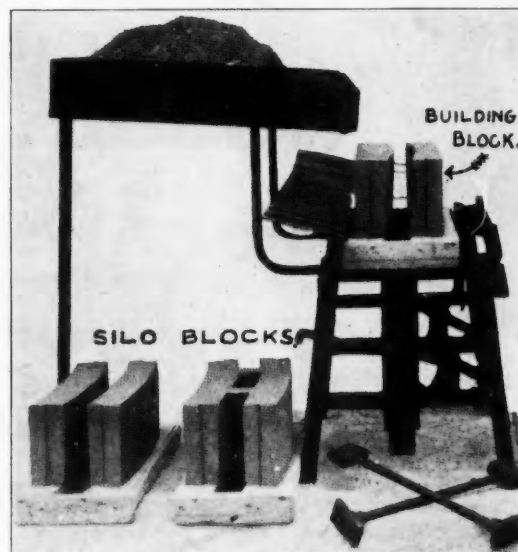
¶One man with Arrowsmith Tools can do the work of six or eight men with short handled tools. Our new Catalog, showing complete and up-to-date line of Contractors' Tools, is ready for you.

*Send us a postal or write
us today.*

ARROWSMITH CONCRETE TOOL CO.
ARROWSMITH, ILL.



The Perfect Cement Block Machine



Makes hollow wall building blocks and silo blocks. Complete outfit for work on any kind of building. Simple and inexpensive. No experience necessary to run the Perfect. Blocks 8 in. high, 9 in. thick and 24 in. long, tongued and grooved. Four galvanized iron ties make blocks strong.

Write for More Particulars. The PERFECT Pays
J. J. COYNE, Manufacturer :: Fond du Lac, Wis.

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

Approved



At the
**Chicago Cement
Show**

THE *Atlas* **MIXER**

By actual comparison with higher priced machines on Exhibition, the Atlas won the unqualified approval of the Contractors.

Two Sizes, Four Styles
\$275 to \$625

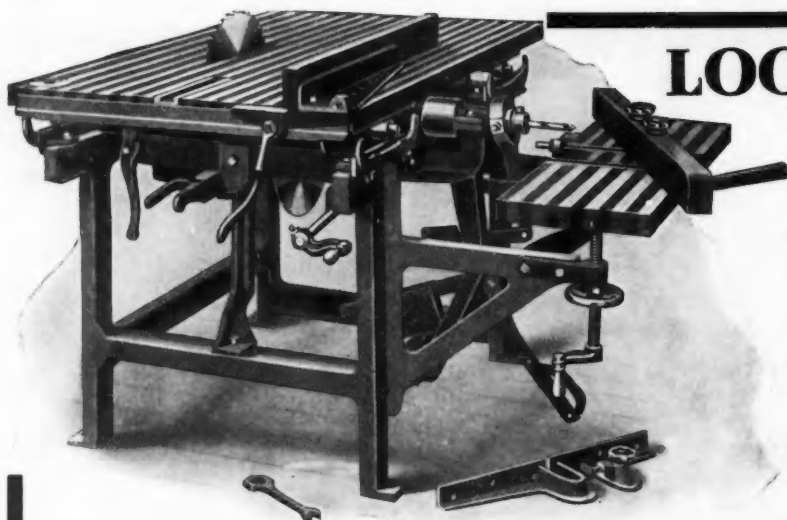
By ordering now you can get your Atlas this year.

ATLAS ENGINEERING CO.

783 30th Street MILWAUKEE, WISCONSIN



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



The Double Arbors

Will carry 19" Rip and Cut-off Saws or Dado Head—allowing you to change instantly from one to another. Capable of doing any sawing from the finest inside finish, to timbers 7" thick. We have agencies in every prominent city in this country and abroad.

Write for Catalogue

Beach Mfg. Co.

Montrose, Penna.

LOOK! CARPENTERS, CONTRACTORS, BUILDERS

At a machine that for general use in the shop or on the job does not have its equal.

We call your attention to the following features:

A Rolling Table for Cut-off and Mitre Work—so easy of operation that with a 1000 pounds weight on it, can easily be worked back and forth with the pressure of one finger. Can be instantly locked for ripping or beveling. A wide, removable throat for use of Jointer or Dado Head. An Extension that allows you to easily work 18' lumber.

A Boring Attachment that has a longitudinal movement of the bit.



Four
Machines
in One
\$152.50

EXTRA GOOD VALUE In Woodworking Machines

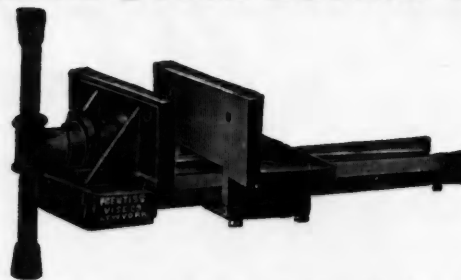
Band Saw, Saw Bench, 8" Jointer and Planer, and Hollow Chisel Mortiser—all for \$152.50.

This Type "C" Universal Woodworker is substantial, portable and complete in every way. Base heavy cast iron. Drop rollers. Machine is equipped with all necessary tools and belting. Requires no special skill to operate it. Costs fully two-thirds less than other woodworkers. Saves its cost in millwork on the first three jobs. **SOLD ON LIBERAL FREE TRIAL PLAN.** Get our Catalog describing this machine. You cannot get your money's worth by buying from us. Write before you get too busy.

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



BLAKE QUICK ACTING VISE



For Cabinet Makers and Wood Workers. Simplest—Strongest

—Cheapest—Best

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

CARPENTERS

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

Barnes' Hand and Foot Power Machinery

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

SEND FOR OUR
NEW CATALOGUE

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

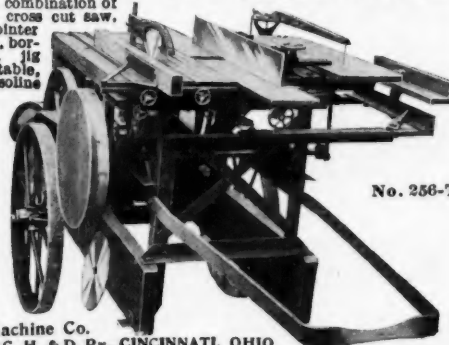


Parks Portable Shingle or Combination WOODWORKING OUTFITS

This machine is a combination of circular rip and cross cut saw, 6 or 12-inch jointer with tilting guide, boring attachment, jig saw with tilting table, sand disk, and gasoline engine, guaranteed to do the work.

Angle steel frame is the strongest structural material known. Machines are made in large quantities which allows us to sell at lowest prices and make prompt shipment. WRITE FOR CATALOG

PARK'S
Ball-Bearing Machine Co.
Fergus Street and C. H. & D. Ry., CINCINNATI, OHIO



No. 256-T

are the most practical—the most efficient—the most economical woodworking equipment you can buy

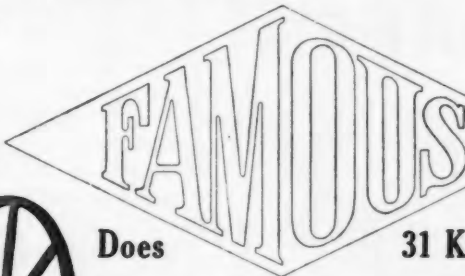
You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.

SAVE 50 to 100 %

On Your Millwork and Carpentry with a 1914 MODEL FAMOUS "31" UNIVERSAL WOODWORKER—

Over 2,000 others save with
the Famous—why not you?

The

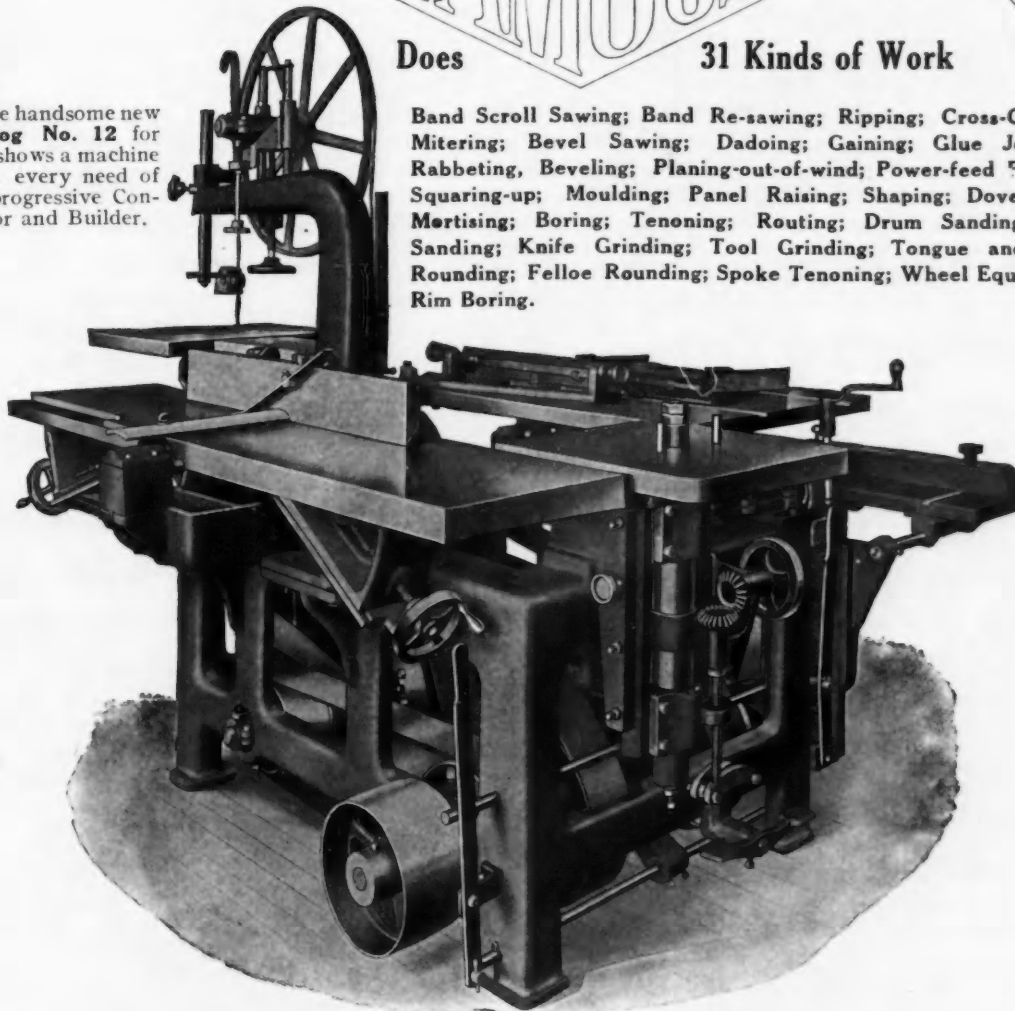


"31"

Does

31 Kinds of Work

The handsome new
Catalog No. 12 for
1914 shows a machine
to fit every need of
the progressive Con-
tractor and Builder.



Band Scroll Sawing; Band Re-sawing; Ripping; Cross-Cutting;
Mitering; Bevel Sawing; Dadoing; Gaining; Glue Jointing;
Rabbeting, Beveling; Planing-out-of-wind; Power-feed Planing;
Squaring-up; Moulding; Panel Raising; Shaping; Dovetailing;
Mortising; Boring; Tenoning; Routing; Drum Sanding; Disc
Sanding; Knife Grinding; Tool Grinding; Tongue and Pole
Rounding; Felloe Rounding; Spoke Tenoning; Wheel Equalizing;
Rim Boring.

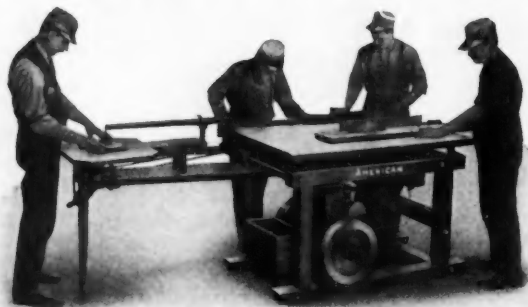
The Famous "31" is furnished in any combination necessary to fit *your* needs; 27 or 32 in. Band Saw, 12 or 16 in. Jointer, Rip and Cut-off Saw Table, Shaper, Borer and other attachments to do up to 31 or more different kinds of work. Tell us what your wants are and get our proposition. Remember, we manufacture separate machines too.

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

Send me your new 1914
Catalog No. 12 of Famous
Woodworkers and Separate Ma-
chines—and show me how to save 50
to 100% on my Millwork and Carpentry.
I am interested in
state whether combination or separate machines, and what)
CUT HERE

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

Speaking of the
"AMERICAN"
 Contractors' Portable Variety
WOOD-WORKER



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

Contractors Say:—

"My 'American' is saving on an average of \$10.00 per day."

"I use the 'American' on making concrete forms and, while I can't say just how much it saves me, I know it was 'a good buy.'"

"It has materially assisted thirty of our contractors."

"It saved us its cost on one job."

"I am satisfied it will save enough time and material to pay for itself in a year."

"Power for my 'American' averages \$3.00 per month, and it enables me to utilize practically all of what used to be waste material."

Why not make these **your** experiences?

Send for the "American"
 Pamphlet No. 47

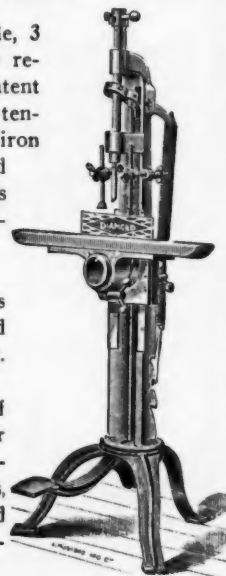
**American Saw Mill
 Machinery Co.**

80 Main Street 1360 Hudson Terminal
 HACKETTSTOWN, N. J. NEW YORK CITY

"Diamond" Mortiser

For Foot Power

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



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

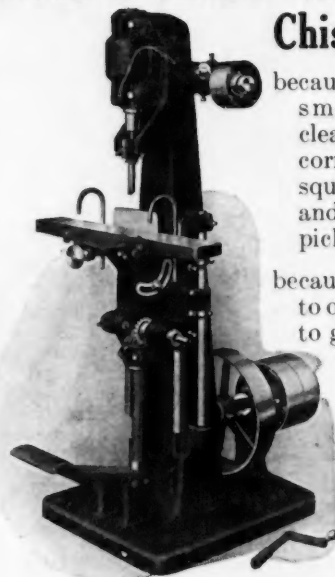
We make a complete line of Foot, Hand and Light Power Wood Working Machinery suitable for Carpenters, Builders, Cabinet Workers, and other Wood Workers. It will pay you to investigate their merits.

Send for catalog "A."

The Seneca Falls Mfg. Co.

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

**Every Carpenter & Builder
 Needs a ^{FAY-EGAN} "LIGHTNING" No. 272 Hollow
 Chisel Mortiser**



because it cuts fast and smooth, making a clean cut mortise with corners and bottom square, edges sharp and no chips to be picked out by hand—

because it is safe, simple to operate and no parts to get out of order—

because any size or shape mortise can be made—

because it is handy, saves time and money, costs little to buy and less to operate.

Write us today for Bulletin J-20

J. A. Fay & Egan Co.

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

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

**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

Work While You Wait

The carpenter who gets ahead meets his work half way. He anticipates the coming work. He is always half way ahead of the other fellow—the one who just waits. He gets to his profits quicker. "Work and Wait" is a good motto. To shut your eyes and trust to luck, or to "go it blind" as they say, will never get you anything.

PREPARE NOW FOR SPRING WORK

In the coming season you're bound to use doors, door and window frames, sash, mouldings, stair rails, spindles, newel posts, and all kinds of interior trim. Why not prepare a nice stock of these now? Then you cut out the planing-mill profits. You'll never be held up on a job waiting for material.

You can make all this stuff on the Crescent Universal Wood Worker. More than that, when the season is on, you can take the machine right out to the job and use it in a hundred ways to speed up and lighten the work.

THE CRESCENT UNIVERSAL WOOD WORKER

is a combination machine. The base is one single casting. This forms a steady, solid mounting for the various parts. The machine has five units,—band saw, jointer shaper, saw table, and borer. Each unit is a separate machine and can be run separately or in a combination with any of the others. Other attachments can be added to make the Crescent adaptable as a

re-saw, hand-feed molder, tenoner, panel-raiser, pole-rounder, disk-grinder, plain grinder, and hollow chisel mortiser.

Send for Free Catalog

The price of the Crescent is within reach of all. Whether you are a Carpenter, Builder, Contractor, or a general Repair Man, you can use the Crescent to increase your capacity and enlarge your business and profits.

Send for our fine 128-page Catalog. We want you to read it. It contains fine information on wood working machinery. The illustrations and descriptions of our wood-working machines will interest you.

CRESCENT
224 Main St.,

MACHINE CO.
Leetonia, Ohio

**Four Men
can Work
at the
Same
Time**



**Ask for
our Red
Catalog**

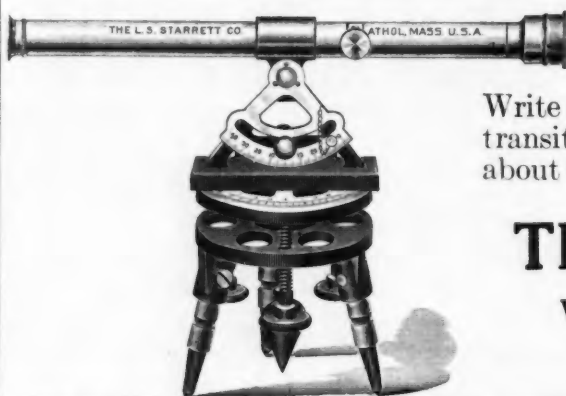
You will get SPECIAL ATTENTION if you tell Advertisers you read American Carpenter and Builder.

Start Your Spring Work Right!

Don't pay out good money to civil engineers for laying out your building sites, locating batter boards, and foundation walls. Do all that yourself with the simple, low-priced

Starrett Transit

Our instruction book which we furnish with this instrument enables any carpenter, builder or contractor to do any ordinary work of this kind.



The transit has no complicated devices, which are only necessary for special engineering work.

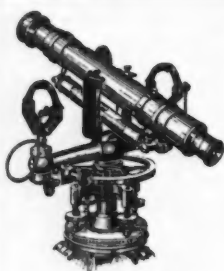
Write to us now for our free catalog No. 206 and the transit instruction book, or ask any hardware dealer about it. The price is only \$28.00, complete.

The L. S. Starrett Co.

WORLD'S GREATEST TOOLMAKERS

Athol, Mass.

42-297



Vest Pocket Manual

of adjustments and instructions in the use of the Level.

A copy FREE for you! Write today for it! Also Illustrated Catalogue.

Warren-Knight Co.

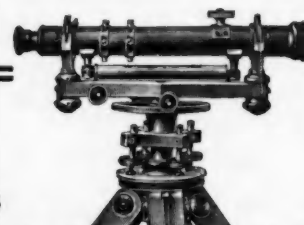
Makers of

"STERLING" Transits and Levels

136 N. 12th St. - - PHILADELPHIA

Successors to Izard-Warren Co.

LEVEL WORK



**Architects
Builders
Contractors**

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

We manufacture a complete line of surveying instruments in various sizes and at a wide range of price.

Our circular No. 27 will explain our instruments to you in detail. It will pay you to get it before deciding upon any surveying instrument.

KOLESCH & CO.

Surveying Instrument Makers. Established 1885.

136 Fulton St.

NEW YORK

MONARCH PATENT CORNICE MOULD

— the handiest tool for making all kinds of plaster cornices and corners. No trouble; no delay; works in one third the time it takes to mould cornices and corners the old way.

Consists of one blade holder, ten assorted blades and one blade scraper. Guaranteed not to rust or warp. Sent on 10 days free trial. If you don't like it you don't have to buy.

Ask for free descriptive circular.

TIMOTHY F. HORAN

10 Maple Street

Cooperstown, N. Y.

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 particularly, 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 Pencil, 30c per dozen, postage prepaid.

GAGE TOOL CO., Vineland, N. J.

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

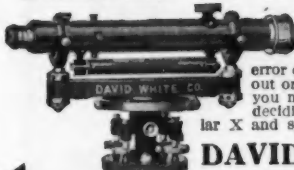
**BECKMANN
INSTRUMENTS****BUILDERS' INSTRUMENTS**

Building operations today, demand the highest type of accuracy and efficiency from the builder. For this work, the Beckmann transits and levels are exceptional, in design and workmanship, in accuracy and a rigid construction that endures.



Write today for our Builders' Manual "Y".

L. BECKMANN COMPANY, 500 Adams St., TOLEDO, O.

WHITE'S IMPROVED LEVEL**SHIPPED ON APPROVAL**

Our No. 2011 improved level, illustrated herewith, is especially designed for work where a general purpose level is required. Telescope is 12 inches long with magnifying power 25 diameters, and is capable of detecting an error of 1-16 inch in 300 feet. We ship this level out on approval, express prepaid, in order that you may try it out on your own work before deciding to keep it. Ask today for your circular and special net price sheet. Ask today!

DAVID WHITE COMPANY

No. 2011 419 E. Water St. Dept. C Milwaukee, Wis.

CONTRACTOR CLEARS \$450 IN 10 DAYS

M. H. Ireland,
Anamosa, Ia.
—Contractor—
cleared above by
using **LITTLE
WONDERS**—
What one man
can do with Little
Wonders you can
do—Get next to
this **LITTLE
WONDER
TRUCK**—It will
triple your profits.

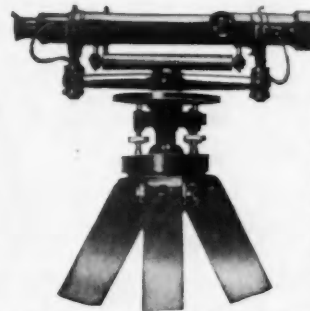


Here's the Little Wonder!

**10 ROOM HOUSE 5 MILES 10 DAYS
MOVED IN**

Let us furnish your complete House Moving Equipment—everything from Little Wonder Trucks to rollers, jacks, etc. Get our catalog "B" right away. Don't delay. Just a post card brings it in a hurry.

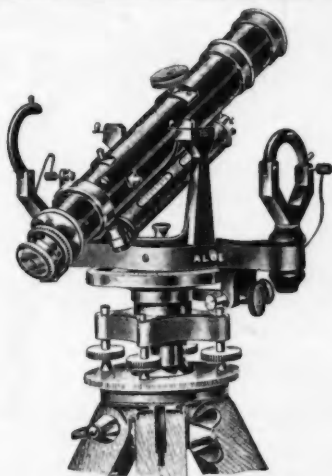
HOUSE MOVERS SUPPLY COMPANY 620 Eastlack Court Cedar Rapids, Iowa

Queen Architects' Level

For Architects and
Builders

A precision Level with high grade telescope, 12 inches long with sensitive bubble. Capable of doing the most accurate work. Moderate price. Send for catalogue.

QUEEN-GRAY COMPANY, 616-618 Chestnut St., Philadelphia, Pa.

**Rent this Level 10 Months**

Then It's Yours Builders --- Contractors --- Architects

This is not the old style Architect's Level. It is the newest model convertible level. There is not a single Builder, Contractor or Architect who has not almost daily need for this instrument. For laying out buildings, locating foundation piers, leveling up foundations, walls and floors, aligning shafting, walls, piers, etc., for getting angles, locating levels anywhere, ditching, laying streets and walks, running straight lines, and a hundred other uses.

Instruction Book Free

Complete illustrated booklet, telling how a builder, contractor or architect can use the convertible level, sent free on request.

WARNING

The Level we offer is the Aloe Convertible Level. Don't confuse the Convertible Level with the ordinary style Architect's Level. The only work that can be satisfactorily done with the ordinary Architect's Level, is the determining of elevations. But the Convertible Level, besides its use as a level, is a modified transit and broadens the use of the level 100%. You can't afford to buy any but the Aloe Convertible Level.

HALF CENTURY REPUTATION

We have been manufacturers of transits and levels since 1863, and our instruments are the standard of the world.

FREE TRIAL

We allow you to convince yourself by a trial of the instrument before you obligate yourself.

THE RENT BUYS IT

No large cash outlay needed. Just pay the rent for a few months and the instrument is your absolute property.

Send Coupon—No Obligation

Send the attached coupon today and we'll send illustrated booklet and complete details of how you can own the Aloe Convertible Level for 10 months' rent.

A. S. Aloe Co., 621 Olive St., St. Louis, Mo.

COUPON

A. S. Aloe Co.,
621 Olive St., St. Louis, Mo.

Please send free instruction book on the use of the Convertible Level and complete details of your rental plan. This request in no way obligates me.

Name

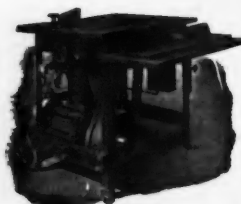
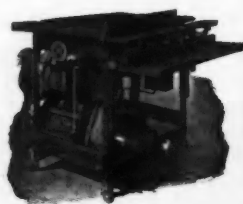
Occupation

Street

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

Am.C.&B.141

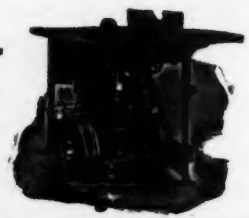
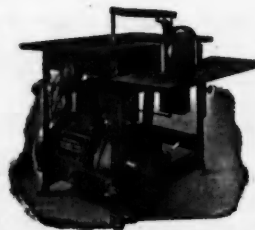
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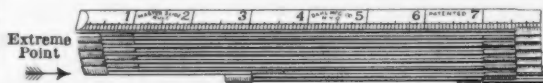
**Standard Portable
Combination
Woodworker**

9 Machines in 1
6 P. P. ENGINE

SEND FOR CATALOG G
ATLANTIC ENGINE CO.
Meadville - Penna.



**IMPROVED Interlocking - - Rust-Proof - - Fool-Proof
MASTER SLIDE RULE TWO RULES IN ONE**



The Improved Interlocking Master Slide Rule is the only rule in the world that takes inside measurements rapidly and accurately. When closed, all slides are locked together except the first slide which, when pulled out, releases the second and so on. Prevents errors in measuring. Slides cannot be extended or closed except in consecutive order. Rigid in every joint when extended. The very best for measuring the inside of doors, windows, boilers, furnaces, etc. Takes outside measurements, too. Send 15 cents per lineal foot for any length rule if your dealer does not have it.

DAHL MANUFACTURING CO.
51-C East 42nd St.
NEW YORK CITY

"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.

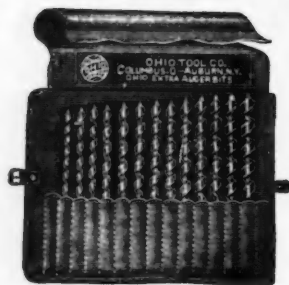
All "Ohio" Tools are made with the same painstaking care that has built up our present reputation for making only high grade tools. We use in our Edge Tools high grade steel, treated and tempered by the most improved process, which insures Uniformity and Correctness of Temper, and a Keen, Tough and Lasting 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) Charleston, W. Va.



REGISTERED



BONDED vs. GUARANTEED TOOLS

Red Devil "Bonded" Tools are Insured Tools

They are insured for TWO YEARS. A signed Bond Policy packed with each tool. Learn for yourself the vast difference between simply guaranteed tools and Bonded tools. Your dealer has Red Devils. If not, we will send one sample only of Red Devil Bonded No. 2622, one inch, Beveled, Socket Firmer, Pocket Chisel, with leather tipped handle, on receipt of 50 cents in coin or stamps.

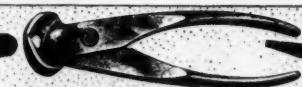
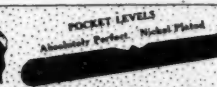
The stamp of "Red Devil" on a tool means the "O K" of the largest manufacturers of mechanics tools in the world, and you'll never find that stamp on a poor tool.

Write for Booklet of 3000 Red Devils

151 Chambers Street
NEW YORK CITY

SMITH & HEMENWAY CO.

140 Lemoine Street
MONTREAL, CAN.



**RELIABLE FOLDING
Scaffold Bracket**



Strong and safe; requires only a few minutes to attach. No holes to bore. Four 10-d or 16-d nails fasten them securely. Positively rigid; no vibration.

The Low Price of these Brackets can be saved in time and material on the first two jobs.

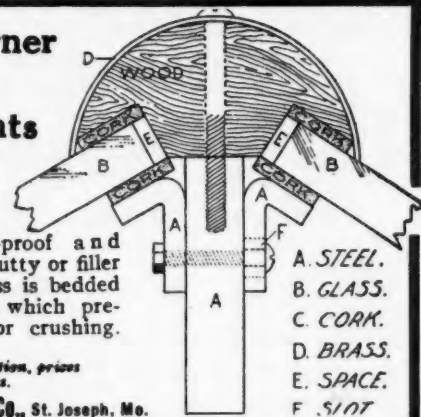
ELITE MFG. COMPANY
100 Ohio Street ASHLAND, O.

**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. 5/107

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

WRITE US

FOR OUR NEW
1914 CATALOG



AS PIONEERS in the manufacture of PORTABLE SAW RIGS, we are entitled to claim that we manufacture the BEST Portable Saw Rigs on the market today; in fact, we make them complete in five different sizes to meet every requirement of the trade.

We also manufacture hoists, pumps, elevators, mortar mixers, concrete chutes, air compressors, gasoline engines, etc.

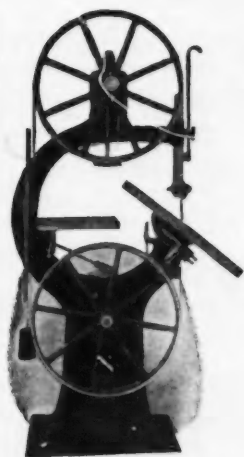
Write Us for our new 1914 attractive Catalog

C. H. & E. MANUFACTURING CO., Inc.
322 Mineral Street MILWAUKEE, WISC.

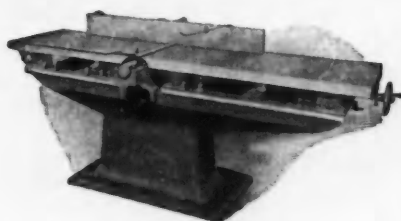


Section of Main Floor Exhibit and Salesrooms

Everything in wood working machinery and supplies for Contractors, Carpenters, Builders, Interior Finish, Sash and Door, Planing Mills, Furniture, etc.



Chicago Hand Saws
27-32-36 inch wheels



Chicago Jointers
8-12-16 inch

*Write us Your Wants
and Get Our Special Price*



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.

Stanley

Tools



STANLEY NAIL SETS AND CENTER PUNCHES

"STANLEY" Nail Sets and Center Punches are made of a special grade of tool steel. They are hardened on both ends by an improved process, given an oil temper, and will be found to "stand up" under the most severe conditions.

Special care has been taken in selecting the proper knurling for the shank, and the user will find that the feeling of security as to "grip" is a particular feature of "STANLEY" Nail Sets and Center Punches.

The top of the head is shaped to just the right form to reduce to a minimum the possibility of the hammer slipping when striking a blow.

The point or tip of the Nail Sets that come in contact with the nail is "cupped" and the edges nicely rounded.

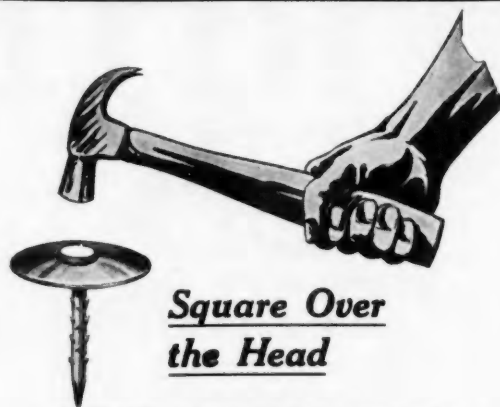
The point or tip of the Center Punches is accurately made and always in the center of the tool.

All sizes of both Nail Sets and Center Punches are four inches long from end to end.

**Carried in Stock by All Up-to-Date
Hardware Dealers**

Manufactured by

**STANLEY RULE & LEVEL CO.
NEW BRITAIN, CONN. U.S.A.**



***Square Over
the Head***

SIMPLEX NAILS DRIVE STRAIGHT

The Shank extends **THROUGH** the Head. The hammer blow does not glance, as the blow falls directly on the head of the nail shank—not on the curved dome.

Trade **SIMPLEX** Mark
Reg. U. S. Pat. Office

ROOFING NAILS

Have four times the head area of so-called large headed wire nails: hence four times the holding power.
ONE PIECE—not two piece. Head cannot loosen.
Made in two sizes—1 inch and 1 1/2 inch.
Insist that your prepared roofing be furnished with **SIMPLEX NAILS**. Free sample on request.

**H. B. SHERMAN MFG. CO.
BATTLE CREEK MICHIGAN**

STANDARD CLAMP



***A Steel Screw and a
Wide, Strong Frame are***

the two features which give the **Hargrave** Standard Clamps the utmost resistance to wear and failure.

These Clamps are just as carefully made as all of the **Hargrave** Tools.

Catalogue ?

Dept. H

**THE CINCINNATI TOOL CO.
Norwood, Cincinnati, Ohio**

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

OVERSTOCK SALE OF HIGH-GRADE MILLWORK

ORDERS ACCEPTED AT THESE LOW PRICES DURING MARCH ONLY
CASH WITH ORDER

CLEAN NEW STOCK DOORS FOR OIL FINISH



5X Pan.
No. 2021



2 Pan.
Lincoln

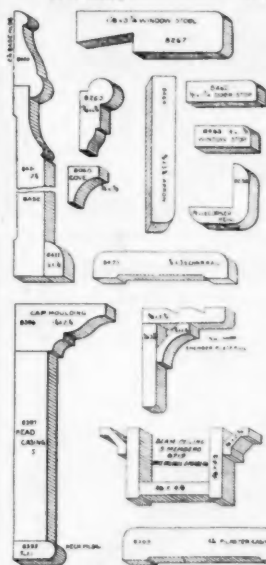
Size	5X Pan. W.P.S. & R.Y.P. Pan. 1 3/4 in.	2 Y.P. Pan. 1 3/4	5X Pan. Oak 1 3/4	2 Pan. Oak 1 3/4
2-0 x 6-0	\$1.68	\$1.86	\$2.79	\$3.24
2-0 x 6-6	1.86	2.07	3.10	3.55
2-2 x 6-6	1.86	2.07	3.10	3.55
2-4 x 6-6	1.86	2.07	3.10	3.55
2-6 x 6-6	1.89	2.10	3.15	3.60
2-0 x 6-8	1.90	2.12	3.18	3.63
2-2 x 6-8	1.90	2.12	3.18	3.63
2-4 x 6-8	1.90	2.12	3.18	3.63
2-6 x 6-8	1.93	2.15	3.22	3.67
2-8 x 6-8	1.95	2.16	3.24	3.69
2-10 x 6-8	2.30	2.55	3.82	4.27
2-0 x 7-0	2.20	2.45	3.67	4.12
2-2 x 7-0	2.20	2.45	3.67	4.12
2-4 x 7-0	2.20	2.45	3.67	4.12
2-6 x 7-0	2.22	2.46	3.69	4.14
2-8 x 7-0	2.27	2.52	3.78	4.23
2-10 x 7-0	2.34	2.60	3.90	4.35
3-0 x 7-0	2.43	2.70	4.05	4.50



ROSELAND
Veneered Plain Red
Oak, Gl. Bevel Plate.
2-8x6-8-1 1/2 \$ 8.90
3-0x7-0-1 1/2 10.90



HAZEL
White Pine, Gl. Bev.
Plate.
2-8x6-8-1 1/2 \$ 8.75
3-0x7-0-1 1/2 10.50



Highest Quality Interior Trim—Sanded

PRICE PER 100 LINEAL FEET

Stock No.	Yellow Pine	Plain Red Oak
8420	\$1.10	\$2.20
8421	3.25	6.50
8422	.33	.80
8396	1.65	3.30
8397	2.20	4.40
8395	.45	.80
8267	2.65	5.30
8464	1.70	3.35
8263	.66	1.60
8060	.33	.80
8462	.60	1.45
8463	.45	1.10
8238	1.75	3.50
8475	1.70	3.35
8600	4.40	8.80
8719	8.15	16.24
8309	1.90	3.80
Base Blk.	.04	.08

Colonial Porch Columns



No. 629 No. 631

Size	No. 629	No. 631
6 x 6, 6-0	\$1.35	\$1.90
6 x 6, 8-0	1.45	2.00
6 x 6, 9-0	1.60	2.15
8 x 8, 6-0	1.60	2.35
8 x 8, 8-0	1.90	2.65
8 x 8, 9-0	2.05	2.80
10 x 10, 8-0	2.50	3.50
10 x 10, 9-0	2.85	3.85

All prices f. o. b. Chicago. Write for delivered prices on all your wants in lumber, millwork or hardware.

Chicago & Riverdale Lumber Co.

345 East 136th Place
CHICAGO ILLINOIS

Facts About Freight Charges

The Freight on Millwork, Hardware, etc., is nothing compared to the saving in price we offer you.

One window, 24x30—2 lt., 1 1/2 in. glazed, can be shipped 400 miles for 11 cents.

One door, 2-8x6-8—1 1/2 in. paneled, can be shipped 400 miles for 10 cents.

One colonial porch column, 8x8—8-0, can be shipped 400 miles for 12 cents.

100 lineal feet S309 casing can be shipped 400 miles for 20 cents.

1000 feet 3/4 in. hardwood flooring can be shipped 400 miles for \$2.00.

1000 feet 1 1/2 in. hardwood flooring can be shipped 400 miles for \$4.40.

On an average bill of millwork the freight is about 3% of the total cost, and in carload lots it is about one-half as much.

Mail us a list of your requirements in lumber, millwork, hardware, etc., and we will be pleased to quote delivered prices.

Check Rail Windows

2 light, 1 1/2 in. Thick.



Size of Glass	Price Gl. S.S.	Price Gl. D.S.
16x20	\$.64	\$0.79
16x24	.67	.87
16x26	.76	1.01
16x28	.78	1.05
16x30	.81	1.11
20x20	.75	.97
20x24	.78	1.00
20x26	.82	1.04
20x28	.87	1.10
20x30	.91	1.17
24x18	.78	1.03
24x20	.84	1.10
24x22	.86	1.14
24x24	.88	1.14
24x26	.91	1.17
24x28	1.00	1.27
24x30	1.05	1.36

Finish 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.

Our Finish Flooring is the very highest quality on the market. No better flooring can be had at any price. Improve the rental or selling value of your property 100% by using hardwood flooring.

Polished, Tongued and Grooved, Matched Ends and Bored for Blind Nailing

OAK FLOORING

	Price per 1000 feet
3/4x1 1/2 in. face, Select Oak.....	\$33.00
3/4x1 1/2 in. face, Clear Plain Sawed Oak.....	44.00
3/4x1 1/2 in. face, Clear 1/4 Sawed White Oak.....	60.00
3/4x1 1/2 in. face, Clear 1/4 Sawed Red Oak.....	58.00
1 1/2x2 1/4 in. face, Select Oak.....	49.00
1 1/2x2 1/4 in. face, Clear Plain Sawed Oak.....	59.00

Select flooring good as clear if stained.

MAPLE FLOORING

	Price per 1000 feet
3/4x1 1/2 in. face, Select Maple.....	\$31.00
3/4x1 1/2 in. face, Clear Maple.....	37.00
1 1/2x2 1/4 in. face, Select Maple.....	42.00
1 1/2x2 1/4 in. face, Clear Maple.....	48.00

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Have you been dissatisfied with your tools?

Have they failed to fulfill your expectations?

Then why don't you try

Goodell-Pratt's

They are made for men who know and appreciate good tools. The mechanical principles are correct, and the materials are selected to give the longest wear. Perhaps they do cost a little more, but the extra value is there to more than repay you for the extra outlay.



Write for Our No. 11 Catalog
which shows 1500 styles and
sizes of tools



GOODELL-PRATT COMPANY

Toolsmiths

GREENFIELD, MASS., U. S. A.



The Best Expansion Bolt

Make your fastenings so that they will not loosen or pull out. Use an Expansion Bolt that you know will attach permanently and securely joists, beams, fixtures or brackets of any kind to hard substances of brick, stone or concrete.

Send for SEBCO Catalog illustrating and describing many uses for Expansion Bolts and Anchors.

Star Expansion Bolt Co.

147 Cedar St., New York City
120 West Lake St., Chicago



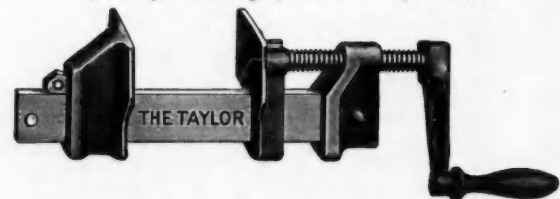
\$13.95

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!



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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.

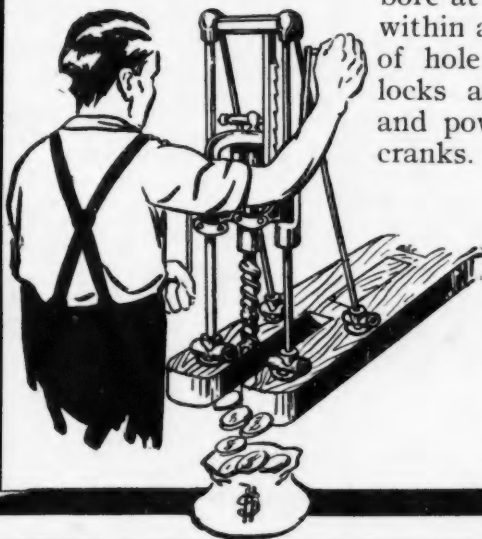
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Poughkeepsie, N. Y., U. S. A.

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You Can Make Money With a Millers Falls Boring Machine

Because it will do better work in less time than any other machine of its class; hence effects a direct saving in wages.

Has every convenience for quick and easy handling. Will bore at any angle from the vertical within an arc of 50 degrees; depth of hole regulated by stop; frame locks at top automatically; speed and power readily adjusted by the cranks.



The biggest item of cost in carpenter work is labor, and the device that lessens this is the device it pays to use. That's the reason why it would pay **you** to try our Boring Machine.

Millers Falls Company

28 Warren Street

New York

1853 **BUCK**  **BROS.** 1914

Fine Beveled Edge
Shank and Socket

Chisels



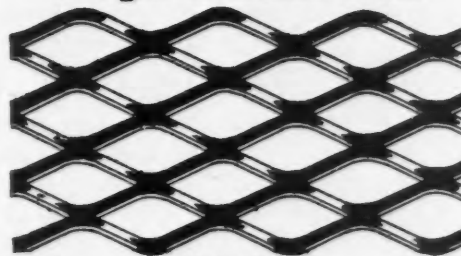
**Tang and Socket
Butt Chisels**

Plain and Beveled Edges

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Berger's Metal Lath



Write for Catalog

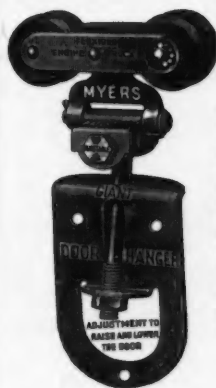
The Berger Mfg. Co., Canton, Ohio

For the best service address nearest branch

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St. Louis

Boston
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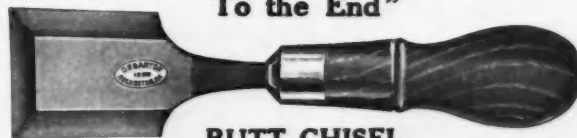
**THE MYERS GIANT
ADJUSTABLE TANDEM
DOOR HANGER**

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

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



BUTT CHISEL

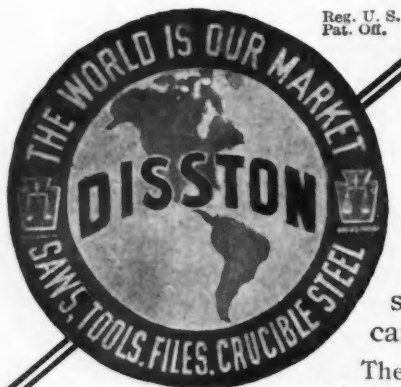
The celebrated Barton Planes and Edge Tools for carpenters and all other woodworkers are unequalled by any other made for keen, hard, smooth cutting edges. If your hardware dealer does not handle

THE CELEBRATED BARTON TOOLS

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

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

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



The Sun Never Sets on DISSTON Brand Goods

Once, a similar phrase might have been applied to ancient Rome. Later, it described the vastness of the wide-spreading dominions of the British Empire. Today, it carries its full meaning as applied to Disston Products.

The mechanics and householders of the world know them. The great majority possess some Disston Saw or Tool. The fame of Disston Goods goes wherever civilization penetrates. Into the wilderness the explorer sometimes carries the handy Chain Saw. The lumberman clears the way for civilization with his Cross-cut Saw. The mill-man, with his Band and Circular Saws, converts the rough timber into commercial lumber. Then the carpenter arrives to use his Hand Saw in building habitations for the incoming settlers.

The various mechanical trades that follow, each find some Disston Saw, Tool or File to aid them. Even the surgeon who accompanies the settlers, has his saws of delicate structure and special design from the Disston Works.

And so we find it—in new countries and old; in the United States, South America or the far-away Chinese Republic. Wherever you go, you find that the name of Disston carries its message of quality and efficiency to all mechanical trades.

HENRY DISSTON & SONS

Incorporated

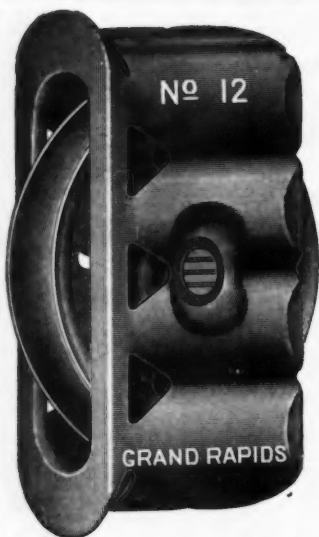
Keystone Saw, Tool, Steel and File Works

PHILADELPHIA, U. S. A.

DISSTON



Reg. U. S. Pat. Off.



"GRAND RAPIDS" ALL STEEL SASH PULLEYS

No Nails No Screws
Just Bore 4 Holes

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

You can't afford to use old style pulleys.

Write for free samples and prices.



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



This fastening is more secure than any number of screws or nails could make it. Saves about 16 per cent. 200 & C R E W S COST MONEY

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.

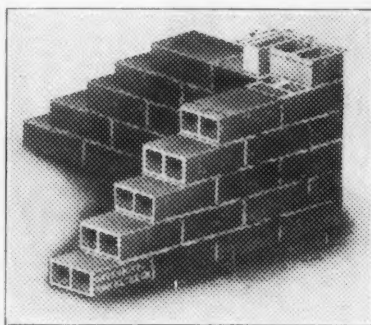
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The Champion Safety Lock Co.
Geneva, Ohio

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Attention! Mr. Contractor

(Observe practical corner block)



On Your Next
Foundation Use

Davenport Vitrified Blocks

Satisfaction a Certainty

They are—

- 1 Moistureproof as glass
- 2 Fireproof as asbestos
- 3 Strong as the Pyramids
- 4 Economical in Construction

Ideal Building Book
Free on Request

Hollow Clay Block Silo Construction

Is the latest addition to
the constructing business

A promising and unlimited
field awaits you in
this kind of work.

Good Masons Always
in Demand

Write us for particulars



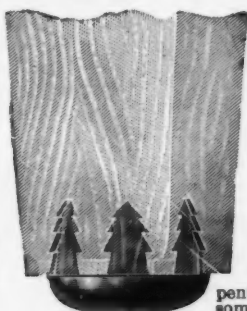
DAVENPORT BRICK & TILE CO.

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DAVENPORT, IOWA

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

JOSEPH DIXON CRUCIBLE CO.
JERSEY CITY, N. J.



THE QUESTION—

What can I do when not
working a few weeks or a
few months?

THE ANSWER—

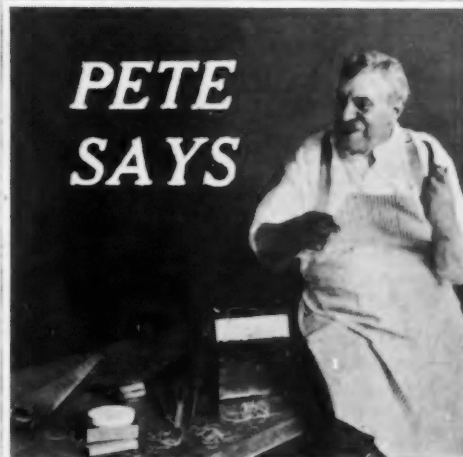
Sell Evergrip Gliding Casters
and **MAKE MORE MONEY**
than when working at your
trade—**MUCH MORE!**

J. R. Stretesky, a carpenter of
Bonne Terre, Mo., made in 24
working hours \$51.00. Can you
beat it? Hundreds of other car-
penters doing as well—
some better.

Send for a **FREE Trial Set** and Partic-
ulars showing no capital required.
EVERGRIP GLIDING CASTER COMPANY
20 Warren Street Dept. V. New York



**PETE
SAYS**



**"To Have Well-Sharpened
Tools is Half the Job."**

Carborundum Sharpening Stones

KEEP Pete's tools right
— they will yours.
Just a few strokes on these
quick-cutting, non-glazing
stones and the edge is
there—there is no rubbing.
—Carborundum cuts,
leaving an edge that will
stand up on the job.

*Ask your hardware dealer
to show you the round or
oblong Carborundum
stones for general work—
every stone guaranteed.*

**THE
CARBORUNDUM COMPANY
NIAGARA FALLS, N. Y.**



Very Highest Grade Simonds Hand Saw for \$2.50

That may seem like a high price to the man who just wants a saw, but to the carpenter who knows a good saw and wants to use that kind, \$2.50 will seem like a very moderate price to pay for a first-class article, one that is made of that special Simonds Crucible Steel made only for saw making purposes and that holds its cutting edge. It is tough, evenly tempered, and absolutely guaranteed. The handle of this saw is neatly carved and highly polished selected applewood. This is a manufacturer's brand saw. Ground to an accurate and even taper for perfect clearance.

This saw is furnished in 24" or 26" length, any point, hand or rip tooth.

We want you to instruct your Hardware Dealer to get you a Simonds (pronounced Si-monds), Hand Saw. If it doesn't satisfy you in every respect, your money refunded without any questions. In case your Hardware Dealer does not have this saw in stock you can easily get it or we will send it to you direct, without any additional charges.

Simonds Manufacturing Company FITCHBURG, MASS.

New Orleans, La.

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Portland, Ore.

San Francisco, Cal.

Seattle, Wash.

SARGENT

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

It contains accurate measurements for all kinds of rafters, common, hip, valley, jack and cripple—in the most convenient form.

These measurements are all given on the Square; they are complete, correct and final. They save the trouble of multiplying and dividing and then obtaining a result about which there is some doubt.

Simple and easy to use. A great time saver.

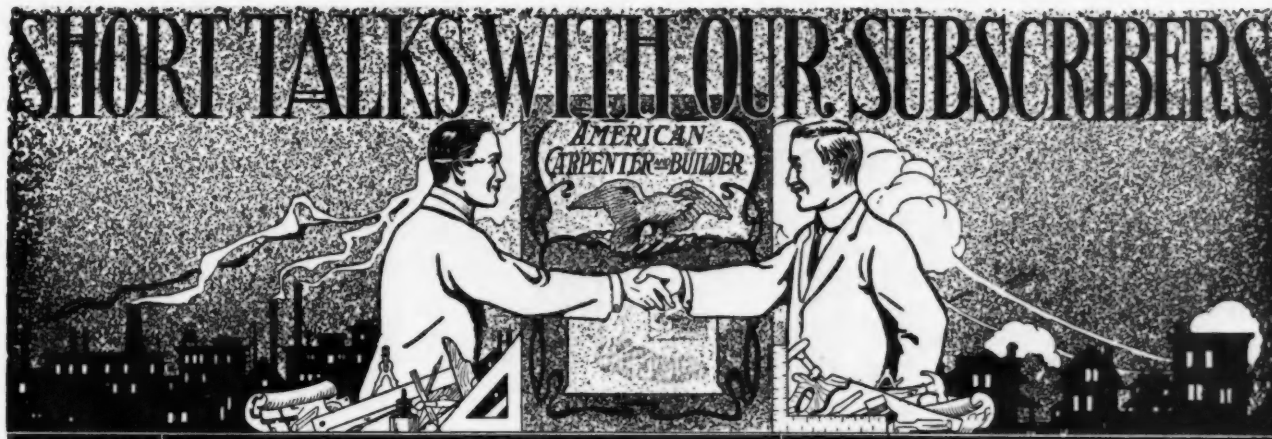
For full description and directions for using send for the Sargent Square booklet, free on request.

SARGENT & COMPANY

Makers of Squares, Planes and Mechanics' Tools
1149 Leonard St. New York

Other Sargent Quality Tools are described in the Sargent Tool Book, a handbook for mechanics, sent on application.

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Service to Subscribers

WE of the AMERICAN CARPENTER AND BUILDER believe heartily in the principle of service. We like to do all that the letter of the agreement calls for and then some more besides for good measure.

It is part of our understanding with Our Folks that we are to furnish them every month with the very best building magazine it is possible for us to produce. But also in addition to that, we are glad to furnish special individual instruction and help whenever we are called upon.

An important part of this special service is putting builders in touch with reliable manufacturers of building materials and other goods used in modern construction. It is evident that our readers appreciate our efforts along this line, and certainly the manufacturers do also. It is a mutual benefit all the way around to bring good men together. Part of a recent letter shows how one, at least, of our subscribers feels about it:

"Batesville, Ark., January 23, 1914.

"I will also have to praise the Service Department of the AMERICAN CARPENTER AND BUILDER. In my letter sent you when returning your Confidential Census list, I asked your service in getting in connection with manufacturers in an architectural way; and I am sure I got the connection all right, and catalogs and samples in abundance. All are filed away for future use. I have made good use of some of them already.

"It is certainly gratifying to know that such competent, thorough service can be had by the working man for the

asking. Any time you want information around this vicinity I will take pleasure in taking a little extra trouble in getting it for you.

"With best wishes for the AMERICAN CARPENTER AND BUILDER,

Yours very truly,

"MAURICE D. BONE,

"Architect and Building Contractor."

Architects and builders find that it often helps them to interest prospective home builders to have a neat case or cabinet where samples of the various wall boards, metal laths, face brick, enamel terra cotta, various woods used for interior trim, stained and finished in different ways, and other interesting building and finishing materials can be kept. Catalogs illustrating and detailing all heating systems, plumbing and lighting fixtures, etc., are also at hand for reference. All of these interest prospective builders and help you to answer their questions and give them the information they want, and have a right to expect of their builder.

If any of our subscribers wish to start something of this sort or add to and rejuvenate the collection they already have, we will be glad to hear from them. We will write for you to reliable manufacturers of these goods, requesting them to send you their samples and catalogs.

Builders should post up now on all the new things and refresh their memories about the old tried and tested methods and materials. The busy building season is almost on us and there won't be much time then for investigation.

Yours for a bigger building season,

Editor, AMERICAN CARPENTER AND BUILDER.

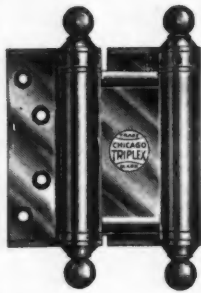
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A SUGGESTION

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



Chicago "Triplex" Spring Butts

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

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

Chicago Spring Butt Company.

CHICAGO



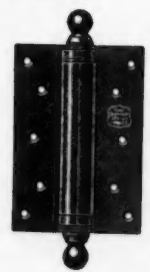
NEW YORK

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.

Cabot's Sheathing and Deadening Quilt



The Cold-proof, Heat-proof, Sound-proof and Fire-retarding Lining

"Quilt" is a matting filled with dead air spaces, and one layer is as warm as twenty-eight layers of common building paper. A house lined with it will always be warm and save coal. Floors and partitions lined with it will stop the passage of sound. Roofs lined with it will keep cool in summer and prevent heat from escaping in winter. It will save coal enough to pay for itself every two winters as long as the house stands.

Send for a sample and catalog.

**SAMUEL CABOT, Inc., Manufacturing Chemists, Boston
24 W. Kinzie St., Chicago - 1133 Broadway, N. Y.**

Cabot's Creosote Shingle Stains; Stucco and Brick Stains,
Conserve Wood Preservative.

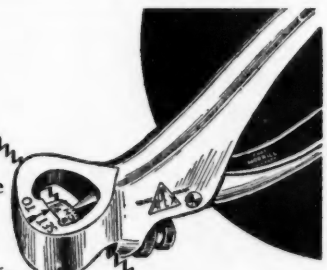
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Guess Work
with a
MORRILL SAW
SET**

Simple and accurate. The only Saw Set a carpenter should use. Takes out the wrong set and puts in the right set at one operation.

The eccentrically beveled anvil is so indexed that you can see what you are doing. Gauge screw and locknut keeps work uniform.

FREE "Saw Points" a valuable Booklet.

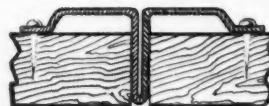
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NEW YORK**



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PRACTICAL—EVERLASTING—ECONOMICAL

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METALLIC BATTEN COMPANY

Owensville, Indiana

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MAR -9 1914

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The
**World's Greatest
Building Paper**

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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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VOL. XVI.

MARCH, 1914.

No. 6

The Fun of Being a Foreman

By G. B. Holmes

THE young mechanic has or should have an ambition to advance. The logical advancement is foreman or contractor. The position of foreman is one of the best stepping-stones to contracting, because he learns the ins and outs of the business and is getting his experience and salary at the same time.

The good foreman is always in demand at a good wage. His qualifications are many. He should have honesty, ability as a mechanic, good judgment and tact.

The successful foreman is the one that makes few mistakes, is economical in the use of material, keeps the men satisfied while putting forth their best efforts and makes a friend and booster for his firm of the builder.

The aspirant to foreman should not let a single item on a job go by of which he does not fully understand the how and the why. Ask questions, read, think, study, plan the next day's work for your

bunch and see how far you missed. Study the plans at noon or take them home at night, if you can, and find out what you don't know about them. Your interest will bring results quicker than you might think, for there is always someone ready to let you take part of his responsibility if you want to carry it.

Make yourself a good mechanic, as well as a good judge of men, and your time will be sure to come. When it does come, don't think that your troubles have ceased, for they have barely commenced; nor that you know it all, for if you do you are to be disappointed.

I will never forget the first house on which I was foreman. I thought I knew a house from "a" to "izzard," but this one was "izzard." There were older and better mechanics on the job than I, but for certain reasons I was put in charge. The house was a forty-five hundred, two-story frame and there were eight men on the job. I had my sills all framed

and started to put them on the foundation. Well, they did not fit. I could feel the sweat start down my back as I saw the boys smiling at one another,



and it was not very hot, either. I got the plans and measured the sills; finding them all right, I measured the foundation and found a cross wall out of place. I was still at sea regarding what was best to do, and instead of thinking a little I took my plans and started for the shop about a mile away, leaving the boys to enjoy themselves the best they



"Instead of Using My Wits, I Legged it to the Shop"

could during my absence. When I got to the shop I showed the boss my mistake. After about twenty seconds he said: "Why the h— I didn't you run on your sills and let them brick under them; do you think we keep cross walls in stock over here?" I went back and ran them on, having lost about an hour for eight men.

We progressed nicely then till the second floor joists were on and were running the top plates, when sighting over them I noticed the center was low. On further investigation I found that I had forgotten to double the plate on the first floor partitions. Well, that took some time, cusses and tears almost. I made up my mind firmly then not to make another mistake. Well, I didn't till we got to the roof. Two of us were cutting the rafters and we had them piled around in nice little piles, when I saw the boss coming. I looked at my rafters with satisfaction—when all of a sudden it came over me that I had the whole lot wrong, having cut them for hip instead of valley rafters. I kept on cutting until he was gone, then resawed the whole lot. I told him about it afterwards. I showed my tact there, for had I told him at the time he would have deprived himself of

my services—he not being very tactful.

Eventually the house was plastered and we were finishing, when someone spoke of the stairway being dark, then it was that I thought of that extra window frame I could not find a place for on either of the floor plans, but I had not looked on the elevation. That window took a few more hours, cuss words and tears, but it left a sadder and wiser boy, for I was only twenty.

We all make mistakes once in awhile, but you can always lay it to ignorance, carelessness or having the mind on something else besides the work in hand.

I have known many good mechanics who were not good foremen. Perhaps they were lacking in self-confidence, were wasteful of equipment or in cutting material. It only takes a little either way to make or lose a day's wages. Or they were not posted on the best and quickest method of doing work. But by far the fault of most of them lay with the men in not getting the work done well and cheaply or in dissatisfaction of one sort or another.

First of all, you must have the respect of the men. You must give and expect fair treatment. They must realize that you know what a fair day's work is and you expect them to give it. Never "bawl a man out" unless you are absolutely sure you are right, and even then it is better to take him to one side and say whatever is necessary; not abusively, but plainly. A word of commendation is good where it is deserved; not the hot-air kind, for that soon shows up.

Men are all different; some you can handle one way, some another. Study each man, his likes and dislikes, as well as his limitations. When you find a chronic kicker or knocker, hire a taxi so as to get his money for him at once, then bid him good-bye.

Watch your men and what they do, try to keep track of good men and keep them with you, those that will stick in time of storm as well as fair weather.

In your relation to the owner, convince him you want to do the right thing (and be honest about it); humor him, if necessary, but take a firm stand for your rights when compelled to. Be very careful in your statements to him, not committing yourself too far, as you are the contractor's agent, and you may get him where he doesn't want in.

Don't be too sure your client is an old foggy, for he may have the same opinion of you, and be as near right as you are. So, boys, study your plans, men, methods and the "A. C. & B." and we will all be happy and prosper.

Macomb, Ill.

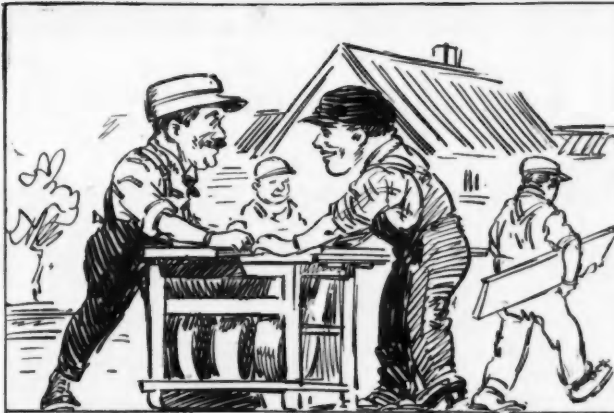


A MAN may be the architect of his own fortunes—but his wife's the contractor.

The Builders' Alphabet—(Concluded*)

Verses by A. D. Hunter, Drawings by P. J. K.

39



S stands for Saw Rig; each builder should own,
They save many a dollar—each dollar's a "bone";
To secure many "bones", is each builder's ambition,
So when he grows old, he's got more time for fishin'.



T stands for Training, good builders have had,
It makes all the difference between good and bad;
A man who's had Training along the right line,
May feel well equipped big contracts to sign.



U stands for Union of all of "Our Folks"—
Subscribers and Merchants, all staunch as the oaks.
We're delighted to bring such good men together;
Here's to your friendship thru all kinds of weather!



V stands for Vises, tools of wide use,
Strong, powerful, handy—they stand much abuse;
And V stands for Vices, which good builders shun,
If not, competition will swipe all the fun.



W stands for Wallet, a fat one we need,
These days of tall prices to buy just our "feed".
Of all wallet fatteners the best one that I know—
For go-ahead builders is Radford's big Cyclo.



X stands for Xpert, and Y stands for YY's,
A man's mighty lucky if he's expert and wise;
And Z stands for Zenith, or height of attainment,
That's achieved by good work from attic to basement.

*for which Allah be praised.

MAKING THE HOME GROUNDS

Some Simple Gardening Effects

*"This is her garden; in it day by day
She lived and worked, with patient, tender care
Marshaling her flowers in orderly array
Till beauty clad the earth that once was bare."*

—MILDRED HOWELLS



THIS is the story of a Little Home and its brave show of plants and flowers.

On a certain car line running out from the city to one of the suburbs there are dwellings of all sizes and conditions—many flat buildings; not a few large mansions, now somewhat dilapidated; the usual run of little cottages; a ramshackle hut or two. In fact, the places you pass on this street car line are just about as you see them everywhere.

I have made this little journey a good many times. The first time was in mid-summer. Most of the yards were grown up to long grass and weeds. All was dust covered. The freshness of spring had gone.

And then a little place blossomed into view, like an oasis in the desert. It was just the tiniest scrap of a cottage set back pretty well from the street; but such a cool looking, delightful little

home it was! A crimson rambler rose clamored up the front—clear to the roof, screening the porch. Honeysuckle and fox glove nodded their heads along under the windows, and out in the front was an immense bed of cannas just beginning to blossom. The grass was neatly cut. Everything was fresh and well watered.

In all that ride of ten or twelve miles that little dwelling looked the most inviting and homelike. The cottage itself was the plainest little house imaginable, costing probably less than a thousand dollars. In fact, in the winter time when nature's ornamental covering was removed, the place proved to be almost a mere shack.

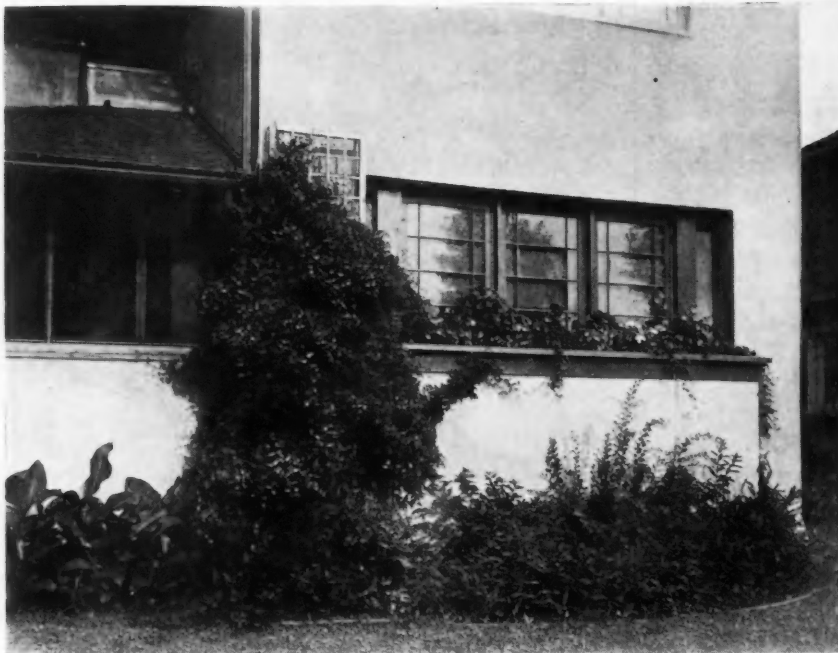
Seven or eight dollars would buy all the plants and flowers that worked this marvel, and half an hour a day of care was all they required.

Every since that first day this flower embowered home stuck in the memory. I used to watch for it on the car, and through all the summer, and late into the fall it was a joy. There were other homes along those ten miles that had

cost fifty times what this one did, but one never looked at them the second time nor remembered them.

This is what flowers and vines and shrubs and green grass, nicely kept, can do for any building. Simple landscape gardening about the home does more to make the place really beautiful than the design or the size of the house itself.

Home builders used to make the mistake, and doubtless many are still making it, of clearing off all of the natural growth that may be on the proposed building site before commencing to



A built-in-place window box filled with bright flowers, a vine trellis, and a bank of foliage along the foundation wall rescue this Oak Park, Illinois, dwelling from the commonplace.



Screen of castor beans, elephant ears, and summer cypress for concealing the neighbors' yards at the rear.

build. Trees that it had taken fifty years to grow have been cut down, which might have been saved by changing the position of the proposed structure just a little.

Keep all of the trees and shrubs you have, and don't be anxious to level down the building site to a flat smoothness to the street level. A house, especially a small one or a bungalow, always looks the best placed up from the street on a terrace or knoll.

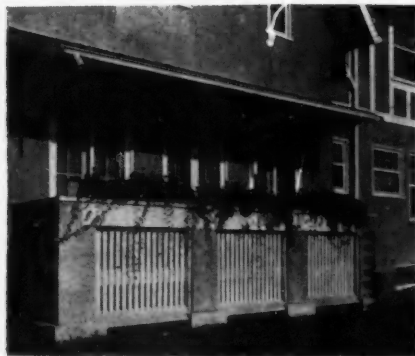
At a very slight expense enough flowering plants and vines can be had at any greenhouse to make the front door yard of any new home very attractive for the first year. Window boxes and porch boxes should be filled and put in place. A good many of the most up-to-date houses are specially designed with tin

BEAUTIFUL



lined boxes outside of window groups, and along the porch rails. These are both on the first floor and the upper stories. A flash of brilliant color from geraniums and petunias brighten up a building wonderfully.

Perennials should also be set out at once. Ordinarily they don't amount to very much the first year, but if well cared for they constantly grow and improve, so that they are a permanent investment. It is often the best of wisdom to pay a little more and have flowering shrubs set out by the nursery people and guaranteed. Then if any plant does not do well it is replaced



Long flower box built in along a side porch rail.

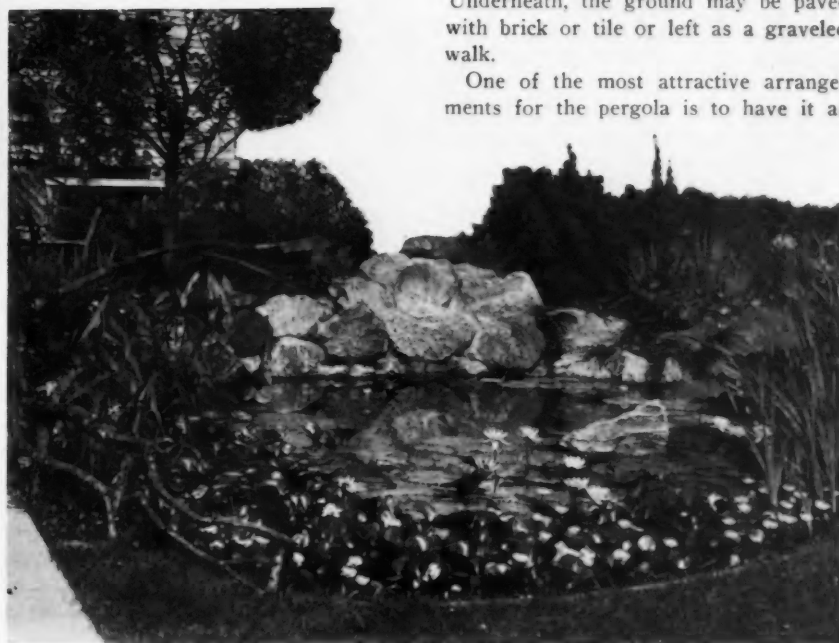
without expense. The nurserymen usually guarantee their shrubs for two years, which is plenty long enough as there is little danger of plants dying out after they are two years old.

At the rear of nearly every yard is some objectionable or unattractive view, and this may be easily screened from the house by proper planting.

Castor beans grow into huge, broad leafed plants in a couple of months; a very interesting plant to grow, of beautiful reddish green foliage, and one of the largest of the annuals. Specimens



Brick and concrete walk, pergola covered. Entrance is decorated with concrete vase flower pots.



Garden pool and rockery in the side yard of an Oak Park, Illinois, residence. Egyptian lotus in full bloom.

eight feet high are by no means unusual. A group of plants consisting of three or four castor beans as a back ground, a dozen "elephant ear" palms, and a foreground of summer cypress make a beautiful screen along the back fence or in front of an out building.

For those who have a good deal of space at the side or back of the house a pergola, vine covered, will be the center of interest for the gardening plan.

The pergola is a semi-shelter consisting of a series of columns supporting



A little shingled dwelling, vine covered and set well up on a terrace.

a canopy of rafters with ornamental ends. There are many designs to choose from, and various materials. Cypress posts are most often used. Sometimes the columns are built up with a covering of metal lath and are cement plastered. Solid cast stone columns are also used. Underneath, the ground may be paved with brick or tile or left as a graveled walk.

One of the most attractive arrangements for the pergola is to have it as

a connecting link between the house and garage.

Pergolas also serve as summer houses or lawn shelter covering an ornamental garden seat, an inviting nook on a hot day.

Another garden feature for those who have plenty of room is the rockery or pool. A shallow basin of concrete is made and the water pipes arranged so that the pool can be kept filled with fresh water. There is a chance for ingenuity in laying out a pool for best effect. It should not be too regular. Rough stones, some large ones and some smaller, are piled together along one edge for a back ground. One soon becomes an enthusiast and a student of aquatic plants and of the interesting and rare specimens that grow beside the water. A rockery and pool become worth while as they become populated with more and more unusual varieties of plants and flowers.

Animal life also adds charm. Little fish and turtles and even a common frog add interest to one's garden aquarium.

Of all the delights of home building and of living in one's own home instead of in a rented house, the greatest is to be able to beautify the grounds. Even if one has only a little yard it can grow some beautiful plants.



An ornamental fence with arched gateway separates one part of this large garden from the other.



The classic pergola connects the house with the garage.

The vegetable garden and the poultry yard we value for their utility. The flower garden is a tribute to home sentiment and the love of the beautiful. Health and happiness come by improving the surroundings of the home no matter how modest it may be.

BERNARD L. JOHNSON.

Don't scatter the plumbing all over the place; arrange it so the kitchen sink is over the laundry tubs and directly under the bath room; thus keep all the piping straight and simple and hold down the cost.

Don'ts for Home Builders

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

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

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

Don't fail to have a large sheltered porch off the living or dining room, to be screened in summer and glassed in for a sun parlor in the winter.

Don't build your living porch to the west; it would be sunny in the afternoon, just when the housewife is freest to enjoy it. East, southwest, and south are the best exposures.

Don't regret it afterwards—make it a two-story porch, the second floor for out-door sleeping. There is nothing more healthful.

Don't let your front door open directly into the living room. A hall or vestibule cuts off cold.

Don't plan to have the stairway ascend from the living room. It's more picturesque than useful.

Don't overlook composition flooring for the bath room and the front vestibule. It is so easy to keep clean.

Don't miss having a laundry chute from the bedroom floor to the basement. It is the greatest convenience in the house.



SCULPTURED FOUNTAIN, THE CENTER OF INTEREST IN A CHICAGO HOME

Not Every Home Builder Can Have an Elaborate and Expensive Piece of Work Like This Built Into His Dwelling; Yet Every Home Should Have Some One Feature of Special Interest or Novelty. This May Be a Fireplace with Characteristic Motto Inscribed Above It, or a Specially Designed Bookcase or Cabinet That Will Show the Individuality of the Owner. Too Many Houses are Built That are Not Real Homes but Just Shelters—There Is No Personality About Them and No Center of Interest. A Fountain Is a Unique and Striking Home Feature; For a Very Large Residence, or a Spanish Style House with Center Courtyard. Nothing is Better.

Old Sol Will Heat Your Water—Free

California Home Builders Making Use of Unique Solar Heating Arrangement to Furnish Hot Water—
Soon Pays for Itself

By C. L. Edholm

LET the sun do the work!

That's the talk out in sunny California. Home owners are enjoying hot water that is sun warmed.

The idea is O. K., and will soon be tried out in other parts of the country.

In order to provide shower baths with warm water at a minimum cost, the playgrounds of Los Angeles are equipped with day-and-night solar heaters, an improved style which will supply plenty of hot water, even on a cloudy day. This affords the children a refreshing shower of warm water; and the results are so excellent that

dependent upon the sunshine from day to day, as a system of conserving the heat allows for a hot-water supply even after 48 hours of cloudy weather. This is provided by a packing similar to that used in fireless cookers, which keeps the water in the tank from cooling.

Some typical installations with cost give an idea of the economy of this system: At the Echo Park playgrounds in Los Angeles there are four solar heaters; one on the girls' building and one on the boys'. Each of these has a capacity of 120 gallons, and was installed at a cost of \$240. They supply

since the first crude coil was set on a roof, with a southern exposure. There are two distinct parts to the solar heater; first, the sun coil for heating the water, which is usually placed on the roof of the building, though it may be placed on a garage, out-building, pergola or specially constructed framework. The second essential feature is the storage boiler, which is packed to prevent radiation of heat, and this is placed in any convenient part of the house, usually in the attic.

Circulating pipes connect the sun coil and the boiler. As the latter is always a little higher than the coil, the hot water must naturally flow up into the boiler, while the cold water from the bottom of the tank passes into the sun coil, where it, in turn, is heated. Thus, as long as the sun shines, a constant circulation is kept up.

The supply is tapped from the top of the boiler, where the water is hottest, and the inlet for the city water (or domestic water system) is at the bottom of the storage tank.

The sun coil consists of a combination of $\frac{3}{4}$ -inch galvanized pipe, on a sheet of copper, enclosed in a flat, thin, air-tight box with a glass top. This is set on or about the house, with a



A Park Playground in Los Angeles. Solar Heaters on Roof
Warm Water for Shower Baths

several schools in the county have adopted the same device, among them being the Monrovia and Pasadena High Schools, and the grammar schools at San Gabriel and Placentia.

The advantages of the present-day solar heater are that the first cost of installation is all the expense required and that the supply of hot water is not

all the hot water required for the showers with no cost for artificial heat. At the Athletic Park playground is a much larger equipment with a capacity of 500 gallons, which cost \$700, and in the San Diego playground is a 200-gallon heater which cost \$350.

While the principle of the solar heater is not new, it has been greatly improved



Fine Residence of F. D. Butterfield, Los Angeles, Who Writes That for Two Years the Solar Heater on the Roof Has Furnished Hot Water for Three Bath Rooms in This House. The Ruud Heater Connected Up with It is Seldom Needed.



Sun Coil on Frame Near House

southern exposure, to get the benefit of the sun's rays. The pipe is in the form of a continuous flat coil, through which the water flows while heating, and the maximum heat is secured by soldering the pipe upon the metal sheet, as copper is one of the very best conductors of heat, and the solder forms a metal conductor, joining the coil and the pipe. Thus, a small amount of water, about three gallons in the coil, receives heat from a comparatively large area, and the results are astonishingly rapid. Of course, the glass cover for the box brings in the same principle that is used in the green-house: the heat of the sun is permitted to enter through the glass,



California Bungalow with Sun Coil near Ground at Rear of Building

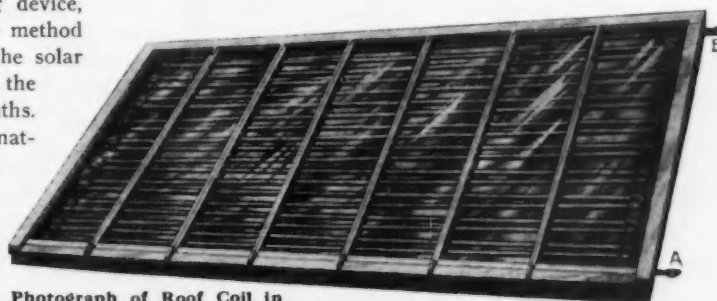
but very little is allowed to escape. The use of a dark felt as interior lining for the box, helps retain the heat. The same material covers the pipe leading from the sun coil to the storage tank.

Circulation between coil and tank is caused by the heat of the sun, therefore the circulation ceases as soon as the sun sets. This means that the water in the coil may cool, but the water in the storage tank will not be affected by it, as it is thoroughly protected by packing.

In warm climate this is all the installation, but in sections subject to freez-

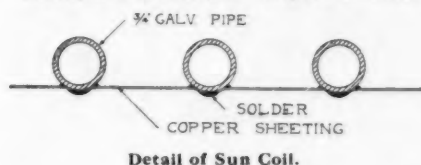
ing weather, a combination with the artificial heating system is necessary. This requires piping to the furnace, or other heating device, and a simple method of draining the solar heater for the winter months. Even so, the natural heat is available for three-fourths of the year, and, in the hot summer weather,

when it delivers water at high temperature without the need of lighting a fire, it adds to the general comfort of a home.

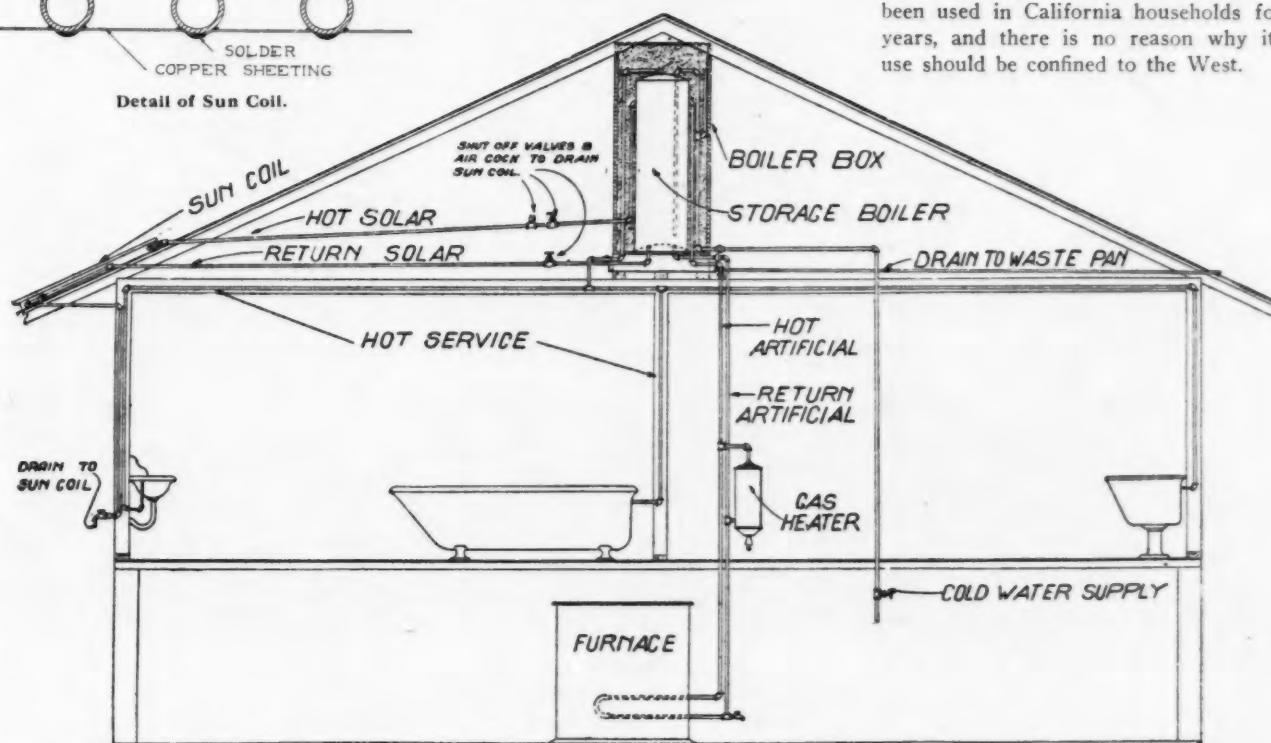


Photograph of Roof Coil in Black Lined, Glass-Covered Box.

While the use of the solar heater for public buildings is new, the system has been used in California households for years, and there is no reason why its use should be confined to the West.



Detail of Sun Coil.



Section Through Building Showing Typical Arrangement of Sun Coil, Hot Water Storage Tank and Arrangement of Pipes to the Various Fixtures. Diagram Shows Gas Heater and Furnace Water-Back in Connection For Use in Cloudy and Cold Weather



How Home Builders Save Money

Some Good Advice on Where to Economize and Where Not

HOME builders save money in the long run by investing a little extra at the start. Either engage the services of a good builder who is skillful at drawing plans; or else send away for complete plans and specifications of the house you decide to build.

It's short-sighted economy to attempt to get along without good plans and specifications.

You've got to give the builders something definite to figure on. Otherwise, they have to add 25 per cent to take care of *extras*. A case came up the other day where a house design was illustrated in the *AMERICAN CARPENTER AND BUILDER* which had been actually built and finished complete for \$3,000. Complete plans and specifications had, of course, been used for the work. A reader saw this house design illustrated. Liked it. Put it up to several contractors to build him a house like it. That was all the specifications he gave them; —just the plans and perspective sketch as illustrated in the magazine. Their bids all ran in excess of \$4,000. It wasn't difference in labor conditions or

cost of materials either, for as it happened, his work was to be done within fifteen miles of where the original dwelling had been completed not two months before, for one-fourth less.

It was lack of definite plans and specifications that forced the contractors to figure high. They had to play safe.

See that your plans and specifications are complete in every way before you invite bids on the work.

Cut out the "extras" by specifying *everything*. Changes and additions cost good money.

low bidder is frequently a mistake maker. And in the end you will pay for his mistakes.

Deal always with a responsible builder. One who has a reputation for honesty and good work to maintain.



Well designed two-story porch on a shingled house. First floor is sun parlor and second floor balcony or sleeping porch.



Simple entrance doorway finished with brick. They are arranging entrances like this on the side, leaving the entire front of the modern home for screened living porch.

Avoid freak designs. Compact, conservative home buildings are the best.

After they are designed they are the best looking and they cost much less.

Local building materials are best and cheapest.

Let the mechanics work with materials they are familiar with.

Don't always take the lowest bid. The

It's no economy to try to use cheap materials. Labor is the big item of expense anyway, and it costs just as much to put together cheap stuff.

Furnish good, substantial building materials, then you will have a permanent property. It will cost very little more.

Build warmly. \$25 extra for building paper will save many a ton of hard coal at \$8 per.

An eight-foot basement should be excavated under the entire house. There is nothing colder than a cold floor over a chunk of outside January atmosphere.

Put a smooth concrete floor all over the basement. It will make it dry and usable and easy to keep clean.

Double floors throughout, with building paper between, are good economy. Also lath and plaster the basement ceiling. It will keep furnace dust and cold air out of the house.



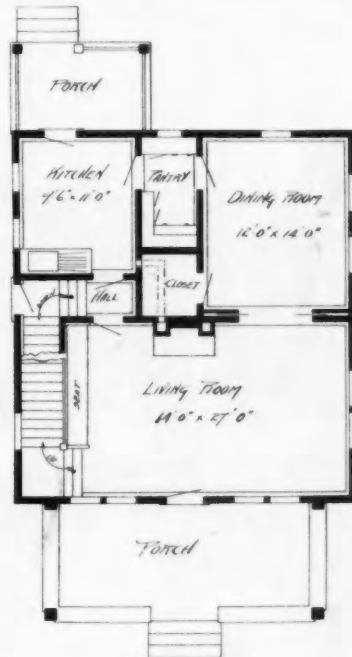
Rough finished cement plaster with ornamental wood paneling is being much used. The lintel of this broad porch is well trussed to prevent sagging.

Trim, Five-Room, Story-and-a-Half Cottage

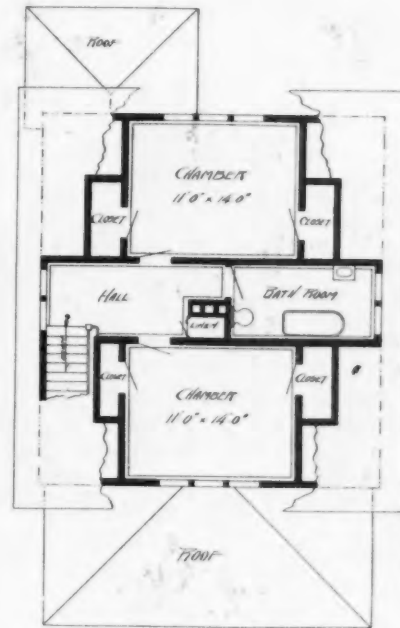
Neatly designed, trim, snug, and home-like is our ideal for the little dwelling that is to prove most popular these days. Start to put up a cottage like this one illustrated and it will be sold or rented before you get the roof on.

The majority of people can't afford to live in a great big place; it costs too much for fuel and lights and furniture. Also it is too much work to take care of. The housewife prefers just a few rooms she can look after herself instead of having to have help.

This is a frame building and has ornamental stucco panels in the gables. The first floor has extra large living room with connecting dining room. Kitchen is handy to the dining room as well as to the front of the house. Side door is a grade entrance onto the cellar stairway landing. On the second floor are two large, well-lighted bedrooms, four clothes closets and large bathroom.



First-Floor Plan



Second-Floor Plan

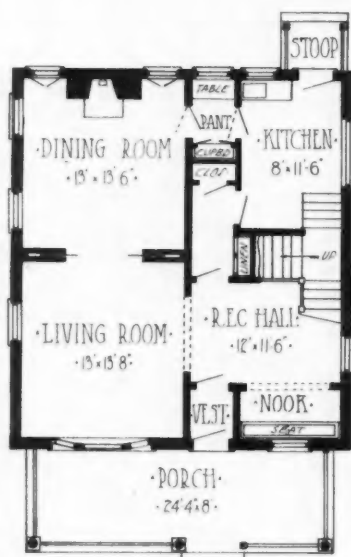
Arrangement of Five-Room Cottage, Size 27 by 28 Feet.



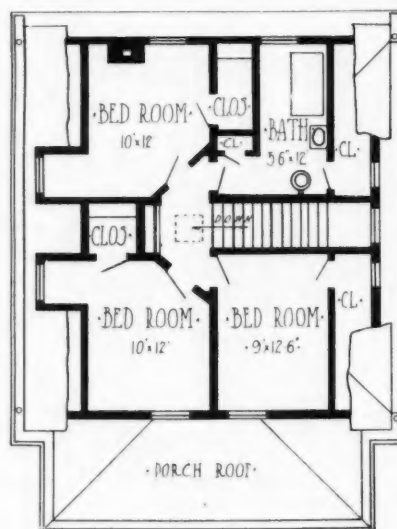
Five-room story-and-a-half cottage. Size, 27 by 28 feet. A very neat little home. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$6.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering ask for Design No. 6540.



Seven-room, gambrel roof, brick and frame dwelling. Size, 27 by 30 feet. A substantial looking little home. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$10.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering ask for Design No. 6550.



First Floor Plan



Second Floor Plan

Arrangement of Seven-Room Gambrel Roof Dwelling, Size 27 by 30 Feet

Brick and Frame Gambrel Roof Dwelling

There is a look of substantial worth about this seven-room house which strongly appeals to home buyers and

renters. Nevertheless, the cost of construction is no more than for many flimsily built, irregular shaped houses. The main walls are of brick construction up to the second floor. All of the

second floor is within the confines of the double gambrel roof. The three gable ends are sided with wide board siding and the roof is shingled.

The floor plans will show how nicely the interior of this house is laid out. On the first floor we have front vestibule opening into a serviceable reception hall which has an alcove nook with built-in seat. To the left is the living room and back of it the dining room. The kitchen occupies the third corner and is separated from the other rooms by the pantry and the back hall. Front and back stairs go up five steps to a common landing and from there up the single flight serves for both. On the second floor are three nicely arranged bedrooms, large bathroom and an abundance of closet space.

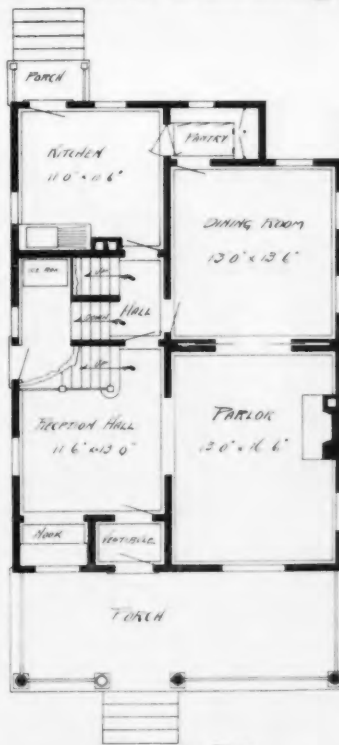
This building can be constructed in several different ways—just as the owner prefers. Solid brick walls for the first story or brick veneered walls make an equally desirable house. Then for the gable ends many will choose cement plaster on metal or wood lath in preference to the wide boards. A siding of shingles would also work in here very appropriately.

Sensible Hip Roof Residence

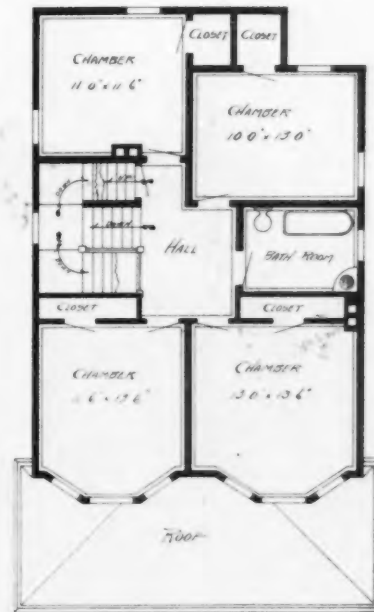
The man who wants a good home and wishes to get the full worth of his money picks out a straightforward house plan like this one, without towers and angles or cut-up fancy work that runs up the cost. He gets a stylish looking, attractive residence, too.

This is an eight-room house with four good sized bedrooms and a bathroom on the second floor. Some space in the attic could also be utilized. The rooms are laid out conveniently. There are front and back stairs coming together at the landing. The side door is a grade entrance opening onto the cellar stairs.

The kitchen is handy to the dining room and to the front door, yet is well insulated from the rest of the house in order to confine the cooking odors and to keep the kitchen noises from annoying the rest of the household. The reception hall is of generous size and can be made very hospitable. It connects with the parlor through a broad cased opening. This and the dining room are large rooms.



First Floor Plan



Second Floor Plan

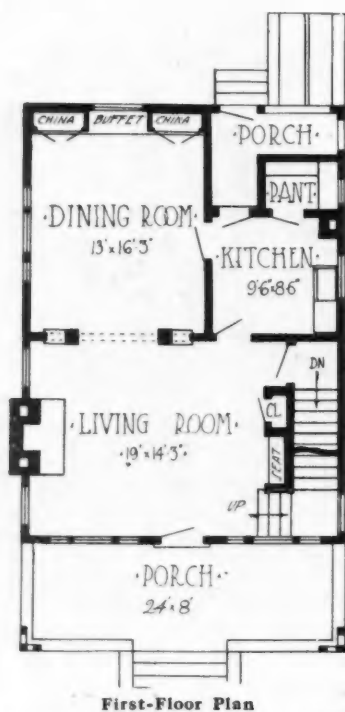
Arrangement of Economical Eight-Room House, Size 26 by 36 Feet 6 Inches.



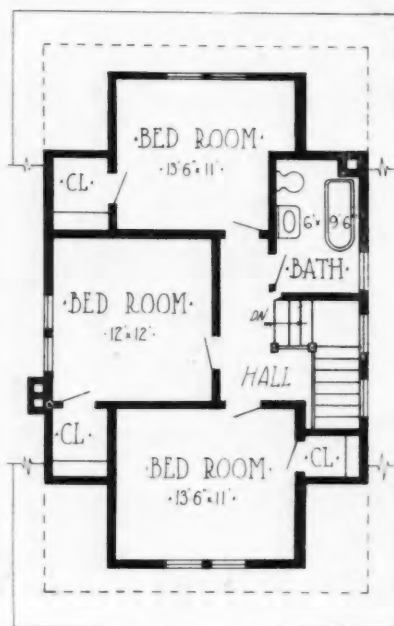
A very economical house to build. Eight-room, frame construction, hip-roof design. Size, 26 by 36 feet 6 inches. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$8.00. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering ask for Design No. 6554.



A bungalow style cement plaster house, containing six rooms. A stylish little home of moderate cost. Size, 24 by 32 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$9.00. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering ask for Design No. 6548.



First-Floor Plan



Second-Floor Plan

Arrangement of Six-Room Cement Plastered Bungalow, Size 24 by 32 Feet.

Bungalow Style Stucco Cottage

A story-and-a-half cottage of true bungalow appearance is offered. It is one of the most popular little houses of the year. Three rooms are provided on the first floor and on the second floor three bedrooms, bathroom, and three closets are worked in under the roof and in the large roof gables.

The front porch is large enough to be thoroughly useful. In the summer time it could be easily screened. Entrance is direct into the large living room. The dining room is back of this through a tasteful colonnade opening. The kitchen is just the right size to save steps.

In construction, this bungalow is cement plaster on metal lath. The brick chimney makes an interesting feature. Laid up of dark brown face bricks, it makes a pleasing contrast against the cement plastered walls. The window sash are painted apple green to give a little touch of color to the place.

The bungalow style of this little dwelling is accentuated by the wide projecting open cornices with rafter ends showing, also by the unique porche columns—strongly braced posts.

Low Cost Gambrel Roof House

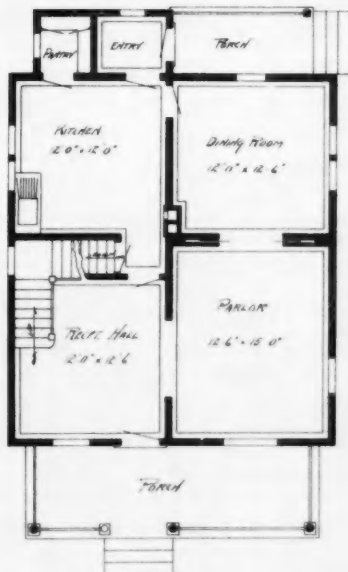
The story-and-a-half gambrel roof dwelling continues popular with economical home builders. Here is a very substantial seven-room frame building that contains a surprising amount of good, usable space.

The gambrel roof permits very nearly full height rooms throughout most of the width on the second floor. The very low parts are made into clothes closets—and very good ones they make, too. Thus no important space is wasted, while the cost is hardly more than for a one-story cottage.

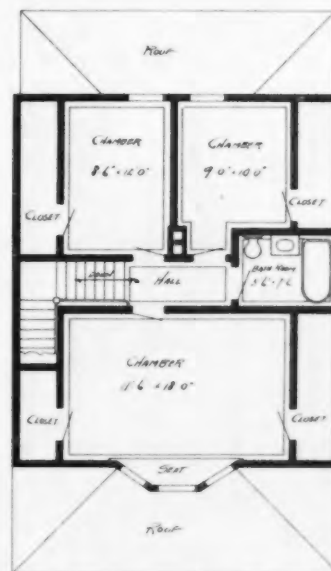
The four rooms on the main floor are large and well connected. The reception hall, parlor and dining room join together by broad doorways, making a very commodious first floor.

A good many housewives like to have a large kitchen. This one has been made extra good size, being 12 by 12 feet. A large pantry and enclosed entry join it at one end.

This house is substantial frame construction, sided with wide boards up to the eaves, with gable ends and roof shingled.



First Floor Plan



Second Floor Plan

Arrangement of Seven-Room Gambrel Roof House, Size 26 by 34 Feet.

The front porch is large enough for real use and enjoyment in warm weather, yet it is not so wide as to darken the house, nor is it so elaborate as to cost more than one wants to pay.

A good rear porch is also provided.

The porch, kitchen entry and pantry are all under the same roof, a one-story annex. At relatively small expense, the back porch could be screened, making a welcome addition to the working end of this house for the summer season.



A seven-room, gambrel-roof frame house. Size, 26 by 34 feet. A roomy house, considering its cost. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$6.00. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering ask for Design No. 6553.

Good House for Narrow Lot

A well designed six-room cement plastered residence which is only twenty-

two feet in extreme width is offered here. A large living room extends clear across the front and an ell projection

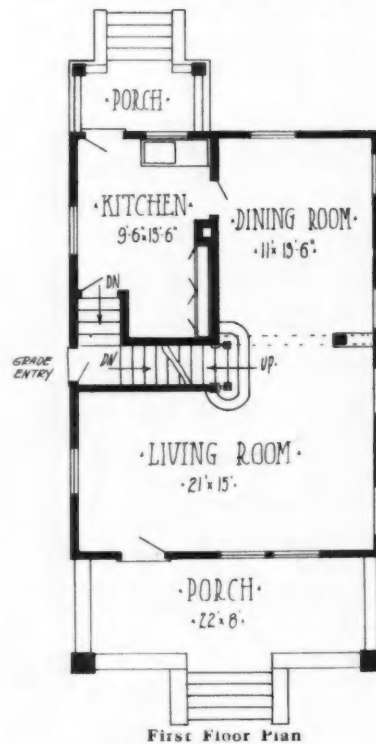
extending back at the right hand forms the dining room. The stairway goes up just where these two rooms join. The first three steps are out in the room and the rest of the way up it is a closed stairway.

The kitchen occupies the third corner; and in place of having a pantry, a large, built-in cupboard is provided. The cellar stairway goes down from the kitchen, past a grade entrance.

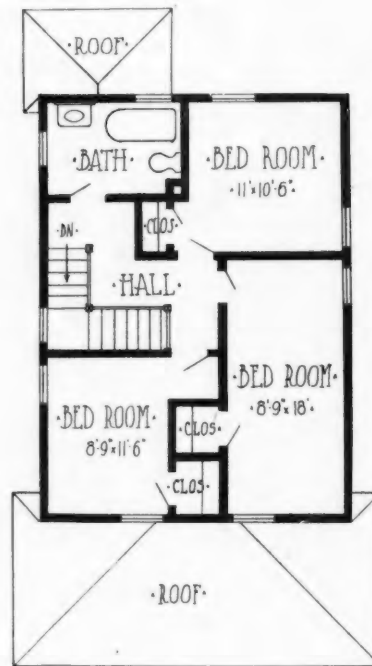
On the second floor are three bedrooms, three clothes closets and the bathroom. This last is directly over the kitchen, which keeps all the plumbing pipes in line and holds down this part of the expense.

This is an up-to-date, modish looking place, finished in rough cast cement plaster and ornamented with exposed panel strips.

Some folks have the idea that a cement plaster house can have only one color—the natural gray of the cement. This is a wrong notion, however. There are special cement surface paints in all colors; and by planning some good contrast between the stucco areas and the wood trim, some very striking and beautiful effects are produced. Yellow and brown, cream and olive green, drab and maroon, etc., work out well.



First Floor Plan



Second Floor Plan

Arrangement of Six-Room Stucco House, Size 22 by 30 Feet



Six-room, stucco residence for a narrow lot. Size, 22 by 30 feet. Up-to-date design. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$8.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering ask for Design No. 6552.

How to Plan the Kitchen

THE proper arrangement of the kitchen is highly important; give it first consideration. Here much diversity is present, owing perhaps to the different methods pursued by various housewives in carrying on their housework. It is believed, however, that there will be general agreement in the fact that trying to wash dishes and cooking utensils in a sink less than 24 by 30 inches in size is very inconvenient; and according to the writer's ideas the sink should be

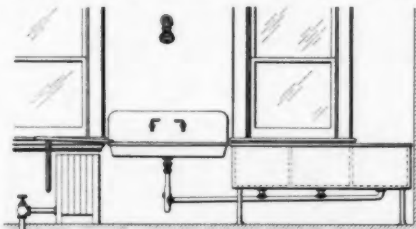


Fig. 1. Elevation of outside kitchen wall, showing recommended position for trays, sink, etc.

big enough to accommodate at least one dish pan. It should, moreover, be provided with a drain board and an integral back.

For an article which is used at least three times a day, and normally much oftener, the kitchen sink has been economized on altogether too much and in some of the newer houses the sinks to the casual observer might well be taken for lavatories, so shrunken in size have they become.

In considering the kitchen sink, the subject of proper light comes up again. Good light is essential to cleanliness in dish washing as well as to every other operation; and therefore an artificial light should be placed as directly over the sink as possible. Owing to the fact that a sink with a high back obstructs a window placed directly back of it, the window or windows should be placed at one or both sides, but as close to the sink as the window will permit. This leaves a blank wall directly back of the sink which is very

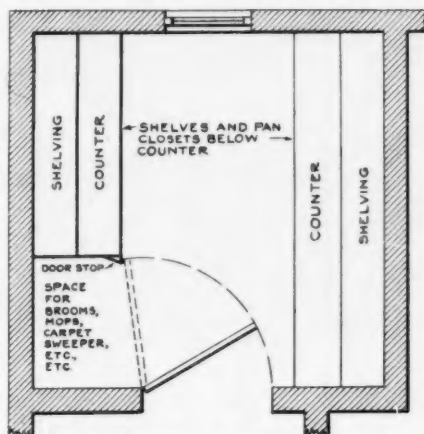


Fig. 2. Floor plan of convenient pantry 8 feet square.

useful for containing the soil and vent pipe of the sink waste, and also for the installation of the sink light before spoken of.

Fig. 1 gives an elevation along one side of a kitchen showing a sink arranged as described with a drainboard, lamp, two windows and a radiator under the drain board to save floor space.

For houses where the wash trays are placed in a separate basement laundry the space here occupied by the wash trays could be utilized for a table. The stove in this case is located so as to get side light from the window and is about in line with the radiator, but back of where this view is taken.

In regard to the wash tray proposition, attention should be directed to the fact that the problem of domestic help is becoming every day more unsolvable and more exasperating, so that family after family is giving up the idea of employing outside help unless possibly on wash days. There is no question that for sanitary reason and kitchen convenience the wash trays should be located in the basement laundry. But in two-family construction this is in-

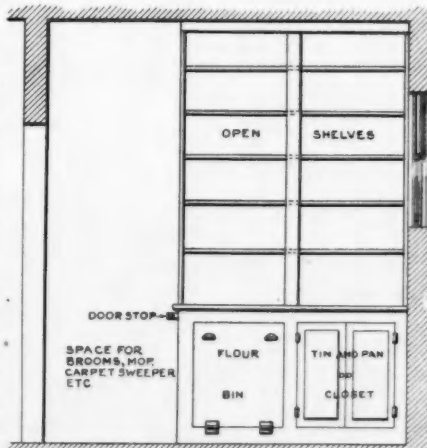


Fig. 3. Elevation view of left wall of pantry.

convenient, in apartments it is manifestly impossible, and in the small, one-family house, consideration should be given to the fact of whether the house is of the type which would be likely to be used by a family employing outside help or not.

It is inconsistent to put up a reasonably priced house for the average small purchaser and to arrange the laundry facilities to suit some other conditions. The average small purchasers will want to do their own washing and not in the cellar. How is a woman to answer the front door bell, receive goods at the side or rear door, look after a baby in the dining or child's room and be doing a washing down cellar at the same time? Nor could she take a child

down on the damp and cold concrete of which the laundry floors are usually constructed. It would seem that the basement laundry, while a good, sanitary and cleanly idea, is not practical in any home unless outside help can be both afforded and procured.

Handy Pantry Arrangement

INTIMATELY connected with the kitchen and laundry facilities comes the question of pantry room and dish cupboards. House after house you go

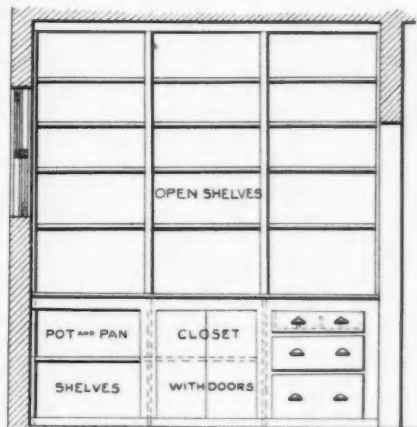


Fig. 4. Elevation view of right wall of pantry.

into has the entire kitchen pantry, china closet, and tin cupboard reduced down to three or four shelves about 12 inches wide and 36 inches long with a little closet below.

A pantry should be large enough to store all the "raw supplies" and "finished products" of the kitchen and should, by all means, be provided with an outside window so that milk and butter can be kept cool by means of the open window in all but the hottest summer weather. The pantry should also be provided with a tight door so as to keep it cool without cooling off the rest of the house. It is for this reason that the pantry located between the dining room and kitchen and through which it is necessary to pass in going from one to the other, is regarded as poor arrangement even though some people *do* prefer it. Besides this, every trip between the dining room and kitchen is lengthened exactly the width of this pantry and may mean the addition of about half a mile extra walk each day for the housewife.

Figs. 2, 3 and 4 show a plan and elevations of an ideal pantry installed in a house recently erected which has met with universal commendation. This room is about 8 feet square and will doubtless be considered too large by many builders. It isn't though. This pantry after having been in use by a family of four persons for about a year and a half has every shelf utilized and for its full length.—HAROLD L. ALT.

Decorating the Home



Satisfaction and Sanitation in Walls

The Modern Method of Decorating Walls and Ceilings Using High Grade Cold Water Tints and Stencil Designs

PLANNING for the new decorating is not an easy task. A considerable amount of thought and care must be expended to avoid unsatisfactory combinations of color and designs which become tiresome and which are not strictly appropriate. The decorator who has his customer's best interests at heart will spend a good deal of time beforehand in going over each room in the house which is to be decorated. He will study the relative positions of the rooms, the way in which one room opens upon another; he will study the lighting, size, windows and doorways. If he does not take time to do this there is apt to be disappointment in the finished decorating. This is a tiring piece of work at best and every housewife wants it done right the first time.

During the last ten years people everywhere have begun to realize that plain, soft tints are the most satisfying in every room in the home. Furniture, curtains, pictures, rugs are made more attractive by plain backgrounds of harmonious tints bordered here and there by artistic stencil designs. For years artists and architects have been emphasizing the value of plain tinted walls. Today men and women of good taste are demanding an exchange of the many-colored garlands and striped effects of old-fashioned wall papers for the delightfully clean, cheerful and truly artistic tinted walls.

The photographs are of large water color paintings, which show in their true colors some of the many beautiful effects produced with alabastine tints and stencils. With no other material can the housewife so adequately express her own ideas and tastes in her home surroundings. At the very least expense you may have a dainty French grey bedchamber ornamented by garlands of pink roses to match your cretonne curtains and coverings. Or, you may have a delightful sunshine room done in cheerful yellow. Each room should harmonize with the room next to it so that there will be no clash of color when doors are thrown open.

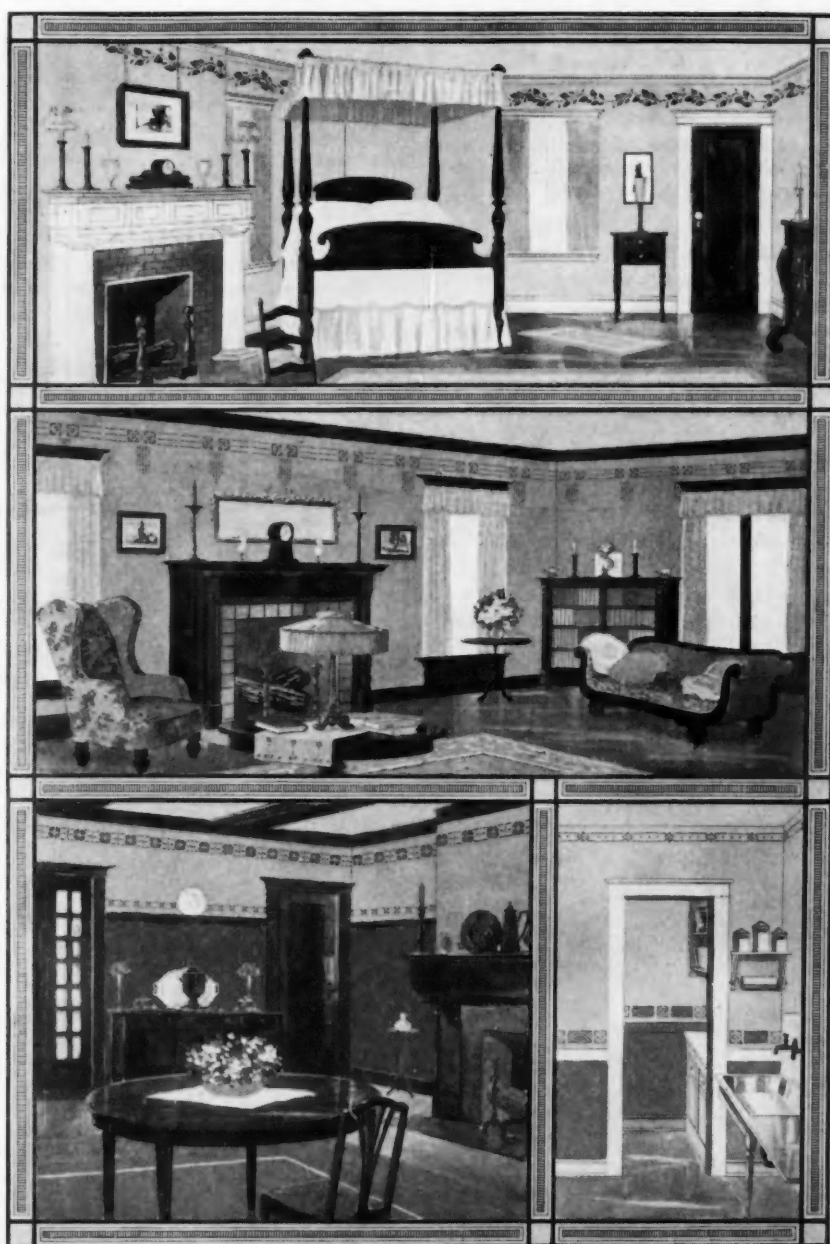
The children's room may be made expressly theirs by using the bright

tones and picturesque stencil patterns that children delight in.

Besides being beautiful, the right color scheme, as everyone knows, has a direct

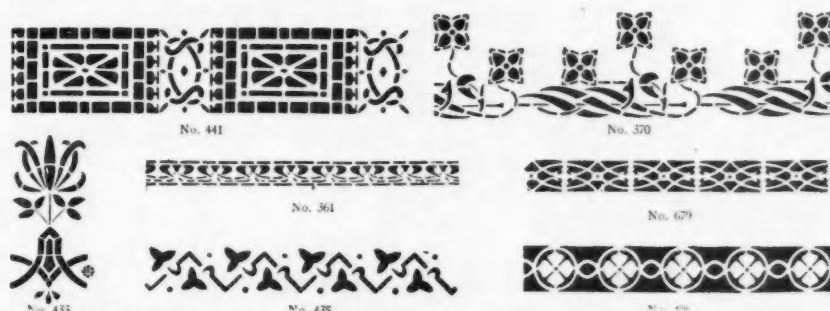
effect upon the temperament of the people in the home. Glaring, crude colors have produced many cases of "nerves." When the decorating is done it must satisfy for a year or more and nothing can be more exasperating or trying to the temper of the housewife than to have to endure day after day some ugly color or harsh design which spoils the effect of other furnishings and appears to her as a constant advertisement of somebody's neglect or uncultivated taste.

In studying the work of the best mural decorators, we find the most pleasing examples of their handiwork are the delicately tinted walls, not covered all over by some flashy floral design or conventionalized garlands and pots of flowers and woodland scenery, but, here and



Illustrations by courtesy of the Alabastine Co.
Suggestions for Decorating a Modern Home With Quiet Wall and Ceiling Tints and Contrasting Stenciled Borders. Color Sketch Shows Bedroom Walls Pink With Tan Border, Woodwork White Enamel; Parlor Walls Fawn With Olive Green Border, Woodwork Mahogany; Dining Room Walls Maroon Up to Plate Rail, Flesh Tint Above, Maroon Border, Woodwork Olive Green; Kitchen Walls Light Brown and Very Light Green. Ceilings Throughout Are Tinted Somewhat Lighter Than Side Walls.

there, a panel, a good border, leaving plain, clear spaces for pictures and furniture and restfulness to the eye. Nothing is more confusing than a large figured wall paper pattern as a background for pictures and bric-a-brac. There is such a clash of outline and color the senses receive no satisfaction. Then again, the woman of ideas wishes to express her own individuality, but she wants that expression to please others also. It is most difficult to select a wall paper pattern which, used in a certain room, will appeal to three or four people in the same way. That is why well-dressed men and women invariably choose plain materials for their everyday suits and gowns.



A Few of the Many Attractive Stencil Designs for Borders and Panel Work to be Handled in One or More Colors.

There is another point of view. At the time you purchase your wall paper, a Chinese Chippendale pattern may please you very much. After it is on the

walls you become tired of it and are sorry you did not select something in an Old English paper in Jacobean style. Then a bright French paper of the Louis XIV period, with Marie Antoinette ribbon running through, will take your fancy, but all these too expressive designs become tiresome when you must live with them day after day. Birds and Garlands and English chintz get on your nerves, but the plain, soft toned wall with a good stencil pattern in the right place is always in good taste, is always restful to the eye and soothing to the nerves.

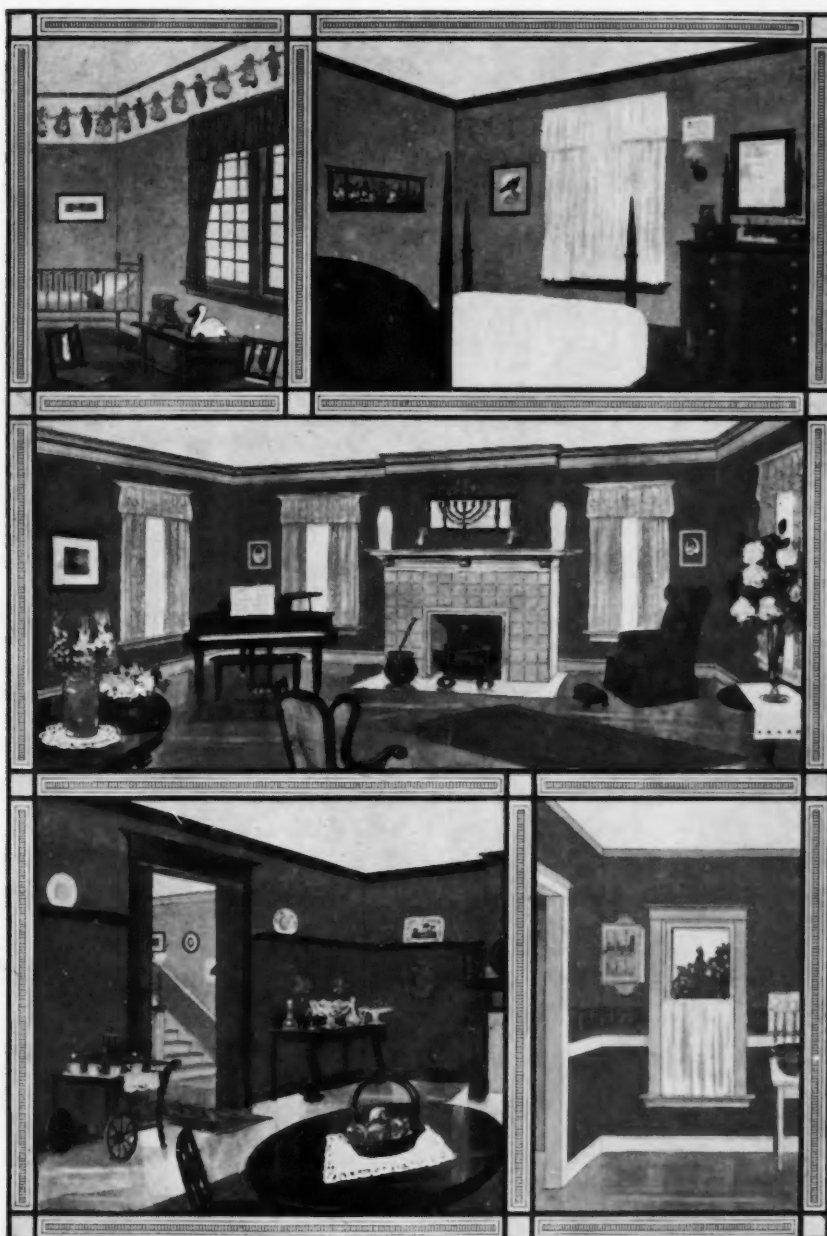
Wall paper, as everyone knows, collects germs, breeds disease and spreads contagion. Wall paper has been barred from schools and hospitals, and special laws have been passed in cities like New York regulating the use of wall paper in residences. In hospitals this unsanitary covering has been utterly condemned. Wall paper is put on the walls with animal glue or paste and this, your physician will tell you, is an excellent breeding ground for germs.

The cold water tints, however, prepared from native alabaster mixed with the finest of German pigments to obtain the tints, are absolutely sanitary.

The home decorated with them is a clean, sweet and wholesome place in which to live.

There are many kinds of kalsomine on the market today under many different names. The housewife and the builder must bear in mind that the best cold water paints are not kalsomine, and cannot be compared with it in any way. The difference is apparent to every one who glances at the two wall surfaces. One is ordinary with an unfinished look. But the other wall makes you think that one of the old mural decorators must have stepped in and covered your walls with the secretly made tints from his celebrated palette. Indeed, at least one of these is so fine a material to work with, that beautiful pictures have been painted with it by professional artists.

Kalsomine of whatever grade or name is bound to chip, peel and rub off soon after the decorating is done. No amount of glue can prevent this. A wall once properly decorated, however, need not be washed to receive the new tinting.



Illustrations by courtesy of the Alabastine Co.

Greatest Possible Choice of Colors is Offered the Decorators Using Cold Water Tints. This Sketch in Its Full Colors, Shows the Nursery Walls Tinted a Soft Blue with Stencil Frieze of Dutch Children in Yellow and Blue; Bedroom Walls in Orange Yellow; Ceiling, Cream; Woodwork, Dark Green. The Living Room Walls are Olive Green; Ceiling, Gray. Dining Room Wainscoting, Dark Green; Upper Walls, Orange Tan; Ceiling, Flesh Tint; Woodwork, Weathered Oak. Kitchen, Tan and Yellow, the Dado to be Finished with Washable Tint

Curtains for the Home

Some Timely and Authoritative Suggestions

By Mary H. Northend

TOO much attention can not be paid to the use of curtains in the home. We are inclined to try one treatment for all the different types of windows. This is entirely wrong. Different methods should be thought out for different designs of window treatment—which range from the quaint Dutch window in the dining room, to the cozy English in the living room, and from that to the French case-ment in the parlor.

Stencil work is not used as much as formerly; still appropriate designs and a good color arrangement can always be satisfactorily used. If you have never tried the effect of unbleached cotton muslin, by all means do so. It hangs well, has rich ivory tones that combine with almost every color. This can be colored to match trim, giving a pleasing contrast to the hanging.

Linen scrim can be bought in pure white or self-colored and is always effective.

Where the windows are grouped in an alcove recess, it takes little to do away with the bare looks and soften harsh outlines. Such hangings would rightly come under the head of portieres, and here it is best to use heavier goods that hang in soft folds. For the purpose cotton rajah, listed at 30 cents comes in lovely dull shades of old rose, silver gray, old blue, as well as other shades.

The straight curtain is effective for

plain windows, but a variation that is most attractive can be carried out by catching it back a third of the way

much cannot be said concerning the use of this latter material. It is very in-expensive, can be bought by the piece and has lasting qualities that few hanging curtains have.

In addition to the straight curtains it is very effective to have a hanging draped in folds at the top. It takes off



A Cosy Built-in Window Seat Flanked by Open Book Shelves. The Seat is Upholstered with Loose Cushion and the Curtains are Flowered Scrim

from the top. When this is done, there should be straight under-curtains of white or unbleached cotton cloth. Too

the plain, bare look and gives a finished appearance to any room. Sash curtains and Dutch curtains are advisable in rooms that are not well lighted, and an advantage of these other than mere hang, is that they can be pulled back either at bottom or top, and not all thrown back at once. Again we find a figured chintz good—particularly where it is striped. This is more effective against the plain wall, relieving the monotony of a solid surface. It is not expensive; it can be bought all the way from 12¼ cents upward, and is easily laundered.

For the bay window, chintz is good with under-curtains of plain. Curtains made in this way can have a box plaiting at the top, the outer curtains being arranged on a brass rod so they can be either drawn back or closed, according to the lighting of the room.

Nothing is so effective as a simple muslin curtain which can be purchased for 12½ cents a yard. It is daintier with ruffles and caught back with a piece of the same, showing the same motive.

Relieved by a chintz curtain of bright tones, it is an effective dressing for a simple window.



Bay Consisting of Four Casement Windows Curtained as a Whole with Brightly Figured Chintz. Inner Draw Curtains of Silk Complete the Drapery



Pair of Dining Room Windows Richly Treated

Sometimes the motive is varied; over the under-curtains of muslin or scrim a single curtain of thick texture is so arranged as to hang at one side, giving an odd but pleasing effect.

Denim is always suitable for this purpose, as are the standard chambres listed at 15 cents. These latter are found in pairs which are generally blue and old blue. It is a thoroughly reliable material and is especially well fitted for decoration in Greek fashion.

Individual windows can be draped with cotton crepe; it is soft, clean and transparent, costing about 15 cents a yard. It comes in plain solid colors, washes finely, but must not be ironed else it loses its crepey effect. One must not forget the silk pongee, coming from 39 cents to a \$1.50 a yard. Its irregular weave is its charm. As is the case with the cotton rajah and the Russian crash, found in a lovely silvery blue.

In hunting for curtains or draperies like this, it is not always advisable to go to the upholstery department. You are often forced to pay more if you do. Hunt over the dress counters and find lovely pieces of sprigged muslin that can be bought as low as 12½ cents a yard and cut out of heavy, stuffy velours which are dust catchers and hard to keep clean.

It takes a great deal of care and thought to get things that are reasonable and appropriate, but it does not pay to pick up the first thing you find. Curtains do so much toward furnishing the room that it seems out of place to have them in bad contrast. Take a light, summer room, that was furnished with



Group of Five Windows, Each Hung with Light Curtains with An Over-Curtain of Heavy Figured Stuff Between Each Window and the Next

willow, put in it dark, heavy curtains and watch the result. It is an inharmonious tone with a wrong note that jars. Change that over, and put in its place a soft, light, clinging fabric and note the change at once; the room is lighted, brightened and made effective.

The artistic curtain is a subject to which too much thought cannot be given; one realizes that it makes or mars a room.



A Delightful Corner Bay Curtained with Growing Foliage and Plants. These Windows Looking Toward the South or East Brighten up the Entire House and Those Dwelling Therein



Staining Interior Woodwork*

The Popular Method of Finishing the Several Commonly Used Woods to Bring Out the Full Beauty of the Grain

THE beauty of wood is marred or enhanced by its treatment. What is more universally admired than properly finished wood, whether in furniture, woodwork, or floors? With such wonderful variety of grain, almost magically treated with modern stains and finishes, its natural beauty stands revealed. Each kind of its peculiar characteristics requires special treatment; in order to bring out this true beauty, not only the kind of finish, but also the color, must receive careful consideration by the painter.

So much depends upon the woodwork treatment in successful home decorating. Some woods are best adapted to stained effects, some especially suited to white enameling, while the greatest degree of beauty is brought out in others by the natural varnished finish. Only the expert finisher can have a full knowledge of wood and its proper treatment; nevertheless, every home builder can, and should be familiar with the kind of finish adaptable to the most widely used woods.

Oak

Because of its great durability and handsome grain, oak is perhaps the most popular wood for all kinds of interior trim. This wood is susceptible of a great variety of handsome effects by staining. It is found on all of the Continents of the Northern Hemisphere as well as at high altitudes just south of the equator.

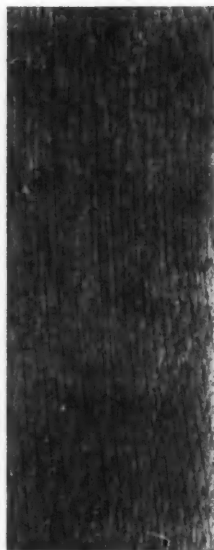


Plate I—Oak

Oak wood lends itself admirably to many styles of finishing. It is open

grained, and when a varnished and rubbed or polished finish is desired, the pores of the wood must be filled and followed with various coats of varnish. When a mission or wax finish is desired, the filler is unnecessary. The natural finish, in which transparent filler and no stain are used, and the golden oak finish have been in use for a long period and are now rather commonplace.

The most popular shades in the stained oak are the fumed oak (a rich brown, light in tone), old English oak (a medium tone of rich brown, cathedral oak (a dark, reddish brown), early English oak (weathered brown in medium tones), the silver gray (light silvery effect); these effects are all easily procurable, and any or all of them can be treated in the rubbed, polished, mission, or waxed finish.

Oak, on account of its open grain, can be treated in handcraft system effects, which consist of a stain, a first coater, and a color toner. The rich colors of this stain blend perfectly with the toner, which fills up the wood pores and forms an unusual effect. Oak wood has many peculiar qualities which demand stains of exact character and quality. It contains gallic acid, which attacks stains of unsuitable nature.

Chestnut

Chestnut is an open-grain wood, the

* A very timely article reproduced by permission from *The Colorist*, a practical magazine published by the Sherwin-Williams Co. for the benefit of painters and decorators.



Plate II—Chestnut

pores of which require filling for varnish and rubbed effects. Plate II illustrates its rather coarse, although attractive, grain. Being less expensive, it frequently displaces oak for interior woodwork. It is found in the temperate regions of Europe, Northern Africa, Eastern North America. The Northern American wood is better and, although easily worked, is extremely durable. The Western species of chestnut is called the California chinkapin. It is a light, soft, reddish wood, and is sometimes called evergreen chestnut.

Chestnut can be treated practically the same as oak, although it is more frequently stained and finished natural. Silver gray (a silvery gray with bluish cast) or brown oak are particularly suitable for use on this wood. The rubbed, mission, waxed, and natural finishes can be obtained on chestnut, and the specifications are similar to those for oak.

Mahogany

Mahogany is one of our most beautiful and valuable woods for furniture and interior finish. Its decorative value is due to a combination of beauty, working qualities, and durability. Its beauty is influenced by its wonderful grain, particularly noticeable in "crotch mahogany," and also by its rich brown color. These qualities are greatly increased by proper staining.

Mahogany is an open-grained wood, and therefore, re-



Plate III—Straight Mahogany

quires filling with mahogany paste filler. It is susceptible to the highest polish and is also very attractive when given a dull finish by rubbing the last varnish coat with pumice-stone and water. The grain of crotch mahogany is caused by the crotches or junctures between branch and trunk, and on account of its great value, is used largely as a veneer. Mahogany is a native tree of the West Indies and Central America, much of our supply coming from Mexico. The African field is the latest, and large quantities are now being distributed through English markets. This wood is occasionally treated in a natural finish. It darkens slightly with age, and this tendency should be taken into consideration when staining. A variety of shades in mahogany stain are demanded, and therefore, mahogany stains are provided in light, medium and dark.

Birch



Plate IV—White Pine

Silver gray is a very attractive finish for birch. It can also be finished natural. As a foundation for white enamel effect, it is unsurpassed. Its light color and delicate grain make it suitable for this purpose. Birch is less expensive than oak, but superior in many ways.

The illustration (Plate V) is too small to show the darker spots, which



Plate V—Birch

are even more pronounced when the wood is stained mahogany. These variations of the grain are extremely attractive. Birch is a close-grained wood and does not require filling.

Southern Pine

The principal difference between this wood and white pine is in the grain, which is more strongly marked in Southern pine. This wood is heavy, hard, strong and durable, becoming harder with age. It is close grained and does not require filling.

When stained, the beauty of this grain is greatly enhanced, and it now frequently displaces oak for interior trim. All brown stains are particularly attractive on Southern pine. The silvery grays are quite effective, although the yellow tones in this wood largely overcome the blue in a silver-gray stain. These stained effects are still more attractive when treated in mission or dull finish.

Southern pine is often finished in white enamel, although it is not the best wood for the purpose. Birch, whitewood, or poplar are much less liable to show yellow streaks. Southern pine, however, can be treated in white enamel when a sufficient number of the proper under-coatings are used. When this wood is full of pitch a first coat of shellac can be applied to good advantage.

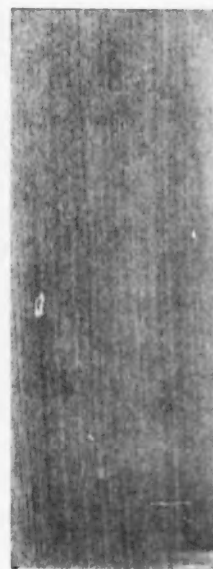


Plate VI—Whitewood

power to hold glue, make its use very extensive. It is commonly finished natural, but will take any stain very satisfactorily. White pine is frequently used under white enamel, and is even more satisfactory for this purpose than yellow pine.

Whitewood—Poplar—Cottonwood

These trees are not related, but all have similar qualities and uses. They are frequently used for interior wood-

(Continued to page 60)

Beauty in Cobblestone Fireplaces

A Fireplace Expert Tells How to Build with Success Using Unsplit Cobbles
By James Whittington

Rochester, N. Y.

THESE photographs of fire-places are some of a number that I have built in the neighborhood of Star Lake, St. Lawrence Co., this State, while not overly novel, they may be interesting to home builders.

Probably to a few people the fresh colors of split stone appear more beautiful; but the natural cobbles appeal to me and I think that the colors that have been painted by frost and storm and forest fire will be interesting when the



Unique Stone Fireplace in the Summer Home of James Whittington, Star Lake, New York. Large, Undressed Stones Form the Arch and Smaller Stones the Chimney. Mantel Shelves are Concrete Slabs



Rough Cobblestone Fireplace Built with Self-Supporting Stone Arch, in Summer Cottage of Minford Backus, at Star Lake, N. Y.

lar to tapestry brick and being rather porous they lay up almost like brick. In past I have built several chimneys of them four inches thick and to a height of ten feet above roof and without any lining except the plastering—Of course using the best cement mortar and plenty of wire reinforcement, with flue lining or brick on edge the building is made much easier.

Have built outside cobblestone chimneys, going up four feet per day without any trouble or collapse but would not advise the ordinary mason to do so. Cobblestone work, like concrete, if carried up too quickly is liable to collapse and collapse suddenly and entirely; while if given time to set stones may fall out or be knocked out without endangering the structure. The shelves on these fireplaces are of reinforced concrete.



The Broad Chimney, Full Width of Fireplace, is a Feature of This One.



Neatly Finished Cobblestone Fireplace and Chimney. Each Stone Abounds With Color

split stone has lost its novelty.

The pictures can not show the beauty of the stones either as to color or texture. They have a texture almost simi-



This Fireplace is Given Individuality by the Polished Oak Mantel Shelf, Supported by Two Huge, Rough-Stone Brackets.

Staining Interior Trim

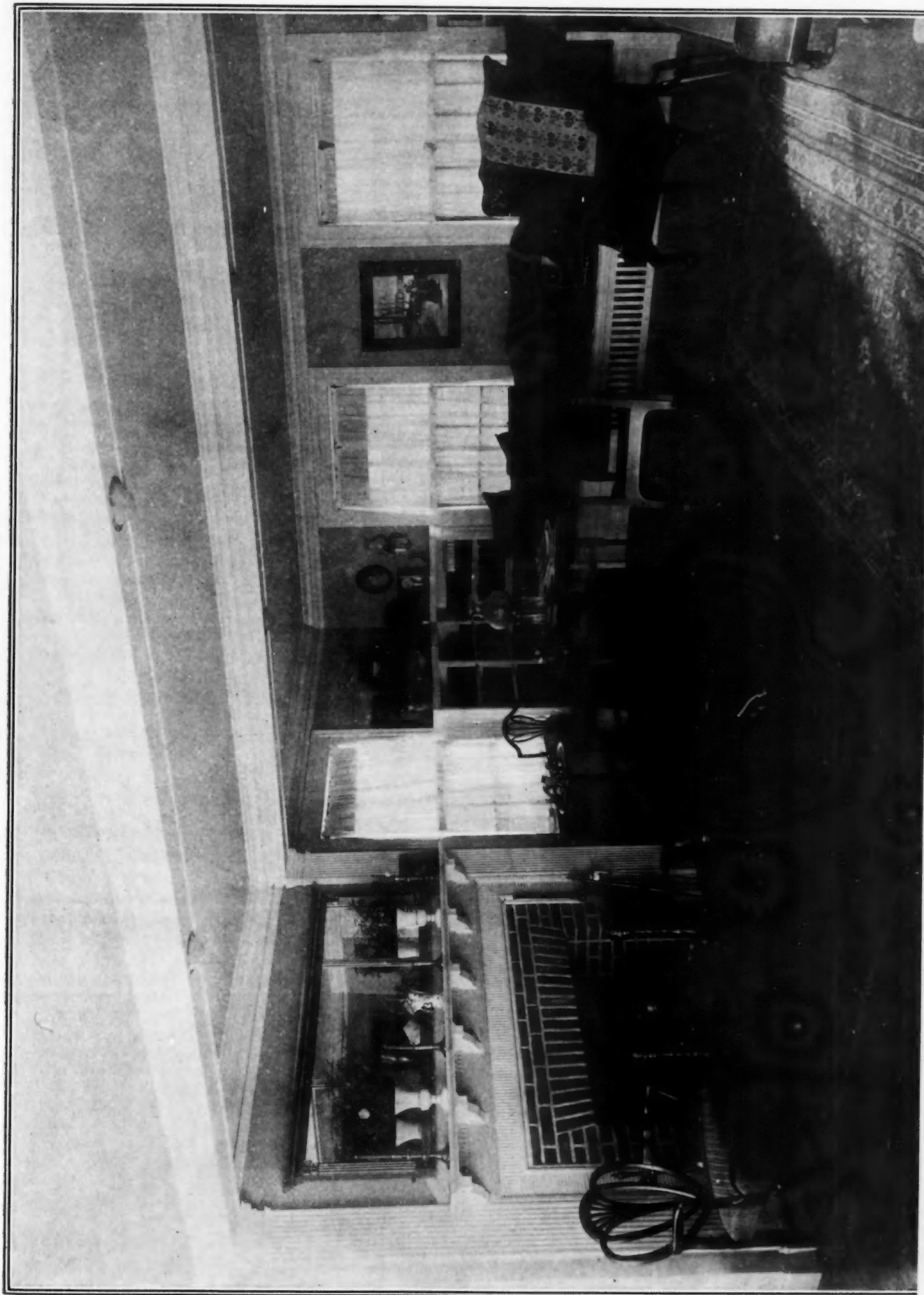
(Continued from page 59)

work, woodenware, and paper pulp. The fact that these woods are all rather light in color and have no pronounced grain, makes them especially suitable for white enamel woodwork. They have less tendency to yellow streaking than yellow pine, although good under-coatings are essential. At the same time these woods can be finished natural satisfactorily. By staining whitewood mahogany, a fair representation is obtained because of the absence of strong grain.

Too Rural

Art Dealer—"This is a beautiful scene from Hamlet."

Mrs. Newrich—"I don't care for hamlets. Show me a good-sized city."—*Judge.*



Large, Comfortable Living Room Finished in White Enamel. Notice the Broad Upholstered Seat at the End of the Room. A Radiator is Underneath. Heat Passes Out Through the Grille Work. Open Book Shelves are Built Into Corner of the Room at the Ends of the Seat. Mantel and Ceiling Beams are in the Best Colonial Style. The Shallow Electric Light Globes under the Ceiling Beams Make a Unique Lighting Arrangement.

IDEAS FOR HOME BUILDERS

A Garden Bungalow

By C. Bryant Schaefer

A FEW decades ago the country home only had a small parlor for visiting. Now the entire house has to present a welcome.

The old-fashioned parlor was a dainty place kept by the women, while the men received their callers on the front fence. Masculine life clung to the open. Only on rare occasions were they coaxed into the little shut-in parlors. Many a farmer would have lived longer had he slept in the barn, also, instead of the stuffy, corked-up bedrooms.

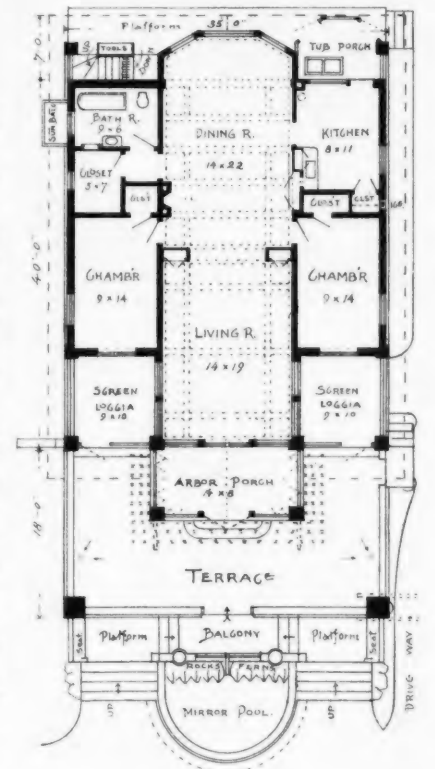
However, no one has thought of planning to enjoy the pleasant side of outdoor work. It deserves as much attention as the ladies' fancy-work department, if not more, for some of the most attractive old-fashioned gardens were often from the love and skill of feminine care.

We have had types of houses planned for the parlor maid, or the cook, the floor scrub, the plumber or the steel-square carpenter, and, yes, the gingerbread mill man. So this design is for the gardener.

Today people are seeking natural beauties and the forces of nature that build up life. These they should never have lost; but the water is not missed until the well runs dry, sometimes. So now there is haste to secure pure water, fresh air, sunshine and activity, the most wholesome tonic of all; the best heater, appetizer and germ corrector of all. It will enforce an entirely new and simpler system of planning and remodeling of the old style of closed dwellings.

Airy porches and sunny bays have been introduced from time to time and balconies also, but often inconvenient of location. The one-story cottage, therefore, came as an acceptable solution.

The bungalow herewith is designed to take advantage of the open air surroundings. The terrace steps may become a reception room, the front yard a parlor and the porch one of the rooms of the interior. The bedrooms may be thrown open to loggias that secure practically open air sleeping when desirable. All the attractive features of the garden are in line with the daily duties, nothing



Floor Plan of Bungalow



The Author's Conception of How the Garden Bungalow Will Look When Completed and Surrounded with Flowers and Shrubs

set apart in the stiff, old-fashioned way. Every room has its outdoor connection and usefulness. The size of the living and dining rooms is sure to secure free space unobstructed by furniture.

All the conveniences of sideboards, closets, book cases and mantel are at hand. The stairs are on the back porch, which is open to the roof.

A kitchen annex is inclosed with glass and screen doors. The tub plumbing has to have a shut-off in the kitchen for cold weather. The kitchen sink and dining room sideboard are adjoining, which saves many bothersome steps. The bath is convenient to the linen closet. Placing the living rooms in the middle of the house, makes them warm in winter and cool in hot weather.

It will be noticed that the arrangement indulges some of the desires that are frequent pleasantries among domestic people. Think of actually flushing the front room with the garden hose on house-cleaning day! Of putting your feet out the chamber window in the morning and enjoying the air. There is no front gate to break down, but a pleasant settee to linger on. What better recreation than that of mulching the shrubbery with a shower bath on the balcony thereafter. It is a wholesome game that friends should be invited to share.

What picture equals that seen from the front porch—the reflection of the trees beyond or the moon amid the ferns down below the entrance way?

Or passing by, one sees a glimpse of cottage in the pool margined with grasses and flowers. Who would not feel drawn to the simple and natural steps on either side for further explorations?

Up the back stairs is a cot-loft for a retreat, a den from which steps near at hand lead to an observatory in the front roof. Here there are posts for an awning. Even the vines climb up here on trellises provided from the pergola-like porch—a veritable vine-clad cot, rivaling the description of prose or poetry.

A simple cot around which to cultivate natural beauties is acceptable to more persons than those who have a taste for gardening. In the changing seasons of the North there may be more to cultivate in this respect than yet discovered and results may come to rival the admired beauties of the constant sunny South.

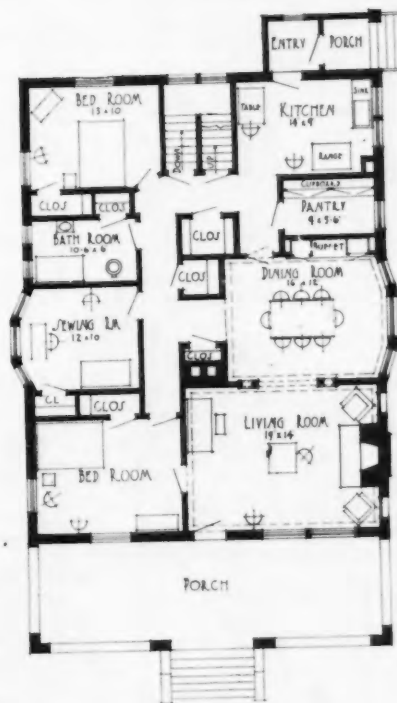
Concrete construction makes this prospect possible, because it is unaffected by changes of temperature, by the wet ground or dry atmosphere.

Six-Room Bungalow

FRED Tucker, contractor and builder, of Minonk, Ill., is responsible for this cozy little brick veneer bungalow. The outside walls are made up of dark colonial brick in black mortar. The brick cost \$15.00 per thousand. Trimings are of stone and the roof is slate.



Six-Room Brick Bungalow Built at Minonk, Ill., complete in every way for \$5,300.



Interior Arrangement of Minonk Bungalow

It is a typical bungalow cottage. There are six nicely arranged rooms on the main floor: a large living room with connecting dining room, kitchen and pantry nicely arranged, three well placed bed rooms and a good sized bath room.

The arrangement of the rooms in this bungalow is worthy of close study. Every part is easily accessible from every other part. The interior hall allows one to pass freely from any of the bedrooms to the kitchen without having to pass through the living room or dining

room. At the same time no important space is given up to this hall.

It is usually quite a problem to lay out a bungalow with all rooms on one floor so that there is sufficient privacy. As the saying is, one part of the house seems to be right on top of another. This complaint could never be made of this bungalow.

The interior is finished in oak, birch, and yellow pine. The living room and dining room are in oak; the pantry and bathroom, birch; and the rest yellow pine. All doors are one panel. There are oak floors throughout.

The second floor of this bungalow gives a fine, large, well lighted storage space; and, in fact, two or three nice rooms could easily be finished off on the second floor. As the stairway opens from the hall, these rooms would be accessible.

Contractor Tucker states that he built this brick bungalow complete for \$5,300, including a Holland furnace placed in cemented and waterproofed basement. This contract also included the plumbing, but not the lighting fixtures.

Large English Style Residence

ONE of the most attractive and well equipped modern homes of the year is the English style stucco residence of Banker D. B. Forshay, at Anita, Iowa. The plans were drawn by Lloyd D. Willis, architect, of Omaha, Neb., and it was built by Goodpasture & Sons, of Anita.

It is claimed that nothing could be added to make this house more convenient. The arrangement of the rooms on both floors is first class. The sleeping porch, with its wide overhanging eaves, is one of the most attractive things about the house. The bathroom has a Mosaic tile floor and base. The plastered walls are sand finished and tinted with oil colors, except the service portion, which is

white coated; and owner's room and guest's chamber, which are papered.

The woodwork on the second floor is birch, all white enameled excepting the doors and the window stools, which are finished in dark mahogany. The hall, living room and dining room are finished in plain sawed red oak, stained weathered. The kitchen and pantry are birch, natural. All floors except kitchen, pantry and maid's (which is maple) are plain red oak.

The attic is plastered, cased and the

walls tinted in water colors. The laundry and furnace room are ceiled overhead and the wall plastered.

The house is heated by hot water. Vacuum cleaner pipes are placed in the walls, so the cleaner may be attached on all floors and take the dust to the basement; the system is operated by a motor. The house is wired throughout, including the closets, attic and coal rooms, and three-way switches operate the lights in the garage. All outside wires, including telephone,

are run in underground conduits.

The exterior of this house is stucco, finished in a rough cast. The brick are a real dark red gas burned brick, and are quite rough, but of good, even color, and are laid with white cement mortar with a half-inch cut joint. The stone coping and door sills are blue Bedford. The painting is a very dark chocolate brown. The porch floor is reinforced concrete, and the doors thereto swing outward. The front entrance terrace is cement colored



Basement Plan



First Floor Plan



Second Floor Plan



Large English Style Residence, Built for D. B. Forshay of Anita, Iowa, by the Local Building Firm of Goodpasture & Sons
Plans Drawn by Architect L. D. Willis of Omaha

dark red and marked off in 12-inch squares. The exterior stucco is asbestos and white cement.

This place will make a much nicer picture a year from now, as it is to be surrounded by a formal garden, with a great many kinds of trees and shrubs. Stepping stones lead from the rear to a pool in the center of

toilet room with clothes chute completes the first floor.

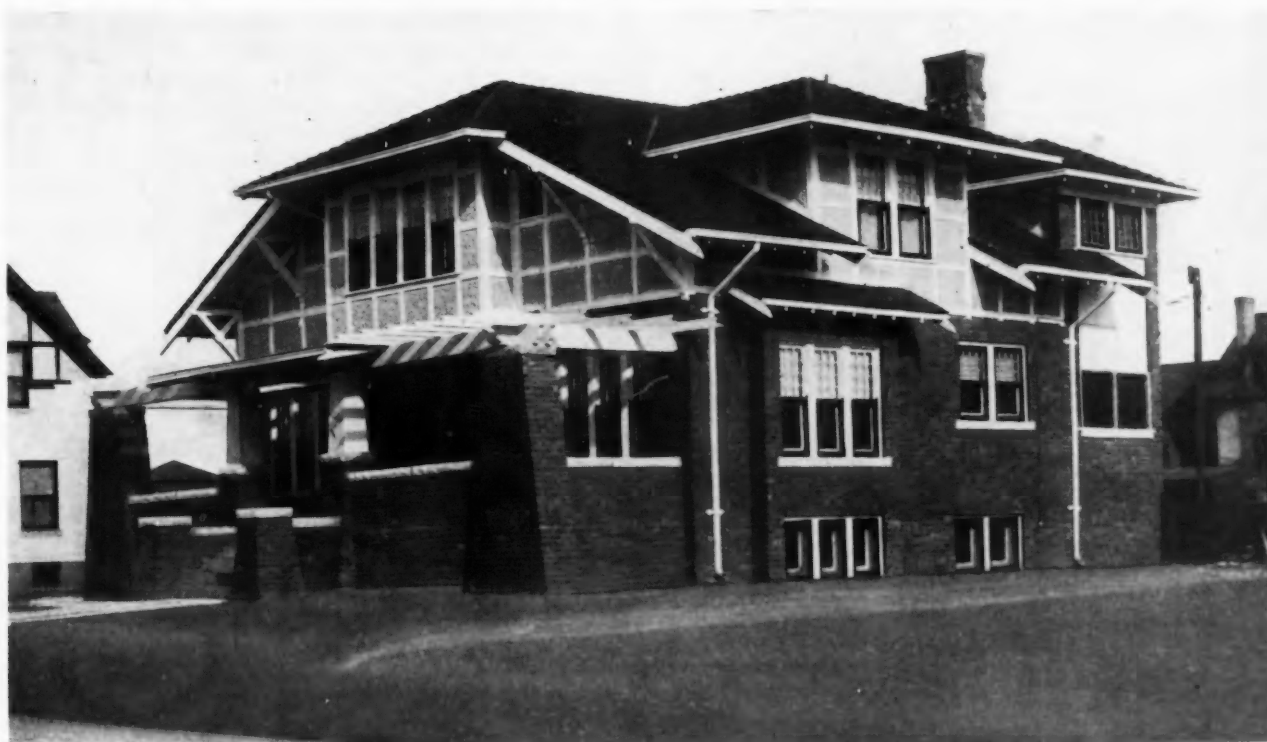
The second floor is divided into three bed chambers, with full-height ceilings, sleeping porch, bath, and three extra large closets.

The exterior is a true bungalow with wide, low cornice, heavy brackets, and that "all width, no height" effect so

"So Live Your Own Life"

Prospective tenant (viewing house)—"I think, after all, a flat would suit us better."

Caretaker—"Well, sir, fer meself, I feel a flat so much like a prison; but then, of course, it all depends on what you're accustomed to."—Sketch.



Eight-Room Brick and Stucco Bungalow Style Dwelling, Designed and Built by Chas. M. Gates, Architect, Denver, Colo., Cost \$3,500

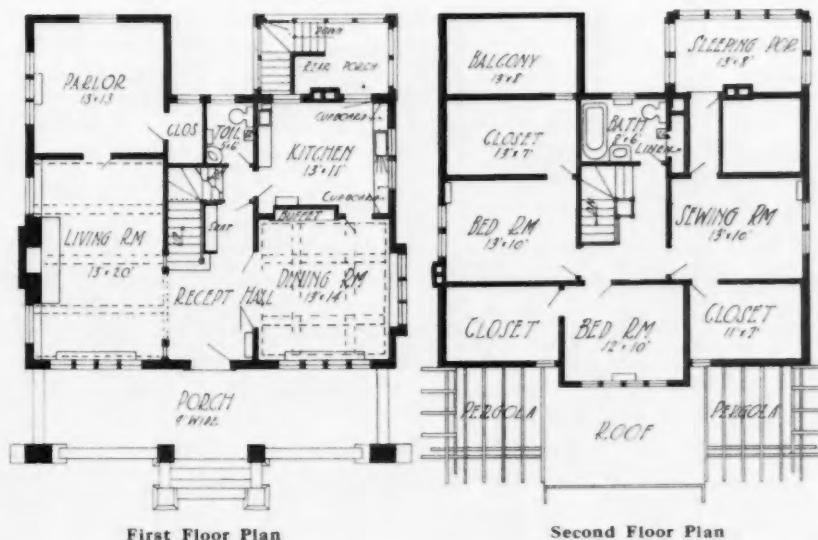
the garden. Cinder drives lead to the garage, and along the north of the house. A sundial is on the lawn at the south of the house.

The fireplace is built of the same brick as the exterior, except with a deep raked joint. The vestibule floor is of red tile.

A Center Hall Bungalow

THIS modern bungalow has been designed and built by Chas. M. Gates, architect, of Denver. This is the same Mr. Gates, it will be remembered, who won the first prize in Class A competition of last March. The basement is fully modern, having a press-brick lined billiard room and den combined, as well as laundry, furnace and coal rooms.

The first floor has large living room with built-in bookcases and beam ceiling. The dining room has beam ceilings and buffet and window seat built in to match the living room book cases. The room back of the living room can be used for a back parlor or a ground-floor bedroom, as desired. The kitchen has all the built-in conveniences, including a broom closet. A ground-floor



desired in bungalow construction. The stucco gables add materially to its appearance.

Price, complete, is said to have been \$3,500. A dwelling of this style and completeness of equipment could very easily run much more.

It Does Feel Like That

"Here's something queer," said the dentist. "You say this tooth has never been worked on before, but I find small flakes of gold on my instrument."

"I think you have struck my back collar button," replied the victim.

An Inexpensive Small Farmhouse

U. S. Department of Agriculture Suggests Plans for Tenant or Owner—A very Livable Farm Home for \$1,000

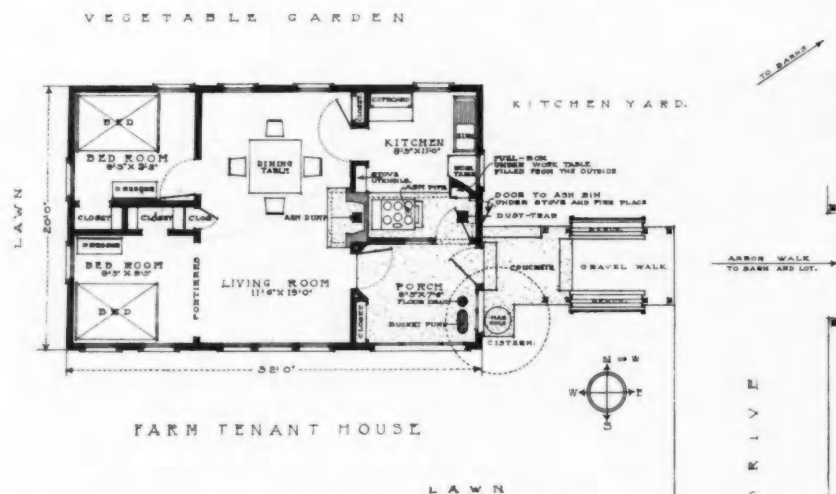
THE Department of Agriculture has made public the first of a series of plans for farmhouses to be prepared by its specialists with a view to enabling farmers to construct inexpensive and better homes. The

structures reasonable in cost and of good material, and so arranged as to give the maximum in health, comfort, and happiness to the family, and added convenience to the housewife in her domestic operations.

believed is of increasing importance to farm management because of the increasing number of rented farms, the growing demand of tenants for modern houses, and a better understanding of the influences of the home upon farm labor and field efficiency. The census report of 1910 shows an increase during the previous ten years of more than 324,000 rented farms. Many of the new tenants moved into good houses vacated by the owners, but many others are living in buildings wholly unsuited to their needs. The cost of these houses commonly is inconsistent with the value of the farms, and the lack of improvements in them too often is in striking contrast with the outbuildings, farming machinery, and field equipment.

The tenant house, perspective drawing and plans of which are shown, is a simple, four-cornered structure, without bay windows, gables and dormers, or any projection save the cornice, which overhangs and protects the walls and window openings. The house is planned for the smallest dimensions and the most inexpensive arrangement consistent with the needs and the convenience of a small family. It has but one chimney and but one outside entrance.

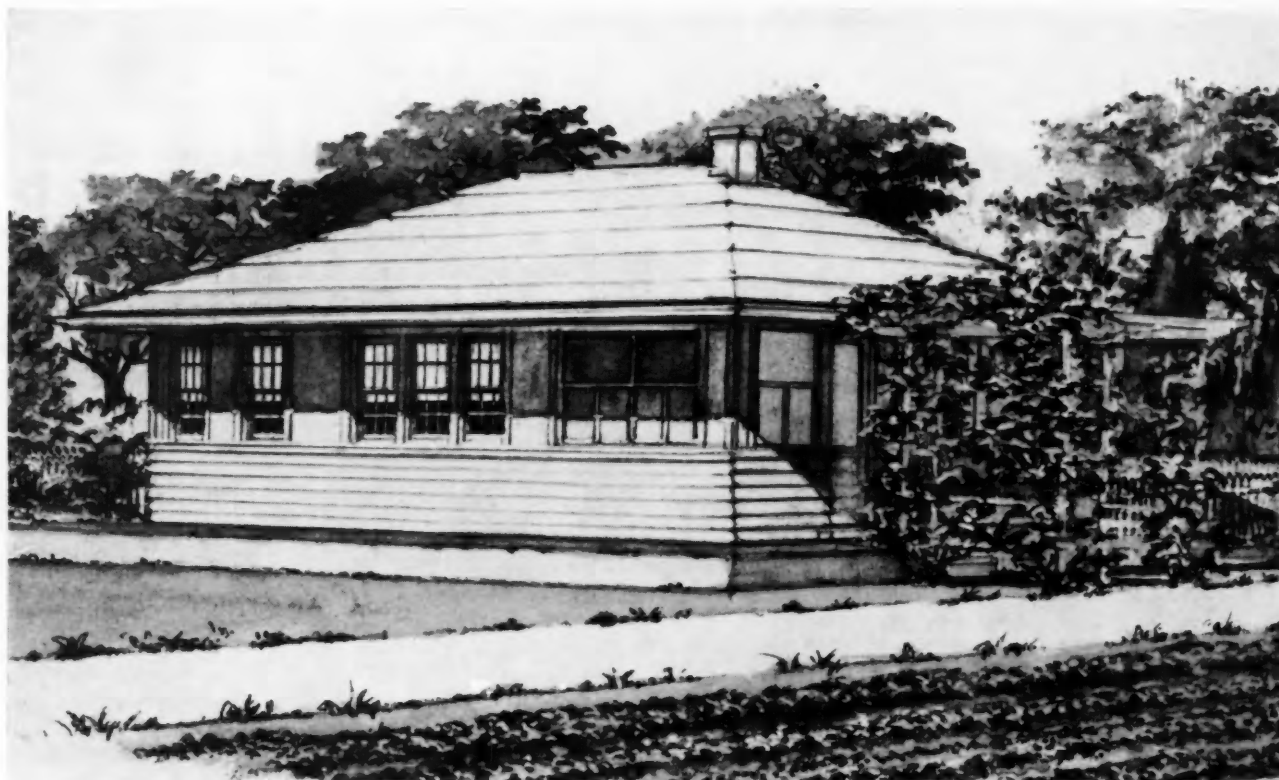
One entrance would be insufficient in a town house, and it may be in this one;



Arrangement of Small Farm House and Surroundings

basis of the inquiry is the belief that the farmhouse is the most important building on the farm, and money judiciously expended in its planning and construction is well invested. The objects sought in the plans are to provide

These plans are for the construction of an inexpensive farm tenant house, although the house as planned contains many valuable suggestions for owners with small families. The provision of proper tenant houses on farms it is



The U. S. Department of Agriculture Offers This as the Biggest Value \$1,000 Will Buy in a Five-Room Farm Home

but another door can be gotten into the plan only by a sacrifice of wall and floor space, which can not be spared, or by increasing the size and cost of the house, which in connection with this problem cannot be done. If a door is substituted for one of the three windows in the south end of the living room, the best part of the room will be ruined. Moving the entrance door to the south side of the porch would not only restrict the uses of the porch, but necessitate an outside door in the kitchen which, in turn, would necessitate a corresponding increase in the floor and wall space of the kitchen. If the door that opens from living room to porch, were moved farther from the fireplace, valuable floor and wall space in both room and porch would be sacrificed.

These little details affect the size of rooms and of the building and, therefore, the cost. They are sometimes, and of necessity, influenced more by economy than by convenience; but by careful study they may often be made consistent with both. It is economical, for instance, to have but one outside entrance to this house. With this entrance nearest the barns and the entrance from the highway, and treated as it is with the simple and inexpensive pergola and benches, which separate the lawn and the back yard, it should serve every purpose of a front door, and as well, also, a kitchen door. In many ten and twelve-room farmhouses with three or four outside doors, only one door is much used, and that one is either in, or near, the kitchen.

Notwithstanding the simplicity and the playhouse appearance of the building suggested by the Department, it provides more usable space for the daily activities of the family than many larger houses. It is more convenient for a small family, more comfortable, healthful, and delightful than many farmhouses costing twice as much.

THE KITCHEN. Very few residences of any size or cost have a kitchen more pleasantly located, better lighted and ventilated, and more conveniently arranged than this little four-room house. It is brightened by the morning sun, cooled by the southern breezes, and shielded from the intense heat of summer afternoons. It commands a view of the garden, the play grounds, the barns, the lawn, the gate, and the highway. It opens onto a screened porch which, in summer, is the most livable nook in the house. Much of the kitchen work may be done there away from the fumes and the heat of the stove which, happily for the other rooms of the house, blow out through the north and east windows.

LOCATION OF THE STOVE AND ASH BIN. The stove is well lighted and, with the porch window closed, it is out of the cross-drafts of air. It is within 6 feet of the most distant fixture in the kitchen and but little farther from the dining table. All stove utensils are within reach and the work table and the fuel in the box beneath it are but two steps away. The ashes drop from the firebox of the stove, through a short pipe to the ash bin underneath the concrete floor.

The walls of this under-floor bin are shown on the plans by dotted lines. The bin is under the stove and fireplace and extends to the outer foundation wall of the kitchen, where the ashes and floor sweepings are removed by means of a long-handled drag. If the building is raised on a front terrace, the bin will be 26 inches deep with its floor at ground level. With a cellar under the kitchen, the bin need be extended only to the front end of the stove. It will be deep enough to hold a year's supply of ashes.

The fuel box, supporting the table top, occupies space which might otherwise be wasted. It is filled from the outside of the house and emptied from the inside through a small door over the concrete floor.

A trap or dump, like that in the fireplace, is provided for floor sweepings and possible dust from the door of the coal or woodbox. It is in the concrete floor, behind the kitchen door, near the fuel-box opening and over the ash bin.

The carrying of fuel and ashes is thus eliminated from the woman's work; provided the man or boy fills the coal or woodbox each week, and empties the ash bin two or three times a year.

WATER SUPPLY. The water problem has also been carefully considered in this little plan. Cistern water may be drawn from the bucket pump on the porch or, if desired, from a pitcher pump at the sink. Hot water is heated and stored in the reservoir of the stove. The sink, with only the drain pipe to be provided, is too inexpensive to omit from any kitchen and space enough has been saved in this one to more than pay for all such conveniences.

This little kitchen excels many others in not being a thoroughfare to other rooms. The men and boys will wash on the porch, leave their hats and rain coats there, and enter the living room without disturbing the kitchen workers.

THE PORCH. The screened porch is as large as the plan will permit; but too small for all the purposes for which it will be in demand. Besides the usual

kitchen work, the ironing and perhaps the clothes washing will be done there. The one screen door locks up the house; and butter, meat, and milk put on the porch to cool at night, will be secure against dogs and cats. The porch will be in demand also as a dining-porch, sitting-porch, sleeping-porch, and play room. Its uses and the comfort of the house in winter may still further be increased by putting in porch sash and a solid door.

THE LIVING ROOM. The living room is large enough for the longest dining table that harvest days will ever require and, with its two routes to the kitchen, it is unusually convenient for feeding a large number of workmen. With triple windows on the south and two on the north, a screened porch on the east and an alcove bedroom on the west, it is as pleasant a dining and sitting-room as a \$5,000 house can afford and, with a glowing fire in the hearth, it may be as comfortable and as cheerful in winter as a steam-heated mansion. This house should cost from \$800 to \$1,000, depending on local conditions.



Secret of Damp Weather Painting

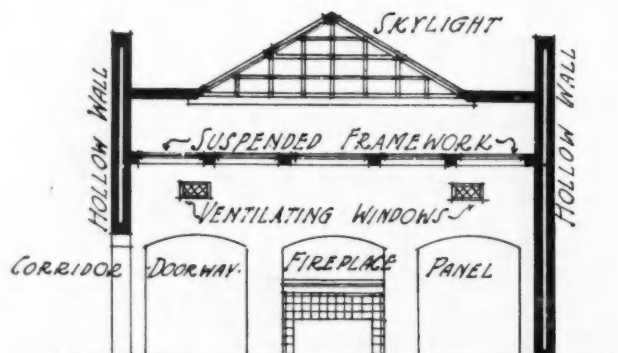
In damp weather I always carry a chamois-skin to wipe off all moisture before painting, says L. O. Garner. It has always been a mystery to me why more painters don't do the same. This little leather stood me in good stead last fall. The painter that started a job left the north side of the building and said that neither he nor any one else could paint that part, as it was covered with water every morning. This was true. As I was working inside at the time I had taken a look at the surface and had noticed that the moisture evaporated at noon and commenced to collect again about 4 o'clock. As the job was not mine, I did not say anything until asked by the builder, who was very anxious to get the house finished and off his hands.

This is what I did: At about 9 o'clock in the morning, I wiped off the work with the chamois, and by adding a trifle of good Japan drier to my color so as to have it dry before the moisture collected on the work, I secured fine results. Today that part of the house looks just as good as the rest.

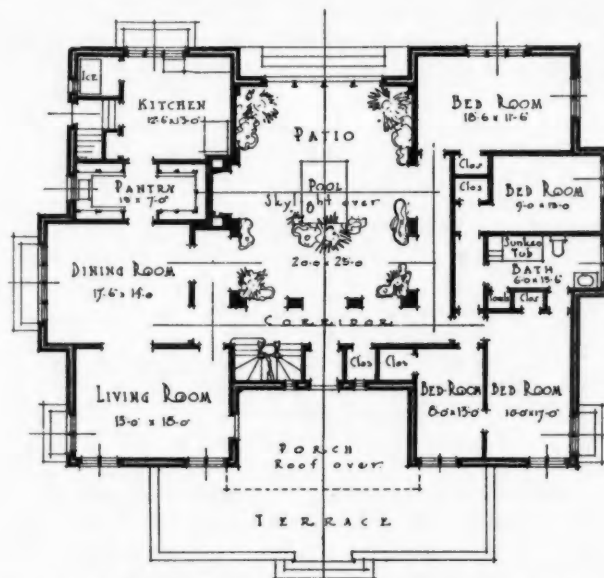
Another point to consider in outside painting and one that is often overlooked is carelessness in puttying. I always look carefully for all places where moisture could get in behind my work. If a cupful of water gets behind some moulding or any part of the work, it is going to get out again, and when it does, some paint is going to come off.

Unique Spanish Style Bungalow

"BUILT LIKE A THERMOS BOTTLE" OF HOLLOW WALL CONCRETE CONSTRUCTION AT MODERATE COST



Section Thru Central Court or Patio, Looking Toward West Wall



HOUSE FOR DR. C. R. PULLEN - GREECE, N. Y.
CLEMENT R. NEWKIRK, ARCHTCT., CITY OF, KING, ROCHESTER, N. Y.
Interior Arrangement Follows the Old Roman or Spanish Style

DR. CHARLES R. PULLEN, of Rochester, N. Y., spent a good many years in Mexico and South America, and became thoroughly converted to the Spanish way of arranging a dwelling—all rooms around a central court or patio. In the summer of 1913, therefore, when he got around to build on his country place, he was determined to have a Spanish-style house.

The severe New York State climate had to be reckoned with, though. The big, open, airy, court-yard house might

seemed to fall short of what was needed for this particular case.

The method finally chosen is what has been called "thermos bottle construction"—two walls of solid concrete with a two-inch continuous air space between. This makes literally a house within a house. The inside is entirely insulated from outside air and is, therefore, independent of the outside weather. In building these walls no forms are used; and it is all done so simply that the builders hold the cost away down, on

tural novelty.

The photograph shows the residence nearing completion. Notice the horizontal marking on the walls. These lines show the daily courses as the concrete was poured into the hollow wall machine. When finished these walls have a rough cast stucco coat. Inside the plastering is applied direct to the concrete. No furring or lathing is used or needed.

As shown by the plan, the house is built around a central court, which ex-



Residence
Country-Place Structures of Dr. Charles R. Pullen, Rochester, N. Y., Built with Double Concrete Walls
Cottage, Garage, Stable

be all right for torrid Mexico, but how about the feasibility of such a plan for northern New York?

The Doctor wanted to keep the cost down, yet some form of very warm, dry and permanent construction was required; and this, as all builders know, usually means high cost.

All of the ordinary methods of building were suggested, but one and all

a level with ordinary wood construction.

Dr. Pullen thought well of the new method; but being an extra prudent man, determined to try it out first in a small way. He built a poultry house first and with such good results that he followed with a combination garage, barn and tenant house. Then, in all confidence, he ordered work started on the main house; which is a real architec-

tends up to the roof, something like 30 feet. There is a skylight in the center of the court. At a height of about 20 feet there is a suspended frame work divided into 4-foot squares. This will eventually be covered with ivy, which is planted around the edges of the court. It will climb up the cement walls and run out onto the frame work.

The interior of this bungalow is fin-

ished very simply. The living and dining room walls are tinted light yellowish brown. The tinting was mixed with the plaster before it was applied and the walls left with a somewhat rougher finish than usual.

Those living in this hollow wall concrete house do not feel the changes of the outside atmosphere.

While studying up on the different

started to build cellars with the hollow wall machines, as they appealed to me from a builder's standpoint, because they are so much cheaper and more easily constructed than any other system I have been able to secure. Then finding the many advantages they have over a solid wall, it appeared to me that the same system would make a better house as well as a better cellar. I built two

of more than \$200.00 per house, and has sold them for \$300.00 more than if built with wood, making a net profit of \$18,000 by using this method. Twenty per cent is saved on insurance; and higher rents are obtained.

The photograph shows two of these houses during construction. The outside appearance is varied; but the arrangement of the rooms is the same



Two Eight-Room Cottages Erected by W. N. Britton for Eastman Kodak Employees, in One of the Rochester, N. Y., Suburbs

building methods, Dr. Pullen found that this "thermos bottle construction," while comparatively unknown to the majority of builders, is by no means new or untried. He found it had been in successful use for about six years for buildings of every sort—residences, store buildings, garages, farm buildings, factories, ice houses, etc.

Better Buildings for Less Money

Small and medium sized dwellings are put up at an actual saving over frame construction, in some instances of more than \$200.00 per house. For instance, the two dwellings illustrated on this page have just been built by Contractor W. N. Britton, of Rochester, N. Y. Under date of January 5, 1914, he wrote the manufacturers of the hollow-wall machine with which these "thermos bottle" concrete houses are erected.

The Van Guilder Hollow Wall Co.,
700 Chamber of Commerce Building.
Rochester, N. Y.

Gentlemen:—Some six years ago I

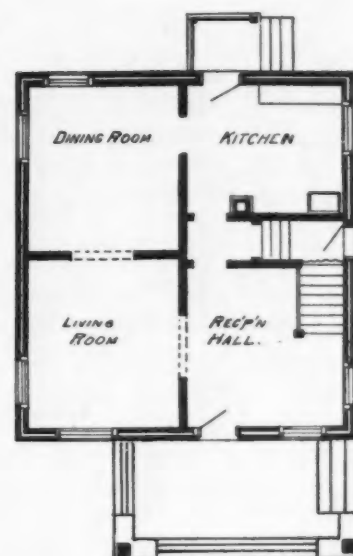
houses the first year, ten the second year and have increased the number each year. I have now eighty houses which I rent, the larger portion of them being built by this system. I have also built and sold many of this style, as well as frame houses and find the so-called thermos houses sell better, rent better, mortgage for more, and give much better satisfaction to the occupants.

I have often heard my tenants mention how easily these houses are heated and how comfortable they are in summer, and can now verify their statements by my own experience, having lived a year in my twenty-room residence, which I built with your machine.

(Signed) W. H. BRITTON.

Mr. Britton has built quite extensively homes for Kodak Park Employees. On thirty-six buildings, 27 by 29 and 25 by 27 feet, eight rooms and bath, he has made a saving over frame construction

throughout. The diagram shows the first floor arrangement.



Typical Floor Plan



And Now Stock Terra Cotta

MAKERS NOW CARRYING WIDE SELECTION OF BEST TERRA COTTA TRIM FOR IMMEDIATE DELIVERY
—BUILDERS USING IT ON ALL JOBS, LARGE AND SMALL

IN the building world, just as in many other phases of life, the big operator has some advantages that the little one does not have. Stunts are pulled off on million dollar skyscrapers that would be out of the question on a one-story block of stores.

The very immensity of the work and the number of pieces of each separate item required, bring the unit cost away down. Special designs can be used, because the cost is spread over so many pieces. Desirable and rich effects are produced cheaply, which the man putting up the small building cannot ordinarily even think of. The cost and the delay would be prohibitive.



Ornamental
Supporting
Bracket

Take architectural terra cotta, for instance. The best the makers can do, it takes from five to six weeks to produce terra cotta in accordance with special designs. For a big office building, this delay doesn't matter, because it takes that much time to put up the steel skeleton and get ready to set the terra cotta. It wouldn't do on a small building though—a store or group of stores, a small theater, a flat building. These are usually wanted in a hurry and so the builder has to have all his materials at once. He would probably like to use terra cotta trim (it brightens up a building wonderfully) but he couldn't wait six weeks for special moulds to be made and terra cotta to be baked; so he wipes away a tear; and gets along without it.

Builders will rejoice, then, to know that some of the leading terra cotta producers have now made it possible to get first grade terra cotta immediately—right away—just when you want it. They are offering a big selection of the very best and most attractive designs to select from. This has been called "terra cotta without the wait." It is stock terra cotta, ready for immediate delivery. The beauty is all there just the same as in specially designed terra cotta pieces. Now, it must be remembered that the services of experienced mod-

ellers and sculptors are expensive. In stock ornaments this cost is widely distributed, which allows ornaments to be used which would be entirely out of the question for a small job.

The pendulum of popularity is now swinging strongly toward terra cotta. The beautiful white enamel pieces used in connection with brick or for all-glass store fronts, increases the value of any building. Lively, eye-pleasing designs and patterns, both conventional and modern, are being freely used, and the best of these are carried in stock. The time-worn and antique designs have been discarded.



A Sullivanesque, Typical of the
High Grade Designing Found
Today in Stock Terra Cotta

Terra cotta is appreciated because of its cleanliness.

Housewives like it. Store-keepers like it. Property owners like it. With terra cotta ordinary soap and water is all that is needed for cleaning. The original brightness and freshness remain permanently. With this material there is no need for sand blasting, acid cleaning or scrubbing with steel brushes.

As terra cotta becomes in more general use the feeling that it presents some special or difficult problem will disappear. In fact, the use of stock terra cotta is simplicity itself—you can't order brick or stone any easier.

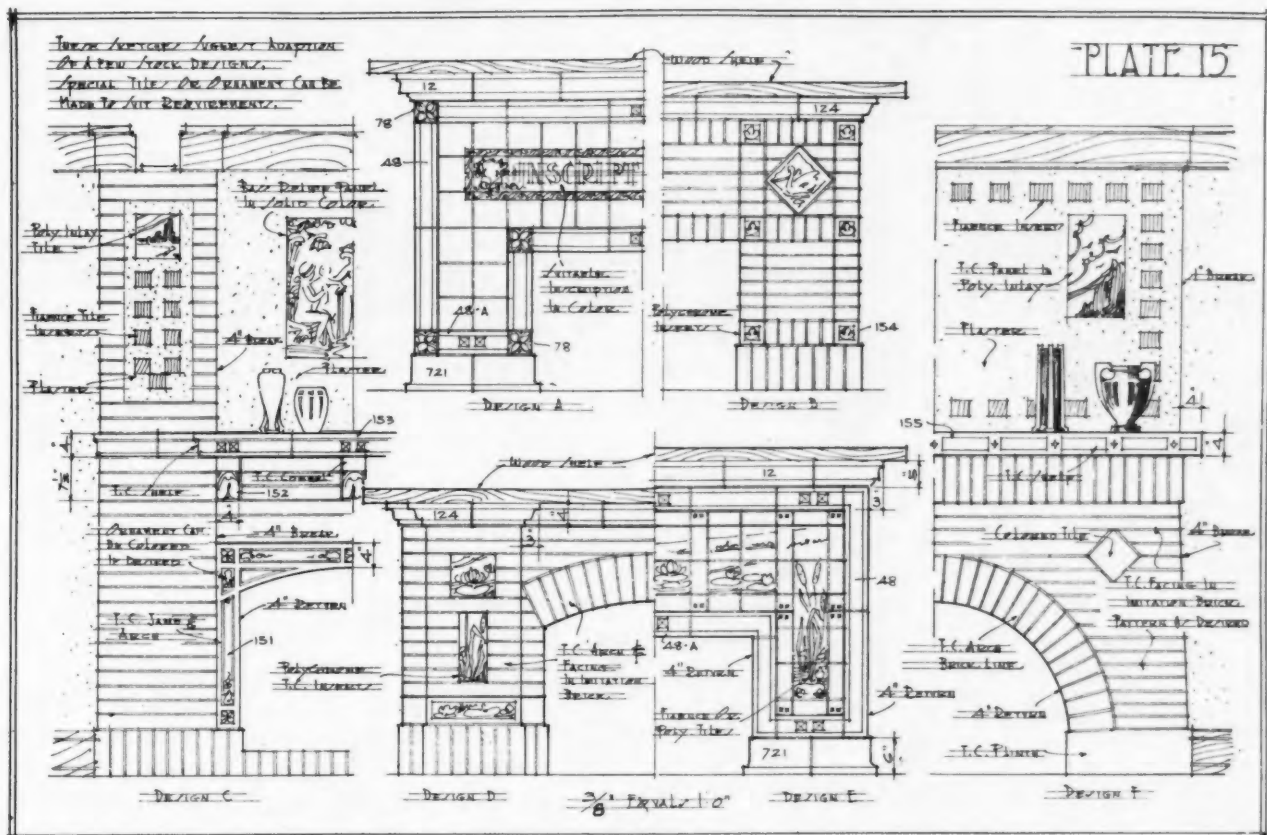
The detail plates on the next two pages are full of good ideas for modern building. Notice the brick mantels with stock terra cotta trimmings. This is a truly beautiful piece of work, and yet it costs no more. The entrance doorway plate shows the great variety of effects that can be had by combining various stock members in different ways. Some may think that stock materials mean a monotonous effect; but this is not so with stock terra cotta. The several members can be combined in too many



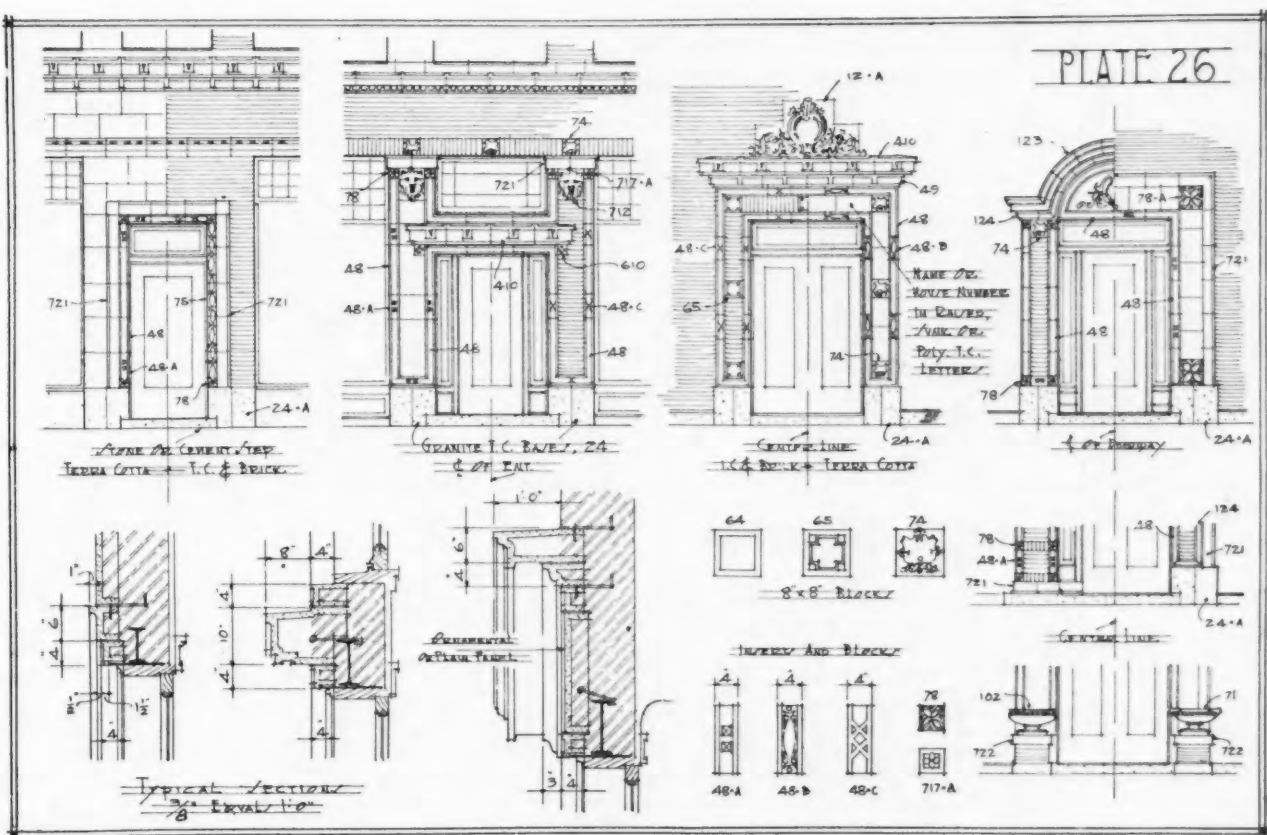
An Old Friend in Terra Cotta

different ways to raise an objection there.

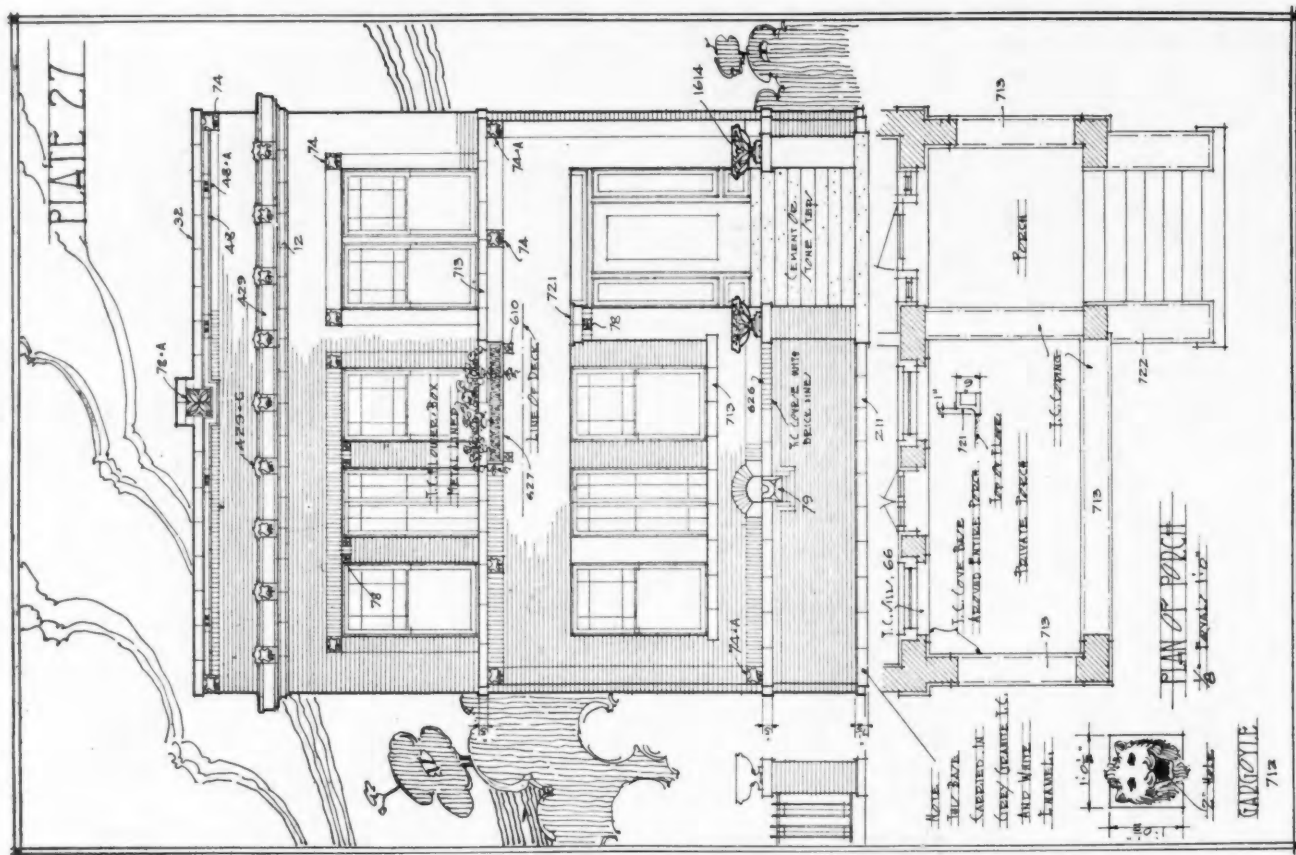
Two flat buildings facades are presented; one a two-flat building, the other a three-flat building. These are texture brick with terra cotta trimmings.



Seven Brick and Stock Terra Cotta Fireplaces and Mantels Which Offer A Wealth of Ideas to the Builder, Architect or Home Owner

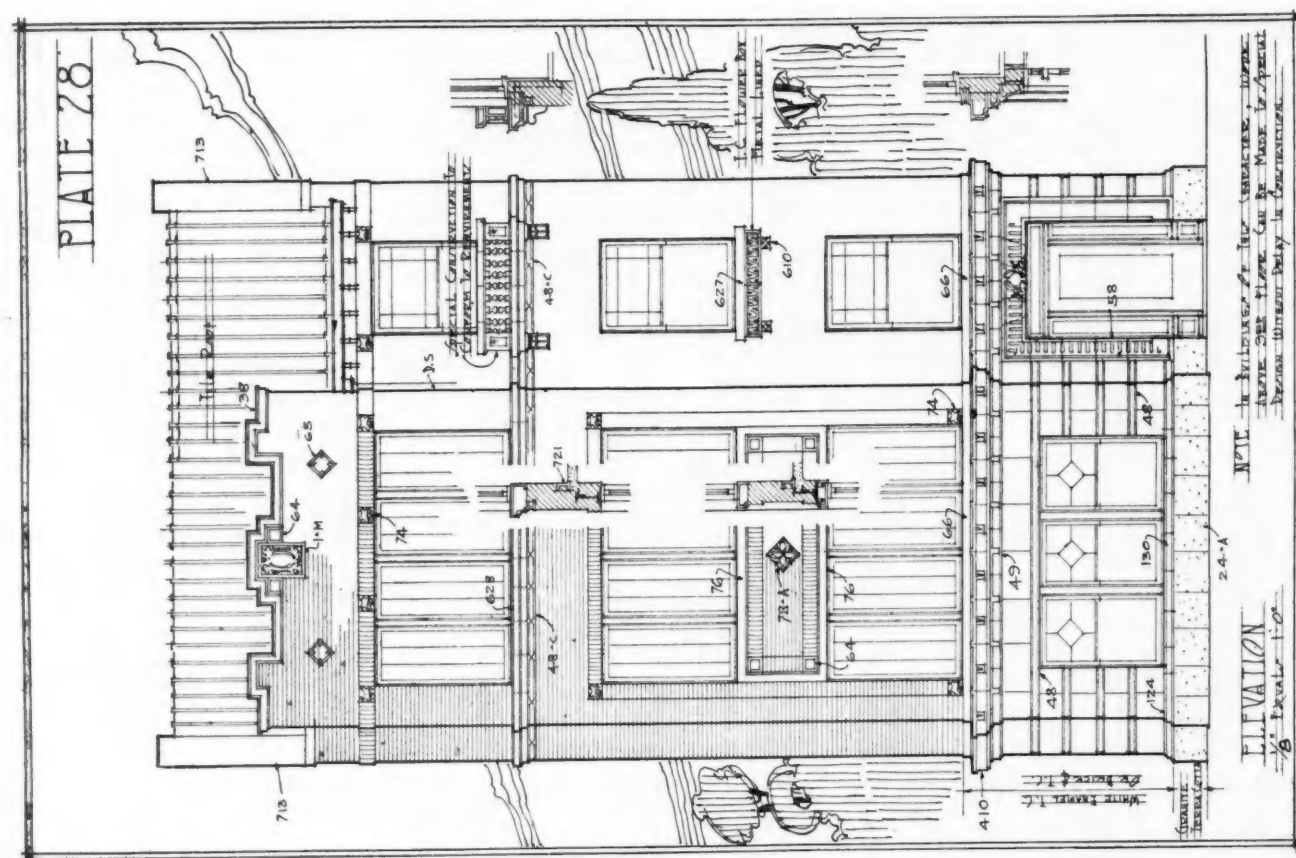


Eight Stock Terra Cotta Entrance Doorways Detailed to Three-eighth-inch Scale. Note the Great Variety of Designs Possible by Combining Simple Stock Terra Cotta Units in Different Ways

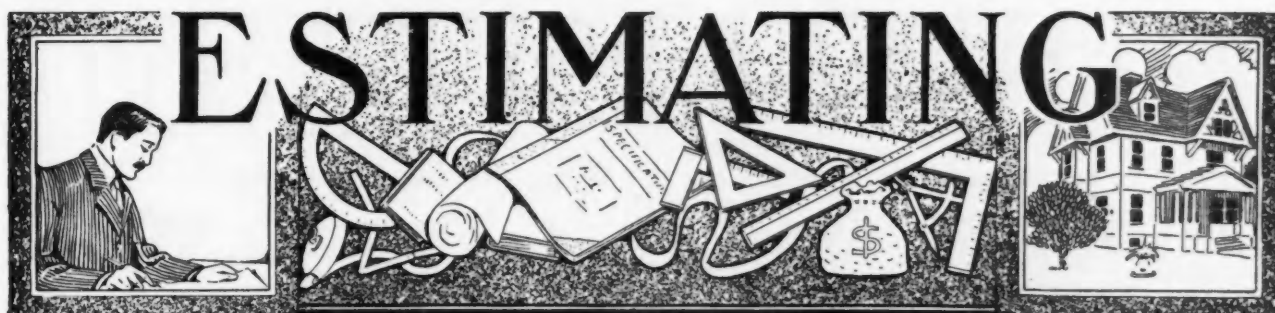


Details by courtesy of Midland Terra Cotta Company

Front Elevation and Porch Plan of a Stylish Brick Two-Flat Building. Trimmed with Stock Terra Cotta



Front Elevation of a Modern Three-Flat Building, Built of Brick and Trimmed with Stock Terra Cotta



Costs of Ordinary Carpenter Work

SOME FIGURES COLLECTED IN YEARS OF BUILDING WORK — RATE BASIS 30c PER HOUR

By C. A. Chalk

Carpenter and Contractor, Brantford, Ont.

IN reply to Mr. M. L. Schilly's wish in the February issue, I take much pleasure in offering some data which I have carefully prepared by actual experience on "how long will it take to do the job."

Mr. Schilly has certainly touched on the tender spot of the experienced, as well as the would-be, estimator, and I am quite aware of the responsibility which the writer shoulders when he attempts to quote data on estimating; so the following is not meant as a standard to adhere to in all cases, but it is as it actually worked out on the job.

The way this data was obtained was by keeping tab on the various kinds of work, from setting the joist to joining the trim.

Floor space, including framing and setting joist, bridging and flooring of one thickness of 1 by 5-inch matched spruce or pine. Per 100 square feet, \$3.00.

Partitions, including cutting and setting studding, trimming for door openings, furnished with pine base and quarter round—17c per foot run, measuring on the floor.

Outside walls, including strapping, finished with pine base and quarter round—10c per foot run.

Roofing, including rafters, sheathing cornice, shingling, ridge and wall—\$6.50 per 100 square feet.

Outside doors, including setting frame in place for bricklayers, fit hinges, lock and case inside—\$2.10 per door.

Inside doors, including nailing frame together and setting, casing two sides, fit hinges and lock—\$2.40 per door.

Cased openings, including nailing frame together and setting, and casing two sides—\$1.40 per opening.

Windows, box frame, sash weighted, including setting frame in place for bricklayers, fitting and weighting sash, cutting and nailing stops and casing—\$2.40 per window.

Ceilings of collar ties fastened to rafters—\$1.00 per 100 square feet.

Stairways, for straight stairs, strings worked on the job, set in place, wedged and glued, with starting newel and hand rail and landing newel, and, say, 12

feet of hand rail around well hole—the cost of labor will be about \$1.00 per tread; where there are winders, add \$1.50 for each winder.

The above will apply to houses that cost from \$1,800 to \$2,200, all trim for paint finish.



Estimating Carpenter Labor

To the Editor:

Chicago, Ill.

I take pleasure in supplying the information asked by M. L. Schilly, of Pierron, Ill., in February issue, regarding the cost of labor on framing houses. The following costs are based on labor at 30 cents per hour:

Making window frames.....	\$ 1.25 each.
Making door frames.....	1.00 "
Fitting inside doors.....	.75 "
Fitting outside doors.....	1.50 "
Putting up jambs.....	.15 "
Putting up casing.....	.20 "
Putting up lining.....	.15 "
Nailing base	2.40 per 100 lin. ft.
Joists	7.00 per 1000 ft. b.m.
Studs	10.00 " " " "
Bridging	6.00 " " " "
Rafters	10.00 " " " "
Sheeting	5.00 " " " "
Rough floors	3.20 " " " "
Shiplap	6.00 " " " "
Siding:	
Plain 6-inch work.....	1.00 per 100 sq. ft.
With long blank walls.....	.60 " " " "
Mitered joints	1.70 " " " "
Grounds and Furring:	
1 by 1-inch grounds	25.00 per 1000 ft. b.m.
1 by 2-inch grounds and furring.....	19.00 " " " "
2 by 2-inch grounds and furring.....	15.00 " " " "

EDWIN W. GOODE.



Fast Work Setting Door Jambs

To the Editor:

Ashland, O.

I saw in the February number of the AMERICAN CARPENTER AND BUILDER an article by I. P. Hicks telling how to set door jambs fast.

Here is one that I think will beat his. I always nail the jambs together then cut the casings for one side, square both ends, allowing room for the plinth block at bottom. Then nail a straight edge across the jambs below the casings, the same distance down on both sides (marked with a sharp knife), the straight edge also marked with knife for width of jambs. Then set it in opening and get the straight edge exactly level and compass the jambs to floor and cut them. Then set it back and plumb the casings and nail it up. You can set the jambs and case a door in this way almost as quick as you can set the jambs the other way. I can set the jambs and case two doors in an hour this way.

A. C. SOURS.



The Garage Door Problem

PART 4—ARRANGING TRACKS FOR LARGER GARAGES

By E. J. G. Phillips

Engineer with the Richards-Wilcox Mfg. Co.

Door Schemes for Three-Car Garages

Garages for three cars are shown in Figs. 23 to 26 and the methods to be used when necessary to have either one, two or three sections of doors open at the same time. Fig. 23 requires two lines of parallel tracks and three doors, the center one being hung on the track farthest from the wall. It is then unnecessary to fur out either jamb or columns. With this arrangement, of course, only one section of opening is clear at a time.

The next arrangement, Fig. 24, permits two sections of the opening to be clear at the same time and re-

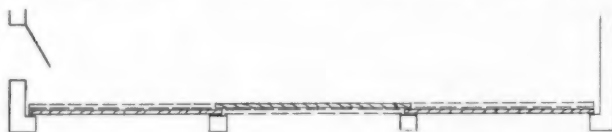


Fig. 23. Three Doors on Two Parallel Tracks

quires three lines of parallel tracks, one door running in each track. The jamb "G" should be furled out to meet door No. 3; two weatherstrips should be used at the top to keep out the weather; and guides for the bottom of each door should be provided. Another method of clearing two sections of the opening at the same time is shown in Fig. 25 where doors No. 1 and No. 3 are right angle doors and No. 2 slides on a track across the entire front of building. This method requires a little more space between the car and the doors.

In rare cases it might be desirable to have the entire front clear and this may be accomplished as shown in Fig. 26 which is a combination of right angle doors



Fig. 24. Three Doors on Three Parallel Tracks

and a third door running on a curved track. Door No. 2 on the curved track is preferably made in two sections hinged together and hung with hangers as described in Fig. 9. To clear the opening, door No. 3

is first moved back along the side wall as indicated and the way is then clear for the operation of the right angle door No. 1 and door No. 2. In hanging door No. 2 the track beginning at point "L" should gradually angle away from the track for door No. 3, this will insure plenty of clearance between No. 2 and No. 3 while making the curve.

The next plan, Fig. 27, illustrates three doors on parallel tracks all the doors sliding back toward one side when open, leaving the entire opening clear. This method may be used when the wall space is not less than the width of one door. It is not necessary to have the three tracks extend entirely across the opening, the first track need only extend across one-third the opening and the second track across two-thirds the opening.

From the installations just described and the accompanying illustrations the doors of almost any form of

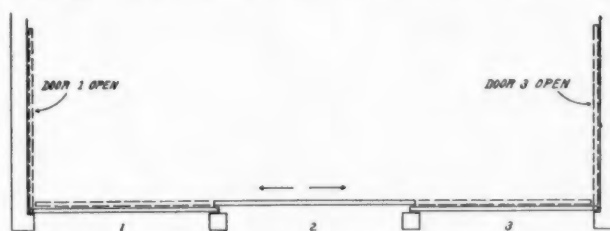


Fig. 25. Two Right Angle Doors and One Straight Slider

garage opening can be provided for. Of course, different combinations of the above methods will suggest themselves to one who has special conditions to meet.

Making Sliding Doors Storm Tight

The next thing to consider is the means for keeping out the weather and this can be accomplished with a reasonable degree of satisfaction.

The doors illustrated in Figs. 2-4-7-8-9-10-12-13-14-18-22 require no special treatment in this respect for the doors will be reasonably weatherproof if they are made to lap the side and head jambs from 2 inches to 4 inches. In such of the above doors where two doors are required butting against each other, a material dif-

ference will be noted if the meeting stiles are rabbetted or if preferable they may be made in the form of astragals. The doors should be adjusted to run as close to the jambs as practical without chafing. Doors in Figs. 11-15-16-20-21 can be finished in the same way if one side jamb and a part of the head jamb are furred out as noted above.

Figs. 19-23-24-27 present a different problem in that it is impossible to fur out the head jamb at any point;



Fig. 26. Arrangement to Clear All Three Doors

it being necessary for all the doors to slide across the entire opening and anything added to the head jamb would interfere with this. It is, of course, obvious that there will be quite an opening between the top of the door which runs on the inside track, and the jamb and this will permit considerable wind and cold to enter. A satisfactory solution of this problem is found in the steel weatherstrips which may be procured as a part of the door hanger equipment. These weatherstrips are steel plates which extend entirely across the opening and are attached to the tracks. The lower edge extends down between the doors and laps the top of the doors a sufficient distance to prevent wind, rain or snow from getting into the building. The upper edge either extends to the ceiling or heading timber or is bent over above the track to meet the head jamb thus making a tight job. Illustrations of several of these upper weatherstrips are given in cross section in Fig. 19. "M" is made for ceiling attachment and "N" is adapted for side wall attachment.

In some cases it may be desirable to provide some means for closing the space between the bottom of the door and the floor. At "O" in Fig. 12 a method is shown which is sometimes resorted to when single doors or two doors running in the same track are used.



Fig. 27. Wide Opening with Three Doors on Parallel Tracks

This is done by simply building the floor of the inside of the building about $\frac{3}{4}$ inch higher than the doorway and the space where the doors slide. This method is simple and may be effective but its application is very limited. At "P" is shown an article which serves as a weatherstrip for the bottom of the doors and also acts as a guide and is suitable for any door or any number of doors sliding in straight lines. The floor strips are built into the floor and finished flush so there is no obstruction whatever. In setting

these strips a good depth, of course cinders should be provided beneath as shown to provide for drainage, unless some other means is more suitable to meet the case in hand. Some means of drainage should always be provided for. The two pieces which form the floor strip are held the proper distance apart by small separators, the space between these separators being left open to the bottom so that any water may easily find its way to the drainage facilities. "R" is a steel strip attached to the door which slides in the opening between the floor strips thus making a tight job. At "S" the application of these strips to doors operating in two parallel lines of track is shown, both floor strips of course should be the entire length which the doors slide.

No satisfactory bottom strip for right angle doors or doors operating in curved track has been devised and by many this is considered unnecessary if the doors are adjusted reasonably close to the floor.

When weatherstrip guides are not used at the bottom of the doors, some other form of guide shoe or roller should be used to keep the bottom of the doors in place. For simple sliding doors Figs. 7-12-18 a roller of substantial design should be used at points

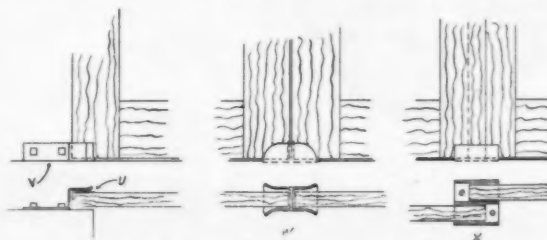


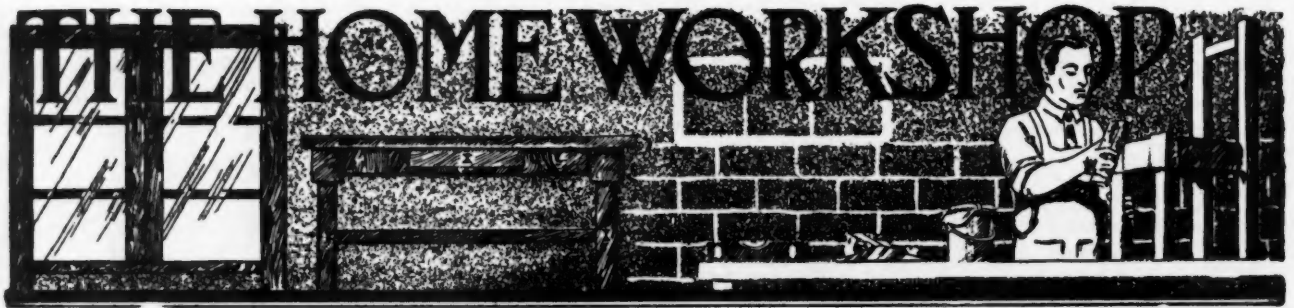
Fig. 28. Details of Sliding Door Steps

"T" and it is sometimes desirable to place a guide roller on the side of the opening toward which the door closes but this is better accomplished by means of a binder as shown in Fig. 28-"V". This binder, which may be placed next to the floor where it will be out of the way, also assists in guiding the door to meet the lock or latch properly. If a shoe is attached to the corner of the door as shown at "U," the binder will not damage the door at all.

In the center of the opening Figs. 2-4-7-13 a center stop and binder, Fig. 28-"W," should be set in the floor to receive the doors. A double guide about 6 inches in length, Fig. 28-"X," is useful in the center of the opening when two doors on parallel tracks are used as in Fig. 19.

The foregoing covers pretty generally the best practice for hanging garage doors and the methods illustrated will meet nearly all requirements, though occasionally some condition may arise which will demand special consideration. It is best in such cases to consult manufacturers who make a specialty of this class of hardware and some suitable scheme can usually be suggested.

This is the Last of Four Practical Papers by Mr. Phillips on This Important Subject.



Carpenter Makes Inlaid Table Map of St. Louis

MAP IS EIGHT FEET SIX INCHES LONG AND RESTS ON A TABLE WHICH IS AN EXACT COPY OF OLD ST. LOUIS COURTHOUSE—THREE YEARS OF LABOR EXPENDED ON THE WORK.



J. M. DAVISSON

A REMARK-
ABLE piece of
wood carving
has recently been com-
pleted by J. M. Davis-
son, of St. Louis, in the
form of an inlaid table
and map of the City of
St. Louis. The map
contains 200,000 pieces
of wood put together
on a scale of about
1,500 feet to the inch,
and is laid on a table,
the base of which is
an exact copy in min-

iature of the east end of the old Courthouse at Fourth and Market Streets, St. Louis, from the steps of which slaves were sold before the war. Even the pillars and stones and bricks of the wall and the stone steps are reproduced in replica. The base, that portion representing the pillars and steps of the old Courthouse, is of solid cherry wood.

The work represents an astonishing degree of patience. Important places in the map are marked by different kinds of wood contrasting in color. The streets are laid in white holly, city blocks in mahogany, parks in tulip wood, cemeteries in bird's-eye maple, the Mississippi River and all streams inside the city limits, as well as all settling basins of the City Waterworks, are outlined in Circassian walnut, street rail-ways are in red cedar, interurban railway lines in rose-



Inlaid and Carved Table, a Replica of Historic St. Louis Court House, Has Map of City on Top. This Table Was the Spare Time Work of Three Years and is Valued by the Maker at \$3,000

wood, steam railroads in camm wood, municipal buildings and lettering in ebony, bridges crossing the Mississippi River are of zebra and burl. The foundation of the inlay is of five-ply basswood, making a plate of $1\frac{1}{8}$ inches thick. The inlay itself is of a lock pattern, three-sixteenths of an inch thick, permitting the top to be often refinished.



Top of Table is Inlaid Map

The table is 4 feet 6 inches wide and 8 feet 6 inches long, and is collapsible.

Mr. Davisson is a carpenter, but has done much similar carving work. An excellent map of the World's Louisiana Purchase Exposition at St. Louis, showing all possible details, was his work. A few years ago he carved a bust of former Gov. Deneen of Illinois.

In commenting on this table and map, Mr. Davisson said:

"I have received many matrimonial letters from all parts

of the country since this table was finished and exhibited in St. Louis, and all were answered, as one letter.

"The idea was original with me and the table was built as a past-time on hot summer evenings, cold winter nights and holidays. I claim that there are 150,000 pieces of wood in this table, but in reality I guess there are 200,000. I spent my idle hours for more than three years building it; cured, dried and seasoned all the wood myself, and all the foreign wood came to me direct from their native land.

"The table has created a lot of comment and several have made wagers that the black lines, letters, etc., were merely painted on the top. The table weighs about 700 pounds. It is spoken of as one of the features of the Panama Exposition as a part of the St. Louis show. It is still my property, now in possession of the City Club. Value, about \$3,000 (and is for sale)."

+

My Home Work Shop

To the Editor:

Millersburg, O.

I have been paying particular attention to a few articles published in the AMERICAN CARPENTER AND BUILDER pertaining to the Home Work Shop. This idea appeals to me to be ideal for all those who are in position to need one (either amateur or expert) and who are in circumstances to afford one. Not only does the home shop afford a nice, dry place to keep all kinds of small tools, but also is a place where the average carpenter can oft times "get busy" on cold, stormy winter days which are unfit for outside work, and times when outside work is a little slack. Such work as making new and repairing old sleds, wheel-barrows, bee-hives, repairing broken furniture, etc., and, as C. J. Case, in January issue puts it, "do any old thing that comes my way," thus and trying to earn a few dimes to drive away that old hungry wolf from the door.

I will try in as few words as possible to explain how I arranged my workshop. In one corner of our town lot (in suburb) bounded by an alley on two sides is a small barn, 16 by 20 by 14 feet, which was built to accommodate horses, etc.

Well, as I had no horses to occupy the stabling part, I began to figure on a Home Work Shop. I went to work and dropped the top joists enough to allow me a 7-foot story on second floor, with plenty of windows, two doors, and a stairway outside. This is my home shop, which is equipped with a good big coalstove, one large and several small work benches, tool-grinder, grind-stone, tool-cases, a rocking-chair, etc., in short, a place for everything.

Perhaps some reader will say my shop is as "cold as a barn." But, no! I took some heavy building paper cut in strips 3 to 4 inches wide and with some glue on them I pasted them over all inside joints and crevices made by the barn siding, thus excluding all drafts and strong winds. I want to say here that my shop is so cosy and warm that the very coldest weather we experienced here last winter (and that was 14 to 16 degrees below Zero) I did some varnishing in my shop and we all know that to flow varnish freely and properly the temperature must be somewhere around 70 degrees. The first floor of my shop building is used for a hen house, and what thought is more pleasing (when you are busy at work) than to hear a bunch of hens chattering and cackling, at the same time filling the market basket with 33c eggs.

A home shop of this kind can be arranged at a very small expense. I know of some brother-carpenters and mechanics in our town of long years of experience that do not own a small work shop at home, even where conditions are favorable. These fellows will walk quite a distance and pack a bunch of tools to some planing mill shop to do perhaps two hours' work.

H. W. WALTERS.

YOURS for SAFER BUILDING



What Every Architect and Builder Should Know About Strength of Materials and the Design of Safe Construction



Noon-Hour Talks by the Boss Carpenter

Talk No. 20—Figuring I-Beams

THE BOSS TELLS HOW TO FIND THE SIZE OF A STEEL I-BEAM TO CARRY A GIVEN LOAD

WHEN the "calculating squad" met for their noon-hour rest, one of the men asked permission to present a problem which he had met with in his previous work, but had been forced to abandon on account of lack of knowledge as to what should be done in such a case. It seems he was asked to figure the size of a steel I-beam to be used over the front entrance of a moving picture theatre to support a brick wall 9 feet high and 12 inches thick, extending clear across the front of the building, which was 32 feet wide.

The Boss then explained that, although the general methods used in calculating timber beams could be applied to this problem, the details of calculation would vary to some extent, especially in choosing the values of moments of inertia (I) and the unit strength of the material in bending (p). The value of the bending moment for a freely supported beam with a uniformly distributed load would not be changed at all, but would still be $\frac{1}{8} Wl$, as in previous calculations.

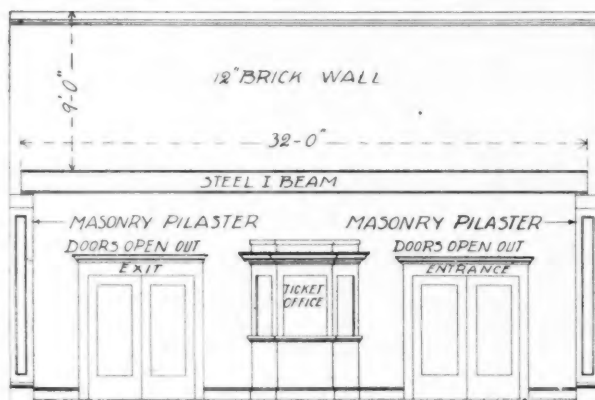
"As long as we have time this noon," said the Boss, "suppose that we take our friend's problem and see what we can do to help him out. I have a hand-book of the Cambria Steel Company here, which I think we can use to advantage for finding our size of steel I-beam for use in this case. Before we start, we will hand this book around so you can all see how the different steel beams are listed in this book, and that

the headings to the different columns shown give values for many of the different parts which we will want to use. We will refer to the columns by number, reading from the left."

The men then looked at the page referred to by the Boss, which we reproduce in part in the following:

Properties of Standard Steel I-Beams

Depth of Beam.	Weight per Foot.	Area of Section	Thickness of Web.	Width of Flange.	Moment of Inertia Axis 1-1.	Section Modulus Axis 1-1.	Radius of Gyration Axis 1-1.	Moment of Inertia Axis 2-2.	Radius of Gyration Axis 2-2.
Inches.	Pounds.	Sq. Ins.	Inch.	Inches.	Inches. ⁴	Inches. ³	Inches.	Inches. ⁴	Inch.
3	5.50	1.63	.17	2.33	2.5	1.7	1.23	.46	.53
"	6.50	1.91	.26	2.42	2.7	1.8	1.19	.53	.52
"	7.50	2.21	.36	2.52	2.9	1.9	1.15	.60	.52
4	7.50	2.21	.19	2.66	6.0	3.0	1.64	.77	.59
"	8.50	2.50	.26	2.73	6.4	3.2	1.59	.85	.58
"	9.50	2.79	.34	2.81	6.7	3.4	1.54	.93	.58
"	10.50	3.09	.41	2.88	7.1	3.6	1.52	1.01	.57
5	9.75	2.87	.21	3.00	12.1	4.8	2.05	1.23	.65
"	12.25	3.60	.36	3.15	13.6	5.4	1.94	1.45	.63
"	14.75	4.34	.50	3.29	15.1	6.1	1.87	1.70	.63
6	12.25	3.61	.23	3.33	21.8	7.3	2.46	1.85	.72
"	14.75	4.34	.35	3.45	24.0	8.0	2.35	2.09	.69
"	17.25	5.07	.47	3.57	26.2	8.7	2.27	2.36	.68
7	15.00	4.42	.25	3.66	36.2	10.4	2.86	2.67	.78
"	17.50	5.15	.35	3.76	39.2	11.2	2.76	2.94	.76
"	20.00	5.88	.46	3.87	42.2	12.1	2.68	3.24	.74
8	18.00	5.33	.27	4.00	56.9	14.2	3.27	3.78	.84
"	20.25	5.96	.35	4.08	60.2	15.0	3.18	4.04	.82
"	22.75	6.69	.44	4.17	64.1	16.0	3.10	4.36	.81
"	25.25	7.43	.53	4.26	68.0	17.0	3.03	4.71	.80
9	21.00	6.31	.29	4.33	84.9	18.9	3.67	5.16	.90
"	25.00	7.35	.41	4.45	91.9	20.4	3.54	5.65	.88
"	30.00	8.82	.57	4.61	101.9	22.6	3.40	6.42	.85
"	35.00	10.29	.73	4.77	111.8	24.8	3.30	7.31	.84
10	28.00	7.37	.31	4.66	122.1	24.4	4.07	6.89	.97
"	30.00	8.82	.45	4.80	134.2	26.8	3.90	7.65	.93
"	35.00	10.29	.60	4.95	146.4	29.3	3.77	8.52	.91
"	40.00	11.76	.75	5.10	168.7	31.7	3.67	9.50	.90
12	31.50	9.26	.35	5.00	215.8	36.0	4.83	9.50	1.01
"	35.00	10.29	.44	5.09	228.3	38.0	4.71	10.07	.99
"	40.00	11.76	.56	5.21	245.9	41.0	4.57	10.95	.96
15	42.00	12.48	.41	5.50	441.8	58.9	5.95	14.62	1.08
"	45.00	13.24	.46	5.55	455.8	60.8	5.87	15.09	1.07
"	50.00	14.71	.56	5.65	483.4	64.5	5.73	16.04	1.04
"	55.00	16.18	.66	5.75	511.0	68.1	5.62	17.06	1.03
"	60.00	17.65	.75	5.84	538.6	71.8	5.52	18.17	1.01
18	55.00	15.93	.46	6.00	795.6	88.4	7.07	21.19	1.15
"	60.00	17.65	.56	6.10	841.8	93.5	6.91	22.38	1.13
"	65.00	19.12	.64	6.18	881.5	97.9	6.79	23.47	1.11
"	70.00	20.59	.72	6.26	921.2	102.4	6.69	24.62	1.09
20	65.00	19.08	.50	6.25	1169.5	117.0	7.83	27.86	1.21
"	70.00	20.59	.58	6.33	1219.8	122.0	7.70	29.04	1.19
"	75.00	22.06	.65	6.40	1268.8	126.9	7.58	30.25	1.17
24	80.00	23.32	.50	7.00	2087.2	173.9	9.46	42.86	1.36
"	85.00	25.00	.57	7.07	2167.8	180.7	9.31	44.35	1.33
"	90.00	26.47	.63	7.13	2238.4	186.5	9.20	45.70	1.31
"	95.00	27.94	.69	7.19	2309.0	192.4	9.09	47.10	1.30
"	100.00	29.41	.75	7.25	2379.6	198.3	8.99	48.55	1.28



Elevation of Theatre Front to be Carried

The Boss explained that while a beam is generally referred to in terms of its depth, it should also be referred to in terms of its weight per foot of length. He pointed out that these two quantities are given in the first two columns of the table shown. He also cautioned them that a steel I-beam is of maximum strength in bending when placed so that its neutral axis coincides with the direction of the line 1-1, and is of least strength when placed so that its neutral axis lies along the line 2-2. These lines are shown in Fig. 54.

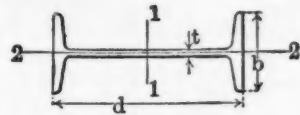


Figure 54. Cross Section of Standard Steel I-Beam

"As an example of this point," said the Boss, "you will notice that the moment of inertia in column 6, which is taken about the axis 1-1, is greater than the moment of inertia for the same beam as shown in column 9 and taken about axis 2-2."

"Now, to start on the problem," said the Boss. "In the first place, we will consider that this steel I-beam of unknown size is to rest with its ends freely supported upon steel or iron plates which rest on the two brick side walls of the building. Our friend states that the beam is to carry a section of brick wall 32 feet long, 9 feet high and 1 foot thick. Supposing that we first find the weight of the brickwork which this beam is to carry as a load uniformly distributed over its entire length."

The Boss then wrote in the "log book," $32 \times 9 \times 1 = 288$ cubic feet of brickwork. Allowing 125 pounds as the weight of a cubic foot of average brickwork, the total weight supported by the beam would be 125×288 or 36,000 pounds. This is equal to W in the formula for bending moment, due to a uniformly distributed load on a freely supported beam.

"Now," said the Boss, "let us get back to Talk No. 1, and look at Formula No. 1 for the strength of a beam

in bending. We find this to be $\frac{p I}{e} = M$, where $p =$

the unit bending strength of the material in pounds per square inch, $I =$ the moment of inertia of the cross-section in inch units, $e =$ the distance from the center of gravity of the cross-section to the most distant fibre in inches, and $M =$ the maximum bending moment, as referred to above, in inch and pound units.

"Our hand book tells us," said the Boss, "that the breaking strength of structural steel when subjected to bending is about 60,000 to 64,000 pounds per square inch. If we are to use a factor of safety of 4 in our calculations, that will mean that we can only use about 16,000 pounds per square inch as a unit working strength in bending in our formula. This would be the value of p for structural steel, with a factor of safety of 4."

"Since we do not know the size of the beam which is to carry this load, we will have to leave the quantities, moment of inertia (I), and e alone for awhile—

in fact, we find that we will have to solve for the $\frac{I}{e}$ part of the problem. Supposing that we fill in all parts of the formula which we can readily obtain, and then see what this value of $\frac{I}{e}$ must be."

The Boss then wrote down in the "log book":

$$\frac{p I}{e} = M$$

Filling in values, he wrote:

$$16,000 \frac{I}{e} = \frac{1}{8} \times 36,000 \times 32 \times 12$$

Solving for $\frac{I}{e}$ he obtained:

$$\frac{I}{e} = 108$$

"Now," said the Boss, "if you will look at column 7 of the table you will see a heading called 'Section Modulus.' This is the name given to the value obtained by dividing I in inch quantities by e in inches for any given beam. Therefore, it remains for us to look across to the left in the line, where we find the value of

our Section Modulus, or $\frac{I}{e}$, and see what depth beam and weight per foot of length correspond to this value. For instance, our value of $\frac{I}{e}$ (Section Modulus) is 108. Tracing across to the left in the table, we see, in column 1, that the depth should be 20 inches, and that the weight per foot of length corresponding is 65 pounds.

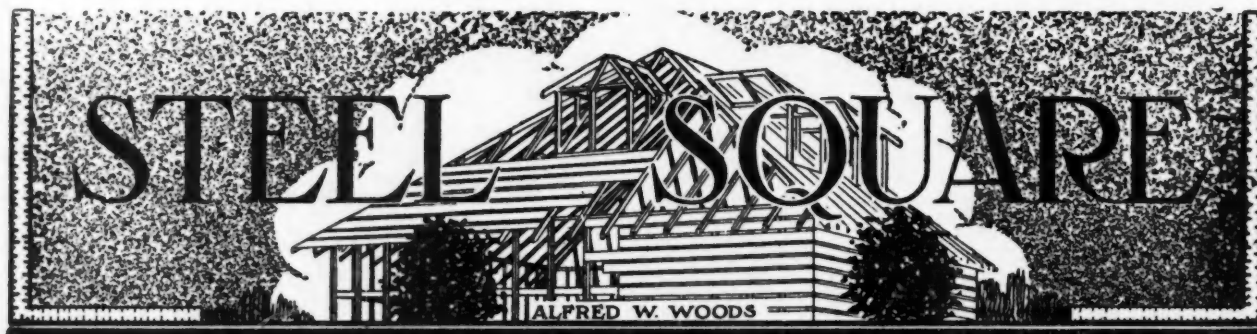
"You will notice," said the Boss, "that the value of 108 is not given in the Section Modulus column, and that as a result of this, we use the beam which corresponds to the next value above 108. If we had used 102.4, the value given next below 117, our beam would have been too light for the load and still would have cost us more. You see that the beam corresponding to 102.4 is an 18-inch beam weighing 70 pounds per foot of length. It is always safer to use the beam with the higher Section Modulus."

"If we wished to find the deflection in this beam, we would proceed as we did in Talk No. 2 for a timber beam, using proper values for E and I . For a freely supported beam with a uniformly distributed load, we would use the same formula as used in Talk No. 2,

$$d = \frac{5}{384} \frac{W l^3}{E I}$$

"For structural steel, our hand book tells us that 30,000,000 pounds per square inch is a fair value for E . From the table above, we see that column 6 gives us 1169.5 as the value of I for a 20-inch, 65 pounds per foot beam.

(Continued to page 81)



Possibilities of the Steel Square

ILLUSTRATING SEEMINGLY ORDINARY THINGS IN ROOF WORK THAT ARE IN REALITY HARD TO ACCOMPLISH IN PRACTICE

By A. W. Woods

A CORRESPONDENT recently asked how we would go about it to frame a gable on a round or cone-shaped roof; said gable to have about half the rise of that of the main roof. He assured us that he could do it all right, but wanted to see it worked out on the square.

At first thought, the question may seem a simple one to solve; but not so easy in practice. In fact, it is one of those complex things that comes up in fram-

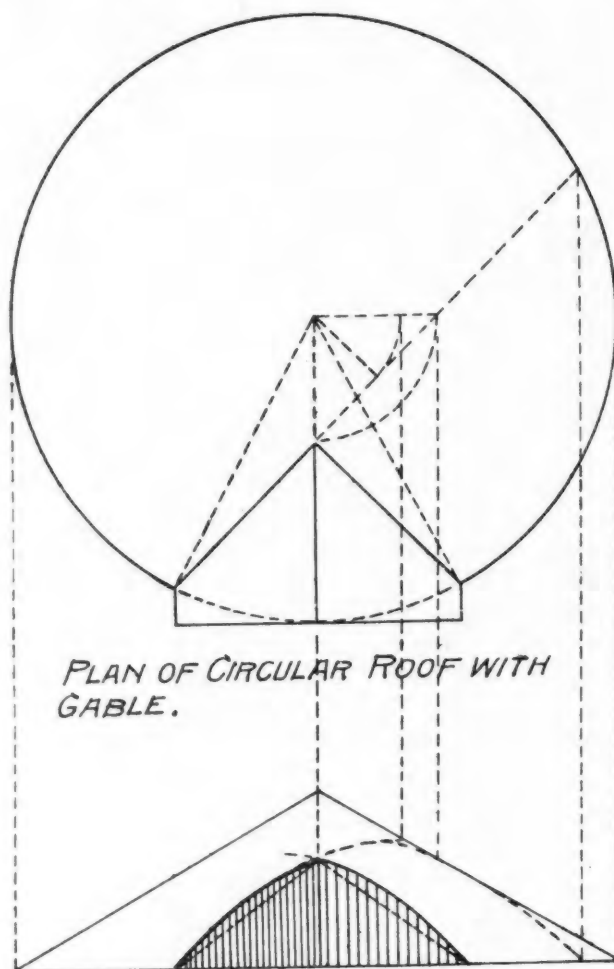
ing that are out of the ordinary; that is, it is not readily solvable without first making a diagram, but rather to be developed by geometric drawing, because it will be readily seen that the valley cannot have a straight back, as in the case of a level-plane roof.

We can illustrate this better by taking a small cone, made out of wood, a potato or an apple, or anything that can be easily worked. Now, suppose we cut this cone through its center, the contour would show the pitch of the common rafters to form the roof; but not so with a gable to join on to it, because its valleys do not radiate from the center of the cone. Consequently, it must have a curved back to coincide with the contour of the main roof, where the gable joins it.

The common rafters, or rather the jacks, would require a corresponding curved back to coincide with that of the valley and may be developed in the same way as for any other curved roof; but in this the order is reversed; i. e., the curve of the common rafter must be developed to coincide with that of the valley, instead of the valley to that of the common rafter; and to find the proper curve for the hip is where the real trouble begins. Yet after it is accomplished, it is not worth the price.

It is easily to be seen that if the gable had a rise equal to that of the main roof, the valley would be regular, or, in other words, would have a straight back; but, of course, the gable would be of a steeper pitch than that of the main part. When constructed in this way the cuts can be readily arrived at with the steel square, but not so in the first case, because of the rafters taking on an elliptical shape, as before described. Of course, the difference may not be much, but it is enough to throw the whole thing out of easy working. It is simply one of those problems that the inexperienced is apt to drop into without knowing what he is running up against until after he is in it and then it is get out of it the best way he can, regardless of the effect from a workmanship point of view.

The accompanying illustration shows the plan of a cone roof with a gable of somewhat steeper pitch than that of the main roof, but the fact that it intersects a circular roof necessitates one of two things—a curved



PLAN OF CIRCULAR ROOF WITH GABLE.

ELEVATION SHOWING PART REMOVED FOR GABLE AT SHADED PART.

roof for the gable, as above described, or if the rafters are to remain with straight backs, the valley would have to be a curvature sideways to bring it in plane with that of the pitch of the gable. The latter method would still more complicate matters.

It is far better to look ahead as to what the cause and effect is liable to bring forth, rather than look backward and see what it has been; and we know of no better place to apply it than in roof framing.

The Steel Square QUESTION BOX

To Find the Length and Cuts by Scale

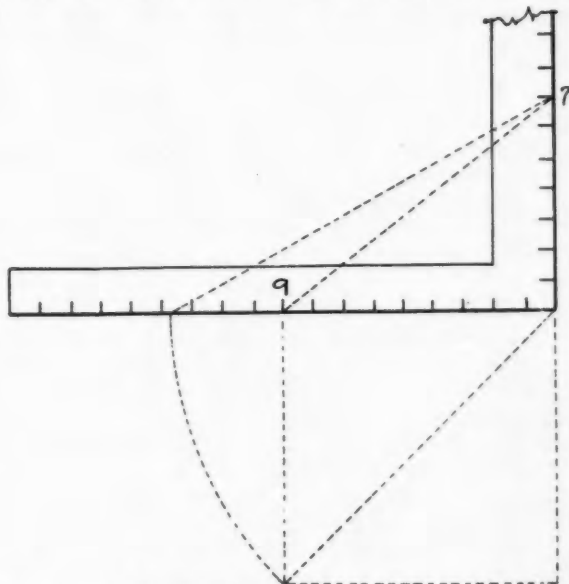
To the Editor:

Lynnville, Iowa.

I have been reading some of the Radford books on Practical Carpentry, and understand the rules given for such as $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{2}$ pitch, etc., by letting 12 on the tongue represent the run and 6, 8, 12 on the blade represent the rise, but suppose we have a building with, say, 5-foot run and 7-foot rise. What figures should I use on the square to give the cuts and also for obtaining the length of the common rafter?

WILL ALLEE.

Answer: In cases of this kind, it is generally found by taking the run and rise to scale on the steel square—that is, by letting the inches represent feet and by using the side of the square, on which the inch marks are divided into twelfths,



Run is 9 Feet and Rise is 7 Feet

the twelfths will represent inches in the actual measurements. It is, therefore, necessary that the square be very accurately placed, as the variation will be multiplied twelvefold.

For illustration, say the run is 9 feet and the rise is 7 feet, we would have as shown in diagram, which we trust fully explains itself; 9 and 7 give the seat and plumb cuts for the common rafter. The diagonal of 9 by 7 represents the run of the hip and this, taken on the tongue and the rise of the common rafter, will give the seat and plumb cut for the hip. Nine and the length of the common rafter will give the side cut of the jack, while the length of the diagonal and the length of the hip will give the side cut of the hip; the side of the square on which the length is taken will give the angle for the cut.

A. W. Woods.

How Far to Make Return?

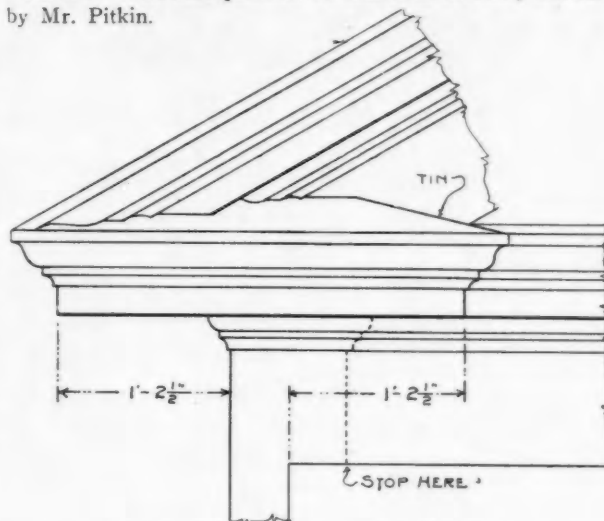
To the Editor:

Greenfield, Mass.

I would like to ask the AMERICAN CARPENTER AND BUILDER the proper length for return of cornice at gable front. I figure twice the width of plancier plus the width of corner board. Would like to know whether this is right or not? I would also like to know how long the frieze should be under the return.

MAURICE A. PITKIN.

Answer: The first question we believe is correctly answered by Mr. Pitkin.



Detail of Cornice Return at Gable Front

As to the second question, it is as shown by the dotted line in the illustration, but in most cases it gives the best effect to let the frieze run across the gable, also the crown mould, as shown.

EDITOR.



Roofing Question

To the Editor:

Carrollton, Ala.

Will you be so kind as to explain in the columns of your paper how to shingle over the bend in a gambrel roof so as to do a good job?

I have a large barn to build with gambrel roof and I think I can form it all right, but I want to shingle the roof where the pitch changes so as to look neat and not leak.

RUSSELL SCOFIELD.



Figuring Steel I-Beams

(Continued from page 79)

"Filling in our formula, we would have:

$$d = \frac{5 \quad 36,000 \times 32 \times 32 \times 32 \times 12 \times 12 \times 12}{384 \quad 30,000,000 \times 1169.5}$$

"Solving, we have $d = 8/10$ of an inch (approx.).

"If we wish to see if this exceeds $1/360$ of the span, which is the limit for deflections where a plastered ceiling is to be used, we would proceed as follows:

$$1/360 \times 32 \times 12 = 1 \text{ } 1/10 \text{ inches (nearly).}$$

"This would show that the deflection due to the load of 36,000 pounds is less than the allowable, or $1 \text{ } 1/10$ inches."

The Boss also explained that other problems where steel beams were to be used could be figured in a similar manner, taking care to use a proper value for the maximum bending moment, as indicated in the talks on timber beams, and also to watch the value of p and E in steel calculations.



The Road Problem Solved by Concrete

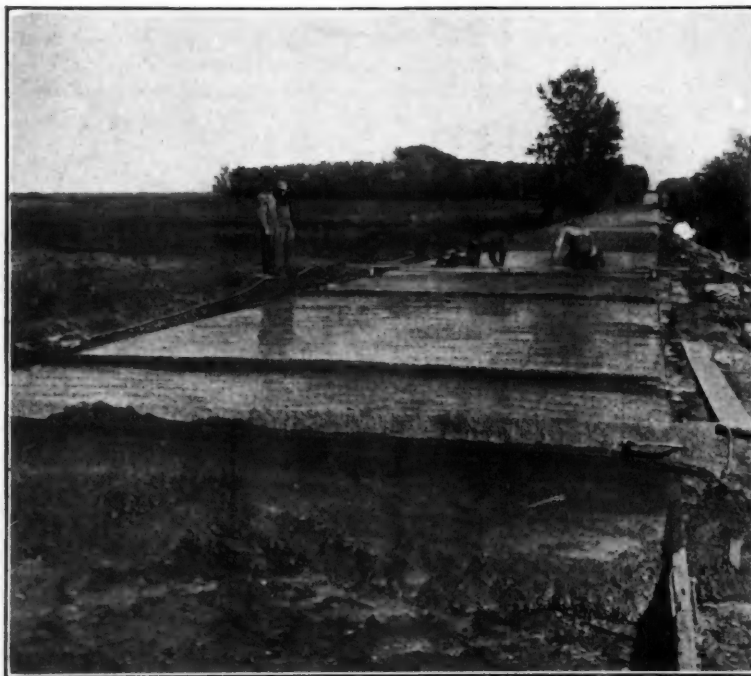
IN Eastern Pennsylvania, certain portions of that historic highway known as "Old York Road," are still controlled by turnpike companies, and the tollgate continues to be a respected institution. A company controlling about two miles of this old road, over which Washington and the continental army marched at various times, has had a profitable investment, paying from 7 to 8 per cent dividends. In by-gone days another section of turn-pike leading into Old York Road paid its owners as high as 12 per cent. Good stone and gravel pits made the maintenance of this road comparatively easy, and the much-talked-about patrol system was established many years ago. Always there were men at work, cracking stone by hand and putting it into such depressions and washouts as occurred.

But in spite of its solid supervision, the road is going to pieces, as does the average road, when subjected to automobile traffic. The rapidly revolving tires disperse the rock-dust or binding material in clouds, and the stones, upon exposure, are ripped out and hurled aside. The situation is akin to that in every rural community, and the turnpike company and farmers who dwell along this old turnpike are up against a problem. They must decide whether they will submit to bad roads, pay excessive annual maintenance charges or pay for a road so solid that it will never get out of repair.

In many localities, farmers have dismissed the first two propositions as impossible, and they are building durable roads. And some of them believe it is better to do this by local taxation rather than to have the state take over and control the roads, thus depriving them of the right to say what type of road shall be built. It was the farmers who defeated the recently proposed \$50,000,000 bond issue in Pennsylvania. They wanted the opportunity to build roads that would not be utterly destroyed long before state or county bonds should mature. In Connecticut, Maryland, New Jersey, New York, Delaware and Pennsylvania, both state and local communities are turning to the concrete road as the solution of their problem, and with excellent results.

Taking a 16-foot concrete road as a basis, highways of this character have cost on the average about \$12,000 per mile, while maintenance costs have been practically nothing. For example, in Bellefontaine, O., a concrete road put down twenty years ago, has cost less than \$25 per mile per year for maintenance, while the average maintenance cost of macadam road in five eastern states in 1912 exceeded \$800 per mile per year. The farmer, in adopting concrete, has figured the matter in this way: A road is an investment. The most conservative estimate of maintenance cost on macadam per mile per year would be certain to reach \$300 if the road is subject to motor-driven traffic and kept passable at all seasons. An equally conservative estimate for construction is \$5,000 per mile. The \$300 maintenance cost represents interest on \$6,000 at 5 per cent, thus making the real investment \$12,000 per mile, or the cost of a mile of indestructible concrete road. As a matter of fact, taking New York, New Jersey and Pennsylvania costs, the investment would become \$25,000 per mile.

From considering a single mile of roadway, it became interesting to figure costs on many miles to see what would happen in the case of macadam as compared with concrete. For example, let it be assumed that 500 miles are to be built during a period of five years at the rate of 100 miles per year, and that repairs will not be required on either type of road for two years. Beginning, then, at the third year, and estimating maintenance costs for concrete at \$25 per mile per year, the Bellefontaine figures, the total maintenance costs on 500 miles of concrete road would, at the expiration of seven years, be only \$37,500. In the case of macadam, basing costs on New York and New Jersey figures for 1912, repair costs on the New York and New Jersey figures for 1912, repair costs would reach the enormous total of \$1,350,000. Where concrete roads are very narrow, say 9 feet wide, and have a dirt road at the sides, they could be built for \$7,500 per mile. Maryland has built excellent concrete roads of standard width, for a little less than \$12,000,000



Method of Constructing a Typical Sixteen-Foot Concrete Road. The Temple Used to Strike the Crown is Shown Against the Concrete in the Foreground. Back of this are the Installing Devices for Expansion Joints. They are Holding Steel Protecting Plates in Position and Will be Removed Before the Concrete Hardens. Beyond, Men are Troweling the Surface. This Road is Near Mason City, Iowa

per mile. It is upon the foregoing economic basis that farmers are beginning to look at the road question.

But aside from moderate first cost and practically negligible maintenance costs, the popularity of the concrete road is rapidly growing in rural communities due to the experience of those who have used it. For the farmer it is the ideal highway. Described briefly, the building of a concrete road consists of putting a wet and mushy mass of Portland cement, sand and stone in the center of a highway, where it hardens into imperishable rock.

The accompanying illustrations give a very good idea of the building of a road and its appearance when finished. The first picture shows the construction of a concrete road near Mason City, Ia. The concrete has been placed between



Twelve-Foot Concrete Road at Whitehall, Md. This is the Type of Road that Has Proved to be a Veritable Boon to the Farmers. It is an Ideal Thoroughfare to Walk Upon as Well as a Road, Never Accumulating Mud or Dust

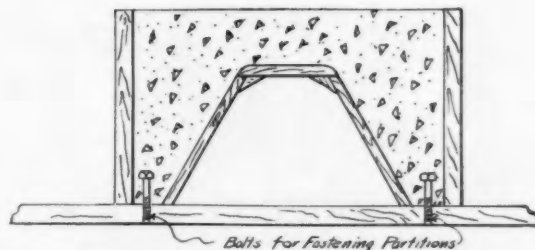
rigidly staked side forms. The road then troweled with wooden floats. The view of the finished road in Maryland shows its admirable surface. This type of road appeals especially to the farmer and his family, because it provides them at all seasons with an excellent place to walk, as well as a thoroughfare for vehicles.

It is a fact that in Wayne County, Michigan, children go to and from school on roller skates over the wonderful concrete roads of that locality. Horses never slip or fall upon these roads and will draw twice or three times their accustomed load. In Wayne County, one farmer has driven an unshod horse over the concrete roads for a long period of time without injury to the animal. It is needless to say, torrential rains cannot wash through these roads. The water must go over or under them. Another especially good feature of the concrete road is its freedom from dust, as well as mud. Wherever farmers have used these roads they are enthusiastic in their commendation, not only because of their great durability and low maintenance cost, but because in every sense they represent the ideal highway and, therefore, the solution of the road problem as it applies to rural communities.



Durable and Sanitary Feeding Troughs

A SIMPLE, sanitary and economical use of concrete is shown in the accompanying picture of a feeding trough for hogs. Nothing could be easier than to make troughs of this character for swine or poultry. Old lumber free from splits and knot-holes may be used. To procure an everlasting receptacle of this character simply means the nailing together of two boards in the shape of an inverted V. These are placed on a board platform or



Cross Section Through Mold for Concrete Trough

other even surface and surrounded with a board frame or form, which is then filled with concrete. The concrete is struck off while fresh to insure an even bottom. No special finish is required and very crude work will answer the purpose. The dimensions of the trough will, of course, depend upon the length and size of the board forms. Small troughs for chickens or large troughs for hogs may be made with equal facility.

Another simple method of making a small trough is to substitute for boards half of a drain tile or terra cotta pipe for inside form. Where the boards are used it would be well to oil the surface coming in contact with the concrete. This makes the removal of the forms easy. A mixture of 1 part Portland cement, 2 parts sand and 4 parts crushed stone or gravel will make a concrete suitable for this purpose.

To prevent hogs from crowding or getting into the trough, cross pieces should be used as shown. To provide for bolting the cross pieces, holes should be bored in the platform at required intervals and the bolts set in with the thread end down. The bolts should go into the platform to a depth that will insure sufficient projection for the strap iron cross pieces and the nut. The concrete should be a "sloppy wet" mix and thoroughly puddled in the form. It should be kept in the form several days and protected from hot sun and wind. When sufficiently hard on the exposed surface to resist indentation with the thumbnail, the forms may be removed. The concrete should then be sprinkled twice a day for the period of a week.



Concrete Feeding Troughs for Hogs and Poultry

The strength of a trough of this character will increase with age. It may be easily cleaned and will resist the hardest usage. The longer it is exposed to the weather the more durable it will become.



CEMENT BUILDING CONSTRUCTION

Lean Mixture Prevents "Hair-Cracking"

AUTHORITY PRESENTS SURPRISING DATA ON CEMENT STUCCO WORK—LEAN MIXTURE CONCRETE NON-CRACKING AND EASILY MADE WATERPROOF

By Ralph L. Shainwold, Jr., A. M.

Mgr. Impervite Cement Waterproofing Dept. of the Standard Paint Co.

THE ease with which stucco lends itself to artistic treatment, has tended toward a precocious development that has been harmful. The trouble is that a stucco job which at first appears to be an artistic gem, gradually reveals flaws which may finally overshadow the original beauty.

What is the cause of the "checking" and "hair-cracking"? Is it superficial, or is it hidden in the physiochemical composition of cement? Much valuable study has been devoted to the external treatment of stucco, but few have stopped to question its internal composition. Let us therefore study some inside facts of stucco mortar.

The subject is an interesting one and the conclusions startling. Who would have thought, for instance, that cement acts like wood: swelling up on wetting, and contracting on drying? But this is proven by careful measurements.

A. T. Goldbeck, of the U. S. Department of Agriculture, showed this in experiments described in the *Engineering Record* of July 8, 1911 (page 45). His researches were confirmed by Prof. A. H. White, working independently in the University of Michigan and published in the *Engineering Record* for July 15, 1911 (page 73). Both of these gentlemen proved scientifically and conclusively that mortar and concrete expand on wetting, and contract on drying, the action keeping up for years.

Wetting Causes Big Expansion

In some cases the amount of expansion (due to wetting) was as great as that due to 100 degrees increase of temperature. This is a startling fact, when it is remembered that concrete expands with heat just as much as iron does. The strains, due to wetting and drying, are therefore very severe and come quickly and repeatedly. It is not difficult to see why this should be such a serious source of cracking.

It is fortunate that only the cement is affected, the sand remaining practically uninfluenced by moisture. Therefore lean mortars are much less affected than rich ones: a 1:3 stucco, when moistened, expands much less than a 1:2. But as Prof. White says, "If stucco is lean enough to avoid cracks, water will go through it freely; and if it is rich enough to keep out water, it will crack."

In Italy, where stuccos have been used for centuries, masonry walls were thick and waterproof in themselves. Cement was made from pulverized natural rock, and lean stucco mixtures were a matter of economy. The passage of ages has developed comparatively little checking in the Italian stuccos. But today, in America, Portland cement is

Here is a subject to study into. While all will not agree with the author in his conclusions, he does throw considerable new light on this debated question.—Editor.

cheap, walls are thin, and climate severe, so that rich mixtures have been used in the attempt to get cheap waterproofing. The results is excessive hair-cracking.

It is, of course, true that a 1:2 stucco is more waterproof than a 1:3,

but it is very much more liable to crack. On the other hand, a 1:3 stucco, properly applied, is safe from cracking, though very porous. This, then, is the dilemma which confronts the constructor: how to make stucco lean enough to avoid cracks, yet, non-porous enough to keep out water. The problem has been solved by the use of a 1:3 mortar in conjunction with an effective waterproofing compound.

An Architect Learns a Lesson

Practical experience has corroborated the laboratory in showing the need for lean mixtures, but as is frequently the case, we did not see the everyday facts in clear light, until science opened our eyes. For instance, it has long been known that excessive troweling of a floor, etc., should be avoided. Now, we understand that the troweling worked the particles of cement to the surface, making a rich mixture which cracked, for the reasons above mentioned.

Some years ago an architect was building a stucco home for himself. The contractor ran short of cement and asked permission to use a leaner mixture. This was permitted for the back of the house, where it wouldn't be noticed, but the richer mortar was insisted on for the rest. To the surprise of everyone, the back wall is still flawless, while the front of the house is full of hair-cracks.

Waterproofing the Walls

It must be emphasized that with a lean mortar, the permanency of the waterproofing compound is a very important point, as the stucco is exposed to beating storms. A permanently waterproof stucco is dependent on using a compound that is absolutely insoluble and unaffected by the elements. Bituminous waterproofing products belong to this class, and compounds have been developed which are miscible with water, yet become absolutely insoluble after the mortar has set. This result is obtained by emulsifying the bitumen, which then mixes with water as easily as milk does (milk is an emulsion). But when the mortar sets, it de-emulsifies the bitumen, which then becomes as insoluble as a milk spot. (Butter is de-emulsified milk and is not miscible with water.)

Bituminous materials so prepared give a very high degree of permanent waterproofing. They are absolutely unaffected by salt-air, brine, running water, boiling water and ordinary chemicals. They actually strengthen the mortar instead of

weakening it, and because of the lack of all harmful action, the amount of compound is not limited to 2 per cent. If desired, 10 per cent or more may be incorporated in the mixture and the waterproofing effect correspondingly increased. In this way, a factor of safety may be secured which is as important in waterproofing as in other branches of engineering. It then becomes possible to waterproof under guarantee, a cellar 50 feet below tide level, by means of a $\frac{3}{4}$ -inch interior mortar facing. Evidently, this is the kind of material which will give satisfaction also in external stuccos, where no pressure is encountered, but where, on account of the lean mixture, a safety factor is desirable to cover variations in mixing and plastering.

Bituminous materials also lubricate the mortar, enabling a very lean mixture to be troweled easily and compactly. They also retard the too rapid drying out of the stucco.

Protecting Green Concrete

We might mention here that if new, green stucco is subjected to the rapid evaporation of hot summer days, great care must be taken to prevent premature drying out. It must be remembered that the setting of Portland cement is a chemical reaction that requires time and moisture.

Mortar will have no strength unless this set is obtained. As mortar dries it shrinks. This shrinking puts a strain on the mortar which causes cracks, if it comes before the cement has sufficient strength to withstand it. If, however, the stucco is kept moist for several days, by means of tarpaulins or fine spray, the cement will harden normally and become strong enough to withstand the strain caused by drying. Soap compounds should be avoided, as they delay the setting, thus causing the mortar to remain weak for a longer time. If stucco is made from a lean mortar, properly waterproofed, properly foundationed, and kept from premature drying, it may be allowed to harden without fear of immediate or subsequent cracking.

On large surfaces the thermal expansion should be considered, especially if the stucco is applied to a base having a different rate of expansion. It may be advisable to divide the surface into panels, having projections which add to the pleasing effect and facilitate the uniform application of the stucco.

The above outline calls attention to a few internal characteristics which are vital. Relieve the stucco of the disrupting strains caused by their disregard and a worthy material is secured for the best ideals of architecture.

"Gas Engine Better for Mixing Concrete"

SMALLER POWER PLANT RAPIDLY DISPLACING STEAM, SAYS MANUFACTURER—ADVANTAGES ARE MARKED
—VARYING STATE LAWS CAUSE NO INCONVENIENCE FOR GASOLINE USERS

By Clarence E. Bement

(Secretary and Manager of the Novo Engine Company)

THE advent of the automobile has done for the stationary gasoline engine more than all the previous years of demonstration had accomplished. It showed the most skeptical that the gasoline engine is a positive, reliable and dependable power for every purpose within the range of its capacity, and that range is being extended every day. Steam power, intrenched behind more than a century of achievement, has stubbornly resisted the encroachment of the gasoline engine, but is now rapidly yielding to the irresistible power of facts and experience. This is exemplified very clearly in the substitution of gasoline engines for steam engines and boilers on the larger capacity cement mixers.

When a contractor is using steam power on a mixer it is necessary for the engineer to report for work an hour or more before the rest of the crew, so that he may have steam up. A gasoline engine is always ready to start.

The mixing of concrete on the ordinary job is an intermittent proposition. The concrete is poured for a few hours into a set of forms, and then the mixer is not used again until another set of forms is ready. It is manifestly an advantage to be able to shut down a gasoline engine without waste of power or any attention required until the mixer is again put into operation. With a steam boiler the fire must be banked, and some attention paid to keeping the boiler supplied with water.

Boiler Laws Work Hardship

At the present time special boilers are required for Massachusetts, Ohio, Indiana, Chicago, Detroit, Wisconsin, Alberta and British Columbia. Boilers over 20 horse power for stationary purposes must be special if used in Ontario. It is manifestly impossible for a manufacturer to carry in stock eight or more different kinds of boilers with five or six sizes of each and be prepared at all times to give service in the way of prompt delivery. The special boilers, as a rule, are made from special plates, which must be inspected, first at plate mill in the raw material state, and afterward during the process of manufacture in the boiler-shop. Except in a few of the most popular sizes it is practically impossible to

buy a special Alberta or Massachusetts boiler, for instance, in a shorter time than four to six weeks.

A contractor using a mixer in New York state cannot take that machine with its boiler into Massachusetts. A Chicago contractor having a Chicago boiler is not allowed to operate that boiler in Michigan, Indiana or Wisconsin. As contractors as a class are migratory, these boiler laws are a decided hardship to them.

As against all these boiler difficulties we have a very satisfactory gas engine situation. A gas engine can be used in any state without any state laws regulating its construction. A licensed engineer is not, as a rule, required to operate it, whereas, steam boilers and engines, as a rule, must be operated by an engineer with a certificate, at a high rate of wages per day.

Fuel for gasoline engines is sufficiently uniform throughout the whole country to give satisfactory results, and in these days of automobiles and small engines for farm purposes, nearly every crossroads grocery has a gasoline supply.

A gasoline engine weighs less than a steam engine and boiler of the same horse power, which is advantageous on concrete mixers or any other equipment that is portable or semi-portable.

Modern Engines Light

When the gasoline engine first came into the commercial field it was thought necessary to make it heavy and cumbersome to stand the strain of the internal combustion and to hold it in position. This idea has been exploded, and the later models of gasoline engines have been designed with all the surplus metal cut out, making them more easily portable without sacrificing their efficiency and durability.

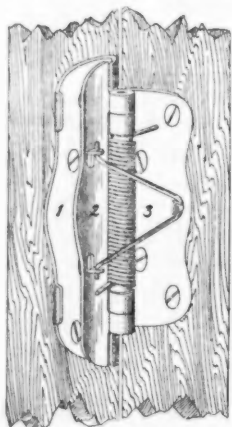
The substitution of the spark plug and jump-spark ignition has simplified the gasoline engine to a wonderful degree over the old style make-and-break ignition with its complicated mechanism, repairs for which could be obtained only from the original maker, whereas, the spark plug and its attachments can be bought at every garage and many hardware stores.



The E-Z-O-N Hinge

The most business-like of the detachable screen-door hinges has recently been placed on the market. It is a very neatly finished, wrought-iron hinge, fitted with strong springs and very securely fastened, both to the screen door and door frame. The principle upon which the detachable hinge works is simplicity itself.

Referring to the sketch, a steel shoe or resting plate (1) is screwed to the door frame. Four projecting lugs on this plate hold the hinge leaf (2) solidly in place, due to the action of the coil spring pressure. When the door is to be unhinged, it is partially opened, and the wire attached to plate (2) is hooked over small projecting hook on plate (3), the other side of the hinge. Then the door is closed and this wire takes the pressure of the coil spring, and the hinge unlocks from the door-frame plate.



Hinge Being Removed From Door Casing Plate

The detachable door hinge must be easily put on and off, and also prove itself a solid, workable hinge while the door is on and in use. This new hinge is all of these. It is made extra strong and has an extra firm bearing; four screws in each leaf. When the door is off, the only part that remains on the door post is a simple steel plate; nothing to rust out or be objectionable.

Once these plates are fastened to the door post they serve equally well for screen door hinges and storm doors. Carpenters and builders will be interested to equip their houses with these improved satisfaction-giving hinges, fixing up both screens and storm doors, to work interchangeably on the one bearing plate.

The detachable hinge idea is a good one, and we are glad to see a really serviceable high-grade hinge of this style come onto the market.



New Type of Concrete Wall

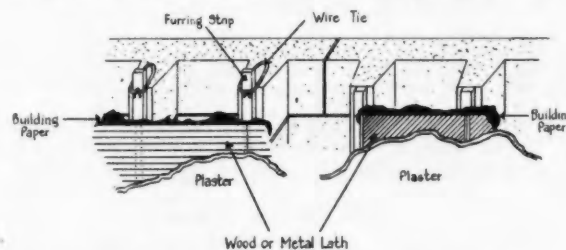
An idea in concrete wall construction which will be popular for a good deal of residence work and other light construction, was featured at the Chicago Cement Show. The illustration shows the special features of the method. The concrete blocks are formed in a double "T." The bar of the "T" has an extra fine finish, which makes the outside of the wall. The web members at right angles to the face extend back as shown in the sketch, and wood furring strips are fastened perpendicularly to the ends of the projection. These are wired in place by laying galvanized iron ties into the mortar joints. Metal or wood lath is nailed to these furring strips and the plastering is applied to form the inside of the wall.

This makes a light, warm and dry construction, having all

the advantages of the heavier masonry walls, yet costing on a level with frame construction.

While this is a new idea, it is by no means untried. The big industrial city which the United States Steel Corporation are now building near Duluth, makes use of these concrete blocks and this method. The foundation walls are the regular block, double-wall construction and this lighter method is used for the superstructure.

It is an idea that works out exceedingly well with this



Detail of Block and Plaster "Double" Wall

particular block (known as "Hydro-Stone.") It is a very high grade and easily made block that is sure to have a big future. Incidentally some of the most beautiful cement block surface treatment and ornamental finishes were on these "Hydro-Stone" blocks in this exhibit.



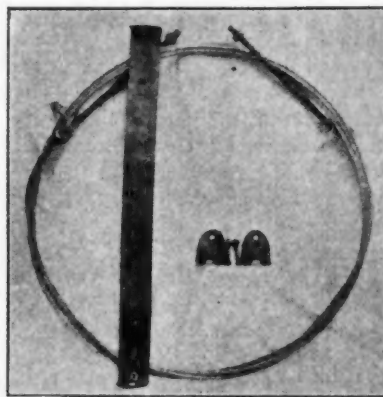
To Simplify Silo Work

To the Editor:

Endicott, N. Y.

In reply to your letter, will say I have had about fourteen years' experience in the building of silos, and that dates back to about the time stave silos were first successfully used.

I believe that the carpenters and contractors in the farming districts can make for themselves a good business, building silos. An average silo consists of about 2500 feet of matched 2-inch lumber and the necessary hoops, and door and door-frame device. This lumber can just as well become a staple commodity for the lumber yards as flooring, siding or other building material, and save the cost of local freight rates, which vary from 12 to 50 cents per 100



Improved Silo Hoop With Band Iron Section to Go Across Silo Door

pounds, according to distance. This adds to the cost of the structure, \$6.00 to \$25.00, if shipped complete from some near-by factory; again, if the farmer goes to his local dealer or contractor for this material he has the privilege of selecting just such material as he wants, whereas, the silo manufacturer sends what he believes to be suitable, which is often unsatisfactory to the customer.

Then, the questions of patents enters largely in building of door-frames and hoops. In fact, nearly every device imaginable has been patented and many of them are still in litigation.

(My device for both doors and hoops has been through the courts and is now free from any further questions.)

This matter should be carefully considered by any one going into the business, or even buying a silo.

ELMER B. LACEY,
Manufacturer of Patented Silo Hoops.

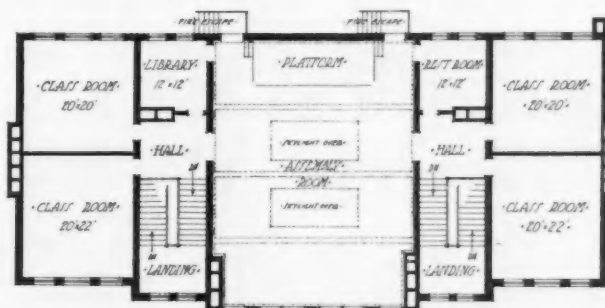
Up-to-Date High School Building

WITH all the special courses that are offered nowadays in the high schools, it is no small task to arrange a building so that every department can work under its own most favorable conditions. Domestic science for the girls, manual training for the boys, physical and chemical laboratory courses, gymnasium work, public speaking—all these are important in high school work and each must have a room of proper size and favorable arrangement to meet its individual needs.

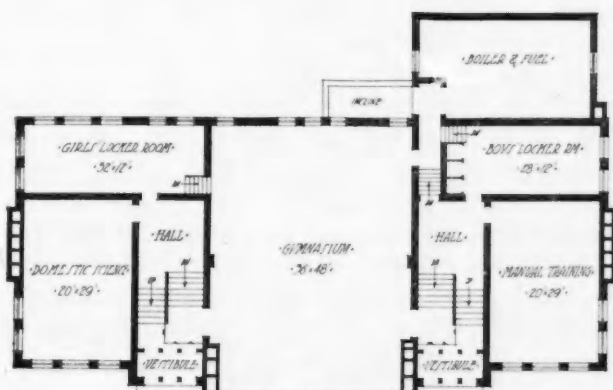
The accompanying floor plans will merit a good deal of study by all who are interested in modern high school planning. This is a design by the well-known school house architect, G. W. Ashby, of Chicago. He has prepared in this design what may be called a model high school building. The high basement accommodates gymnasium, domestic science and manual train-

ing rooms, locker rooms and heating plant. On the first floor are the laboratories, principal's office and four class rooms. The second floor has a large central assembly hall, library room, teachers' rest room, and four class rooms.

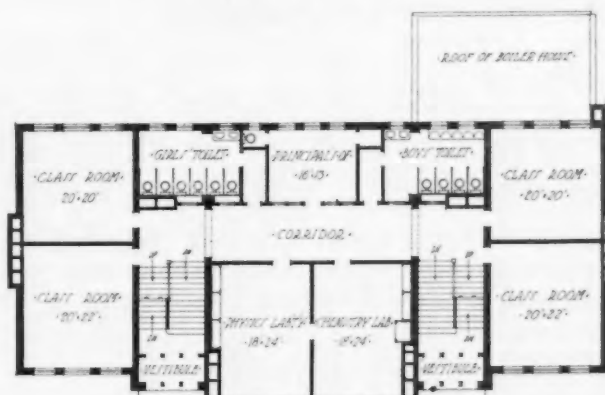
The exterior design is attractive, handled in brick with stone trimmings.



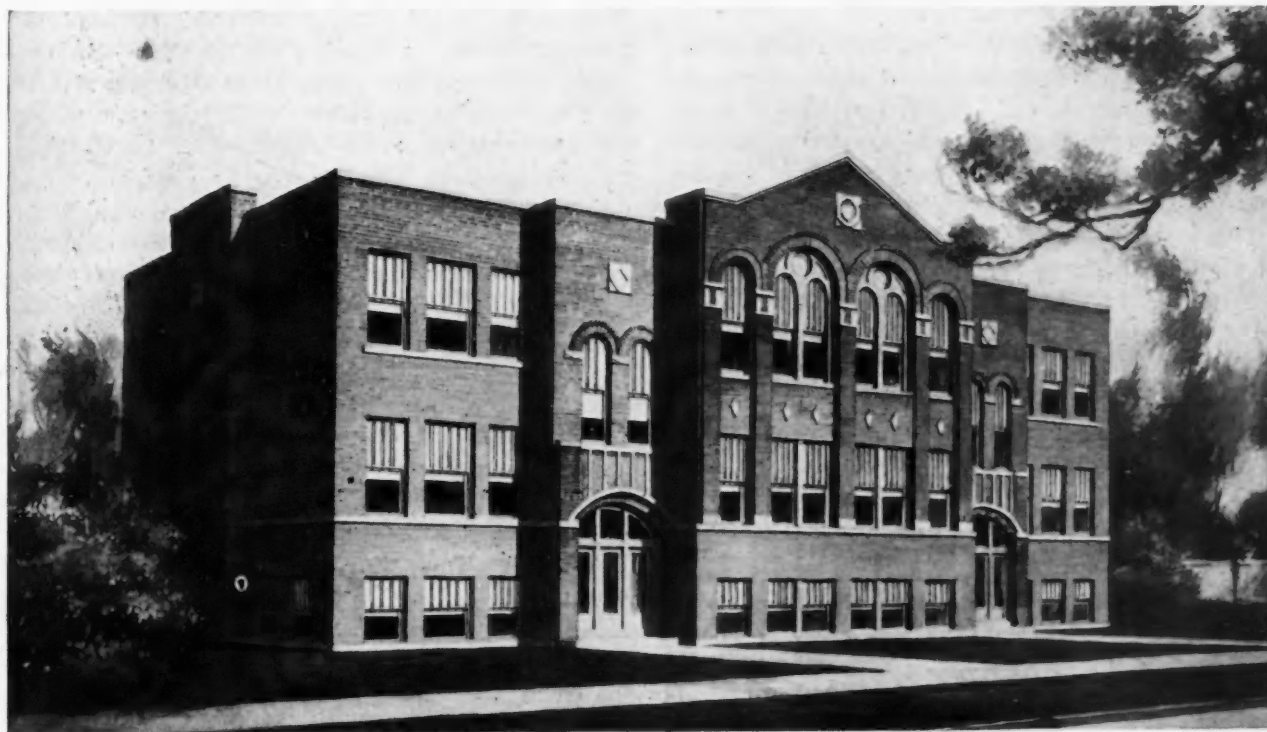
Second Floor Plan



Basement Floor Plan



First Floor Plan



Modern High School Building, Offering Ideal Accommodations for All Departments; Designed by Architect G. W. Ashby, of Chicago



Hardwood Flooring and the Floor Layer

FOUR JOBS WHERE THE FLOORING MADE TROUBLE

By W. L. Claffey

THE hardwood floor, as a rule, is laid by a profession commonly known as "floor layers," who specialize in the laying of hardwood floors, which comprises oak, maple, birch and beech flooring.

These floor layers may be divided into two classes—the good and the bad. The expert floor layer obtains his reputation by the high class and perfect work that he turns out. It is practically his only asset in the game. Many large and prosperous floor-laying concerns reach their prosperous condition due chiefly to conscientious workmanship in their earlier days. The floor layer that is careless or ignorant in this line of work will never succeed.

Owners, architects and contractors nowadays know the value of first-class work when it pertains to hardwood flooring. Even after the floor is finished, the appearance at some time sooner or later, if improperly laid, will testify to bad workmanship.

The floor layer that makes good is invariably the one who knows the proper method of laying floors that will always stay right. A good floor layer does not rely upon the contractor for all his business. In fact, the greater share of his work is obtained through satisfied owners.

One expert floor layer that I know makes a specialty of canvassing among very fine old homes that were erected during the days when only soft pine floors were to be had. Usually $\frac{3}{8}$ -inch thickness oak flooring is used for old homes, laid directly over the old pine floors. This expert in a very few minutes, after ascertaining the square feet of space to be re-covered, will tell the cost, including the finishing.

While on this subject, it might be well to dwell upon some actual cases that the writer was called upon to investigate, which are quite pertinent.

Some Flooring Failures and Why

In Detroit, about a year ago, 2,450 feet of oak flooring were laid by an incompetent floor layer, parallel with the sub floor. The sub floor in the course of ten days started to contract, with the result that it made crevices in the floor above every 6 inches, which

was the exact width of the sub floor. The owner made the complaint to the dealer, and I was called upon to look into the case. A glance at the floor immediately told me that the flooring was laid parallel to the sub floor, which I proved by going into the cellar and looking at the direction in which the sub floor was laid. The floor layer was called upon to explain why he laid the oak flooring over the sub floor in this fashion. He had no good excuse to offer other than he thought it was the proper way. It brought out the fact that he was a novice in floor laying. Every bit of this oak flooring had to be taken up and replaced by new oak flooring and, of course, this time it was laid properly at right angles to the sub floor.

Another case in Kansas City, a short time ago: 2,000 feet of oak flooring were laid in a very fine residence immediately after being delivered from the retail yard. At the retail yard it was given improper housing, where it absorbed considerable moisture, resulting in many pieces swelling to an extent of $\frac{1}{16}$ inch from the original size. The period was during the winter season. The result was that unsightly crevices appeared very numerous after the house was heated. The architect in this case placed the blame upon the retailer and the floor layer. He contended that during the winter season hardwood flooring, especially oak, should be kept in a very dry and warm place for at least ten days or two weeks prior to the time of laying. This floor also had to be ripped up and replaced by new stock at a big expense, which was borne by the dealer and the floor layer. It might be well to say that they tried to place the blame upon the manufacturer, but after careful investigation, revealed the aforesaid conditions.

At Ithaca, N. Y., a few years ago, an 8-inch brick wall was bulged out to the extent of 3 inches, and after careful investigation it was found it was done by the flooring, which was oak, being badly abused by too much water being used and left on in scrubbing the floor, which cause the swelling. Usually in a case of this kind, the floor will bulge up in the middle of

the room, but it was found in this particular case that nails were generously used through to the oak sub floor.

In another case in St. Louis, where the flooring showed crevices throughout the floor, revealed the fact that the sub floor was green stock and the carpenters left no space whatever for contraction. A few months after the flooring was laid these boards contracted anywhere from $\frac{1}{4}$ to $\frac{3}{8}$ inch, and while the flooring was laid diagonally, it made very bad crevices.

Article after article has been written in the trade journals upon the subjects of proper laying, nailing, finishing, etc., so do not believe it necessary at this time to dwell upon these subjects.

A first-class hardwood flooring job does not only mean the proper laying process, the right kind of nails, scraping, etc., but it means avoiding bad-appearing pieces from prominent places in the room. Very often when entering a room you see a bad-looking piece that is not covered by the rug, which should

have been placed in some obscure corner or closet. The most successful floor layers employ an assistant to pick out bad-looking strips and see that they are not laid in prominent places. A floor layer should have a thorough knowledge of the different kinds of hardwood flooring before entering into this field.

In oak flooring there are five grades—clear, sap clear, select, No. 1 common, and factory. Each grade has its uses.

It is not necessary that every floor layer be an expert. Any ordinary carpenter with good common sense, after reading booklets as published by the manufacturers of hardwood flooring, can enter upon this line of work and make a success of it.

Booklets have been printed at enormous expense by the hardwood manufacturers that can be had free for the asking. Some of their ads. appear in this magazine, especially the Oak Flooring Bureau, which publishes a beautiful and instructive booklet on all the features of laying and finishing that should be in the hands of every floor layer or carpenter.—ED.

Builders Interested in Concrete and Mortar Mixers

JANUARY AD. PUZZLE CONTEST BRINGS OUT MANY INTERESTING LETTERS FROM OUR READERS, TELLING HOW THEY USE CONCRETE AND MORTAR MIXERS

THE January puzzle was a little out of the ordinary, because of an unintentional error through which one of the clippings was taken from an ad. that did not appear in the January number. In another instance, the advertiser changed his copy at the last minute before going to press, so that our clipping varied somewhat from what was actually used. Neither of these discrepancies seemed to

trouble Our Folks very much, however. They located these ads. just the same—which shows, so it seems to us, a rather remarkable familiarity with the ads. appearing regularly in the AMERICAN CARPENTER AND BUILDER.

And as for concrete and mortar mixing, we now know about all there is to be known about it, at least from the point of view of contractors and builders.

The Prize Winners in the Ad Puzzle Contest are the Following:

First prize, \$10.00 worth of goods selected from our ad pages:

D. C. MORRIS, Contractor and Builder, Emporia, Kans.

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

CLAUDE C. CONKLIN, Architect, Pachogue, N. Y.

HOWARD M. NICHOLAS, Builder and Broker, Hazelton, Pa.

Ten third prizes, each consisting of \$1.00 worth of goods selected from our ad. pages:

JOE UBBINK, General Contractor, Port Washington, Wis.

ANDREW E. DONOVAN, Constructing Department, 1st Field Artillery, Schofield Barracks, Territory of Hawaii.

ROBERT GREENE, Carpenter and Contractor, Glenwillard, Pa.

JOHN KRAUSE, Carpenter and Builder, Detroit, Mich.

W. C. BACK, Banker, Greenville, Mich.

ARTHUR F. SMITH, Harding, Mass.

H. C. LEE, Concrete and Carpenter Foreman, Amory, Miss.

I. H. RIDDICK, Instructor Manassas Industrial School, Manassas, Va.

WM. A. YEAGLE, Proprietor Yeagle Concrete Co., Clyde, Ohio.

EUGENE J. PICARD, General Contractor and Builder, North Platte, Neb.

This Month, "Painting, Varnishing and Decorating" Contest

ON the next page you will find some more fun, that is if you are fond of reading interesting, worth-while advertisements. We have made up a puzzle composed of twenty-three clippings from ads appearing in this number of the AMERICAN CARPENTER AND BUILDER. Carefully go over all of our advertising pages. You will find this month one of the most extensive and interesting advertising sections ever presented in a building magazine. Our advertisers are trustworthy, reliable people, all of them. They want your friendship, and a share of your business. Look

over their advertising offers, and write for the catalogs, circulars and samples offered. When you have done this, you will find it easy to identify the clippings in the puzzle.

The subject to write about this month is highly important. Write a letter of not less than one hundred words on "Why the Carpenter and Builder should Concern Himself with Good Painting, Varnishing, and Decorating." We want to find out how much of this branch of the work Our Folks are interested in, and why.

MORE FUN AND PRIZES FOR ALL WHO READ OUR ADVERTISING PAGES

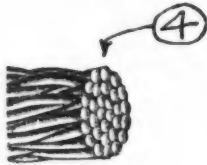
HA PORT CEM ①



③



MAKES RAIN NOISELESS



⑤

We realize there are many A-1 carpenters who want to get the best chisel they can get and who have never used



⑦

Its smooth, easy, absolutely noiseless running has never failed to please. Money-back guarantee.

⑧

Eliminates All Fuss, Bother and Delay.

⑨

No More Sore Knees
No More Cramped Fingers
No More Aching Back
Work Done in 1/5 the Time
and a Better Job.

⑩

A BOOK OF PLANS



⑫



⑬



⑰

THE RENT BUYS IT

⑱

IMPERISHABLE

⑳

write today for our latest special offer on "Ranger"

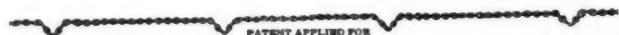
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"CREO-DIPT"

㉑

is just the machine for the architect, contractor, carpenter, builder. Bills of material, tender of bids, contracts, estimates, time sheets, bills, all writing, can be done easier, quicker and more accurately than by irksome longhand.

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PATENT APPLIED FOR

Its all in the V.

March Ad. Puzzle Prize Contest

Here are fragments of 23 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 23 ads. these were clipped from. Be sure to give the names and addresses and the page numbers. Also write a brief straightforward letter of not less than 100 words, on this subject:

"Why a Carpenter and Builder Should Concern Himself with Good Painting, Varnishing and Decorating"

We Will Award These Prizes

13 Prizes—\$30 in 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) \$1.00 worth of goods selected from our Ad. pages.

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 of them.

This Contest Closes Wednesday, April 15th.
Prize winners will be announced in May issue.

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



⑮

SEE THAT THIN BIT!

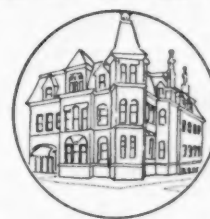
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ARTONE

CORRESPONDENCE



Questions Answered and Ideas Exchanged.

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

Favors Stricter Requirements

To the Editor:

Adrian, Mo.

I notice Mr. B. S. Graves' letter in the January issue of AMERICAN CARPENTER AND BUILDER and just wish I could shake hands with him on what he says about the licensing of contractors and builders who may superintend the work on even ordinary residences, barns, and, in fact, all classes of buildings.

I will say for myself and others here that I know that we are heartily in favor of just such a proposition.

Nothing is more disgusting to me, and a worse slam on our trade, than to see, anywhere you go, just any old clod-hopper jump up and take a saw and hatchet and take a job at a low figure and butcher it up any old way, just to get it done and get his money. There is a right and a wrong way to do everything, and I think if a man is not capable of doing things the right way he ought not to be allowed to butcher them up; but how are we going to remedy the fault unless there is some such a law passed?

Such men and work as that is one thing that keeps our wages down and makes it hard for a capable man to get what it is worth to do a job as it should be done.

As Mr. Graves says, most all other trades require a man to show his papers before he is permitted to practice his profession, so why not a carpenter?

I do not claim to be perfect or that I am capable of writing down just what the requirements of a carpenter should be; but there are plenty of men that can, and if they write them, so I can't measure up to the standard, I am willing to step down and let the capable man take my place, and I will work for him and be content with the wages I can earn.

Just one thing more, then I am through. I think if any carpenter will study the pages of the AMERICAN CARPENTER AND BUILDER, and the Radford Cyclopedia of Building Construction, he will quickly learn the right and wrong way to do things.

M. W. ROBERTS,

Carpenter and Contractor.

Wants to Raise the Roof

To the Editor:

Karnas P. O., Manitoba.

I wish some reader would give me sketches and particulars of the best way to raise a cottage roof. I want to raise it about 5 feet; and not having actually done a similar job myself I want to know the best way to go about it.

T. H. BRUNNEN,

Contractor.

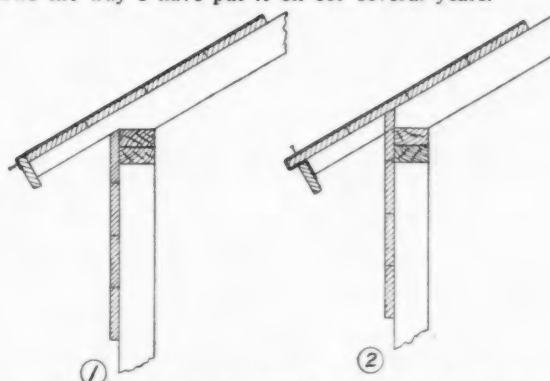
Nailing Ready Roofing at Eaves

To the Editor:

Kerkhoven, Minn.

I am sending you a couple of drawings showing the way to put patent roofing on sheds and other buildings having a common barn cornice (or what I call a railroad cornice).

Fig. 1 shows how most carpenters do—just bend the roofing over the edge of the cornice and nail it to the fascia. Fig. 2 shows the way I have put it on for several years.



Ordinary and Improved Way to Eave Ready Roofing

I let my plancher board extend about 2 inches beyond the end of the rafter tails and then put on the roofing. After I get it all on I bend it around edge of plancher and then nail on the fascia, nailing through the roofing and into the rafter tails. Then I go around the edge of roof and nail through the roofing and plancher and into the top edge of fascia, using 6 d. nails and the tin caps usually furnished for roofing nails.

C. L. PERRIN,

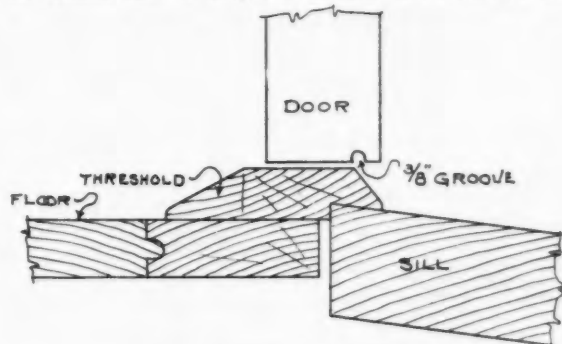
Carpenter and Cement Worker.

Another Form of Threshold

To the Editor:

Fulton, Ind.

In reply to the inquiry of a better way to fix a threshold to an outside door to keep the rain out, am sending a sketch



Detail of Rain-Proof Threshold

of what I find to give the most success, without leaving a chance to rot the threshold, which the groove in the threshold would do, also collect dirt and fill the holes.

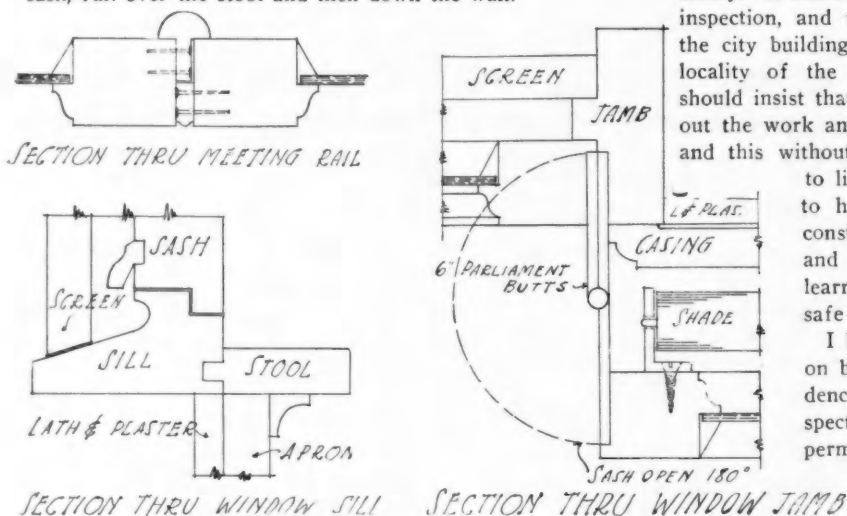
MAURICE LOWMAN,
Building Contractor.

Storm Proof Inward Casements

To the Editor:

Baltimore, Md.

Will you kindly give me a full detail of a casement window frame for a country house that is out in the open country with no protection from wind and heavy rain storms? I have seen frames furnished for such houses with no good results and am now called on a job to give my opinion whether I can make these frames weather proof and stop the rain from coming in. The rain seems to beat in under the sash, run over the stool and then down the wall.



Details of Storm-Tight Inward Casements

I will give you a rough detail showing the construction of these frames at present, and hope you can make a suggestion that will help me out to render my opinion; also show them a detail of same. This house faces the Chesapeake Bay. They want this job guaranteed to keep the rain out.

WILLIAM H. BROWN.

Answer: Here are details that show approved practice for inward opening casements. Even in exposed locations these windows have been found to be storm tight.

We are sure you will find this method preferable to the scheme shown in your sketch. The triangular insert you suggest on the window sill would be sure to become broken, pull loose; and in the winter time the space between it and the sash would become choked with ice.

EDITOR.

Licensing Builders

To the Editor:

Omaha, Neb.

I have noticed a couple of articles on the licensing of carpenters and builders. In my opinion this is entirely the wrong idea of the problem. The licensing of carpenters and builders would have a tendency to put many of them out of work and keep many from learning the trade. Everybody has to learn how to do work from experience, and if there is something in the way that prohibits them from even getting a chance to learn, when would men ever get to be proficient in their trade?

Again no kind of license would secure the people against a dishonest workman. The only security against a really dishonest workman is to stand over him with a club while he is doing the work. Very few of the bad cases of chimney construction, such as were alluded to in the AMERICAN CARPENTER AND BUILDER, occur through ignorance of building construction. It is more from pure "cussed" greediness like this. The carpenter may not want to take the time to properly frame headers around the chimney, and the bricklayer is too greedy to lose a few minutes' time for the carpenter to do the work right or to be called back to do it over, so he is criminally careless and lays the chimney up

through the woodwork, regardless of what the consequences may be in the future. Anyhow, it will not be discovered till long after he is away, and the chances are that if the building burns, the real cause will never be known.

I will tell you the man to license and to watch, if any, and this is the Building Inspector. This man should be a thoroughly competent man in all branches of the building trades, and should be compelled to inspect every building while in course of construction as often as it may be necessary. It should be made compulsory on his part to do this inspection, and when everything is not in compliance with the city building laws and ordinances which govern in the locality of the building under construction, the inspector should insist that the laws be complied with, even to tearing out the work and rebuilding it in compliance with the laws, and this without compromising. The inspector is the man to license, if any, and then insist that he attend to his duties. This would put a stop to bad construction and would give both the ignorant and criminally careless ones a grand chance to learn a valuable lesson in regard to proper and safe building construction.

I know, from actual experience, from working on buildings year in and year out, that on residence work, the building inspector does not inspect one building out of ten. If the building permit is paid for, the chances are ten to one that the building inspector will never be seen on the job from start to finish. He is paid a fair salary, yet the biggest part of his work consists mainly in just drawing

that salary. It is a mere matter of collecting the money for the permit with him.

Get after the building inspector, make him a real inspector, not just an inspector by name only. If it is thought necessary make him pass an examination as to his qualifications for the office and come across with the license; he draws a salary whereby he can afford it. He is the man who should be looked to for the safety of your buildings, if not then there is no need for such an official position, and no need of keeping him at the expense of others, particularly when he is no good.

I. P. HICKS,
Builder and Estimator.

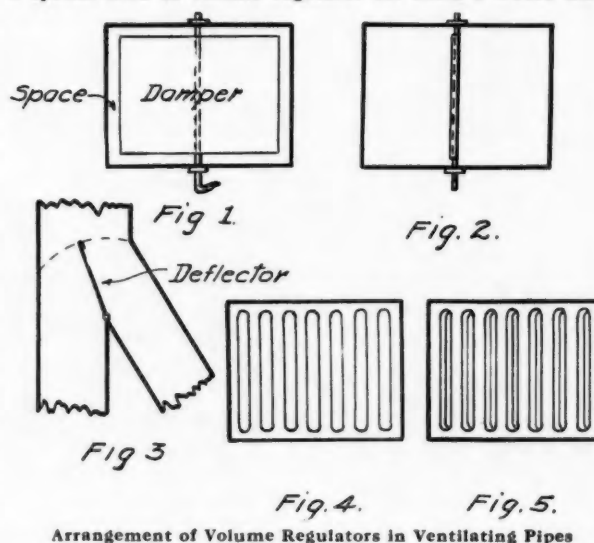


Volume Regulators in Ventilating Pipes

To the Editor:

Muscatine, Ia.

I have charge of a large heating plant on the same principle as your article on page 70 of the January issue. If there is a special kind of volume regulator for same I would like to



Arrangement of Volume Regulators in Ventilating Pipes

know what it is like. Is there anything different from a regular stove pipe damper? The pipes run from 6 to 16 inches.

J. F. BERRY,

Carpenter, Contractor and Builder.

Answer: The volume dampers generally used in hot blast trunk line heating and ventilating systems (which is the type of apparatus referred to by our correspondent) consist of arrangements largely on the type of stove pipe dampers but not fitting tight around the edge. By turning these dampers partially or entirely across the ducts delivering too much air, sufficient resistance is produced to force the air into the ducts not handling enough. Fig. 1 shows a cross-section of a duct with one of these volume dampers turned completely across so as to offer the greatest resistance to the air passage; while Fig. 2 shows the same duct with the damper entirely open and offering the least resistance.

Another type of volume damper is known as a deflector. These are not as satisfactory to use as those previously mentioned since the only place they can be located is where the ducts branch from each other. This location *may be* perfectly accessible in some cases, but in many it is *not*, while the previously described volume dampers can be located at the most convenient point along the entire run of duct. Fig. 3 shows the deflector type of volume damper.

There is still a third way to control the volume of air and this is by means of a slide damper as shown in Figs. 4 and 5, Fig. 4 being the open position and Fig. 5 partially closed. Slide dampers are usually placed immediately back of the register faces, since the duct usually enlarges at the outlet sufficient to accommodate the slides. If installed at any other point, the area of the duct at the slide must be nearly doubled, since the slide—even when open—cuts off over 50 per cent of the duct area.

HAROLD L. ALT, M. E.



Big Round Roof Barn

To the Editor:

Rock Creek, O.

Although you have had several pictures of large barns, I have not seen any quite like one that I built last year. This picture of it was taken as we were putting up the rafters. The barn was built for the Scofield brothers, near Rock Creek, O., and is 40 feet wide, 80 feet long and 44 feet high. I placed timbers on level ground, about 5 feet apart; staid

them with boards and struck a perfect half circle and built the rafters on them out of boards 1 by 4 inches, four boards in thickness, making them 4 by 4 inches and 60 feet long.

V. B. WOODRUFF.



Burning Garbage in Furnace

To the Editor:

Galesburg, Ill.

Is there any harm done to furnace in residence by burning the garbage that is gathered only from the kitchen?

WM. H. HOPPS.

Answer: None that we know of. It's often done. If one has no garbage-burning water heater, it's the best way to dispose of winter garbage.

EDITOR.

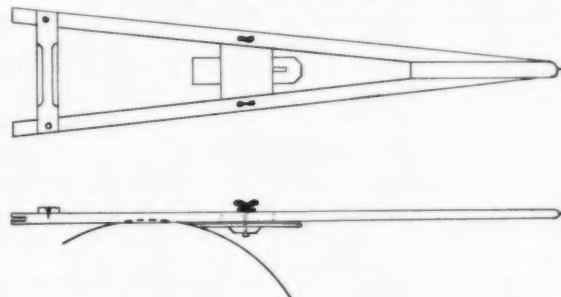


A Holder for Sharpening Tools

To the Editor:

Pond Creek, Okla.

Here is a helper I have been using for a good many years. Any one can make it in a few minutes from the scrap pile



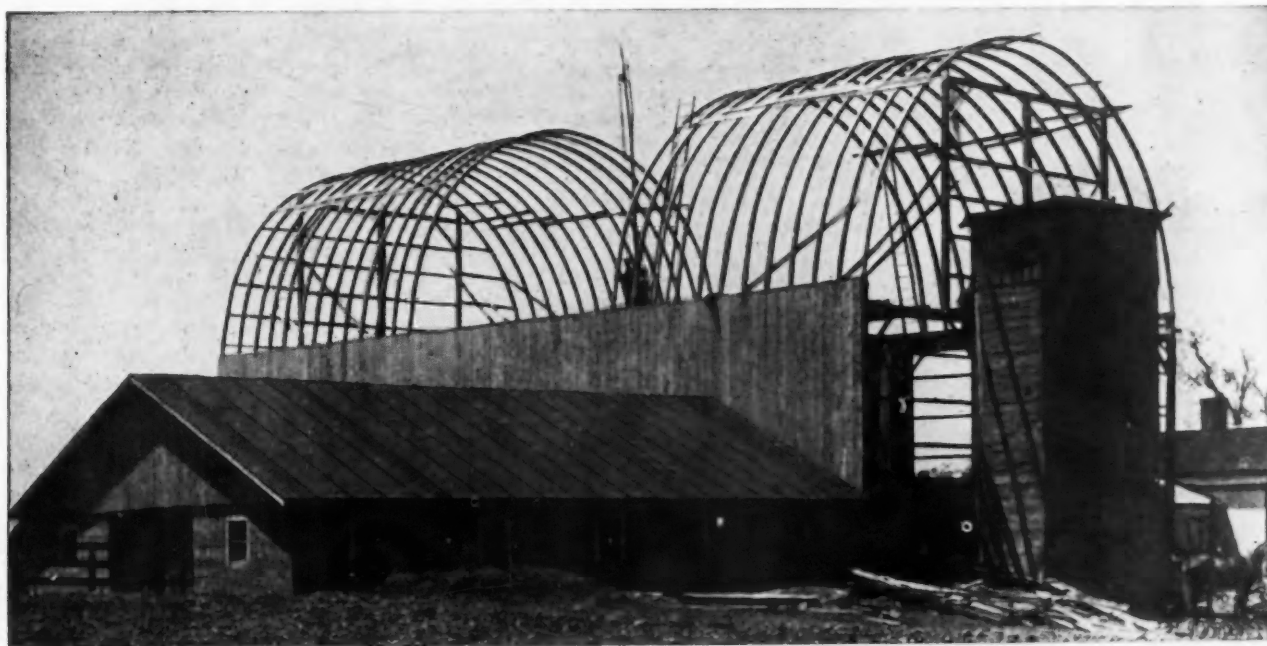
TOOL GRINDER

A Useful Tool for the Shop

and two stove bolts with wing nuts. I place the grind stone the proper distance from the wall, or post, to receive the point in end and hold it the proper slope with my left hand and turn the stone with my right hand. Can hold any kind of bit or chisel in holder. For drawing knife I have notches in end and side of hand hold and move the stone farther from the wall. This little helper enables one to turn his work up and look at it and see how he is progressing, without moving the point from the wall, thereby making a nice, even bevel, just as you want it.

D. B. ROSS,

Contractor and Builder.



Curved Rafters Are 60 Feet Long. They Are Built Up on a Curve Out of 1x4's—Four Thicknesses. Barn Built by]
V. B. Woodruff, Near Rock Creek, Ohio.

Thinks His Way Best

To the Editor:

Essexville, Mich.

Being an interested reader of your valuable paper, I noticed the two different articles on how to do work fast, by I. P. Hicks and Percy Peacock. While I do not claim that either of them is wrong, I do think I have an easier and quicker way, which I will try and explain.

First lay out treads and risers on stringer and then saw tread lines, sawing under at back of cut until saw stands at about 45 degrees to allow miter of riser. Then the above cuts having been made while stringer was lying on saw horses, put stringer in vise and commence at upper tread, which was cut clear across. Lay miter square on tread cut and from riser line miter across, saw down and remove first block, which will give chance to mark next, and so on down to bottom of stringer. As to the riser, cut on angle of 45 degrees, you will have no trouble if stringers are set up square.

GEO. E. ESSEX,

"Big Lift" in Missouri

To the Editor:

Amazonia, Mo.

Here is a heavy-timber frame barn, 40 by 80 by 16 feet, with 8-inch rock basement and shed 10 by 80 feet. The barn was built for Judge C. Yenni, Amazonia, Mo., about nine years ago.

Having the four sides framed and pinned together, all inside timber ready and the rafters cut, we called the neighbors for a "big lift." They all showed up and the raising began at 10 o'clock. At 4 o'clock in the afternoon (when the picture was taken) the frame was up and the boxing and rafters started. The same evening we had all the boxing on, the

rafters in place and part of the sheathing nailed.

The building is covered with galvanized corrugated roofing. Notice the eight leaning posts, two to each side. For strength and stability of building, I think one of those equals a dozen of 4 foot braces.

This is one of many jobs of similar construction in north-western Missouri.

ALEX. KURZ.

Customers Save Work for Him

To the Editor:

Dallas Center, Ia.

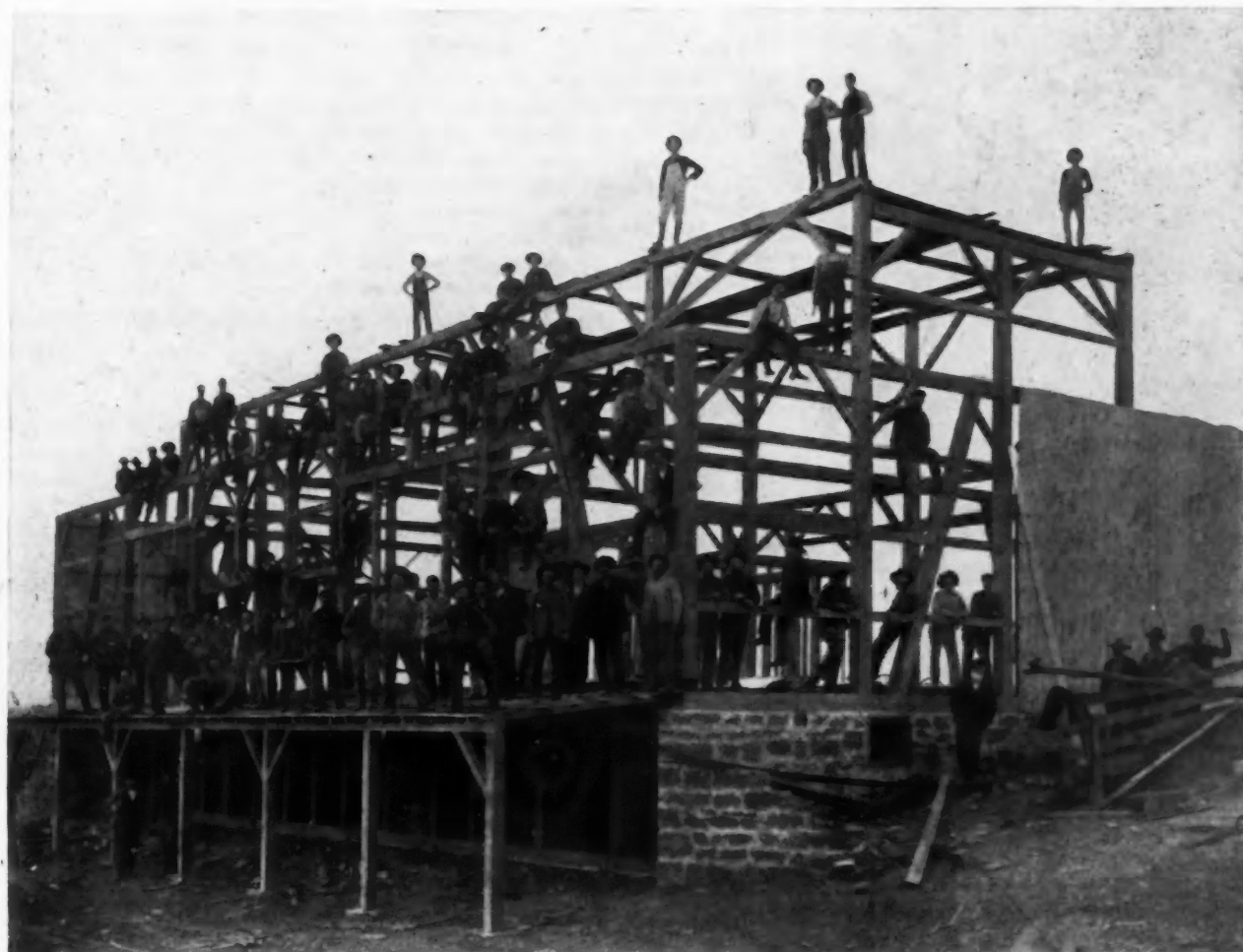
While there has been much said about how to keep the dollars coming in during the winter months, my trouble is how can I get time for a couple weeks' lay off during the winter.

Last winter, and also this winter, I had two houses to finish. I get them ready before cold weather, then we have a good job for winter; then several of my customers save their small jobs for winter for me, as I am so busy in the summer that they cannot get me to do it. I have customers who will save their work for me if they have to wait six months. Then if I would run shy of work we make window frames and screen frames for our houses the coming summer.

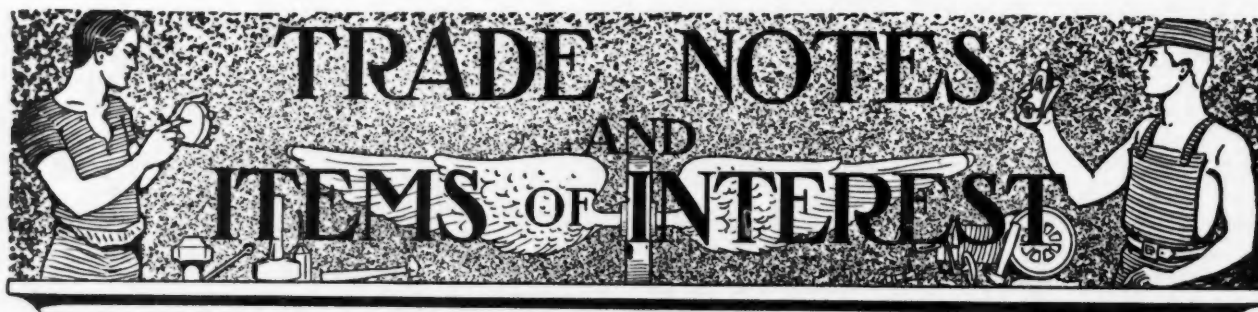
My worst trouble is to get competent men to work for me. Two different parties want me to tear out old stairways and put in new ones this winter and many such jobs. I have more work promised now than we will get done till the first of March, and then spring work will begin to pour in.

I use a power saw selected from your advertising pages and would not be without it; don't see how the other fellows get along without one. I am the only one in this part who has one.

EARL HAWBAKER,
Contractor and Builder.



The Big Social Event of the Year at Amazonia, Mo., was the "Big Lift" on Judge Yenni's New Heavy-Timber Barn



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.

Eastman Kodak Co. Takes Fire Precaution

In order to complete its system of fire protection the Eastman Kodak Company has just fireproofed the door openings to elevator shafts and stairways of its new office and warehouse building, Rochester, N. Y., with Pyrono doors.

These doors, which are a part of the famous Pyrono products, make it possible to secure protection against the spread of flames by means of doors, frames and partitions that measure up to the highest artistic standards.



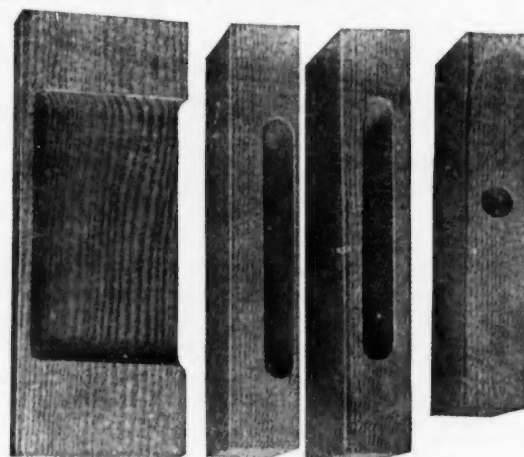
A Pyrono Door

In outward appearance a Pyrono door is like any other high-grade wood door, the surface being of any natural veneer. The basis of Pyrono construction is a core of wood covered with an asbestos sheathing which is first cemented to the wood and afterwards driven into it by means of thousands of indentations.

Pyrono doors are not only fireproof, but air-proof, the sheathing over the core, aided by a hardened adhesive under the veneer, serving to prevent the admission of moisture to the core wood, and thus stopping expansion and contraction under varying conditions of temperature. The H. W. Johnson-Manville Company, New York, will be glad to furnish full information on the subject, to anyone interested.

The Champion Mortiser

A machine that will cut mortises perfectly ought to form a part of the busy man's equipment. The "Champion" mortise, which we illustrate, is said to meet every demand for mortising. The special advantage is, that it can be accurately gauged as to desired depth and width of slot, cutting clean through hard, soft or knotty wood, through dowel pins or panel ends, with or against the grain with equal facility. When the desired depth is reached, the machine stops automatically. No other tool is necessary



Samples of Work of "Champion" Mortiser

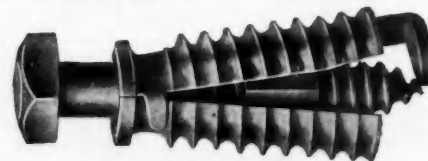
where the "Champion" is used. The ball bearing is in the end of the spindle, relieving all friction. Automatic feed is operated with a cam, and when the bit is at the top of the slot it will feed 1/16 inch, and the same when at the bottom, continuing until 4 1/2 inches for full depth.

The manufacturers, the Calgon Machinery Company, Columbus, O., claim this machine will last a lifetime. All carpenters and builders will be well repaid to write these people for more data on this machine.

New Lag Screw Type of Expansion Shield

A new adjustable type of lag screw shield, which permits of "taking up" or retightening fastenings which may have worked loose through vibration or excessive strain, is now offered and is illustrated here. Attention is directed to the wedge nut principle involved and to the fact that expansion may be increased and the fastening taken up or retightened at will, by a turn or two of the bolt head.

The practical man knows from experience that vibration and excessive strain are apt, in time, to ream out the hole and loosen the hold of an expansion bolt, and he will be quick to appreciate the advantages and the economical features of a lag shield which may be retightened. With U. S. adjustable shields, if the fastening works loose, a turn or two of the bolt head draws the wedge nut outward, the expansion increases or takes up and the fastening becomes as tight as ever. Our readers may secure samples and full particulars regarding sizes, prices, etc., governing lag screw and machine bolt types, upon application to the manufacturers, the United States Expansion Bolt Company, 48 Day St., New York City.



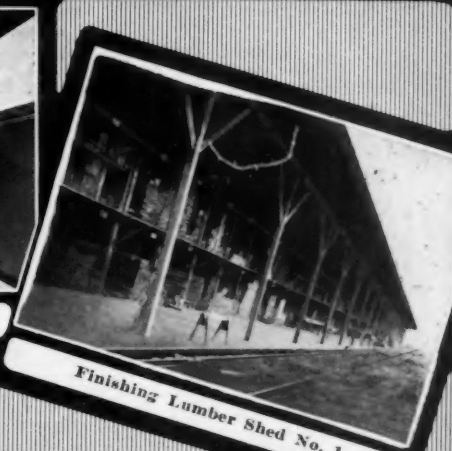
Expansion Shield is Threaded



Loading Lumber on Track No. 3



Shipping Platform No. 3



Finishing Lumber Shed No. 1

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More than 1000 contractors and carpenters testified in 12 months: "Gordon-Van Tine is Best."

Every letter was voluntary. Every one was unsolicited. Hundreds more thanked us for our quality and said we saved them big money.

Thousands of contractors and carpenters sent us orders from once to twenty times in the year. That is the test. Orders with cash are the final vote of approval.

Many of these customers have been buying of us for years. They have had time to test us out. And of course they have compared our *prices* and our *qualities* and our *service* with competitors of every kind at home and everywhere.

So 18,000 orders from the smartest, keenest judges of building material value means something to you.

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Get an idea of Gordon-Van Tine *Prices*. Get an idea of the scope of a 5,000 Bargain stock. See how many things can be shipped *at once*. See how little freight costs. Then remember Gordon-Van Tine guarantee prompt shipment, safe delivery and satisfaction, no matter where you live.

Write for that catalog—that price guide. Then try a test order. See why there were 1,000 testimonials and 18,000 orders from contractors and carpenters last year.

Quick Action On Your Spring Orders!!

Gordon-Van Tine Co.,
Davenport, Iowa.

Dear Sirs: The door and window frames came through all right. Am well pleased with them and your prompt shipment for which accept thanks.

Yours truly,

W. C. Beldler, (Contractor),
R. No. 6, Box 7, Freeport, Ill.

Gordon-Van Tine Co.,
Davenport, Iowa.

Dear Sirs: Goods under order No. 61819 arrived Jan. 2d. Everything came through without a scratch and I am highly pleased with the goods. Nothing better has ever been shown in this town, and if I have occasion to build again, you will certainly get the bill.

Yours truly,

John F. Albrecht,
Glencoe, Minn.

Gordon-Van Tine Co.,
Davenport, Iowa, U. S. A.

Dear Sirs: My order No. 64569 has arrived all in good shape. I am glad this material came along so well for I was needing some of it.

I am sending you another order now which I hope will come along as well and be of the same good material as the rest have been. I have had more real satisfaction with your finishing material than any I have ever used. It is a pleasure to look at a job after it is finished with it. Every house I build advertises your material.

In my order I have 10 pieces 1x12-0 dressed to 1/2 inch. If you send me the cost of dressing this I will send it with my next order.

Yours truly,

Jos. J. Lynn (Contractor)
Moose Jaw, Sask., Canada.

Gordon-Van Tine Co.,
Davenport, Iowa.

Gentlemen: I have been dealing for quite a while with you and have always found your material all of first quality. I used some doors here a few days ago that was bought from a local dealer and today I had to take them down and glue them up again, a very unpleasant job. The owner asked me what he had best do about it. I told him to buy of Gordon-Van Tine after this. None of your work has required that in the ten years I have been dealing with you, and a number of them have not been painted as they should have been.

Your well pleased customer,
S. T. Hibbs (Carpenter)
Monticello, Utah.

Gordon-Van Tine Co.,
Davenport, Iowa.

Gentlemen: I am more than pleased the way you people have treated me. Your millwork has been far ahead of expectations. Customers are pleased. Will send another order the last of the week, then will close work until spring. Will close, hoping you a prosperous year.

Yours respectfully,

W. D. Lyle Contractor,
Route No. 1, Hallton, Pa.

The Gordon-Van Tine Co.,
Davenport, Iowa.

Gentlemen: With reference to your favor of the 21st, will say I am more than pleased with my shipment of lumber and roofing. I find that by placing this order with your establishment I have saved \$50.00 on a barn bill. The grade is by far better than is handled by our local dealer and the price is so cheap in accordance to what one would have to pay a local dealer, that I am surprised when I see men losing money by patronizing a local dealer.

Yours very truly,

W. A. Wilson, Contractor
Birmingham, Iowa, and Builder.

Gordon-Van Tine Co.,
Davenport, Iowa.

Dear Sirs: The bill of goods ordered for Clifford Litman arrived all O. K. Will say that we are more than pleased as the goods are better than we expected and we figure that we saved at least 40% on this order. You can depend on getting several orders from this section in the near future as I shall use my influence to divert business to you.

Yours very truly,

C. H. Lehw,
L. B. 236, New Martinsville, W. Va.

Gordon-Van Tine Co.,
Davenport, Iowa.

Dear Sirs: I will say for the benefit of those who may be contemplating ordering lumber and millwork of you, that I am well pleased with everything ordered from Gordon-Van Tine Co. Lumber and mill work has been best of quality all through. Prices are 20 to 50% lower than local-dealer prices. And as to business quality, they do strictly straight, honest and reliable business, ready to make things right.

Yours truly,

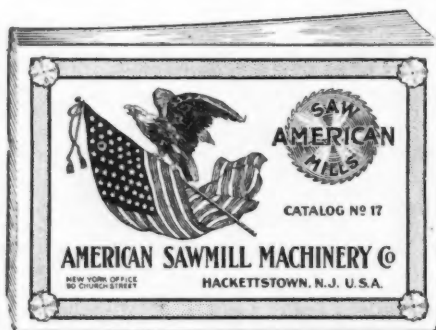
H. D. Hanna, Contractor
and Builder, Larned, Kans.

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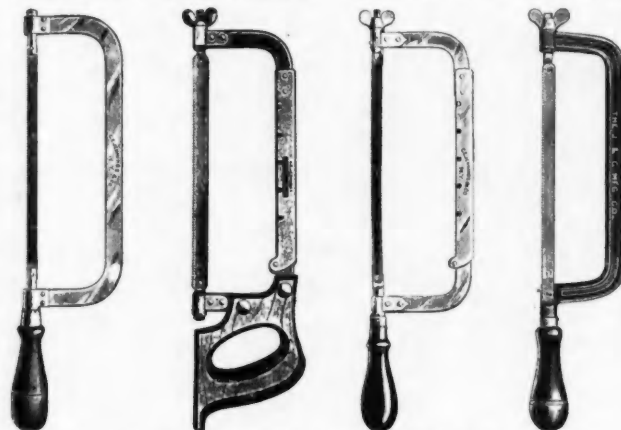
"American Saw Mills, Catalog No. 17"



The above is the title of a new publication now being sent out by the American Saw Mill Machinery Company from its works at Hackettstown, N. J. A feature of the cover design, which is in three colors, is the draped American flag, surmounted by the American eagle. For years this has been a characteristic mark of the catalogs of this company, the distribution of which, all over the world, has doubtless been effective in visualizing before foreign markets the progressiveness of American machinery manufacturers. The book is 6 by 9 inches in size, with 164 pages and cover. It lists with unusual care in detail the very complete line of "American" saw mills and saw-mill machinery, wood-working machinery, saws and accessories for the wood-working plant, contractors' wood-working equipment, and stationary and portable boilers and engines. In fact, the concern contemplating the erection of any plant for working wood for any purpose need not go beyond the pages of this catalog to find its equipment. The new catalog closes with several pages of the kind of information a practical man needs on installing and running saw mills, the proper speed for saws of various sizes, the care of saws, etc. Better care for its trade, the company maintains offices and warehouses at Savannah, New Orleans, Chicago and Seattle.

Extension and Solid Hack-Saw Frames

C. E. Jennings & Co. have added several new tools to their line of Arrowhead hack-saw frame outfits. One of their new models is No. 175½. The frame of this is nickel plated and is adjustable to take saw blades from 8 to 12 inches long. The handle is of the improved type, which gives the user a more direct purchase. It works with more speed



Four New Arrowhead Hack-Saw Frames

and has less chance of breaking the blades than ordinary frames. The handle is made of wood and is adjustable.

The C. E. Jennings line is very extensive, including all of the best of mechanics' tools. It is an inspiration to look over one of their catalogs. Many new and special tools are included that old friends of the Arrowhead tools will be interested to investigate at this time. A line to C. E. Jennings & Co., 71-73 Murray St., New York City, will bring full particulars.

EASY TO LAY

PERFECT PORCH COVERING

MAKES RAIN NOISELESS

NEAT AND ARTISTIC APPEARANCE



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THE REASONS WHY

CON-SER-TEX should be used on all roofs and floors

Con-ser-tex is **weather-proof**. It defies wear and the ravages of the elements. It withstands the broiling sun and the heavy storm. It is impervious to water and non-absorbent as to the sun's rays. One hundred above—or fifteen below zero, makes no difference. Con-ser-tex **stays right on the job** in the same old place.

It deadens the noise of the rain. It stops the rattle of the wind, because it clings tight to the floor or roof surface. Its resilient qualities enable it to withstand the scuffing of the feet, the shifting of porch furniture and the wear and tear of brooms and mops, better than any other roofing or floor fabric.

A scientific, chemical treatment makes it **rot-proof**. The canvas is so treated that the destructive action of oil and paint is eliminated. The fibre is mildew-proof. Con-ser-tex is positively guaranteed against splitting, buckling or bulging.

It lays flat—clings tight—is always neat—it does the work. Generous sample, price list and descriptive matter upon request.

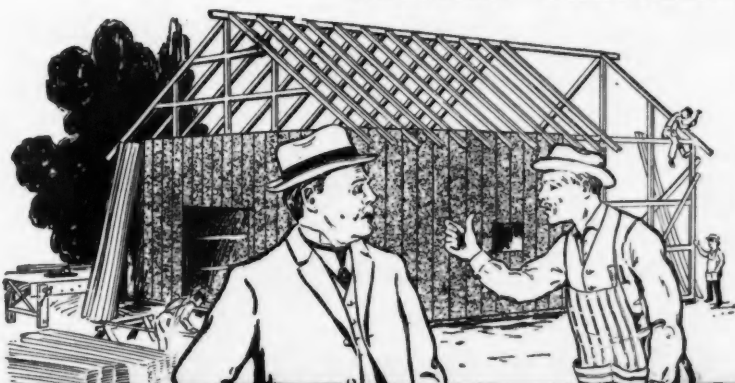
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Quit worrying your head about shortages and extras. Make your next contract sure—dead sure—that there will be no extras for you to pay out of your profit. Get *guaranteed* estimates on the cost of lumber and other materials, and bid close, if you need to—for your profit will be *sure*.

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You save money—big money—many times as high as 60%, when you buy your material of Hewitt-Lea-Funck. We sell you direct, from forest-to-mill-to-you. No middle-man's profits to pay. We guarantee full count, quality as per grade or better, and safe delivery. You get *quick* delivery of orders, too. We make shipments within 48 hours. Time taken in transit is usually two weeks or less to points West of the Mississippi.

Send your plans for freight-paid prices

Send us today sketch of the house or barn you're figuring on. Draw it to scale, or at least show dimensions. Tell us facts you know we should have. We'll come

right back at you with a list of materials we propose to furnish, and a delivered freight-paid quotation, guaranteeing *no extras*.

"Fine service! No extras!"—Mr. Pease

Under date of January 3rd, Mr. J. A. Pease, a Seattle man who built a home in Sumner, Wash., wrote us:

"We were very well pleased, not only with the service in making plans for us to select from, but with the material and quick delivery after placing our order with your company.

"Everything was highly satisfactory, and for the first time in my experience we had material enough to build the cottage without having to go to the local lumber yard for a few odds and ends."

Mail the coupon for Prize Plan Book of 100 homes—and our full proposition

Our staff of architects recently completed a great book of plans worked out for practical builders like yourself. You're sure to find a dozen or twenty houses in this book that you can sell in your neighborhood. This book will show you the kind of work our architects turn out. They will draw up *original* plans for you at a very moderate charge, that's refunded when the order is placed.

Mail the coupon today, for this Prize Plan Book. It cost us over \$30,000 to get it out. Each book costs us 30 cents for paper and printing alone. But we send

you this book, together with our complete proposition, on receipt of your request, accompanied with 10 cents to cover cost of mailing.

Silos at up to 60% Saving

Are you lining up some orders for silos to be erected next summer? There's good money in silos for you and orders are easy to get with the Seattle Silo. Made of famous one-piece Puget Sound fir, and equipped with patented swinging doors. No one else can touch our prices.

Send coupon for full information

HEWITT-LEA-FUNCK COMPANY
408 Crary Building Seattle, Wash.

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

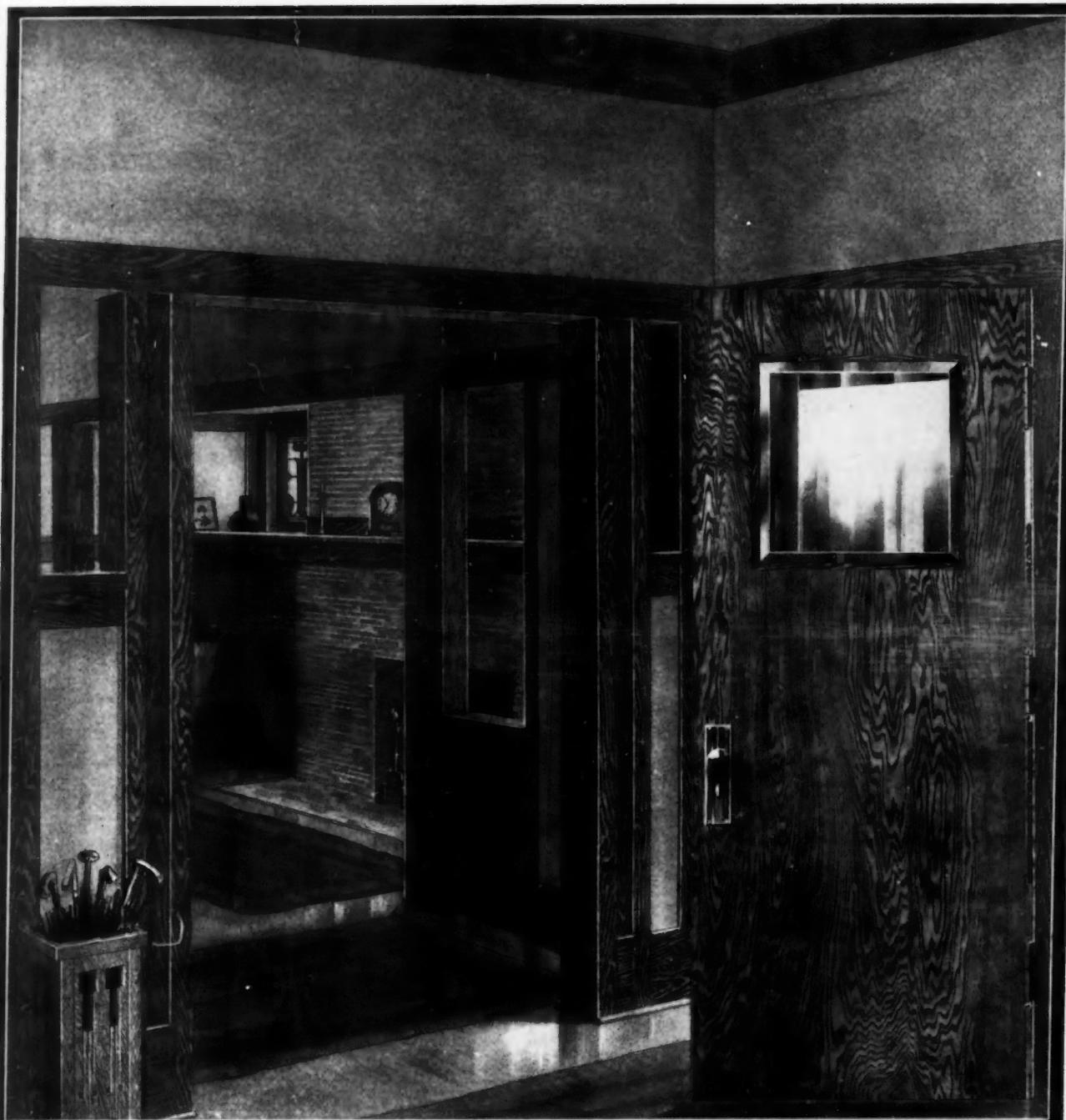
Hewitt-Lea-Funck Company
408 Crary Building, Seattle, Wash.
(Be sure to write plainly)

Please send me at once:
☐ New Book of Plans (ten cents enclosed).
☐ Catalog and General Price List of Lumber and Millwork.
☐ Special Silo Proposition.

Name _____

R. F. D. or Street No. _____

Town _____ State _____



MORGAN DOORS

have been recommended by contractors to their clients for forty years as the standard of beauty, harmony and durability. They constantly protect the contractor's interest and reflect credit on his judgment.

The standard styles and stock sizes of Morgan Doors eliminate guesswork and insure satisfaction. The name "Morgan" on the top rail of every genuine Morgan Door represents an out-and-out guarantee of detail perfection to both contractor and client which is REAL DOOR INSURANCE.

The styles and sizes of Morgan Doors are pictured and described in our book, "THE DOOR BEAUTIFUL." FREE ON REQUEST. Send for a copy.

Architects, see Sweet's Index, Pages 1004 and 1005.

MORGAN SASH & DOOR COMPANY, Dept. C-28, Chicago, U. S. A.

FACTORY:
Morgan Company, Oshkosh, Wis.

DISTRIBUTED:
Morgan Millwork Co., Baltimore, Md.

NEW YORK OFFICE:
6 East 39th St., New York City

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

Arrowsmith Long Handled Tools

The time has passed when cement users have to get down on their knees and wear their "prayer bones" off, to do their work. Sidewalk men and concrete floor finishers have discovered the labor-saving value and the quality value of Arrowsmith long-handled finishing tools.

See how easily these men in the photograph stand up to finish the walk they are laying. Better work, more work, and easier work, all of which means more satisfied customers and bigger profits to the cement contractor, come along with these modern tools.

One of the most interesting displays at the Chicago Show



Working in Comfort and Doing Better Work with Long Handled Tools

was that of the Arrowsmith Concrete Tool Company, Arrow-smith, Ill. We picked up one of their little catalogs and found it so interesting we want to call it to the attention of every one of our readers who does any concrete work. They will send you a copy if you will write them.



New "Giant" Asphalt Shingle

A remarkable asphalt shingle, called the "Giant," is the latest addition to the Flex-A-Tile line. It is made to lay 5 inches to the weather and consequently, takes fewer shingles to cover a roof. The thickness of the "Giant" is another point of merit. This is due to the grades of felt and asphalt used, the last saturation being with a special gilsenite asphalt, with a melting point of 290 degrees Fahrenheit. The "Giant" is made by the Heppes Company, 4503 Fillmore St., Chicago.

Flex-A-Tile asphalt shingles fill a great need, for they assure the roof lasting durability and add a distinctly artistic note to its appearance. The construction of all Flex-A-Tile is said to be of fine asphalt and wool felt with surface facing of chipped slate or granite, which gives the much desired qualities of flexibility and hardness. The beautiful natural colors of the slate or granite are non-fading and thus eliminate the need and expense of painting. Many of the most beautiful homes in the country are being roofed with Flex-A-Tiles, which is striking evidence of their desirability.

Specimens of Flex-A-Tile "Giant" shingles, together with interesting literature, are offered by the Heppes Company to any contractor or dealer who writes for them.

In wall board also, the process employed by the Heppes Company in making the Utility wall board, has obtained for them an interior building material that is said to eliminate expansion and contraction; it never chips, checks nor cracks and provides a smoother, more satisfactory wall for decorative purposes than lath and plaster. The fact that Utility is so conveniently put on and is so economical, is responsible in a great measure for its increasing popularity among homeowners. Utility is a five-ply wall board and, of course, this feature adds greatly to its desirability.

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

BIRCH BUNGALOWS



Birch-finished, 6-room Bungalow at Hyattsville, Md. Stone foundation and fireplace, tiled bathroom, beamed ceilings. Chas. M. Lightbown, builder.

BIRCH-finished bungalows satisfy every requirement for artistic, comfortable and yet inexpensive modern homes. The bungalow finished in **Birch** is as good as the best and better than most. The up-to-date carpenter, contractor or builder is quick to realize the prestige resulting from the use of **Birch**, whether he builds for a client or for himself. Space permits us to quote only the following from our letter basket:

A contractor and builder in New York writes:—

"I expect to build a handsome bungalow in the early Spring, and think that I will use Birch trim. The thing is to get ahead of the other fellows. I expect there will be some fine work and finishes there, and I want to be second to none."

A contractor and builder in West Virginia writes:—

"I am going to build a home for myself in the early Spring, and I want to finish it all in Birch. I would like to know where I can get the Birch. I want to always have something better than the other fellow to offer the public."

Let us help you as we have helped thousands of other carpenters, contractors and builders to use a beautiful, economical, hardwood finish. We can tell you just what you want to know about **Birch**, and where to get it.

Write to-day for our big **Birch Book "C"** and the set of **Birch Panels**, which shows just how **Birch** looks in a variety of stains and natural finish.

A card will bring them postpaid and promptly.

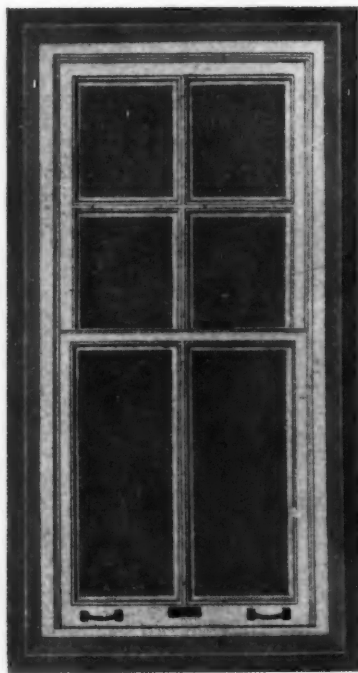
THE NORTHERN HEMLOCK & HARDWOOD MANUFACTURERS ASSN.

Dep't. C.

Wausau, Wisconsin

Fire-Proof Windows

As we study into the problem of fire-proofing more and more we discover that the windows are the danger point of most buildings. A comparatively small amount of heat is enough to break ordinary glass. The light wooden window sash rails quickly take fire and in place of a window we have a roaring chimney flue for the flames.



Foster Fire-Proof Window

Hundreds of thousands of dollars' worth of property have been consumed because of fire spreading from one building to another, jumping easily across from window to window.

This cannot happen where fire-proof metallic window sash, fitted with wire glass, are used.

The fire Underwriters' Laboratories have given all-metal window frames and wire glass windows the severest kind of fire tests. They find that these are truly fire resisting. For all important buildings, especially stores, warehouses, factories, office buildings, etc., all windows should be of this type.

The Foster Sheet Metal Works, Springfield, Ill., call attention to their fire-proof window as illustrated. The construction is approved first-class in every way. The manufacturers feel that not enough of these fire protection windows are being used by builders generally. In the larger cities, where all fire-fighting facilities are of the best, the fire-proof window is generally used; but in the smaller cities, just where the risk is greatest, they are not used very much as yet. The Foster Sheet Metal Works aim to interest every contractor and builder in this safety campaign. They will send interesting particulars to every one of our readers writing for them.



Columbia Fire Panic Exit Door Bolt

A new type of double-expansion fire exit door bolt has recently been placed upon the market by The Columbia Iron & Wire Works Company, Canton, O. It has several special features and is so constructed and proportioned that the opening or closing of the bolt requires but very little force. The bolts are adjustable to 1½ inches, which is a great convenience and advantage in setting the bolt. It is of a size that can be attached to any ordinary door very quickly and is constructed so that it is impossible for any of the working parts to refuse to perform their duty under any circumstances.

Upon receipt of request the above company will mail circular and full description with prices.

We wish also to state in connection herewith, the Columbia Iron & Wire Works Company are large manufacturers of fire escapes, also general iron and wire work.



Exit Door Bolt

A Stucco Which Retains Its Beauty

Stuccos which become mottled, stained and discolored by iron and foreign matter contained in the sand, spoil the effect of many good architectural designs.

Sand, which is necessary in most stuccos, contains iron and other foreign substances which cause stains. Sand stuccos also lack the elasticity necessary to resist cracking when the frame construction beneath them dries out and shrinks.

J-M Asbestos Stucco

requires no sand because composed of Portland Cement and Asbestos—which is asbestos rock and fibre ground together.

The many tough strands of asbestos distributed through it make this stucco more fibrous than granular, more like a fabric than a plaster. It adapts itself to shrinkage of woodwork beneath and retains its beautiful, uniform color indefinitely.

J-M Asbestos Stucco is one-tenth cheaper to apply, owing to its light weight, and offers the greatest outside fire protection a frame structure can have. In prepared form, it can be furnished in white, also in various shades of gray and buff.

Write Nearest Branch for Booklet

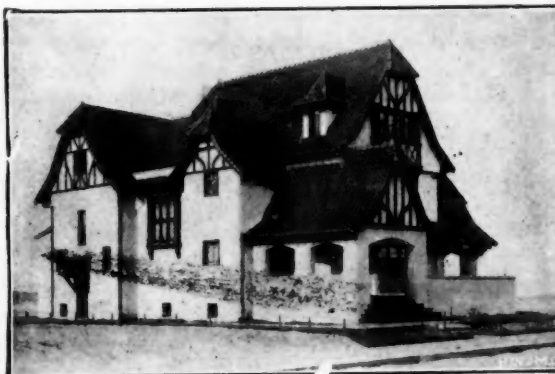
H. W. JOHNS-MANVILLE CO.

Albany	Cincinnati	Kansas City	New Orleans	San Francisco
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Boston	Dallas	Louisville	Omaha	Seattle
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Chicago	Indianapolis	Minneapolis	Pittsburgh	

THE CANADIAN H. W. JOHNS-MANVILLE CO., LIMITED
Toronto Montreal Winnipeg Vancouver 1280

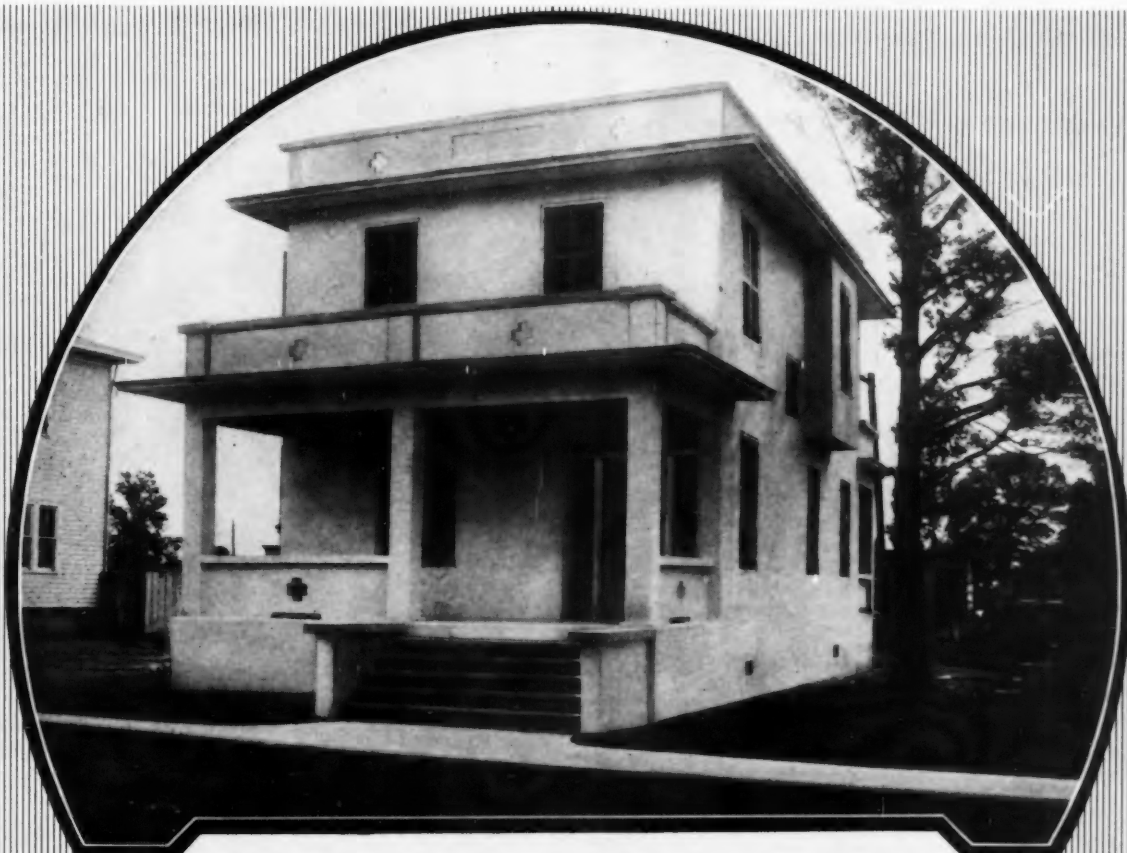


Residence of John Neuscheler, River Edge, N. J.
Wildor & White, Architects
Covered with J-M Asbestos stucco



Residence of M. C. Madsen, Long Beach, L. I.
Kirby & Pettit, Architects
Covered with J-M Asbestos stucco

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



The Cottage Everlasting

is the one that has walls constructed with good cement. Stucco and solid concrete are economical to maintain and make a substantial, comfortable, handsome house.

The illustration above is a view of a concrete house erected by the Chatham Real Estate and Improvement Co., of Savannah, Ga., and built with

ALPHA PORTLAND CEMENT

The High-Water Mark of Quality

ALPHA satisfies the discriminating architect and builder because it is tested hourly for quality by chemists in all the six great ALPHA plants. In composition, exact burning, and fine grinding, ALPHA is an exceptional cement. It represents 23 years of high-quality policy and is warranted to more than meet all standard requirements.

Let us send you, free of charge, valuable literature dealing with the use of ALPHA Portland Cement, with stucco work, concrete houses and concrete improvements generally. Ask for ALPHA Book No. 10 and ask also for special literature on the kind of concrete work that most interests you.

ALPHA PORTLAND CEMENT CO.

General Offices: Easton, Pa.

Sales Offices: New York, Chicago, Philadelphia, Pittsburgh,
Boston, Buffalo, Baltimore and Savannah.

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

Sharpens Quicker Than Any Other Oilstone

You sharpen tools *on your own time*.

It is *worth money* to you to own and use the fastest cutting oilstone you can get.

Scientific tests recently made in a big testing laboratory at Worcester, Mass., **PROVE** that the fastest cutting oilstone on earth is the



PIKE INDIA OILSTONE

These same scientific tests also prove that Pike India Oilstones *last longer* and *hold their shape* longer than any other oilstone made.

They *save you time* by sharpening quicker.

They *save you money* by lasting longer.

And if properly oiled, Pike India Oilstones *won't glaze*. Also they are so *tough* that even dropping them won't break them.

It *pays* you to own and use Pike India Oilstones. They cost a little more than a cheap stone—but *aren't they worth it?*

"Pick a Pike"

Your dealer will show you some of the different sizes in coarse, medium and fine grit. Own your own oilstone—*don't borrow*. And be sure to insist on *Pike India*—you'll always be proud of one of these wonderful oilstones as long as you live. It is so hard it will cut the best file in your kit. Just to prove this to you, we will send you

FREE—A PIKE INDIA STONE

Send us your dealer's name and 4 cents for packing and mailing and we will send you a sample Pike India Stone. We will also include a copy of "How to Sharpen"—the most complete booklet ever written on how to put a good edge on knives, tools, etc., and how to select and care for oilstones. You'll be pleased. Write today.

PIKE MANUFACTURING CO.,
195 Main Street Pike, N. H.



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

Atkins Pioneers Hold Annual Banquet

On January 31 the Atkins Pioneers held their fifth annual banquet at the Spencer House, Indianapolis. This is a rather unique organization, the membership being made up from employes of E. C. Atkins & Co., the "silver steel saw" people, who have been with the company for over 20 years.

These annual banquets are always gala nights with the Atkins Company, full of good fellowship and hearty fraternal spirit.

Looking over the list of members we see that the Dean of the corps, John H. Wilds, has been with the Atkins Company 49 years. Three members have from 36 to 40 years to their credit. The service of twenty-one members extends over a period of from 31 to 35 years. Thirty-seven members have been with the company from 26 to 30 years. Forty-six members have seen from 21 to 25 years of service. Six new members, men who have this year completed their 20 year period, were voted in at this meeting. The Pioneers now number 117.

The following poem appears on the program and menu card this year:

PIONEERS.

(Written for the Atkins Pioneers, January, 1914)

We've gathered here tonight, boys,
To sing our songs of cheer
And talk of all the good things
That have blessed us through the year—
The year that's past and gone, boys,
Which makes us pause to think
That each day we're getting nearer,
Yes, nearer to the brink
Where we shall pass beyond, boys,
To that other, unknown, bourne
From which the fates decree
No traveler can return.
So while we all rejoice, boys,
In the pleasures of tonight,
And clasp each others hands with
A grasp that's true and right,
Let's not forget to stop, boys,
For a moment midst our cheer
And for the boys who've left us
Shed an earnest, heartfelt tear.
And let us bow our heads, boys,
In a silent prayer of love
For those we miss so sadly
As they look down from above.
They are resting from their work, boys,
Of the twenty or more years
That they journeyed on with us,
And they still are PIONEERS.



Miller with Simonds Mfg. Co.

Mr. William Miller has discontinued his connection as secretary of the firm of Henry Disston & Sons, of Philadelphia, after a service of thirty-seven years with that company, and on Feb. 1st associated himself with the Simonds Manufacturing Company, Fitchburg, Mass., and Chicago, Ill.

Mr. Miller is one of the most experienced and efficient men in the saw, knife and file-making business, and probably no one man is any better known and more favorably thought of among hardware men and saw millmen throughout the United States and Canada. He has been successful throughout his many years in the saw-making industry and he brings to the Simonds Manufacturing Company his good will, energy, enthusiasm, and a conscientious desire to see that the customers of this company are furnished always with goods of the highest quality. He has already actively taken up his new work at the executive offices of the Simonds Company in Fitchburg, Mass.



Kellastoned Home
of John Wilson, Esq.
Memphis, Tenn.

Make Your Buildings Distinctive, Attractive and Lasting with Kellastone

Kellastone is an imperishable exterior or interior stucco that can be applied to both new and old frame, brick or stone buildings at any season of the year, warm or cold.

It hardens like rock and practically forms a stone covering over any build-

ing to which it is applied that will last for ages.

And yet, while it is so hard that it is difficult to break with a hammer, it is so elastic that settling buildings seldom cause it to crack or mar its beauty in any way.

KELLASTONE

IMPERISHABLE STUCCO

is a non-conductor of heat or cold. It is fire-proof and commands the lowest insurance rates. It never needs painting, never chips, never peels, never needs patching up.

Kellastone has a wonderful tensile strength. It can be applied to give a rough cast or smooth finish and always lends a tone of class and distinction to the most modest home or pretentious estate.

The neat, attractive appearance of Kellastoned buildings always brings higher prices and rentals. It is bound to please both contractor and owner in a hundred ways.

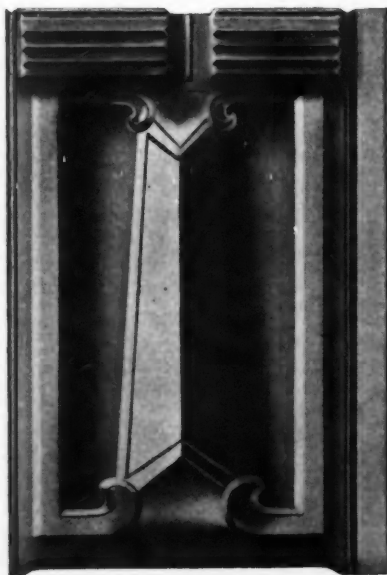
Our new, beautiful catalog very graphically shows the wonderful possibilities of Kellastone. It also proves the absolute truth of all of the above claims. Send for a copy today.

Lumber and Material Dealers—Write for Special Terms and Unassigned Territory

The National Kellastone Co., Dept. 4, 19 S. La Salle Street, Chicago, Ill.

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

Tiffin Art Metal Shingles



A line of well designed, very heavily embossed metal shingles is being offered contractors and builders by the Tiffin Art Metal Co., Tiffin, Ohio. The illustration shows one of their popular patterns. These shingles make a very striking appearance on the roof; a sheet metal shingle roof of character. Such a roof is fire resisting and durable. Builders will find the illustrated catalog given by this company both instructive and interesting. Copies will be sent to our readers on request.

Electric Floor Surfacing Machine

The automatic, ball-bearing electric floor-surfacing machine, manufactured by Wayvell Chappell & Co., 4847 E. Ravenswood Park, Chicago, Ill., will rapidly refinish old floors, removing varnish, paint, etc., take off the wood quickly of new floors and sandpaper a finish that will stand inspection against a sunlight reflection after varnishing. Each machine is put to this test on maple flooring before shipping.

The machine is solidly constructed and of ample weight for

both rapid and high-grade work. It is provided with a readily interchangeable motor mounted above the roller and with a pair of large and powerful dust collector fans mounted close behind the roller, making a very compact, strong and wieldable machine.

A most valuable feature is the heavy steel ball bearings on both the roller and the shaft, on which are mounted the dust-collector fans. Together with the separate chain drive, the ball bearings help secure the smooth-running roller at a high speed, and by lessening friction save power.

The arms are heavy to hold the roller firmly; are independently yielding to allow the roller to adjust itself to the unevenness of the surface as it advances over the floor, or to take up any sudden jar on the machine, and are adjustable to level the roller to the floor or to lower either end to surface into any hollows in the floor.

The brake-gauge, which is instantly locked in position by the finger lever on the handle, holds the roller in tilted position against the floor; gauges the depth of cut for steady and uniform work, and brakes the forward progress of the machine (which is self-propelling when in operation) making continuous work easy. The moment the brake-gauge is unlocked the weight of the motor raises the roller from the floor, stopping the work without having to shut off the power. The brake-gauge may also be instantly caught up from the floor when not in use, or when wielding machine about.

The machine surfaces to within about 3 inches of the wall without the edge roller, and with it, right up to the baseboard. Being narrower, the edge roller cuts down high ridges quicker or reaches down into floor hollows, also being slightly larger in diameter when in use, the main roller does not touch the floor.

Current is carried to the motor through flexible trailing wire. Should there not be current in a building, connection



This Building Trimmed with White Enamelled Terra Cotta, Relieved with Polychrome Ornaments, the whole Resting on a Glazed Granite Terra Cotta Base, Has That

**"EYE-HOLDING," "OWNER-PLEASING" POWER
OF MIDLAND STOCK TERRA COTTA**

The Kind That Eliminates All Fuss, Bother and Delay.

Our New Catalog is Ready For You.

MIDLAND TERRA COTTA CO.

1120 CHAMBER OF COMMERCE

CHICAGO, ILL.

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

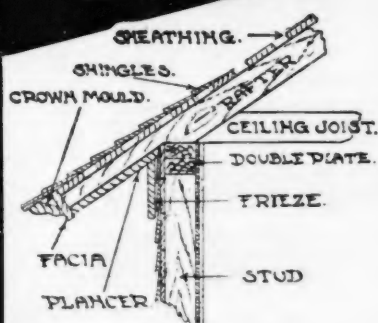
Get the Special Aladdin Carpenter's Plan today—

Only one for each city—
Ask about it today

BIG MONEY IN BUILDING ALADDIN HOUSES

Carpenters Wanted in each city

We want one carpenter in every city in the United States to build Aladdin Houses for Aladdin customers in his city. Customers thruout the country ask us to direct them to good carpenters to erect their houses. You can do this work; do all the Aladdin building in your city and increase your earnings. Every Aladdin House sold near you will be referred to you for building—you get on the inside, get the work with no competition. Aladdin carpenters are now getting more and better work—no second hand lumber; no repairing or fixing up old building in the Aladdin Read-Cut System.

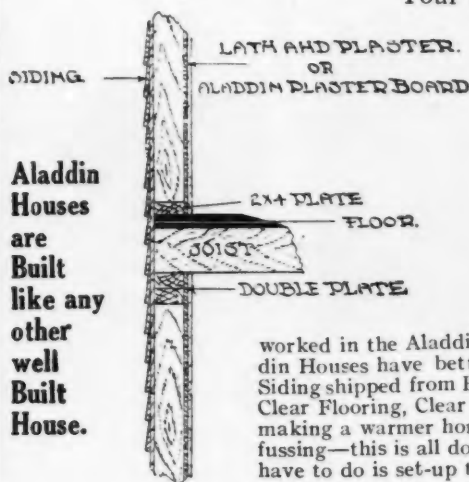


More Business for Carpenters

Your business will increase 50%. You will get a direct benefit of the big Aladdin Advertising campaign that covers the United States and every civilized country in the world. You would be a part of this big corporation. Aladdin Reputation is known the world over. Aladdin Houses have been shipped to your city, there are some near you now. Possibly your neighbors are now figuring on building an Aladdin House. They will surely ask us to direct them to a good carpenter and builder from your city. There will be no delay in figuring or planning the house, pricing lumber, or waiting for delivery—you start on the house and stay until it is finished—all material is sent to the spot at once.



Aladdin Houses are Built like any other well Built House.



Aladdin Houses Cost Less—Easier to Build

Aladdin Read-Cut Houses come direct from the forest, are sawed and worked in the Aladdin Mills. The customer saves all in-between profits—no middlemen. Aladdin Houses have better Lumber. One dollar-a-knot for every knot found in our Red Cedar Siding shipped from Bay City—that's the 1914 Aladdin guarantee to home-builders. Clear Siding, Clear Flooring, Clear Shingles, Clear Interior Finish and best material thruout—sound and firm, making a warmer home—are furnished for every Aladdin House. You have no planning or fussing—this is all done by Aladdin designers, the material is cut-to-fit in Aladdin Mills—all you have to do is set-up the frame work and nail them together.

Aladdin Price Includes All Material

All framing lumber, sheathing, siding, roof sheathing, shingles, interior finish, windows, lath and plaster or plaster board, glass, hardware, nails, locks, knobs, paints and varnishes for two coats inside and outside—in short, everything needed to build the house is included in the Aladdin Price. Send today for the Aladdin Carpenter's Plan and the Aladdin House Catalog.

North American Construction Co.

999 Aladdin Ave., Bay City, Mich.

SEND IN THIS COUPON TODAY FOR FULL INFORMATION

North American Construction Co.,

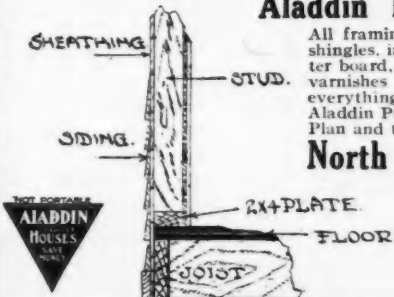
999 Aladdin Ave., Bay City, Mich.

Send me your Special Carpenter's Plan with full information as well as your Catalog No. 99-X of House and Floor Plans.

Name

Street

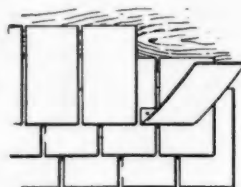
City



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

Telling the Story to Millions

You are probably acquainted with Rex-tile Shingles. You know what they are and what kind of a roof they make.



Now, in order to strengthen your hand, we are telling this story to millions of people by national advertising. We are explaining to them the advantages of Rex-tile shingles so that when you suggest this form of roofing to your customers, they will have a favorable impression, based on knowledge. To many of them it will not be necessary to suggest—they will ask for

FLINTKOTE *Rex-tile* TRADE-MARK "THE SCIENTIFIC SHINGLE"

To contractors, builders and carpenters, Rex-tile Shingles offer these distinct advantages—

They are easy to lay, saving time and trouble.

They are light, making heavy roof construction unnecessary.

They make a handsome job and a sound one—a credit to the man who recommends the roof and the men who lay it—nothing to cut or bruise the hands—and tear clothing.

They are easy to handle in all kinds of weather; dry and clean even on the hottest days.

The colors are permanent—a part of the shingle itself—and the surface is smooth—nothing to blow off, crumble or wash off.

The patented turn-under nailing fold fastens the shingles at the bottom—where they should be fastened.

We should like to send you proofs of the advertisements—which will be read by the public—on Rex-tile Shingles and other practical information you can use. Won't you write for them?

FLINTKOTE MANUFACTURING CO.
90 PEARL STREET, BOSTON, MASS.

Makers of the Celebrated REX FLINTKOTE ROOFING—for
Factories, Warehouses, Farm Buildings, Etc.

is made to the nearest outside current by having wire enough to reach.

Machines are made in three sizes, 8-inch diameter, by 12-inch, 15-inch and 18-inch long surfacing roller, suitable for any requirements—small rooms in residences to the largest of areas.

As machine is shipped ready for work when uncrated, any operator, by following the instructions provided, can become familiar with it in an hour or so and get looked-for results.



Nicholls Expansion-Fit Take-Down Square

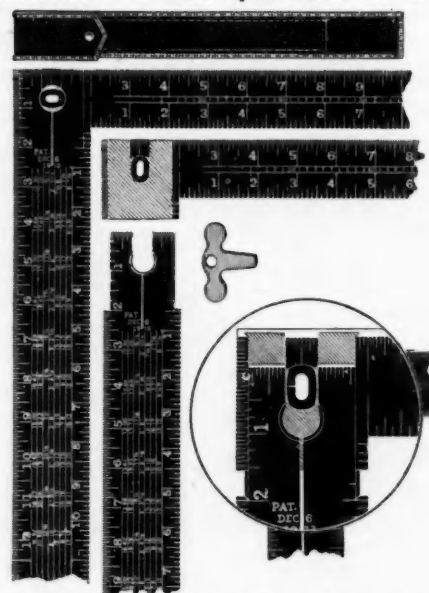
These squares are so constructed as to assure accuracy, and at the same time take up the wear which comes in taking squares apart and putting them together. They are constructed with bearings accurately machined, so as to bring the square absolutely true when the cam is turned so as to expand the end of body in milled portion of tongue.

These squares are hand-fitted, thus making a perfect joint, especially taking this in connection with the expansion which comes when cam is turned. These squares will last indefinitely.

As it has been tested out that the joint could wear 1/32nd in taking square apart and putting it together and still the cam would expand the end of body and take up the wear, and square would still be rigid and solid at joint.

You will note that the tongue is not cut half into where it joins onto body. Also by having body slip into tongue produces strength when square is thrown over joist, or on bench.

The manufacturers of these squares have had considerable



Nicholls Expansion-Fit Take-Down Steel Square

experience along the line of manufacturing take down squares. They have realized the fact that a key is very easily lost, and for this purpose they have inserted an oblong hole in cam; this enables the square to be taken apart or put together by using screw driver, nail, end of file, or any blunt instrument usually carried by the carpenter.

The cam is so constructed with beveled head, so as to hold end of body down when square is locked.

These squares are manufactured containing the famous Nicholls framing rule, giving length and cuts of all rafters for sixteen different pitches of roof. This is their No. 500-R. It has the same markings as the No. 100-R. The No. 500-R has the regular roof-framing rule on one side, and the octagon roof-framing rule on the other. They issue a free book which they will gladly send to any carpenter free, explaining their rafter-framing rule. Address the Nicholls Manufacturing Company, Ottumwa, Ia.

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



Safeguard Your Reputation with Flex-a-Tile

Good contractors can't afford to risk their reputations with poor shingles. They use Flex-a-Tiles, for Flex-a-Tiles have *proved in service* their real superiority. But not only this, building owners, themselves, are insisting that Flex-a-Tiles be used. Every time you recommend Flex-a-Tiles for a roofing job, you add to your own prestige.

Safeguard Your Profits with Flex-a-Tile

You finish a Flex-a-Tile roofing job more quickly and can devote your time and money to other work; you use fewer shingles, too, and the profit you make on Flex-a-Tiles is clean, quick, liberal—with no comebacks for rebates. For once a Flex-a-Tile job is done and done right, it's done to stay.

FLEX-A-TILE

Asphalt Shingles

Better shingles than Flex-a-Tile Asphalt Shingles cannot be made. They are weather and water proof; fire-resisting; guaranteed to give satisfactory service under all conditions. We use a base of pure wool felt which is saturated with an asphalt solution and is then coated on both sides with a specially-prepared, rubbery gilsonite asphalt with a melting point of 290°F.—far hotter than the hottest summer sun's rays. Into this, while still hot, we compress under tons of pressure the surface finish of slate or gravel. Their natural, mineral colors never fade, stain or run. Age only makes them brighter. In red, garnet, greenish gray, emerald and brown.

Write Today for Specimen Shingles and Interesting Flex-a-Tile Literature

THE HEPPE'S CO.

1010 S. Kilbourne Ave.

Chicago, Illinois

Manufacturers also of Asphalt Roofing in Any Finish, Asphalt Paint and Utility Wall Board

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

Books of Decorative Helps for Builders, Architects and Home Owners

There is a good deal of satisfaction in opening up, for the first time, a new book or catalog received from one of the leading, well-known manufacturing companies, to find that it measures up to the *extra* high standard we all have come to expect of such concerns. The old principle of "*noblesse oblige*"—position carries its obligations—is nowhere more evident than in our American business life. The great manufacturing concerns, national in their scope, have developed the principle of service to their customers, until we have come to expect truly wonderful things of them. The paint people have been in the very front rank for service to customers and prospective customers; and the National Lead Company have taken a leading place among these apostles of the larger service in merchandising. The little "Dutch Boy" with his can of pure white lead is truly a national figure. Every one has a right to expect big things from him.

We have just been looking over two of the books issued by the service department of the National Lead Company. The first is "Painting—Protective and Decorative," and the second, "The Dutch Boy Painter Stencil Book." The title page of the first states that it is "an attempt to help the houseowner solve frequent and vexing problems." *Attempt* is very modest! A stiff covered book of 48 pages, on the very best enameled paper, illustrated in colors, the house designs all worked out in the best style and painted attractively—all shown in this book in their true colors. Certainly that is quite an "attempt."

Some of the chapter headings will give an idea of the practical and valuable contents: What Paint Is, Chapter I; What Paint Does, Chapter II; What Paint Costs, Chapter III; How to Paint, Chapter IV; Choosing the Exterior Color Scheme, Chapter V; Planning the Grounds, Chapter

VI; Decorating the Interior of the Home, Chapter VII; Stenciling, Chapter VIII; Tints in Paint, Chapter IX.

"The Dutch Boy Painter Stencil Book" illustrates a wide selection of stencil patterns in black and white, and also shows these stencils applied to rooms of a house, showing how they look in colors.

All those concerned in the decorating and exterior finishing of homes and other buildings should have these books for study and reference. We understand they can be secured by addressing the National Lead Company, at their New York office.



Improved Measuring Tapes

Measuring tape cases in use are of various construction, but in a general way it is true that until now the superior features of a steel case liner for leather cases, and a push-button opener for winding handles, have been embodied only in the very highest priced steel measuring tapes.

The Lufkin Rule Company (factories at Saginaw, Mich.) announce that they have now added these improvements to their general line of steel tapes and without advance in price.

"Challenge" and "Challenge Junior" steel tapes now have leather cases, steel lined throughout. This gives the case extraordinary stability, also has made it possible to make it narrower than before by a full $\frac{1}{8}$ inch, and hence, neater in appearance and more compact. These cases now also have a positive action push button opener of new design for the winding handle.

"Rival" and "Rival Junior" steel tapes have nickel-plated steel cases as before, but the edge or case band is knurled to afford a good, firm hand-hold. The cases of these tapes are now also equipped with a positive action winding handle opener, same as the "Challenge" and "Challenge Junior" described above.

TOOLS: WE MAKE A COMPLETE LINE FOR CARPENTERS, MASONS, BRICKLAYERS, PLUMBERS, ENGINEERS AND MANY OTHER TRADES.



OUR LINE is so complete that we can fill orders for tools of *any kind* from all sections of the country. The leading jobbers throughout the United States carry our line.

Buffum Tools agree with your ideas of quality and price. You can buy cheap tools, but cheap tools are the enemies of good work. To use cheap tools is to put yourself in a class with the junk man. Fair price and best quality have made Buffum Tools the favorites with *every trade*. The Design, the Material, the Finish, the Price—all are *right*. What more could you ask? Oh, yes, a guarantee. Well, we give it on all our tools.

We have built our reputation by selling *good* tools. In making a strong bid for your business, we know we'll hold it. The next time you need a tool or many tools, ask your hardware dealer to show you the Buffum Line. If he doesn't carry them, ask him to do so. Send us his name. You'll get what you want when you want it. No delays.

Scratch Awls
Belt Awls
Brad Awls
Nail Sets
Nail Pullers
Saw Sets
Saw Swages
Saw Filing Vises
Cabinet Makers' Bevel
Carpenter Pincers

Screw Clamps
Cabinet Scrappers
Bench Hooks
Wood Turners Gauge
Wrecking Bars
Cement Workers' Tools
Bricklayers' Tools
Plumbers' Tools
Plasterers' Tools, etc.



BUFFUM TOOL CO. LOUISIANA, MO.

High grade tools for high grade workmen.

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

A CAPITAL LEVEL

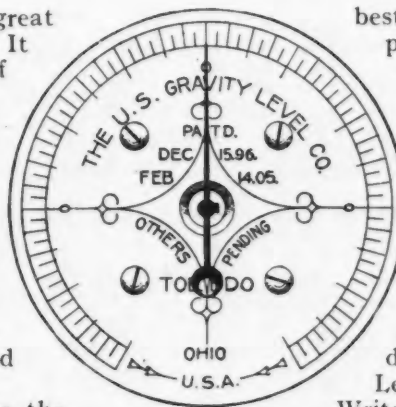


U.S. GRAVITY LEVEL

Is perfectly accurate for horizontal or vertical leveling, and for all degrees of pitch in between. It is more convenient and useful than a spirit level. Reading is obtained direct from the dial. The U. S. Gravity Level works on the plumb-bob principle—the simplest and most accurate; nothing to get out of order.

This level can be put to a great variety of uses in your work. It shows when the work is out of level, and tells to the fraction of an inch just how much it is out and where. Use it for straight leveling, roof pitches, stair work, framing, grading, wall and foundation work, etc. Greater accuracy than any other level made. Wide-open, plain-as-day dial gives instantaneous reading. Appeals to all lovers of good tools.

We recommend this level as the



The correct level or degree of pitch is shown on this dial. It is accurate to a fraction of an inch.

best you can use. You have the privilege of returning it if you do not find it entirely satisfactory. It is built for strength and durability and cannot be damaged by ordinary handling. Low-priced, considering the quality and workmanship. It's worth every cent we ask for it. Inspect it. Use it on your work.

Send us your name and address. We'll send complete description of the U. S. Gravity Level and an actual-size picture

Write us now.

U.S. GRAVITY LEVEL CO.

Dept. H., 1341—48 Nicholas Building
TOLEDO, OHIO

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

THEIR LETTER

W. A. BICKFORD & CO.
Real Estate Development

Memphis, Jan. 15th, 1914.

CARTER WHITE LEAD CO.,
Chicago, Ill.

Gentlemen:—We propose building bungalow, enclosed herewith of which is picture, which we have taken from your booklet, called "Paint Beautiful"; this bungalow being No. 12-N.

We build a good many bungalows throughout the year, and we do not know but what you might send us pictures of the two sides of this bungalow, which would be of assistance to us.

We use a considerable quantity of your white lead throughout the year, as for a long time we have endeavored to get a trim which would show pure white with two-coat work, and we find we can get a satisfactory white in two-coat trim work with your products. We have presumed that this was because of the incorporation of zinc in it.

Yours very truly,

W. A. BICKFORD & CO.

OUR REPLY

CARTER WHITE LEAD CO.

Chicago, Jan. 20th, 1914.

W. A. BICKFORD & Co.,
Memphis, Tenn.

Gentlemen:—Replying to your favor of January 15th, the photograph enclosed is of a California bungalow designed by Brown Bros., architects, Cedar Rapids, Ia. We obtained the photograph several years ago from a Los Angeles photographer and we have no other view of it than the one you had. We think you can get a set of plans from Brown Bros. for about \$10.00, and if so, that would probably be the best thing for you to do.

Under separate cover we are mailing you one of our new "Paint Beautiful" portfolios. Perhaps you will get some suggestions from this. These are all made from photographs of actual houses and are selected with a view of getting the widest possible range of style. And the color schemes shown were all selected with reference to the style of house on which each is used.

We are glad to know that you have been having good success in the use of Carter White Lead. You are in error, however, about its containing any zinc. You are not alone in this impression, as a good many people think it is impossible to make white lead as white as CARTER without putting something in it to make it white. The whiteness of Carter is due entirely to the Carter process of manufacture, which excludes everything that can discolor it and effects a perfect corrosion of the metallic lead into pure white lead. If you will examine a keg of Carter you will find a guarantee of purity on the head and a statement on the side of the keg that it contains nothing but pure white lead and linseed oil.

If we can be of service to you in any other way in connection with your paint problems, we are very much at your service.

Very truly yours,

CARTER WHITE LEAD CO.

A copy of "The Paint Beautiful" may be had
by addressing

CARTER WHITE LEAD CO.

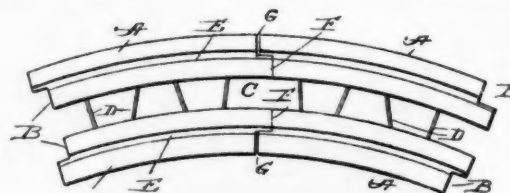
West Pullman Station A
CHICAGO, ILL.

A Double-Wall Cement Block Silo

When we find a building proposition that has been developed by a practical contractor and builder, we usually consider we have found something worth while. J. J. Coyne, contractor and builder, of Fond du Lac, Wis. (who is, by the way, one of Our Big Family, having been for a number of years an enthusiastic subscriber to the AMERICAN CARPENTER AND BUILDER), has developed a very simple, yet ingenious, cement block machine. This machine makes both hollow-wall building blocks and silo blocks.

Brother Coyne had his machine and blocks on exhibition at the Chicago Cement Show, just closed; and his proposition proved to be one of the most interesting at the show for the majority of carpenters and builders.

The principle upon which the silo blocks are built, is illustrated herewith. The sketch shows a cross-section of two blocks. An inner and an outer wall (A) of concrete are held together by strong, galvanized iron tie rods (D). The end of the blocks are dovetailed so that they lay up with an inter-



Sectional View of Perfect Cement Block

locking joint in the wall. Grooves are moulded in at E so that steel reinforcing can be laid in around the entire circle of the silo to act as silo hoops. These cement block silos are getting to be very popular throughout Wisconsin. Contractor Coyne has put up a good many in the course of his own building work. They make a strong, frost-proof silo; and as the blocks are easily made and easily laid, it is a durable silo that any farmer can afford. All those interested should write to J. J. Coyne, Fond du Lac, Wis., for information concerning his machine.



Soft Wood Trimming

Using Arkansas soft pine for interior trim and woodwork, home owners can have any of the preferred effects which thousands have thought were possible only with the more expensive hardwoods. Generally, hardwood is not finished in natural color, but is given a coat of filler and is colored to suit the idea of the owner or the decorator or the architect. Contractors who are aware that the same effect may be secured by using Arkansas soft pine are turning their knowledge to profit; they are giving their customers big value for the money they invest, and incidentally are making more money for themselves by persistently advocating the use of this superb trim wood.

The use of Arkansas soft pine by the progressive contractor is not limited to the interior of the structure. This wood makes an ideal siding, the absence of pitch and resin insuring a satisfactory job of painting. It is growing in favor for porch work, for siding, exterior trim and like high-class uses. The lower grades make excellent framing and rough stock for sheathing. They are much easier to cut to shape desired, easy to nail and the ordinary workman is said to do more work when furnished with this wood.

An educational bureau is maintained by manufacturers of Arkansas soft pine and contractors who are interested in locating a supply of good lumber should open correspondence with the Arkansas Soft Pine Bureau, 308 South Canal St., Chicago, Ill. The bureau is equipped to handle your inquiries and will give them prompt attention.

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



Install a TUEC Stationary Cleaner in every house you build

IT will pay you well—whether you are building for sale or for rent

Conveniences are what sell houses. Modern equipments are what command the high rents. Every builder knows this. *You* know it. An inexpensive

house with fine finish, modern plumbing, efficient heating system and electric lights will always command a better price than a more expensive house without these conveniences. A TUEC Stationary Cleaner that costs only \$160.00 will add \$500 to the selling price of your house and insure you of a quick turn of your money. The extra rental it will bring will pay for it in about three years. Thereafter it is "velvet." The

TUEC STATIONARY CLEANER

is as essential to a modern home as a bath tub or a furnace. Thousands of home builders have proven this. Many contractors and builders have begun by installing only one TUEC Stationary Cleaner in one of a group of houses. In every case this house was the first one sold and it brought the best price. Now these builders buy TUECS in quantities and install them in every house they erect.

A Brooklyn builder recently ordered 16 TUECS for installation in houses in course of construction. A San Diego contractor ordered 10 TUECS at one time. Ten went to a Chicago builder, 10 to St. Louis and 7 to Kansas City. Three out of every five Stationary Cleaners in the United States today are TUECS.

No matter what size houses you are building, you cannot go wrong if you pipe them with 2½" black iron pipe with drainage fittings, leaving 2" openings for inlet valves. With this piping you can easily install the TUEC STATIONARY CLEANER and be certain to secure the maximum of cleaning efficiency with lowest cost.

We have about sixty branch offices in the United States and Canada and are prepared to furnish special malleable fittings of light weight, built especially for TUEC installation. The services of our Plans and Specifications Department are always at your command. If you do not know our local agent in your territory, write direct to the home office and we will extend to you every aid within our power. We make every part of the TUEC in our own factory which is the largest plant in the world devoted exclusively to the manufacture of Stationary Cleaners. Our guarantee goes with every TUEC.

Write today for Booklet, prices, etc.

THE UNITED ELECTRIC COMPANY

30 Hurford Street

CANTON, OHIO



The TUEC is made in fifteen (15) sizes. Our TUEC Book tells where thousands of installations have been made in homes, hotels, apartments, theaters, hospitals, schools, skyscrapers, public institutions, stores, etc. Letters from owners at test to its never varying high efficiency.

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

Made Good on the Wager

There are dozens of good stories connected with the immense building project now under way at San Francisco, the Panama-Pacific Exposition buildings. One of the best so far centers around E. T. Thornton, California representative of the Blystone Manufacturing Company. He pulled off a stunt for the plastering contractor of the Palace of Machinery that astonished the skeptical ones.

There are some pretty big buildings going up on the fair grounds. We pictured some three square miles of them in the February number. The Palace of Machinery is the biggest. In fact, it is the largest wooden frame structure in the world. As you know, exposition buildings, being generally temporary structures, are built mostly of wood and plaster. The plastering is the biggest part of the work and

power mixer, offered to furnish the machine for five days' work; and if he couldn't show where it had actually saved \$25.00 per day, he would pack his little grip and get out; but if he could show that amount saved, the contractor was to buy the machine.

This looked good to the contractor, so Thornton was told to go ahead. They insisted, however, that he bring two machines, as every one was sure two would be needed. Five men were assigned to each machine and real business started at once.

After the first day two men were released from each machine, as three could tend it easily, and before the five days were up it was evident that there was one too many machines on the job. One could supply all the mixed plaster the men could use. There was a gang of plasterers at work



E. T. Thornton (in the Black Coat) and His Blystone Batch Mixer which Mixed all the Plaster for this Huge Fair Building

you can imagine that on this Palace of Machinery, which has an area of more than five acres and is ninety-six feet high, there was quite some plastering to be done.

Thornton, whose office is at 549 Mission St., had been selling Blystone Batch Mixers to contractors and builders for mixing concrete. He is an incurable Blystone enthusiast, believes the Blystone will mix anything mixable, and some things that aren't. When it comes to hard wall plaster; pshaw! the Blystone eats it up! Of course, he had seen the machine perform a good many times as a mortar mixer and knew pretty well that he would be backing a sure thing, but here is the story:

The plastering contractor on the Palace of Machinery job was all ready to begin and his outfit of mortar boxes and mixing hoes, and laborers to work them, was enough to give the estimator a nervous chill. Mr. Thornton came along and offered to mix all of the plaster with a single Blystone

of from twenty to thirty, and they were using up about 400 sacks of hard wall a day.

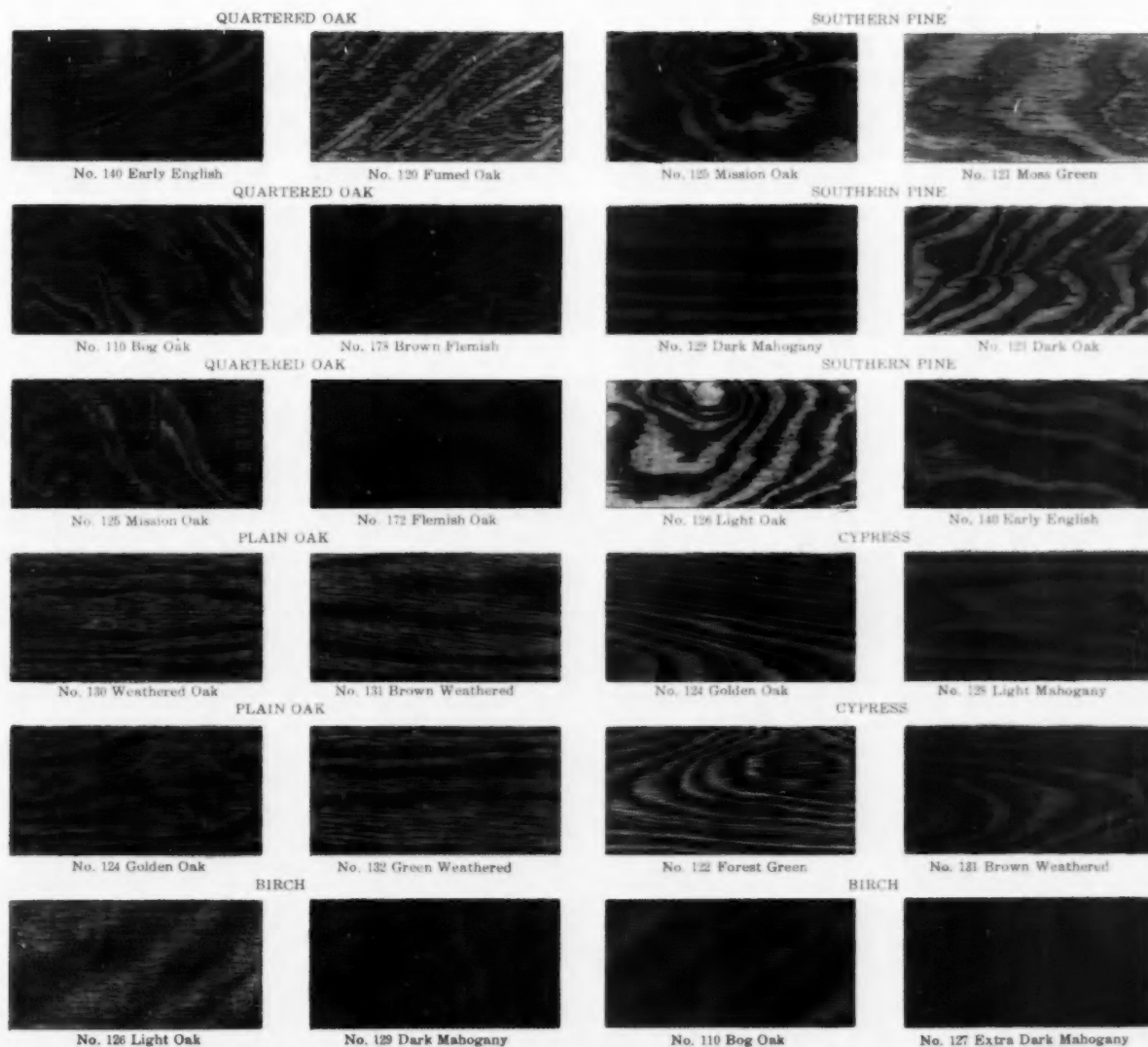
The saving of \$25.00 a day which Mr. Thornton had promised was easily made, because one-third more sand could be used in the machine-mixer plaster and still be *fat*, proper consistency to work well.

And so the contractor kept the Blystone mixer and completed this immense Palace of Machinery job considerably ahead of what he had estimated.

The Blystone Manufacturing Company, 42 Carpenter St., Cambridge Springs, Pa., tell us that the Blystone Batch Mixer is coming to be very generally used as a mortar mixer. This machine is made in several sizes and as a successful, satisfactory mixer for either concrete, brown plaster, or finishing plaster, saves contractors and builders a large sum every year. The manufacturers will furnish full particulars upon request.

JOHNSON'S WOOD DYE

FOR THE ARTISTIC COLORING OF WOOD



With Johnson's Wood Dye inexpensive soft woods may be finished so they are quite as beautiful as hardwood. It is a combination spirit—oil dye, possessing all the good qualities of both a spirit and an oil stain and the disadvantages of neither.

All shades of Johnson's Wood Dye may be lightened and darkened at will, or two or three shades can be mixed together; in this way hundreds of different effects may be produced.

Johnson's Wood Dye is very easy to use—simply apply with a soft brush upon the bare wood; it may be wiped or not, as preferred. Wiping with a cloth or waste gives a little lighter effect and also emphasizes the grain of the wood.

A few of the many advantages of Johnson's Wood Dye over oil stains are:

First. Johnson's Wood Dye penetrates deeply into the wood bringing out the color clearly and accentuating the grain without raising it in the slightest.

Second. Johnson's Wood Dye dries in ten or fifteen minutes so the finish can be applied. This makes it an easy matter to finish work quickly. Another advantage of this quick-drying quality is that it prevents dust and dirt from accumulating in the finish.

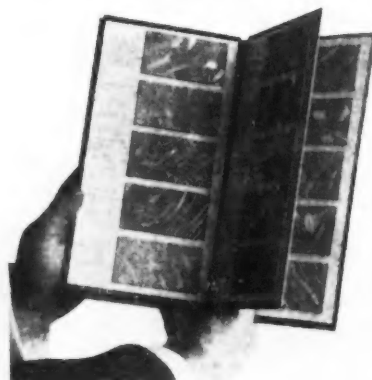
Third. Any kind of finish (except shellac) may be used directly over Johnson's Wood Dye. This applies to wax, varnish, oil, etc. With an oil stain a coat of shellac is necessary before any other finish can be applied.

Take advantage of the offer on the reverse side of this sheet and prove our claims.

S. C. JOHNSON & SON "The Wood Finishing Authorities" RACINE, WIS.

PREPARE FOR A BIG SPRING!

Business Men all over the country are getting ready for an immense Spring trade—are you making any provisions in your line?



Here is your chance to get a beautiful portfolio of wood panels free. This shows how all woods—oak—pine, cypress—birch—gum, etc.—will look when finished “The Johnson Way.” Every portfolio we send out represents an actual expenditure of one dollar. But we are offering it to you free—so you can show your clients just the effect you can give their floors and woodwork with *Johnson's Wood Finishes*.

In addition to finished panels of wood, the portfolio gives specifications, covering capacities and a complete list of Johnson distributors—all in the most comprehensive, concise form.

CAN YOU ANSWER

your clients' questions regarding *Johnson's Wood Finishes*? We are advertising very extensively to home builders and are constantly in correspondence with hundreds of them. Some of your customers will surely ask you about **Johnson's Wood Dye, Under-Lac, Flat Wood Finish or Prepared Wax**, and you want to be able to talk to them intelligently on this subject. No one can tell you as much about *Johnson's Wood Finishes* as the manufacturers themselves—so bring your questions to us.

OUR SERVICE DEPARTMENT

is for your use. Its correspondents are always in touch with many of the most progressive building men in the country. Any time you wish panels of woods finished in a special manner to show clients or prospective customers, we shall be glad to make them up for you without charge—this is part of our service to architects and contractors.

Countersign the attached certificate and mail it to us and we will immediately send you **free** and **postpaid** the \$1.00 Portfolio of Wood Panels (shown and described) also a copy of our 25c—1914 book “The Proper Treatment for Floors, Woodwork and Furniture,” which gives full information on the proper finishing of all wood—soft and hard.

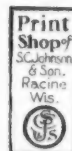
VERY IMPORTANT

When returning the certificate be sure to give the name of your leading paint dealer. We want him to handle our goods so you and other users can purchase locally.

S. C. JOHNSON & SON

“The Wood Finishing Authorities”

RACINE, WIS.



\$1.25

S. C. JOHNSON & SON

\$1.25

Racine, Wis.

Upon return of this certificate signed by you we will send you free and postpaid

\$1.00 PORTFOLIO OF WOOD PANELS

25 ¢ BOOK “THE PROPER TREATMENT FOR FLOORS WOODWORK & FURNITURE”

S. C. JOHNSON & SON

By

Robert L. Johnson
JR. PARTNER

I buy my paints of

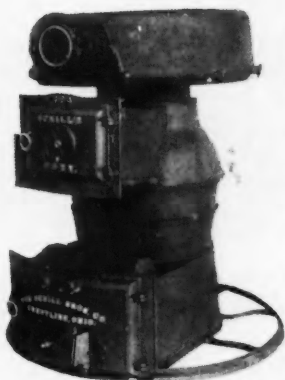
Sign here

NAME

ADDRESS

CITY & STATE

The contractor and builder who doesn't handle furnace work is overlooking a good bet. We are great believers in the principle of giving customers what they want, especially when what they want works to the advantage of our readers, the carpenters, builders and contractors. It's a convenience for the home builder to have one man responsible for the entire job from start to finish.



Schill Furnace with Case Removed

offer to make any AMERICAN CARPENTER and BUILDER reader who will write them for full particulars. They wish to take on carpenters and builders as their local representatives to handle all of the furnace work in connection with the regular building contracts. The Schill "cozy" furnace is already well known to a good many of our readers. It is a standard furnace in every way; an efficient heater, and one that is easy to install.

The Modern Refrigerator a Builder's Proposition

After almost a century of neglect and misunderstanding as to its importance and possibilities, the refrigerator is finally receiving very careful attention from manufacturers, architects and home builders. In fact, during the past few years, the whole refrigerator industry has passed through a remarkable stage of development. The old-fashioned icebox has suddenly become completely antedated and the modern refrigerator has taken its place with new dignity as an integral part of the home.

From its old position as a companion piece to the kitchen table to be used only in times of hot weather and dry wells, it is now rightly regarded as in a class with the heating plant and running water; not to be jammed into a convenient corner, after the house is built, but to be planned and built right in the home.

The biggest features of the modern refrigerator are convenience and efficiency, and the improvement that has contributed most to convenience is the outside door for icing. With the outside door in common use we may soon hope to see the iceman and his muddy feet banished from the kitchen forever. The work is made much easier for him and he can do it without disturbing anybody. Nobody can appreciate this advantage as much as the woman who, day after day, has to stand and see her clean kitchen floor all tracked up with mud.

The built-in refrigerator may be made to match the woodwork inside and outside the house. Interior and exterior trim is carried out exactly as planned in the house.

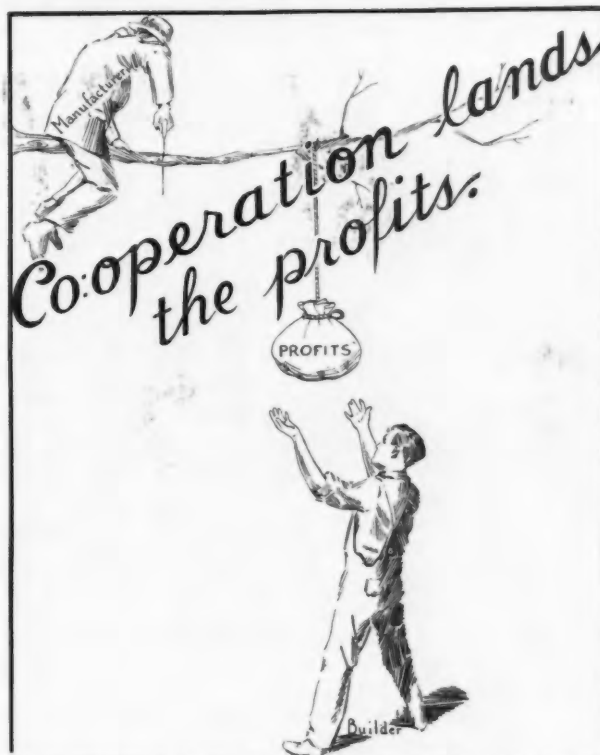
Old-fashioned iceboxes usually take up a great deal of valuable kitchen or pantry space, whereas, the built-to-order refrigerator can often be fitted right into a wall or partition. The mere advantages of locating the refrigerator to fit the plans always makes it possible to place it where it occupies

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

If you are building a new home, why turn over the furnace contract to the hardware man or to some sub-contractor? That makes your customer more bother, and divides up the profits.

When there are thoroughly high grade, desirable furnaces which builders can order direct from the manufacturers at a substantial saving, there seems no good reason for avoiding this part of the building business.

Schill Brothers, of Crestline, Ohio, have a very attractive



GET ALL THE ROOFING BUSINESS IN YOUR TOWN

This is the biggest and best profit-sharing plan ever offered. A new manufacturing process makes it possible. As reliable as a national bank. Take this opportunity while you have the chance. Don't let some one else beat you to it.

You are interested in cutting down building costs. You will be quick to see the advantage of our big offer. You can save money on every roof. You can make big profits on this proposition.

We Want Your Help

One representative in every town where we have no agency. We are an old, reliable manufacturing concern. It's a connection you'll be proud of. You'll be treated fair. Your profits will be large and sure. Will you be the one?

NOW IS THE TIME

to sit down and write us for full particulars. Now is the time to make arrangements to co-operate with us and get a fair share of the profits. Write us today without fail. It costs you nothing to find out. It's a respectable, dignified proposition.

WRITE—TODAY OR TONIGHT

McHENRY-MILLHOUSE MFG. CO.
SOUTH BEND, INDIANA

McH-M Co — McH-M Co — McH-M Co — McH-M Co —

Print Shop of
S.C. Johnson
& Son.
Racine
Wis.



125

you

RE

MR. PARTNER



The New Way. The Iceman Outside—No Dirt, No Bother

the smallest possible space. The cost is seldom greater than that of the ordinary stock refrigerator if the plans are made with the plans of the house. Even in an old house, it is a very simple matter to arrange an outside door for a stock refrigerator. All necessary changes can be made very quickly and cheaply.

There is an additional feature of economy, too, that is seldom considered. When the weather is cold enough, it is only necessary to leave the outside door open to keep the refrigerator and its contents cold enough for perfect refrigeration. The total cost of changes can often be saved this way in several seasons. It is quite unnecessary to buy ice when the weather can do the cooling just as efficiently.

Through active and intelligent co-operation with architects



The Old Way. The Iceman Leaves Mud and Ice on Your Floor

and home builders, the McCray Refrigerator Company, of Kendallville, Ind., has made it possible for anybody to get the most efficient service available when installing a refrigerator.

This progressive company maintains a corps of experienced draftsmen who devote all their time to designing and planning refrigerators for special needs. It is only necessary for the architect to furnish blue prints of the plans to the McCray Company. They do all the rest as a service to their customers. Just a note to them explaining your needs, will bring surprising information to those who have not made a special study of refrigerators. All the possibilities are treated at length in the various McCray catalogs which have been prepared specially to help the architect and builder.

MILLWORK & MANTELS

REAL ECONOMY PRICES

Greater Selection, Better Quality, Lower Prices

Buying direct from the manufacturer reduces the price on all building material. It cuts out the middle man's profit. It will pay you to buy all your mill work from us. You can get a better selection here than from your local dealer. Highest grade material. The best workmanship. Prices that will suit you. Get the benefit of Huber's selling plan.



TRADE

Build better by getting your special trim from us. Make your houses look different inside from those finished by the other builders. Buy Huber material and be up-to-date. Put in **modern** trim and your buildings will look classy.



MARK

Our catalog is the market place for thousands of builders. There is no dissatisfaction in buying from the Huber Catalog. Our reputation and reliability mean fair treatment. We guarantee every price we sell.



Get the Benefit of our Low Prices on—

Doors, Sash, Window Frames, Glazed Windows, Inside Trim, Blinds, Colonnades, Grilles, Moulding, Art Glass, Window Bead, Stair and Porch Work, Columns, Tiling, Wall Board, Screens, Stair and Porch Newels, Shingles, Rolling Partitions, Lath, Ready Roofing, Steel Ceilings, Gutters, Hardwood and Parquetry Flooring, Mantles, Fireplaces, and a great variety of other materials.

Ask for our Catalog. Keep it handy and order from it often. It will save you money. A special, prompt service and shipment for Builders.

The Huber Builder's Material Co.

45-49 Vine Street

CINCINNATI, OHIO

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

on Your Floor

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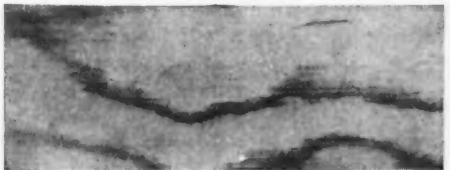
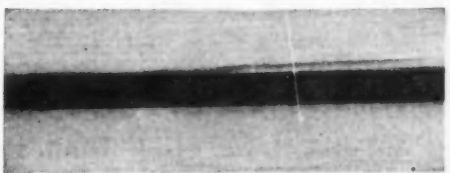
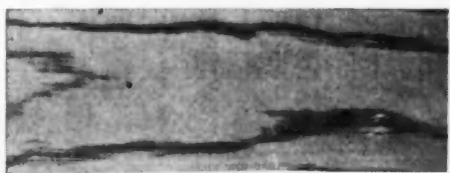
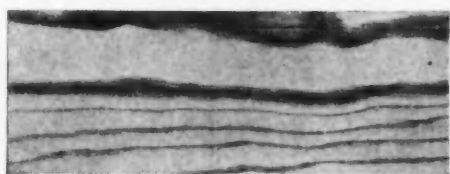
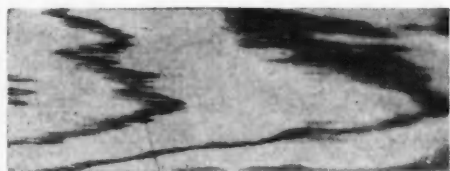
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WOOD
PANELS

Builder

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A complete understanding of the merits and values of **Arkansas Soft Pine** by all who build, and by all identified with the building trade (Architects, Contractors and Carpenters), would create a demand for **Arkansas Soft Pine** which the manufacturers could not supply.

Such understanding, arising from knowledge resulting from use, is being acquired gradually and steadily. Every user of **Arkansas Soft Pine** is an enthusiastic advocate of its further use.

*Broad and comprehensive knowledge of its worth does not add one mite to its intrinsic value. **Arkansas Soft Pine** is as good now as ever it will be; it will fit into your plans, it will meet your every need.*

You are not required to pay a big premium for this good material. (Suitable for all building purposes.) Your local dealer, if he is one of the *Live Ones*, carries a complete supply of **Arkansas Soft Pine**. Pick of the Pines, the material you should use if you contemplate building a structure of permanent value.

How to Build, treats the building question from a new angle.

Interior Trim gives money saving pointers on the question discussed.

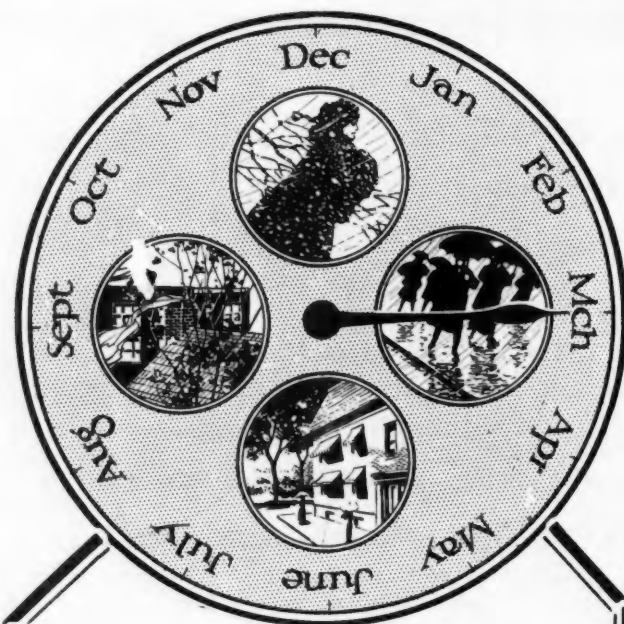
Send for either or both of these books

Arkansas Soft Pine Bureau

308 South Canal St.

CHICAGO, ILL.

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Dollars for You The Year 'round

No matter how bad the weather may be for plastering, it's always good weather for Utility Wall Board. Live contractors no longer worry about "dull" seasons. In March or September—with the thermometer 90°, or down to zero—they keep their profits up to normal, by using and recommending the modern, non-porous, moisture-proof wall lining—

UTILITY Wall Board

The only 5-ply Wall Board on the market. It's guaranteed not to crack, check, or fall off, if properly applied. Particularly good on small repair or remodeling work, where you can save time and the high initial cost of mixing plaster. Equally useful on the very largest installations. Utility can be laid right over old plaster work or nailed direct to the studding—no dirt, dust or confusion. This advantage, combined with its attractive, artistic appearance, pleases home-owners immensely.

Write today for Utility Wall Board samples and our interesting wall board booklet. :: No obligation

THE HEPPES CO.

Manufacturers also of Flex-a-Tile Asphalt Shingles, Asphalt Paint and Asphalt Roofing in Any Finish

4503 Fillmore St., Chicago, Ill.

Popular Concrete Mixer

When the Jaeger Machine Company introduced their "Big-an-Little" mixer a year ago, it was hailed with great enthusiasm by practical contractors and builders.

The past year has told its story, adding new laurels to this medium-sized, revolving drum type of batch mixer. And the crowd around the "Big-an-Little" exhibit at the Chicago Cement Show this year gave a true indication of the way



How the Jaeger Exhibit Looked at Cement Show

contractors feel now about these machines. Certainly the Jaeger Machine Company can look forward to doing a big business with this machine.

The cartoonist of one of the papers caught this impression of the situation around the Jaeger booth at this year's show.

Those who don't like to crowd into a jamb and get their ribs punched, can get full information about the "Big-an-Little" concrete mixer, even more easily than all of these folks at the show. Just drop a line to the Jaeger Machine Company, 318 W. Rich St., Columbus, O., and their new illustrated, 24-page catalog will come to you by return mail. You will find it interesting and instructive. Many jobs are illustrated on which their "Big-an-Little" did the work.



A Talk About Floor Hinges

Years ago the objection to many of the floor hinges placed upon the market, was that they necessitated cutting a large hole in the floor to receive the hinge, and as all the working parts were placed beneath the floor, water and dampness destroyed the mechanism of the hinge, and where iron beams came near the floor, it was impossible to use them at all.

To overcome these objections of the floor hinge idea, the Shelby Spring Hinge Company originated the "Shelby Chief"—a double-acting, ball-bearing floor hinge. This hinge, resting on the surface of the floor, at once appealed to the carpenter and builder as an economical and labor-saving device. It does away with cutting a hole in the floor to receive the hinge; and to apply it to stone or cement sills is easily done by using a hinge with a jamb plate, or the regular hinge can be used by securing the floor plate to the floor with expansion screws.

The Shelby Spring Hinge Co. have built up a wonderful business in builders' hardware with this surface floor hinge as their leader. In their plant they now have an acre and a half of floor space. It is said to be the largest double-acting hinge factory in the United States.

A new catalog, their Catalog No. 17, has just been issued, fully illustrating and describing their big line of hardware. They will gladly send copies of this to all of our readers who are interested. Address the Shelby Spring Hinge Co., Shelby, Ohio.

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

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Show

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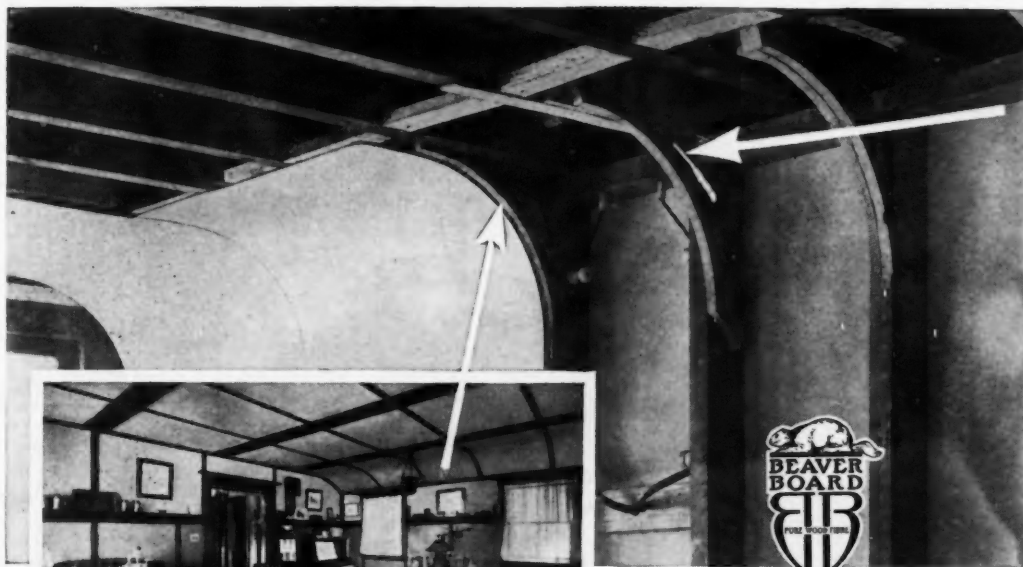
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If You Want Cove Work You Can Get It

Almost any wall or ceiling effect can be obtained by using BEAVER BOARD. Note other pictures at right of page, and view at left in the home of Mr. Geo. W. Klewer, a well-known architect of Chicago.

How BEAVER BOARD Convinces Unbelievers

People who don't know anything about BEAVER BOARD are sometimes prejudiced against it, but actual experience with one good Beaver Board job is enough to convince anybody.

Examples like the following show why BEAVER BOARD has in eight years become as staple a building material as brick or concrete.

Mr. La Croix, Contractor, put BEAVER BOARD into Mr. Harry Male's home in Buffalo. He says:

"I must admit I was much opposed to its use before I built this house. However, all doubt as to its durability and adaptability to the finest buildings is now removed.

"I know that if, it is applied according to the instructions you issue, a beautiful and satisfactory job will be assured in every case."

Mr. Clarence G. Tilt, Architect for the handsome residence of Mr. Geo. E. DeGroat, Piermont on Hudson, N. Y., writes us:

"I was almost afraid to use BEAVER BOARD at first but I find after it has stood for one year that it is as good as it was when first finished.

"BEAVER BOARD is all right, and I can honestly recommend it as one of the best materials on the market for high-class work."

Mr. E. M. Houghtaling, of Kingston, N. Y., used BEAVER BOARD over old plaster with splendid results. He writes:

"The carpenter who put on the board and the painter who decorated both shook their heads and acted as if I was foolish. They had not worked very long before they were wavering, and before the job was finished they were as enthusiastic as I."

BEAVER BOARD

WALLS AND CEILINGS

Investigate BEAVER BOARD for Your Own Sake

Any material that increases in annual use eighteen hundred per cent in four years deserves real, thorough investigation. Send the coupon and receive all reading matter issued by our Carpenters' and Decorators' Co-operative Department. It is a business-getting proposition for you, and implies *absolutely no obligation*.

Do you know that good as BEAVER BOARD always was, it has been made even better? Send the coupon and learn all about it.

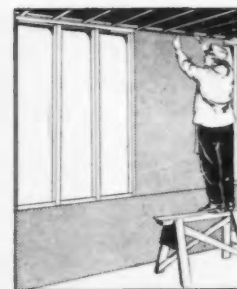
The Beaver Board Companies

United States: 330 Beaver Road, Buffalo, N. Y.
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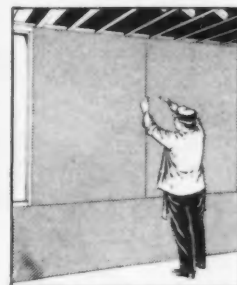
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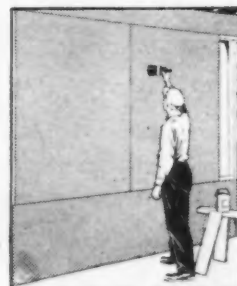
TRADE MARK



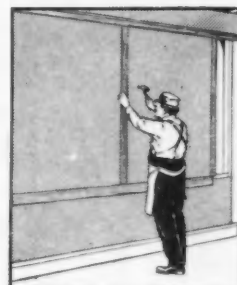
NAILING TOP CENTER
Start at top and nail to intermediate studding, before nailing edges. Use fine wire brads.



NAILING EDGES
Smooth out panels, then nail edges with flat-head nails, 3 inches apart.



PAINTING
This should be done before strips are put over edges of panels.



PANELING
Decorative strips are stained (or primed) before they are nailed over edges.

Please put me on permanent mailing list to receive all reading matter issued by Carpenters' and Decorators' Co-operative Department.

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St. Address.....

Town.....

State.....

A Practical, Low-Cost House

We present an interesting photograph and the floor plans of a very attractive little bungalow home of concrete block and stucco construction, the like of which can be built anywhere at a very moderate cost.

This seven-room dwelling, erected in Benton Harbor, Mich.,



Seven-Room Bungalow, Built for \$2,000, at Benton Harbor, Mich., Using Anchor Concrete Blocks

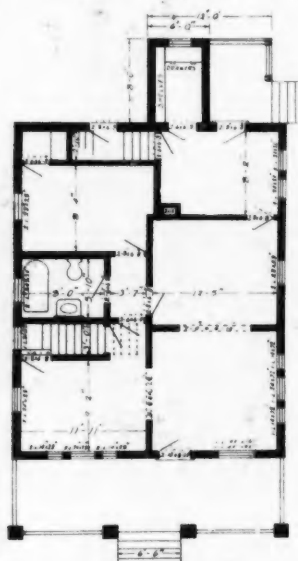
by Geo. W. Edgumbe, general contractor, is a fine example of the new style of concrete block-stucco residence. Anchor blocks, made on the machine manufactured by the Anchor Concrete Stone Company, of Rock Rapids, Ia., were used in the construction of the walls. These blocks, having a continuous air chamber, assure a perfectly dry inner-wall; consequently they were plastered directly on the inside of the wall, no furring strips and lath being used.

The stucco, applied as a coating on the exterior, is made from crushed limestone screenings and white Portland cement,

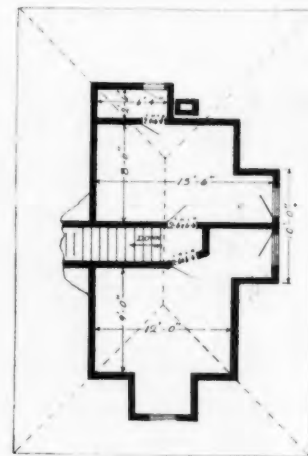
producing a very harmonious and pleasing appearance.

Asphalt shingles were used for the roof.

It is surprising to know that the cost of this house was practically the same as for frame construction; and its fire-proof and wearing qualities are far ahead. The exterior will



First Floor Plan



Second Floor Plan

never need painting; consequently upkeep expense is reduced to a minimum.

This little home is equipped with a hot-air furnace and first-class plumbing, and its entire cost was well under \$2,000.

Going to Build Remodel or Repair?

*Building
Material
Catalog*



House and

Barn Plans

**THESE TWO GREAT BOOKS WILL
REDUCE YOUR BUILDING EXPENSES**

Everything you need in lumber, millwork, hardware, roofing, paint, etc., is quoted in the Building Material Catalog at factory prices. Why pay high prices when you can buy direct from us, save money, get prompt deliveries and highest quality material.

Our Plan Book shows views of some of the most attractive houses, bungalows, summer houses, barns and garages ever built for the money. It also shows how you can obtain floor and elevation plans free.

Both books are FREE. Write for them TODAY.

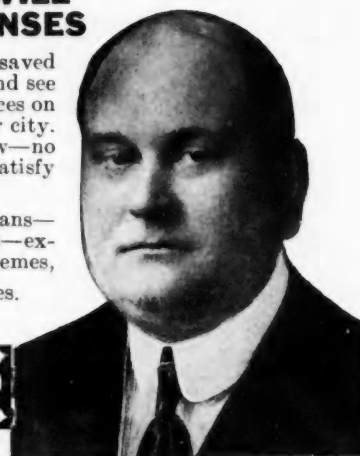
Thousands have bought of us and saved money. Why not you? Get the books and see what this means to you. I will quote prices on all material needed, freight paid to your city. Everything guaranteed to be brand new—no wreckage. Everything guaranteed to satisfy you or you get your money back.

I will give you new ideas on floor plans—finish—panel and glass doors—windows—exterior and interior trim—paint color schemes, etc.

H. B. MUNGER, Pres.

CHICAGO MILLWORK SUPPLY CO.
AMERICA'S GREATEST SASH AND DOOR HOUSE

1422 West 37th St., CHICAGO, ILL.



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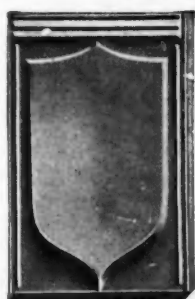
ARCHITECTURAL SHEET METAL GOODS



Willis Ventilated Skylight.



Style 125. All Sizes.



Willis Metal Shingles.

**Unusually
Good Quality at
Prices That Will Save You Money**

We can supply whatever you need in Architectural Sheet Metal Goods at lower prices than you will find elsewhere. The quality of our products is guaranteed to give complete satisfaction. Prompt shipment and fair treatment are assured to you in buying goods from us.

During the coming building season, you will be using one or more of the articles named below. Look over this list. It will give you an idea of our immense line. And remember, if we cannot give you better quality and better prices, we do not want your order:



Pivoted Upper, Stationary Lower.



Double Hung Metal Window.

VENTILATORS
ORNAMENTS
CRESTINGS
WINDOW and DOOR CAPS
FIREPROOF WINDOWS,
DOORS and SHUTTERS,
approved by Underwriters'
Laboratories (Inc.)
SKYLIGHTS
FIRE DOORS STATUES

GABLE ORNAMENTS
STORE FRONTS
METAL ROOFING (all kinds)
METAL SIDING (all kinds)
METAL CEILINGS
CEILING CENTERS
SHEET METAL CANOPIES
and MARQUISE
TOWER FINIALS
CORNICES

Ask for Our Catalog No. 6

It fully describes and illustrates every article we manufacture. We also give prices. It saves time and bother writing for estimates. You know at once what the article will cost. Give us a trial order and let us prove that we can give you better goods, better service, and better prices than you can get elsewhere.

**Willis Manufacturing Company
GALESBURG, ILLINOIS**

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The Floor Scraper With the Eight Wonderful Blades

No More Sore Knees
No More Cramped Fingers
No More Aching Back
Work Done in 1/5 the Time
and a Better Job.

That's what we promise.

To prove it, we will ship
you this scraper for **Ten
Days' Free Trial.**

The
Fox
Scraper
can't chat-
ter or leave
waves.

Simple of
construction.

Easy to operate.

Leaves a per-
fect finish.

"It Does
The Work"

Fox Supply Co.

Manufacturers
Dept. A

Brooklyn, Wisconsin



----- CLIP, SIGN AND RETURN -----

Fox Supply Co., Brooklyn, Wis.
Gentlemen: Please send me your catalog and full information about your 10-day Free Trial Offer.

Name

Address

City State

The Typewriter a Present-Day Necessity

The typewriter has become to be an absolute necessity in writing business letters. Its use is essential now, to have your letters gain respect and get the proper attention. No business man is going to give the right kind of consideration to a poorly written long-hand letter. Even though, perhaps, you have only an occasional letter, it is better to have it typewritten. In this busy, bustling age, when men are under the strain of modern business, they haven't got the time nor inclination, when confronted in the morning with a big stack of mail, to stop and study out some illegible hand-written letter. In this hurrying hour, we seem to have lost our ability to write in the steady flowing, legible manner of years past, and our writing, in keeping with our habits, has become choppy and erratic. This careless style is responsible for a great many mistakes, some of them perhaps amounting to many times the price of a typewriter.

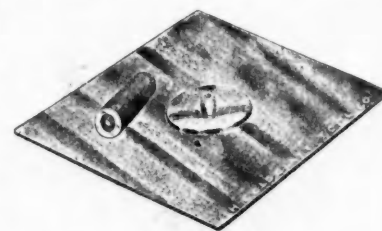
This is a day when we have got to aim right at the bull's eye and do it quickly. When a salesman calls on a man now, he must cut out the frills, get right to the point and get it over. The same is true with a letter. When a man is wading through his morning's mail he hasn't got any time to decipher long-hand hieroglyphics. The result is, either a mistake or the letter will fall short of the mark. A person who writes a business letter with any old pen or lead pencil doesn't want to be disappointed if he doesn't get the attention. If he uses a typewriter, however, his letters will carry just as much weight as the biggest man in the business. They will be received and read in the right attitude of mind, and his message will "sink home" and have an effect he could never create by scrawling it out by hand.

Most people now realize that business correspondence should be typewritten, but a great many of them feel that to pay \$100.00 for a typewriter is away beyond their means, although they appreciate that their letters lack dignity without being written in this way. There is a great big demand today for a thoroughly good, reliable typewriter at a price that a man having only a very few letters can afford to pay. This demand has been met by Harry A. Smith, who is offering in this issue, a high-grade, efficient typewriter at an astonishingly low price, and on liberal terms. He furnishes with each machine, full detailed instructions, so that persons with absolutely no experience, can operate and do perfect work.



Plasterers' Aluminum Hawks

The aluminum hawk is a tool that is getting to be very popular with plasterers. They find it to be superior to wooden hawks in a good many ways. It is lighter, stronger and, in the long run, cheaper. During the past two years the Goldblatt Tool Company, of Kansas City, Mo., have featured the aluminum hawk as part of their regular line of mechanics' tools.



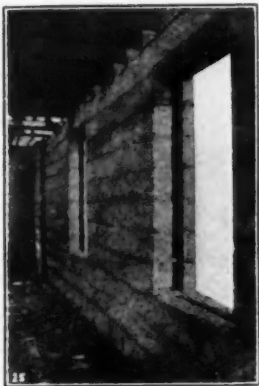
Hawk Made of Aluminum

Thousands of have been sold, which plainly indicates the fact that plasterers are now using them in preference to wood hawks. They are made of hard cold-rolled aluminum 3/32 inches thick. The handles are detachable with a 4-inch flange, carrying a 7/8-inch hub to receive the threaded handle. This flange strengthens the hawk.

Their 1914 catalog, featuring this and many other useful tools for builders, will be sent to our readers on request.

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

Fireproof Construction To Compete with Wood



Window frames removed to show construction. We plaster directly to inside wall without furring or lathing and stucco directly to outside wall which is the most economical, durable and up-to-date finish in the world.

Build Your Homes with
the Van Guilder Hollow
Wall Concrete Machine

CHEAPER THAN WOOD
Frost Proof, Damp Proof,
Fire Proof, Vermin Proof

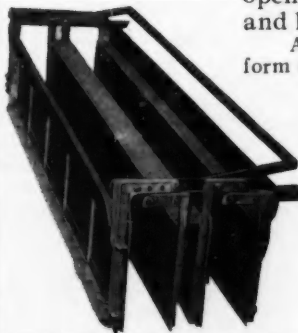
*"Built Like a Thermos
Bottle"*

**Most Durable Construction in the
World. Steel Reinforced Through-
out. A Proven Success for All
Types of Buildings.**



A VAN GUILDER HOLLOW WALL BUNGALOW
Built by W. H. Riley, 711 North Ave., 54, Los Angeles, Cal.

OLD construction methods are followed by so many contractors that competition is keen and profits small. The man who makes more money, bigger profits, is the one who breaks away from old, time-worn methods and adopts a new, up-to-date system that makes better buildings and lowers building costs. The Van Guilder System of Hollow Wall Construction opens a new field for the contractor—a field where there is little competition and large profits. Branch out now and enter the field with the Van Guilder System. Actual comparison shows that Van Guilder Hollow Walls are less expensive than any other form of construction. Here is a short table comparing costs per square foot of exterior walls.



Double Wall Machine for Erecting
Hollow Wall Concrete Buildings.

Van Guilder walls at\$0.12
(1c extra, reinforced)
Frame walls at16

Brick walls at\$0.22 to \$0.33
Tile walls at19 to .24
Block walls at23 to .25

The complete books we send free on request will explain the Van Guilder System thoroughly. Get acquainted with the modern method that beats all others for better building and surer profits.

Carpenters are Making Biggest Success with Van Guilder Machines

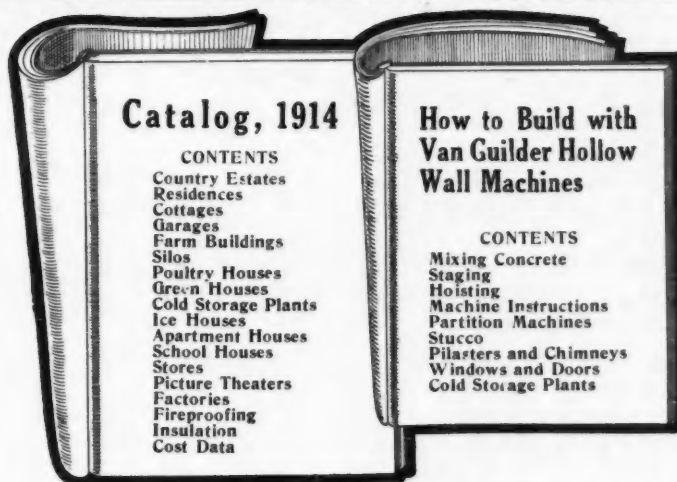
Double wall machines for general building purposes where insulation is desirable.

Single wall machines for partitions, fences and all purposes where insulation not necessary.

Single and double wall silo machines.

Triple wall cold storage machines. These machines build three reinforced walls at one operation and effect a tremendous saving both in cost of building and insulation for cold storage buildings, ice-houses, warehouses, etc.

FREE—Send for these Two Interesting Books—FREE



Catalog, 1914

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Residences
Cottages
Garages
Farm Buildings
Silos
Poultry Houses
Green Houses
Cold Storage Plants
Ice Houses
Apartment Houses
School Houses
Stores
Picture Theaters
Factories
Fireproofing
Insulation
Cost Data

How to Build with Van Guilder Hollow Wall Machines

CONTENTS
Mixing Concrete
Staging
Hoisting
Machine Instructions
Partition Machines
Stucco
Pilasters and Chimneys
Windows and Doors
Cold Storage Plants

A suggestion of the contents of our two books is shown herewith. These books are packed with real business and profit getting information, but we will send both free, if you will check the subjects that especially interest you on the list and mail it to us with your address.

Name

St. and No.

Town

State.

The Van Guilder Hollow Wall Co.

717 Chamber of Commerce Building

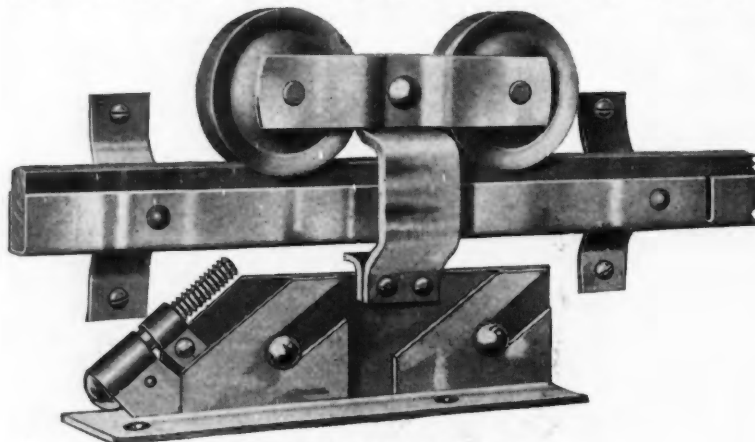
Rochester, N. Y.

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

Sharon No. 2 Door Hanger

The parlor door hanger herewith illustrated has been very carefully worked out to meet the need for easy application and easier running qualities. It is the Sharon No. 2.

The wheels, which have vulcanized hard fibre tread and steel flanges, are fitted with brass bushings and turn on steel axles, which reduce friction and require no oiling. The fibre



Sharon No. 2 Parlor Door Hanger

on wood makes it absolutely noiseless in action and fitted for long, hard service.

The adjusting screw is pointed and is easily started. The locknut is rolled smaller than the diameter of the screw, insuring a permanent lock. A steel lip on the hanger fits close under the track and makes it impossible to derail. The center stop is attached to the jamb and rubber-faced roller guides keep the door in alignment. Less than one-half inch overhead opening is required.

The rail is made of seasoned, kiln dried hard maple, reinforced by a heavy steel channel, which makes it impossible to warp either vertically or horizontally. The steel channels are notched at six and twelve inches from the ends so the desired length of track can be obtained by sawing through the wood. A few bends will break the base of the channel, which is left there to give additional strength; thus stock length of track will fit any opening.

This hanger not only saves time and labor, but considerable extra expense, as there is no cutting, grooving, or countersinking necessary on the door. It is meeting with success, due to the efficiency, durability and reasonable price. Complete information can be had by addressing the Sharon Hardware Manufacturing Company, Sharon, Pa.

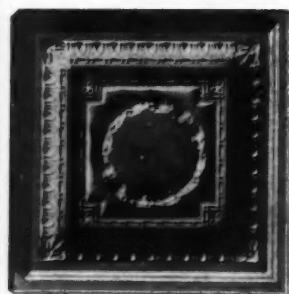


For Those Interested in Power Woodworking

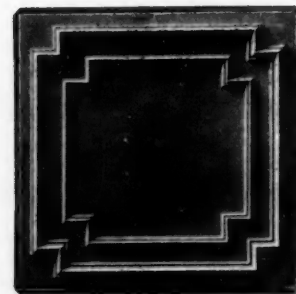
An interesting little magazine, known as the "C. H. & T. Buzzer," will interest every user or prospective user of woodworkers. This is issued by the C. H. & E. Manufacturing Company, Inc., 322 Mineral St., Milwaukee, Wis. It is issued monthly and is full of good stuff. It

will be mailed free of charge to all those of our readers who will write for it. The photographs showing portable saw rigs at work on the job, and on all kinds of jobs, are in themselves an inspiration. The text matter offers many good suggestions for handling power saw rigs to the best advantage.

Twenty states have published reports of the wood-using industries.



BY USING SCHOEDINGER'S UNIVERSAL LOCK JOINT METAL CEILINGS



You cut both the **COST** of **ERECTION** and the **TIME** of **ERECTION** right in **TWO** in the **MIDDLE**.

WHAT does this mean to a **BUSY MAN**,—to **YOU**? It means **MORE DOLLARS**, **MORE CONTRACTS** and the kind of **SATISFACTION** that—**WON'T RUB OFF**.

All our Panels have $\frac{1}{8}$ " variation, which is an absolute necessity in a **METAL CEILING** because of uneven surfaces to which same often must be applied.

The **UNIVERSAL** requires, **No Cross Furring** and **No Cross Nailing** and shows no nail heads or open joints.

Write for Our Special Proposition by first mail

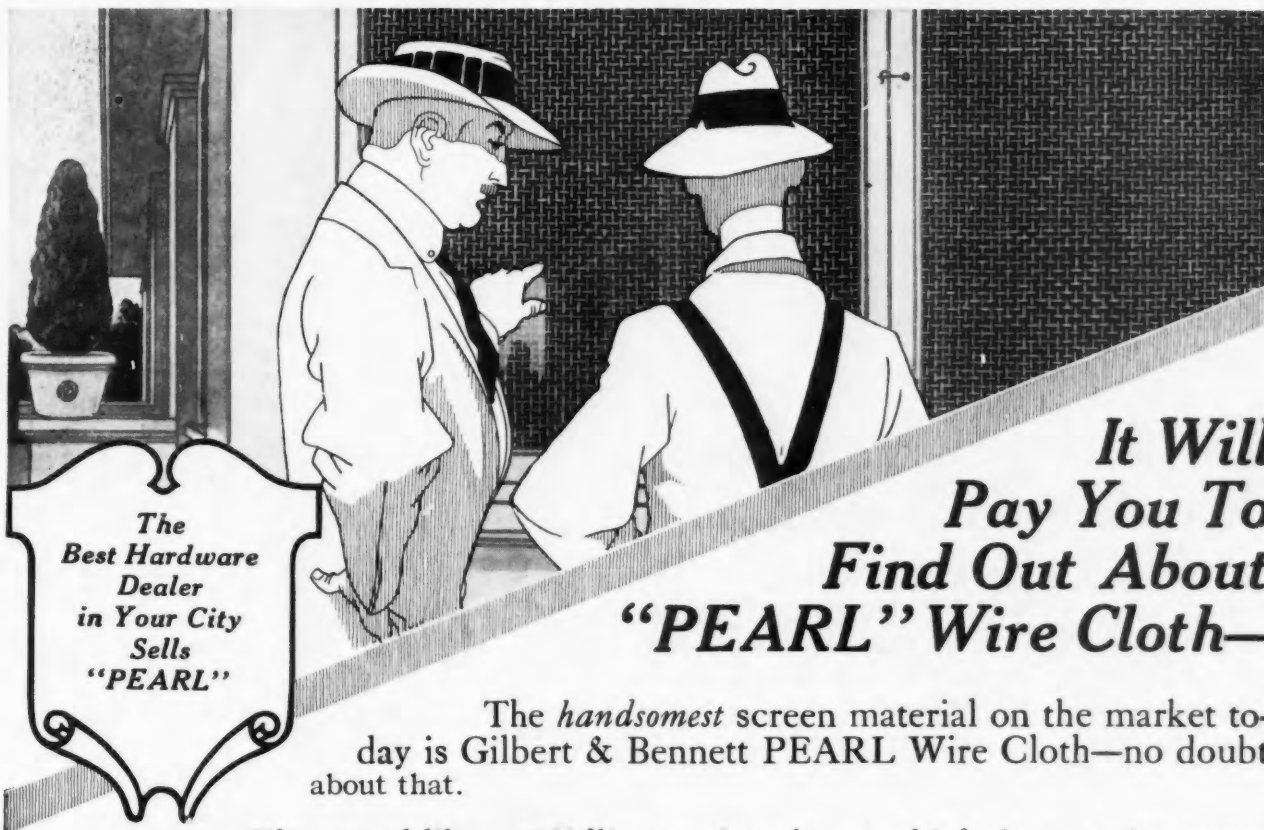
F. O. SCHOEDINGER

Manufacturer

Address Dept. "C"

COLUMBUS, OHIO, U. S. A.

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



The Best Hardware Dealer in Your City Sells "PEARL"

It Will Pay You To Find Out About "PEARL" Wire Cloth—

The *handsomest* screen material on the market to-day is Gilbert & Bennett PEARL Wire Cloth—no doubt about that.

The pearl-like, metallic coating from which it gets its name is the best protection against *rust* ever discovered.

Screens don't wear out—they *rust* out. Gilbert & Bennett PEARL Wire Cloth is as near rust-proof as metal can be made; consequently it is as near *wear*-proof as a screen can be.



For Screening Doors, Windows and Porches

Investigation will bear out the statements we make about PEARL Wire Cloth. The many years it has been in use—satisfied customers—enthusiastic dealers tell the story better than *we* can.

You can buy PEARL in two weights—Regular and Extra Heavy, Extra Strong Grade.

But to be sure of PEARL *wear* you must get genuine Gilbert & Bennett "PEARL Wire." Two Copper Wires in the Selvage and a Round Tag bearing our name on each roll are the identification marks. Ask your dealer or write us direct for samples and literature.

The Gilbert & Bennett Mfg. Co.

(Established 1818)

Dept. M-132
277 Broadway
New York City

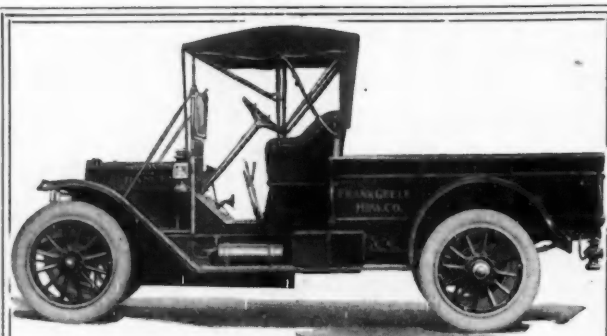
Georgetown, Conn.

Dept. M-132
38 S. Dearborn Street
Chicago

Kansas City, Mo.

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





KisselKar Motor Wagon Operated by
Frank Geile Hardware Co., Milwaukee, Wis.

Service is written into the sale of KisselKar Trucks

When you select a motor truck you want to be sure that it is **mechanically right**—one which has demonstrated in actual use that it is adapted to **your** requirements. It is not enough **that it looks** good. What it has done out on the road is the information you want.

But do not let your investigations rest there. Find out about the reputation of the manufacturer. Find out about his financial standing. Find out about his manufacturing facilities. Find out his method and manner of SERVICE.

And when you look into KisselKar SERVICE—the **all-important factor to a truck owner**—you find SERVICE **written into the sale**—not vague promises, but a definite and specific contract, with complete facilities to insure its performance—and back of this service is stability and responsibility.

You are entitled to the **uninterrupted** use of your truck, adequate provision to supply you quickly with duplicate parts, the requisite skill to install or replace them and regular inspection—all at the least possible cost.

Their is no truck that can show a cleaner duty record than the KisselKar Truck. There is no other maker that offers you equal service.

Illustrated portfolio just issued--Send for your copy

KisselKar Trucks are built in Six Sizes
1500 lbs. 1, 1½, 2½, 3½ and 6 ton capacity

Kissel Motor Car Co.
546 Kissel Avenue, HARTFORD, WIS.

Boston, New York, Chicago, Kansas City, Milwaukee, Minneapolis, St. Paul, San Francisco, Oakland, Los Angeles, Dallas and 300 other American and Canadian points

KISSELKAR TRUCKS

Offering Better Lumber

During the past few years, a constantly growing hue and cry has been raised over the increasing cost of building materials—lumber especially. But from the standpoint of the contractor and carpenter the high cost of lumber is not as grave a problem as the increasing badness in quality of the lumber which they have to use in their construction work.

With the decreasing of the timber supply much timber is being cut and sawn into lumber, which a few years ago would have been passed by as entirely unfit.

In an attempt to mollify the clamor of complaint against the higher prices, the lumber trade have attempted to keep down the price by lowering the grades. This protects the lumberman's profit and allays somewhat the storm of protest against high prices, but it results in exceedingly poor lumber, which necessitates much waste and working over by the carpenter and results in a finished work of which he is often not at all proud.

The Hewitt-Lea-Funck Company claim to have solved the problem of poor grades and high prices by cutting out the middlemen, selling lumber and millwork direct from their mill to the user.

This, it is said, is a wonderful thing for the carpenter and contractor as well as the builder. The lumber which Hewitt-Lea-Funck Company produce and sell is guaranteed to be of the very finest quality. The forests from which the timber comes are some of the choicest tracts in the famous Puget Sound region.

You get a glimpse at some of those trees in the illustration.



Sawing up a Giant in Northwestern Forest

The lumber that is cut by the Hewitt-Lea-Funck Company is from fine big trees like this. The knots in the stock are small, and the timber practically free from sap.

They say that carpenters from far and near have pronounced the lumber from the mills of Hewitt-Lea-Funck the finest they have ever seen. It is all clear straight-grained stuff, fresh from the mill and guaranteed to grade better than the standard by which the lumber trade are supposed to grade their materials.

If you are interested write Hewitt-Lea-Funck, Seattle, Wash., for their price list and you'll find that you have something to save in the cost as well as something to gain in quality.



Sell Gliding Casters

A good many carpenters and flooring men pick up considerable spare change taking orders for gliding casters. The Evergrip Gliding Caster Company, 20 Warren Street, New York City, are making an interesting offer. They will send a free card of samples to any one interested.

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

\$1500.00 Made In One Month by this Man

—that's what Mr. Eakins made—paid his last \$10.00 for rent of a store window—at the end of 30 days had \$1500.00 in the bank—Today he is independent—a Crispette Machine and Crispettes did it—Perrine, Calif., took in \$380.00 in one day. Every nickel brought him almost 4 cents profit—What are you going to make of the future—just barely earn a living—keep wishing for something to turn up?—DON'T DO IT.

LISTEN—take that money you have saved up against the day of opportunity—invest it in a Long Popcorn Crispette Machine and make fortune smile on you—build up a big paying business.

Think of the fortunes made in 5-cent pieces—street cars—moving picture shows—5 and 10-cent stores—Everybody will spend a nickel—Everybody likes Crispettes—children—parents—old folks—You don't need any experience. You can start anywhere—in a store window—a small store-room where the rent is cheap, or the kitchen of your home.

The Crispette Machine and Long's secret formula to the man of limited means is safe and strong—a sure way to independence and fortune—make money right from the start.



Almost 400% Profit

Every 20 cents spent returns you \$1.00 cash—NOT THEORY—not guess work—not imagination, but the actual, bona fide, proven record of profits of Crispette producers from Coney Island to Oregon—from Canada to Argentine Republic.

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

Come and See Me at My Expense

It isn't necessary to write and tell me you are coming. Just drop in any time. I will pay your traveling expenses within 300 miles if you buy a machine. I will give you all the references you may desire—responsible merchants, bankers, citizens—write to them if you will, then go over the "CRISPETTE" business with me. Get the full information—the startling good news!

I Want to Start You in the Same Business that Made Me Wealthy—
W. Z. Long



W. Z. Long

NO GREATER, BETTER OPPORTUNITY can be put up to you offering such **CERTAINTY OF SUCCESS**—producing the enormous—honest—legitimate profits—requiring such small investment—so light running expenses. Any man of ordinary intelligence—ambitious—progressive—energetic—who wants to get ahead in the world—should make a "Crispette" Machine pay for itself in a few weeks.

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!

Fill in the coupon—send for free book, "Dollars and Sense In The Crispette Business." It tells the whole story—how and where to start, how to succeed, gives experiences of others, etc. It's worth reading, even if you don't start. If you are looking for a good thing and easy money, send today for this book.

W. Z. LONG COMPANY

855 High Street Springfield, Ohio



\$100 A DAY MADE BY THIS MACHINE

THE EIGHTH GREAT WONDER OF THE WORLD

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 portion 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.**

W. Z. LONG CO.,
(855) Springfield, Ohio.

Without any obligation at all, please send me, free, your book, "Dollars and Sense In The Crispette Business."

Name

Address

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

Disston Salesmen Hold Convention

In line with the progressive policy always followed by this firm, Henry Disston & Sons held their semi-annual school and get-together meeting of salesmen during the week of Jan. 5.

The underlying motive for these meetings is the desire to make the men who sell Disston brand goods, not only

among the men, and consequently larger interest in the success of the line represented.

This meeting embraced all those members of the Eastern sales force who could attend.

New goods were shown and demonstrated; the superintendents of the various departments gave the salesmen much valuable information about their manufacture, and the sales-

men made frequent trips through the factory, viewing new machines and methods intended to increase the quality and efficiency of Disston brand goods.

The meetings were held daily throughout the week. The convention proved a big success, and the men started out again with increased confidence in the quality of the Disston products.



Milwaukee Corrugating Company in New Home

On February 5 and 6 the Milwaukee Corrugating Company held a house warming to give their customers and friends a chance to visit and inspect their new factories and office buildings. These are located at Thirty-sixth Avenue and Burnham Street, Milwaukee, Wis.

The factory is large and thoroughly equipped to manufacture all sheet metal products.

This company have a new catalog which all builders should write for.



Group of Disston Salesmen Looking-Happy-Please During Recent Sales Convention

better acquainted with the manufacture of the goods they handle, but also better acquainted with each other. An interchange of ideas and experiences between the representatives of a big business is always conducive to a finer corps spirit



Constant Heat Satisfaction

For price and heating value, the Ideal Furnace will actually give more satisfaction than any other furnace you can name. We sell so many furnaces that we can furnish you with complete equipment, including furnace, pipes, registers, etc., at the following prices, for ordinary sized houses:

5-Room House, \$60	7-Room House, \$80
6-Room House, \$70	8-Room House, \$90

The IDEAL FURNACE

Has few joints; retains all the heat; burns all the gases; extra heavy casings prevent radiation; triangular anti-clinker grates; deep ash pit; special provision for water coils of any size; heavy castings; burns any fuel.

We guarantee the Ideal Furnace and stand back of the Builder who installs it. Our Builders' Service Department prepares estimates of cost on heating equipment and gives clear instructions on setting up the furnace, running the pipes and placing the registers. *This service is free to you.*

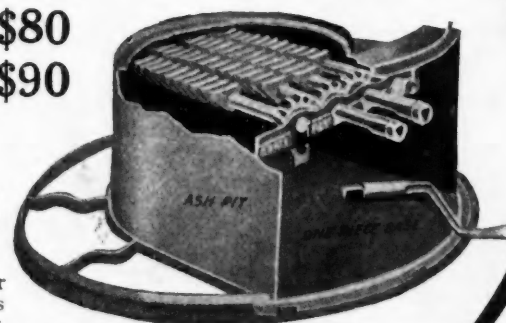
RELIABLE AGENTS WANTED

Is there an Ideal agent in your town? If not, we'd like to appoint a good, reliable representative. If you're the man, write us.

We Are Glad to Mail Catalog on Request

Ideal Furnace Company

DETROIT, MICH.



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

Home Builders Should Read This

"You build a home but once—DO IT RIGHT!" That's a strong statement, but a true one. "The heart of the home" is the heating system. Make a mistake here and the result is *expensive discomfort* always. And so we say, "Go slow" on the heating problem. Over 25,000 home builders have chosen the *one* right way of heating—the *one* economical, clean, even and satisfactory way—the Underfeed way.

Read These Startling Statements

Thousands of Underfeed users have written us such statements as, "Coal bill \$16.22 for 7 rooms"; "\$5.40 to heat 4 rooms"; "Reduced coal bills from \$109 to \$53"; "Underfeed reduces coal bill 60%"; "A great fuel saver"; "Have cut coal bills \$70 each winter for 9 years"; "Saved \$122 a season"; "Even temperature with no smoke or dirt." This is strong evidence—this you will admit. Now we'll clinch the verdict by sending you the names and addresses of over 2,000 Underfeed users—some right in your vicinity—who *know* by experience that clean, even, *economical* heat is obtainable *only* with the Underfeed.

**WILLIAMSON
UNDERFEED**
Furnaces and Boilers

Cut Coal Bills $\frac{1}{2}$ to $\frac{2}{3}$

With the Underfeed, coal is fed from below. All the fire is on top. Smoke and gases are burned up, making more heat and securing perfect combustion. You can use cheapest slack soft coal or pea and buckwheat sizes of hard coal and secure the same heat as highest priced coal with *no* smoke, soot, smell, dirt and clinkers, and very few ashes. The Underfeed soon pays for itself. Adds to renting and selling value of any building. Adapted to warm air, steam and hot water.

The U. S. Govt. and some of the country's leading architects and builders *specify* Underfeed heating. *Now* do you see why we say, "Go slow" with your heating problem?

50 Per Cent Saving in Coal Bills Guaranteed

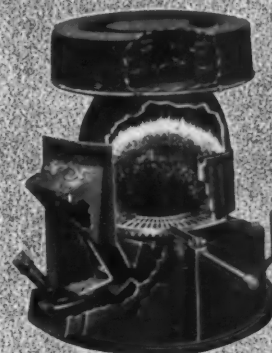
Twenty-five years' experience and thousands of users have enabled us to back up the Underfeed with the strongest guarantee ever put behind *any* heating system. Here it is. We absolutely guarantee a saving of at least 50% in your present coal bills

with an Underfeed when properly installed and operated. This guarantee is backed by us—a \$750,000, 25-year-old corporation. So you take no chances. If the Underfeed doesn't make good, *we will*. Let us tell you more about our guarantee.

May We Send You the Facts?

We have a mass of convincing Underfeed evidence—facts startling and true. They point the way to cheaper heat and better heat. The U. S. Govt. and 25,000 others said "Show us." And we did! You say "Show me." And we'll do it. If you are going to build or want to cut down your present high cost of heating, send the coupon. Underfeeds have turned hundreds of "Barns" into homes and saved millions of dollars for coal buyers. Shall we send the evidence? The coupon is right handy. Fill it out *now*.

The Peck-WILLIAMSON COMPANY
143 Fifth Street CINCINNATI, OHIO



Cut-Out View
Underfeed Furnace



Underfeed Boiler

MAIL THIS
FOR THE
FACTS
NOW

The Peck-WILLIAMSON COMPANY, (14)
143 Fifth Street, Cincinnati, Ohio.

I would like to know how to properly heat my house and at the same time cut my coal bills from $\frac{1}{2}$ to $\frac{2}{3}$ with an Underfeed.

Warm Air..... Steam or Hot Water.....
(Mark with X after system interested in)

Name

Address.....

My Dealer's Name is.....

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



Residence of Thos. Forbes, Freeport, N. Y. Cellar floor subject to 2-foot water pressure. Furnace pit subject to 3-foot water pressure. Entire cellar, about 1500 sq. ft., waterproofed thoroughly by the use of Ceresit. A. S. Johnson, Freeport, Contractor.

What Mr. Johnson Did YOU Can Do

Mr. A. S. Johnson is a Building Contractor in Freeport, N. Y. The cellars of the houses in that town are subject during the winter to water pressures ranging from 1 foot upwards.

For a long time great trouble was endured. Then Mr. Johnson heard about



Waterproofing Compound

He investigated and tried Ceresit. Since that time he has landed many profitable contracts for waterproofing leaky cellars. Ceresit has made good for him in every case.

Aside from the money he has made on this work (which was a tidy bit), he has added greatly to his reputation as a Building Contractor who knows his business thoroughly.

If there are leaky cellars in your town, get busy. Investigate Ceresit. Become the waterproofing Contractor of your town. It's profitable.

And don't overlook the bigger opportunity. By waterproofing the cellar of every house you build, you add both to the satisfaction of your clients and to your own reputation.

Remember:—A leaky basement will be remembered because of the trouble it gives, long after your other good work on the house is forgotten. Waterproof every basement with Ceresit.

Write for our "Book of Evidence"

It gives the facts.

CERESIT WATERPROOFING COMPANY
910 Westminister Building, Chicago

FACTORIES:
Chicago; Unna, Germany; London, Paris, Vienna, Warsaw



Residence of Jos. Bagnarello, Freeport, N. Y. Entire cellar waterproofed successfully against 1-foot water pressure by the use of Ceresit. A. S. Johnson, Contractor.

Safety Scaffold Brackets

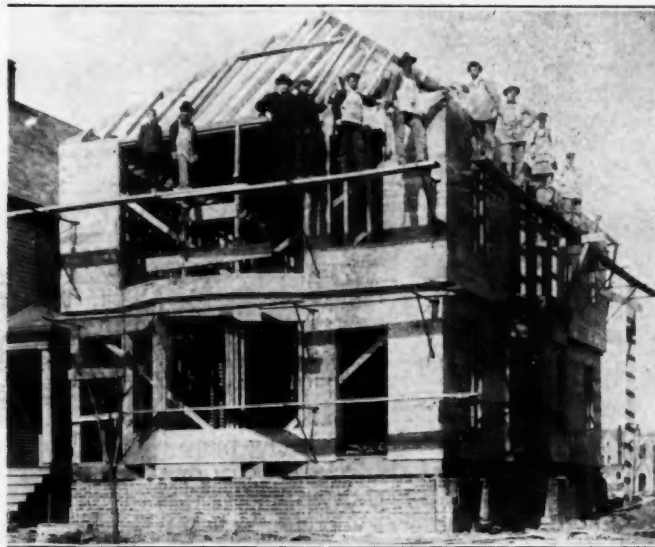
There is a great campaign on now throughout the country known as "Safety First." This idea applies to the building trade as well as to other activities or vocations.

Since men's lives are at risk on scaffolds, having in mind "Safety First," contractors should secure the safest scaffolds possible to be bought.

The American Steel Scaffold Company, located at 252 Sheridan Ave., Detroit, Mich., are now making several kinds, but have given special attention to the manufacture of Wheeler Safety Scaffold Brackets, which have given universal satisfaction to thousands of users.

They have a patented locking device which secures them to the wall automatically when put in position, assuring safety. Are easily put up and taken down; fold compactly for handling and transferring. They carry more weight than is usually placed on scaffolds.

They save lumber, labor, nails and accidents, all of which must make them attractive to all progressive carpenter contractors looking for opportunities to increase their profits



A Severe Test of "Wheeler" Safety Scaffold Brackets.

and to protect themselves against accidents, which may be caused by poor scaffolds.

The saving from no lumber and no nails being used, together with saving on labor in time required to put these scaffold up, amounts to a large sum in a year's time, and contractors will do well to avail themselves of the benefits to be had by using them.

The accompanying cut shows the brackets in actual use and attention is called to the number of men working on the scaffolds.

The manufacturers are offering a liberal proposition, which will appeal to all contractors, as it gives them an opportunity to prove the claims made for these scaffold brackets and without costing the contractor anything. They will be glad to submit their free trial offer to those who request it by letter or postal.



Nickerson Porch Columns

An interesting catalog has just come to hand from the Nickerson Mfg. Company, Knoxville, Tenn. This is their Catalog No. 4. It tells about Nickerson patent double-lock-joint porch, interior, and pergola columns. These people specialize on detail work. "Vignola" is their standard for proportions when architect's details are not furnished. Our readers will find this catalog full of good suggestions. Copies will be sent on request.

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

SEND FOR OUR CATALOG, "HOME HEATING"

HOT-WATER HEATED \$198

by ANDREWS SYSTEM EACH

UNITED STATES

ALASKA



14 ANDREWS HEATERS IN ONE BLOCK

AVERAGE PRICE \$198.00

IT IS WELL WORTH READING

CONTRACTORS AND BUILDERS

Make GOOD MONEY Handling Andrews System of Hot Water Heating

For 13 years we have been selling Hot Water Heating Plants to Contractors, Builders and others. Andrews Systems are now doing good work in 2,274 cities and towns of this country. The greater part of our new business comes through the recommendation of our customers, the best proof of the value of our systems. Our method of working with builders makes it easy for them to handle our systems. We do all the work of estimating, build the plant complete all ready to screw together, make a price which allows the Contractor a good profit, ship it, freight prepaid to your nearest railroad station, and a carpenter's helper or any handy man can easily set it up, following our simple, complete instructions.

360 DAYS' FREE TRIAL Guaranteed By Bond

This guaranty is not mere advertising talk. We stand back of the plant in every way and protect the owner as well as the builder. If, at the end of 360 days' trial, the owner finds the plant other than as we represent, we buy it back at full price less fair deduction for breakage or abuse.

ESTIMATE FREE For Old or New Houses

Send us your plans or diagrams showing sizes, etc., of floors and basement, on the next job you are figuring on. Our engineers will submit a complete estimate on an adequate plant, covering boiler and best material throughout, all ready to screw together.

BIG 72-PAGE HEATING BOOK, FREE

This big book is more than a catalog. It contains a large amount of valuable information on all kinds of heating and other features for modernizing the home. It describes our method of cutting-to-fit, how each job is made to cover its individual requirements and how we make it easy for any man handy with tools to erect an Andrews System of any kind. All Andrews Systems are adapted to Builders' use. In addition to Heating, our Big Book carefully describes Steel Septic Tanks for Sanitary Sewage Disposal, Plumbing Systems, Air Pressure Water Supply Systems, Thermostats, etc. Write for it today.

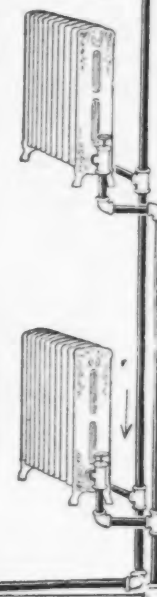
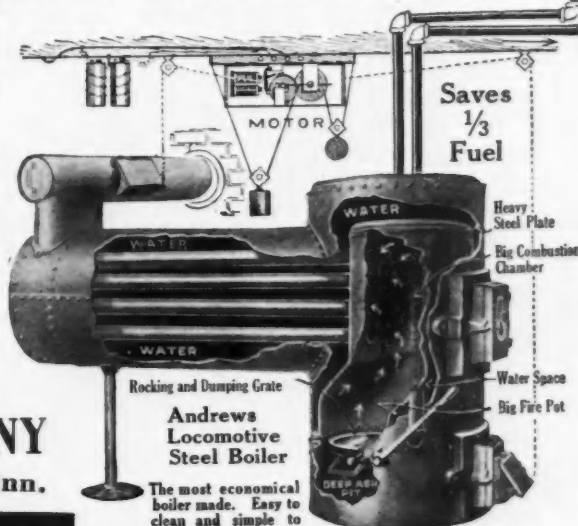
HIRED MAN THERMOSTAT A Money Maker for Contractors

The Hired Man Thermostat is an excellent money maker for Builders. It is easily installed in old or new houses, and affords a line of work which can be followed during any part of the year. There is a growing demand for accurate damper regulators, and the Hired Man sells easily. Write us for special terms to builders. Regular retail price, \$20; with clock time attachment, \$25. Our guaranty on this thermostat protects you thoroughly.

SPECIAL OFFER To inquiries on Hot Water Heating Systems received during the next 30 days, we make a special offer—an offer which we are quite sure will enable a builder to close a heating contract with any client. Get your inquiry in early and be in line to obtain the offer.

ANDREWS HEATING COMPANY

1417 Heating Bldg. Minneapolis, Minn.

We Do it Right
in 44 StatesSaves
1/3
Fuel

Rocking and Dumping Grate

Andrews
Locomotive
Steel BoilerThe most economical
boiler made. Easy to
clean and simple to
operate.Heavy
Steel Plate
Big Combustion
ChamberWater Space
Big Fire Pot

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

Repair-Proof Furnace

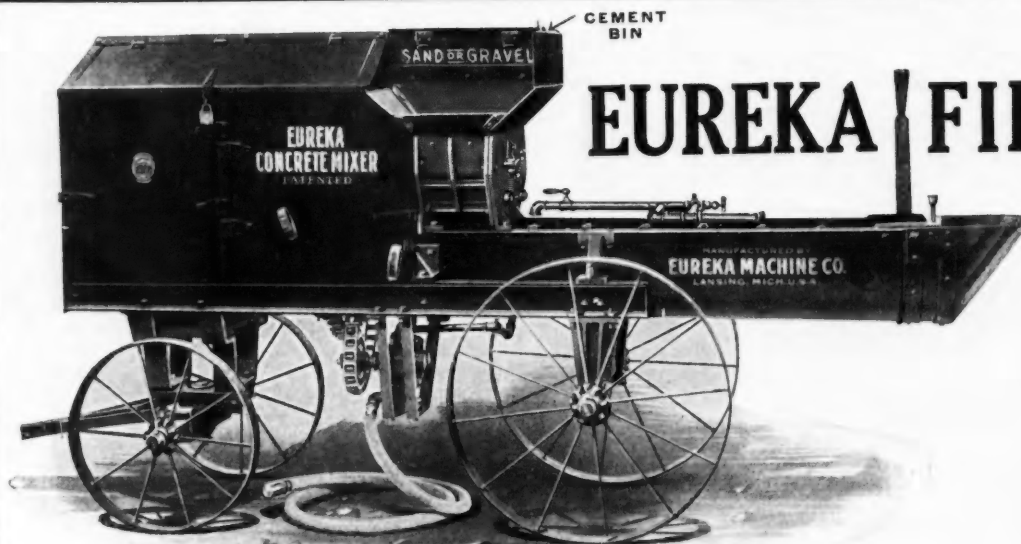
When builders recommend a heating plant to their customers, they like to be pretty confident their advice is good. A warm-air furnace that will stand up under hard usage and not need repairs, is what is wanted.

The experience of the Ideal Furnace Company, of Detroit, is interesting in this connection. Their furnace castings are all made from a special mixture of high-grade northern ore, which insures very durable castings. These people tell us that repair orders are practically unknown to them. And this point is the more striking, too, as the Ideal furnace is guaranteed, and the manufacturers would naturally be called upon to make good, and replace any defective or broken part.

This only goes to prove the old saying, that generally, goods that are guaranteed need no guarantee.

The illustration shows very clearly the construction of the Ideal furnace. Note the double casings and the extra large air-space around the radiator. All of the features that go to make up a standard, high-grade heating plant are embodied in this design.

This is the time of year to be looking into the heating plant proposition, so as to know definitely the type of heating and the make of heater to recommend and use in your building this season. The Ideal Furnace Company, Detroit, Mich., will send their catalog and full information to any AMERICAN CARPENTER AND BUILDER readers who write them.



EUREKA FIFTY

*Costs
Little to
Buy--
Almost
Nothing
to
Maintain
and
Operate*

Eureka No. 50—Weight 2000 lbs.

A Yard Every Twelve Minutes

Write at once for price and all information of this special low-priced outfit for building contractors.

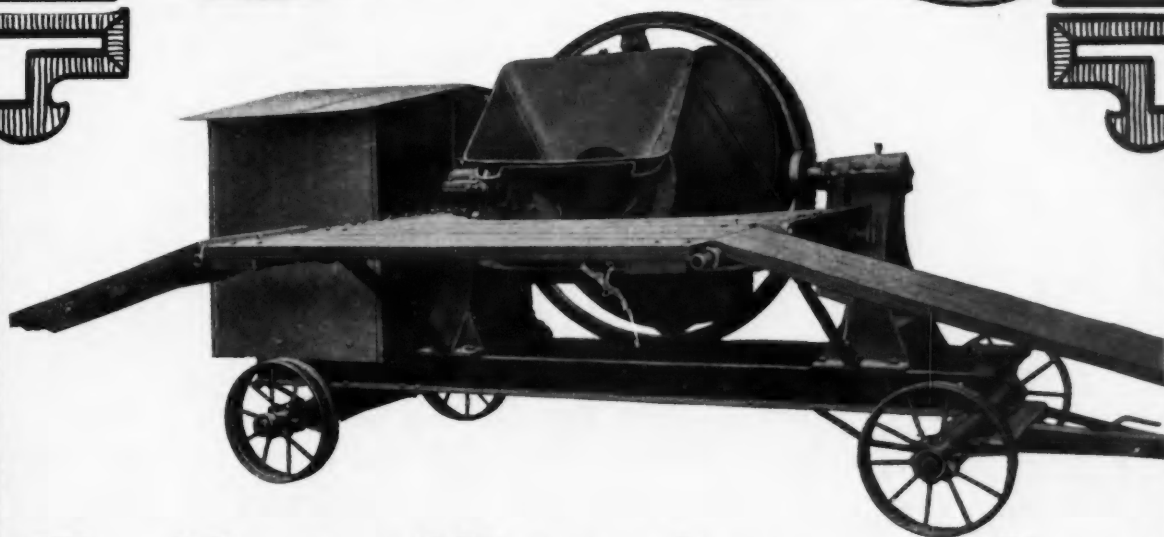
EUREKA MACHINE CO., 12 Case Street, LANSING, MICHIGAN

W. V. JOHNSON & CO., General Eastern Agents, 1 Madison Avenue, New York City

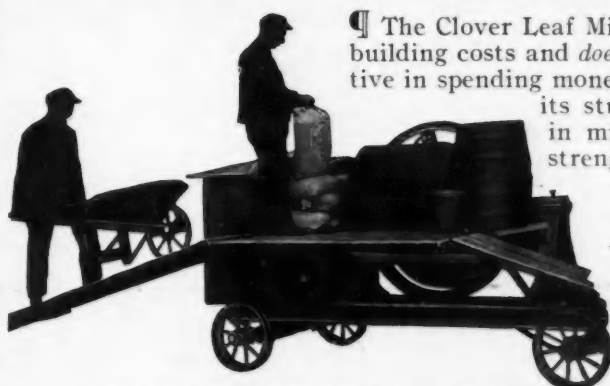
Stocks in Principal Cities

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

“LOVER LEAF”



The Mortar Mixing Concrete Mixer



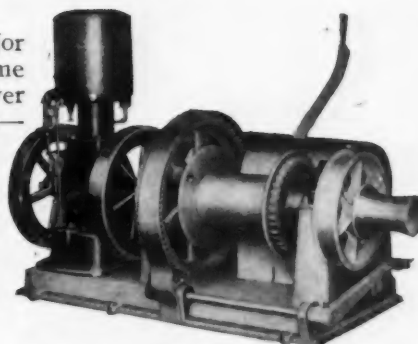
Clover Leaf Mixer with Folding Loading Platform

¶ The Clover Leaf Mixer is convertible; designed to cut down building costs and *does it*. If you're a "close buyer"—conservative in spending money, you'll favor the Clover Leaf Mixer for its sturdy simplicity; its undeniable excellence in mixing mortar and concrete; the wonderful strength and perfect relation of all its parts.

¶ Mix your concrete. Throw a few pailfuls of water into the drum. Then you're ready to mix mortar. No wings; no deflectors; no paddles; no paddle shafts; nothing to hinder your mixing—nothing to clog—no repairs. The shape of the drum does the mixing. There's no "wear-out" to the Clover Leaf.

¶ You will approve our Contractors' Hoist, not alone for its *real* quality, but for the money it saves you. Lost time increases your pay roll—delays building. Give the Clover Leaf Hoist a place on your jobs. Take our word for it—we know—it will save you money.

¶ Clover Leaf Equipment will stand comparison with any. Our machines win out on their own merits. We can't speak as well for them as they can for themselves. Let the Clover Leaf Catalog talk to you. Your name and address please, Mr. Contractor.



THE “LOVER LEAF” MACHINE COMPANY

Sample St. Office

South Bend, Ind.

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

You Should Have This Handbook on Concrete Brick and Block Making

We do not mean a machinery catalog, but a REAL, STANDARD TEXT BOOK on concrete. The second edition is just off the press. You cannot afford to be without the up-to-date information it gives on any of these subjects:

- | | |
|---------------------------------------|--------------------------------------------------|
| --The field for concrete | --Ways of making products |
| --Selecting materials | --Various building systems |
| --How to proportion | --Forming the product |
| --How to cure product | --Steam curing |
| --Plant arrangement | --A waterproof building system fully illustrated |
| --How to estimate | --Weights of materials |
| --Comparative tests | --Hints on selling |
| --Table of compression working values | --Profits in concrete |

Just think how often you have needed information on these subjects. It has cost a lot of money and time to gather this valuable information and while we should sell this book for no small sum, we only ask you to send 10c in postage for a copy. Many have told us it is the best book published on the subject. Better send 10c for your copy right now.

Here Is Another Valuable Book on Concrete and Machinery Which We Will Mail to You FREE

FREE
Send
for it



This Book Tells How to Make the Big Money in Concrete

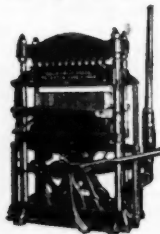
Learn about the most Profitable products and how they are made, also learn about the patented

Helm Brick and Block Presses 80,000 lbs. Pressure - Rapid - Easy Work

Built in two sizes to fit your pocketbook and built for power or hand operation.

You will make the best pressed brick and DRY WALL blocks all on the one machine. Only one of these RAPID OPERATING machines needed to equip a plant. The strongest, simplest and most economical for you to use.

You Should Know about the HIGH GRADE product of these presses—about the plain and ornamental PRESSED BRICK and the DRY WALL 2-PIECE BLOCKS. They save the cost of furring and lathing and always make DRY buildings. These are the best selling products. Their quality and adaptability mean increased sales.



Let Our FREE Book Inform You

about these up-to-date, improved presses, and give you many hints on making and selling concrete.

You really need this book to be fully posted. If you own a plant and want to increase your profit, or if you think of starting one, send for this book. Now is the time to prepare. Send the coupon NOW, and get both these valuable books.

Helm Brick Machine Co.
173 Bank Bldg.
Traverse City, Mich.

- ☐ 10c postage enclosed for Hand Book.
☐ FREE machinery catalog.

Name.....

Address.....

Helm Brick Machine Co.
173 Bank Bldg.
Traverse City, Mich.

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

Stanley Doweling Jig

This tool, just brought out by the Stanley Rule and Level Company, New Britain, Conn., is for the purpose of enabling the user to bore dowel holes in the edge, end or surface of work with ease and accuracy. It will take any thickness of material up to three inches. It is also an excellent bit guide for mortising.

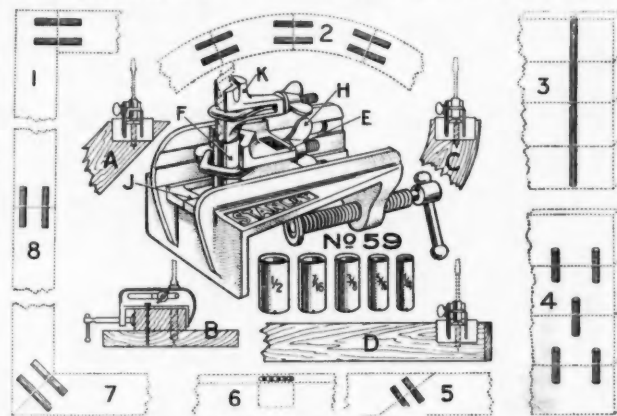
If drill bits are used there will be no danger of boring out of line, even in cross-grain wood or through knots. Excellent work can be done with the ordinary worm bits if care is taken to see that they fit closely in the guides.

In the illustration, which shows the tool complete, "E" is the slide carrying the steel guide "F," by means of which the bit can be brought to the required distance from the edge of the work.

The guide "F" is held in slide "E" by the screw clamp and thumb nut "H."

In laying out the work, first mark across the edge of the stock the desired location, of the dowel hole from the end of the work.

Having decided upon the distance the dowel hole is to be from the surface of the work, place the bit guide in the



Stanley Doweling Jig

slide, bringing the two marks on lower edge of guide the same distance from the end of the jig as the center of the dowel hole is to be from the surface of the work. The under side of the jig is graduated for this purpose.

Then place the jig on the work, bringing the mark "J" on the front of the tool, so that it is in line with the mark on the edge of the stock.

A depth gauge "K" is also furnished which can be used with or without the jig. Where used without the jig, the gauge should be set with the large end towards the point of the bit, but in using same with the jig it should be set with the small end down, as shown in the cut.

Fig. A. shows the proper way of attaching the jig when boring dowel holes on mitred or special work.

Fig. B shows the method used in boring dowel holes on the surface of a board. For this work it is necessary that a temporary block be nailed to same as shown in illustration.

Fig. C shows how the jig should be attached to the work when doweling segments of circles.

Fig. D the setting of the jig for all kinds of ordinary doweling.

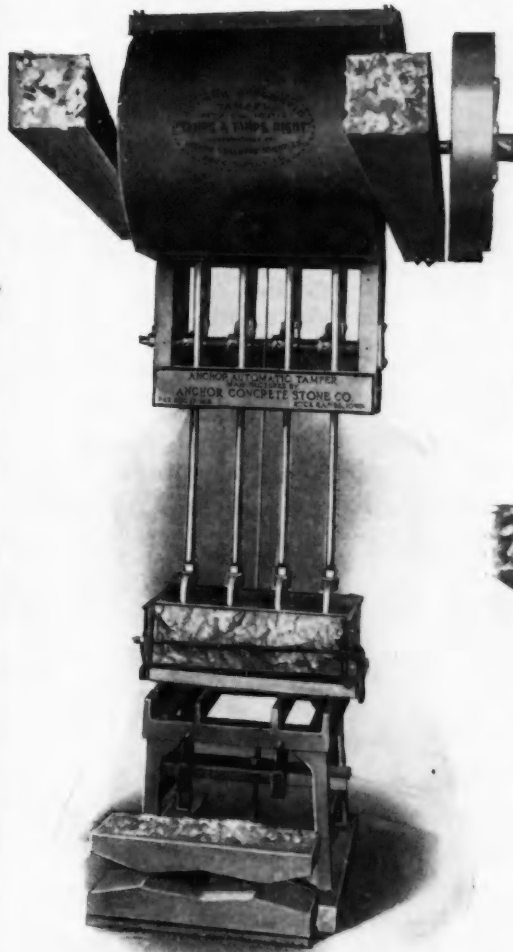


Plumbing Goods Direct to Contractors

A big illustrated catalog is being distributed by the Missouri Water & Steam Supply Company, 505 Olive St., St. Joseph, Mo. Address Mr. H. B. Holihan for your copy of this. It shows hundreds of bargains in pumps, windmills, and everything known in plumbing goods, direct at manufacturers' prices. Hot and cold running water for country homes is a special feature of this book.

BUILDERS! *This field offers* BIG PROFITS TO YOU

BECAUSE you can handle this business right along with your other work. There's a big demand for Concrete Hollow Wall Block buildings. You can get the profits in your locality with the



ANCHOR AUTOMATIC TAMPER working on the Hayden or any 16-inch Block Machine.

WE GUARANTEE the Anchor Tamper to do everything we claim for it. We guarantee to furnish free of charge any and all parts that may break or wear out for three years from date of purchase, except for carelessness and accident.

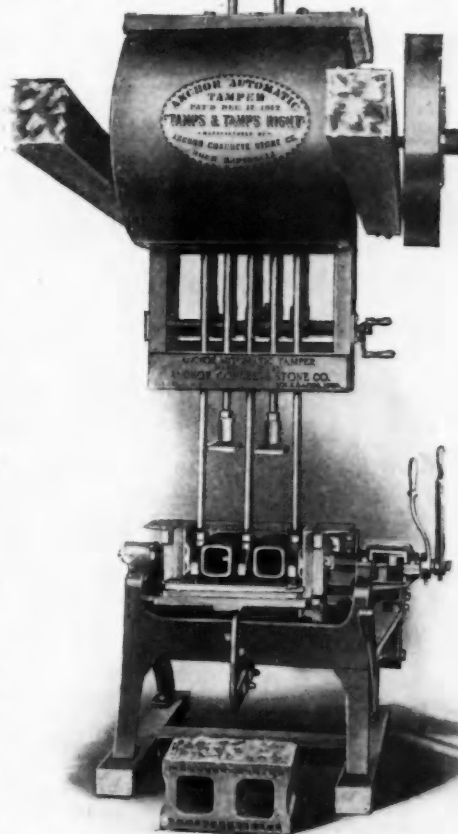
We are willing to show you how you can make this a big, profitable business. It does not require much money to start. Write for particulars. Let us **SHOW** you.

Anchor Concrete Stone Co.
ROCK RAPIDS, IOWA

ANCHOR BLOCK MACHINE and the ANCHOR AUTOMATIC TAMPER

The Block Machine makes perfect continuous air space blocks, frost and moisture proof. Inner wall always dry. No furring strips or lath necessary. Size of block 24" long, 8" high and 12" wide.

The Automatic Tamper is of solid steel construction. Capacity unlimited. Average daily output of Block Machine equipped with Tamper, cement blocks; 600 to 1,000; cement bricks; 8,000 to 12,000.



ANCHOR AUTOMATIC TAMPER working on the ANCHOR Block Machine.

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

Power for Contractors' Shops

The wise builder nowadays has to look out for all the profits there are in the building business. If his volume of work is big enough to make it pay, he sets up a power woodworking shop and quits paying over part of his profits to the planing mill. He does this by making most of his own millwork out of rough lumber. If he is not doing enough to justify branching out to this extent, it doesn't take him long to figure out some way to make a beginning toward a power shop; small at first, but capable of being expanded, and all the time showing the contractor and builder a nice little profit.



Beach Mfg. Co. Saw Table and Borer

Power woodworking machinery has been fully tested by contractors and builders and has won out in the most convincing style. Thousands of carpenters and builders are now making a big success, where without power shop machinery they would probably be continuing along in the old small way.

The Beach Mfg. Co., of Montrose, Penna., have a line of combination woodworkers that are proving very popular with contractors. Their combined rip and cut-off saw, with boring attachment as illustrated, is a machine that will pay for itself in a few months' time. This is a thoroughly high grade machine, yet the price is reasonable. Every one of our readers who is considering investing in some power machinery should write the Beach Mfg. Co. for complete specifications of this machine. They have a very satisfactory catalog which they will send on request.



Beaver Board in South Africa

On Feb. 1st, R. S. Ward, of the Beaver Board Companies, sailed for South Africa. The Beaver Companies already have representatives in South America, Australia and Mexico, and a branch office in London. He is particularly fitted for the work; first a Beaver Board salesman, but later a distributor. He recently sold his jobbing business in Detroit, Mich., to take up with the new work.

Beaver Board is already well known in South Africa, where it is used with great success throughout the colonies. The new representative will go, therefore, not only to establish new dealers, but to work with dealers already handling pure wood fibre Beaver Board.

These All-Mineral Fireproof Shingles Outlast the Building

A building roofed with J-M Transite Asbestos Shingles will never have to be re-shingled.

They are made of two indestructible materials—Asbestos and Portland Cement—moulded into a homogeneous mass under hydraulic pressure.

They are as durable and fireproof as a stone foundation, for they are literally stone shingles.

J-M TRANSITE ASBESTOS SHINGLES

cannot be injured by the most severe weather conditions—no matter how sudden the changes from one extreme to the other. Neither can gases or chemical fumes affect them.

They are non-conductors of heat and cold—keep a building warmer in winter and cooler in summer.

Furnished $\frac{1}{8}$ " thick with smooth edges, in colors of gray, Indian red, and slate; and $\frac{1}{4}$ " thick, with rough edges, in gray and Indian red.

Write our nearest Branch for sample and booklet

H. W. JOHNS-MANVILLE CO.

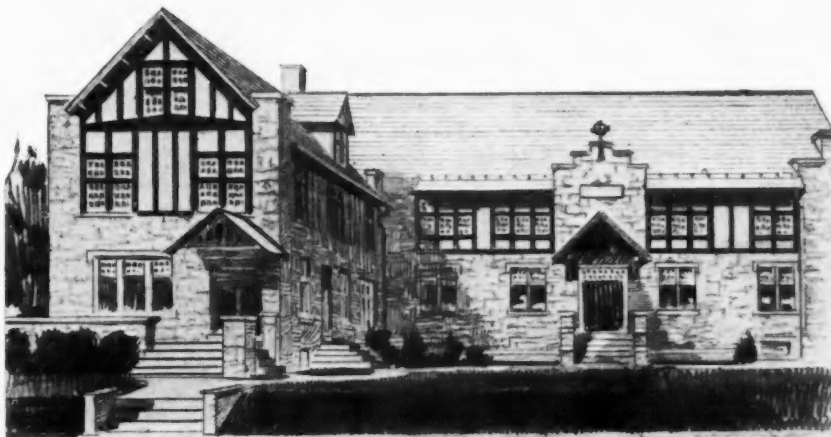
Manufacturers of Asbestos Shingles; Roofings; Stucco; Pipe Coverings; Cold Storage Insulation; Waterproofing; Sanitary Specialties; Acoustical Correction; Cork Tiling; Fireproof Doors; etc.

Albany	Cincinnati	Kansas City	New Orleans	San Francisco
Baltimore	Cleveland	Los Angeles	New York	Seattle
Boston	Dallas	Louisville	Omaha	St. Louis
Buffalo	Detroit	Milwaukee	Philadelphia	Syracuse
Chicago	Indianapolis	Minneapolis	Pittsburgh	
THE CANADIAN H. W. JOHNS-MANVILLE CO., LIMITED				
Toronto	Montreal	Winnipeg	Vancouver	(1775)



Church in St. Petersburg, Fla., covered with J-M Transite Asbestos Shingles.

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



Asbestos "Century" Shingles

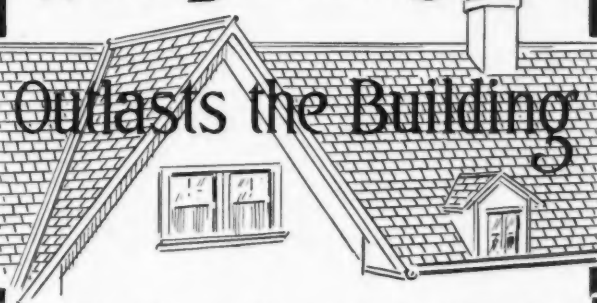
"The Roof that Outlives the Building"

PROPERTY owners will soon be coming to you for estimates on spring re-roofing jobs. Are you prepared to tell them the facts about Asbestos "Century" Shingles—their durability, freedom from repairing and painting—moderate price? Are you prepared to show these Shingles and estimate on the job?

In every community the opportunity for Asbestos "Century" Shingles and for the contractor who makes a specialty of them is growing every year. More and more of these Shingles are being laid. More people asking for them. It is getting harder every year to do a representative roofing business without them. Write us now for information, terms and trade prices.

KEASBEY & MATTISON CO., Factors, Dept. B, Ambler, Pa.
Branch Offices in Principal Cities of the United States

WEST BANGOR SLATE



West Bangor Slate costs so little that you can afford to use it on any house you build. Once put, it stays put until the building crumbles with age. Leak-proof; weather-proof; wear-proof.

No need to tell you how good a slate roof is. You know. But, here's a fact. If you use slate—West Bangor Slate—on your houses, it will give you a standing as an architect, as a builder, that will draw business your way. A slate roof means substantial building and that means a sound reputation for you. It's worth having.

*Think it over. Write us for
Free Samples, Free Estimates
and Price List. We'll help you.*

Bangor Slate Mining Co.
Trust Bldg., BANGOR, PA.



Painting Things Rosy

That is the policy of almost every man who wants to sell you his roofing—whether the goods deserve it or not.

All the claims we make can be thoroughly substantiated—in fact we invite you to give us an opportunity to do so. You will find it to your own interest. In covering your houses with

Genuine Bangor Roofing Slate

You make sure of permanent satisfaction on the part of the owner, so that he becomes a living advertisement for you, by recommending you to his friends.

You also make sure of a good profit which we help you get through our Trade Help Department.

Thus you are building on the only safe and sound principle on which a successful business can be established and increased.

Isn't it worth your while to look into this proposition further? Let us show you just how we will co-operate with you without expense to you. Let us send you our Roof Manual that gives you in 15 minutes reading a new and true understanding of the claims made by various roof makers for their goods.

You are a busy man—fill out and send the attached coupon today—NOW while you think of it.

Genuine Bangor Slate Co.

Drake Bldg.
Easton, Pa.

Genuine Bangor Slate Co., Easton, Pa.
Please send particulars about your ability to help me make more money.
Name.....
Address.....
It will pay you to fill this out, detach, and mail today.
March, 1914.

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

Concerning That Roof

This is the time of year when March storms search out the weak spots in the roof—when Jones begins to wonder where the leak is that makes that wet spot on the ceiling and Smith questions whether, after all, those old nails are going to hold the rotted wood shingles through the spring storms.

CORTRIGHT Metal Shingles

would have saved them worry, trouble and perhaps expensive repairs at this inconvenient season, for Cortrights make a storm and fireproof roof that "lasts indefinitely, and never needs repairs."

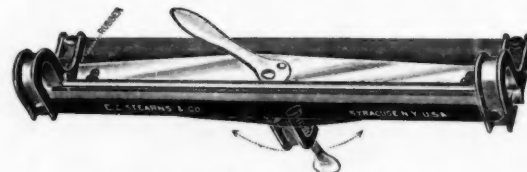
They're easy to handle, inexpensive—an average workman can lay them. They satisfy the house owner, add wonderfully to the looks of the building—build good will and future business for you.

We've a special proposition to make to Contractors and builders. Write for it today.

CORTRIGHT METAL ROOFING CO.
PHILADELPHIA CHICAGO

Stearns Folding Steel Saw Vise

E. C. Stearns & Co., 400 Oneida St., Syracuse, N. Y., are offering an improved folding saw vise as illustrated. It is made of sheet and channel steel, finished in black Japan with nickel-plated trimmings. The back jaw is faced with



Stearns Steel Saw Vise—Rubber Faced

rubber, which prevents vibration and makes the filing of saws in this vise comparatively noiseless. The lever is below the top of the vise on the back jaw and is, therefore, entirely out of the way. This vise weighs 2 lbs. 10 oz. The extreme length is 12 inches.



Freight Charges Paid by Shippers

Delivered prices on all mill work so contractors can estimate the cost of work without waiting to get special estimates from mills, is the policy of the Chicago & Riverdale Lumber Company. With their usual enterprise, they have issued a "Freight Paid" Catalog No. 34, quoting net prices on every item, freight paid to your station.

This catalog should be of unusual benefit to the contractor in that it will make easier his work of figuring estimates, in that he has in this book his net cost prices of millwork and hardware. This information immediately at hand will make it unnecessary to wait for estimates which often he cannot take time to secure.

This company has every facility for producing high-grade mill work, either stock or made to order, from any kind of wood. They operate a strictly union mill and claim to be in a position to furnish the very finest quality of mill work any where in the United States at wholesale prices delivered to the contractor. They operate several large saw mills and it is said they quote as low prices on lumber as the dealer can buy at, figured on shipping same direct from their own saw mills.

They will be pleased to mail contractors copies of their delivered price catalog, showing over five thousand bargains in mill work and hardware. Address the above firm at 345 E. 136th Place, Chicago, Ill.



Big General Catalog of Concrete Machinery

There is a good deal of rivalry among the cement machinery people to see who will put out the most attractive and most instructive catalog of concrete machinery. The men who are back of this important industry are not afraid to go to considerable expense and trouble to help contractors and builders with their concreting problems, and to illustrate the machinery they have to offer, in a satisfactory way.

One of the most elaborate catalogs yet received is that of the Cement Tile Machinery Company, 131 Rath Street, Waterloo, Iowa. These people manufacture a very large line of concrete machinery and also act as selling agents for all the other respective lines of machines, tools, and equipments that cement men require. A great selection as to size and capacity of machines is offered.

The Cement Tile Machinery Company, 103 Vinton Street, Waterloo, Iowa, desire to place this catalog into the hands of every one of our readers who is interested in any way in concrete work. It is an 80-page book and very fully illustrated.

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

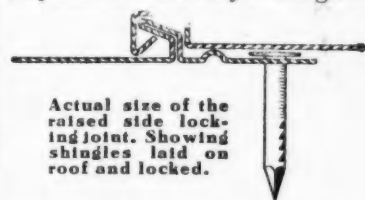
BUCKEYE METAL SHINGLES

with

The Buckeye Raised Side Locking Joint

These easily represent the most advanced development in this line of roofing. They are decidedly different from anything on the market, and their many unique patented features will tend to revolutionize the metal roofing industry. At the same time, they are reasonable in price and we have special propositions for carpenters and builders.

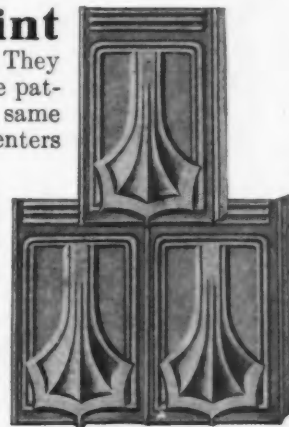
Illustration below shows a section, full size, of the raised side locking joint. In contrast to all former types of metal shingles, this joint is formed entirely **above** the surface of the shingle, and a leak is therefore impossible. Buckeye Shingles are made in three beautifully embossed patterns, one of which is shown on the right.



Actual size of the raised side locking joint. Showing shingles laid on roof and locked.

All are fully described and illustrated in our catalog. The raised lockjoint produces a beautifully paneled effect and adds greatly to the strength and ornamental appearance of the shingles.

Be sure to write for our catalog and special proposition today.



Made in 3 beautiful highly embossed patterns.

The Thomas & Armstrong Company, Dept. A, London, Ohio

REYNOLDS ASPHALT SHINGLES

Guaranteed for 10 Years

will last many years longer—Natural colors of garnet, red, gray and green, which never fade.

We are the ORIGINAL MAKERS of Flexible Asphalt Slate Shingles and tested our product for ten years before putting it on the market. Let us send you a booklet.

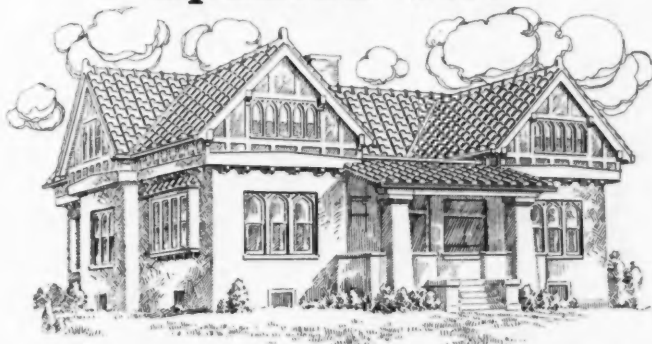
H. M. Reynolds Asphalt Shingle Co.

Established 1868

West Grant St. GRAND RAPIDS, MICH.



Spanish Tile



The MOESCHL-EDWARDS CORRUGATING CO.

EVERYTHING IN SHEET METAL
BUILDING MATERIAL

COVINGTON, KENTUCKY

Catalogue "S" showing a complete line of Ornamental Roofings mailed free to Architects, Contractors and Carpenters . . .

Write for Prices on

Ceiling	Marquise
Columns	Roofing
Cornice	Shingles
Cresting	Siding
Culverts	Skylights
Finials	Spouting
Garages	Tanks
Gutter	Ventilators

Address The Moeschl-Edwards Corrugating Co.

Covington, Kentucky

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

A Checking Floor Hinge

Double-acting doors are a great convenience between dining room and kitchen; and almost all the homes built these days have them. The door rests on a floor hinge which works both ways. It is customary to set the spring in the floor

It is known as the "Standard." The illustrations show in a graphic way the difference between the service performed by this hinge and the uncontrolled, double-acting type.

This hinge stops the door exactly in the center and will automatically hold the door open either way, as desired. This hinge closes the door without a slam.

Working models of this "Standard" door-checking hinge can be examined at most hardware stores. Our readers will be interested to look into this. The manufacturers will also send very interesting descriptive literature upon request.



Kellastone Co. Reorganized

The National Kellastone Company, with offices 507-8, No. 19 So. La Salle St., Chicago, Ill., purchased all of the manufacturing plants, assets and physical properties at Argo and Alton, Ill., and Muskogee, Okla., formerly owned by the U. S. Kellastone Company, recently declared bankrupt.

The new company has been organized to resume the manufacture of Kellastone. Its selling and distributing policies, however, will differ radically from those of the former company.

Kellastone dealers can now rest assured of receiving prompt and careful attention to all orders, and prompt deliveries.



Safety in Using Standard Checking Hinges for Double Acting Doors



Danger in Using Ordinary Uncontrolled Double Acting Spring Hinges

hinge rather tight so that it will hold the door firmly. But the trouble is, that the strong spring works the door too hard, and accidents occur.

The Standard Manufacturing Company, Shelby, O., have brought out a hinge that is a door check and hinge combined.

"Prolonging the Life of Steel"

The *Scientific American* on Keystone Copper Bearing Steel:

"The general results of alloying steel with the other metal show that *copper and nickel* are the best metals to add to the steel to give increased durability. Nickel is prohibitive on account of its price for general commercial uses.

Copper added in small quantities greatly prolongs the life of iron. Very small quantities are needed to effect this result. If to one thousand pounds of iron, two pounds of *copper* be added, the resulting alloy will dissolve away in acid only one-tenth as fast as pure iron does; and in the atmosphere the corrosion will be only one-third as rapid."—SCIENTIFIC AMERICAN, January 3, 1914.

Specify for Copper Bearing Sheets and Roofing Tin

Insure more servicable sheet metal work by using our "C. B. Keystone Grade" sheets—black and galvanized. Copper Bearing Roofing Tin is stamped "C. B. Open Hearth" in addition to brand and weight of coating. You should use no other. Send for reprint complete of above quoted article from *Scientific American* together with booklet "Copper in Steel—the Influence on Corrosion," showing results of a series of actual service tests. These indicate clearly the superiority of Copper Bearing Steel, and are of particular interest to architects and builders.

American Sheet and Tin Plate Company

General Offices: Frick Building, Pittsburgh, Pa.

DISTRICT SALES OFFICES:

Chicago Cincinnati Denver Detroit New Orleans New York Philadelphia Pittsburgh St. Louis
Export Representatives: UNITED STATES STEEL PRODUCTS COMPANY, New York City.
Pacific Coast Representatives: UNITED STATES STEEL PRODUCTS COMPANY, San Francisco, Los Angeles Portland, Seattle

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



HUDSON ASPHALT SHINGLES

Increase the Value and
Beauty of Your Houses

They are surfaced with Red
and Green Crushed Slate in
their natural colors. No paint-
ing or staining necessary

Send for Samples

ASPHALT READY ROOFING CO.
9 Church Street : : New York, N. Y.



Buy Shingles Already Stained

You save money, time and worry and the bother and muss of staining on the job. We select Washington Red Cedar Shingles (no poor or wedge-shaped shingles) preserve them with creosote and stain them in colors made of finest earth pigments—no aniline dyes. Shingles are thoroughly dried, bundled and stamped.

"CREO-DIPT" STAINED SHINGLES

12 Grades. 16, 18, 24-inch. 30 Different Color Shades.

They last twice as long as brush-coated, painted or natural wood; cost less and look better than any stained-on-the-job shingles you ever saw.

Write for Pad of Colors on Wood and Catalog

Name of architect appreciated. Ask about our "Dixie White Process" shingles. Special information for architects about "CREO-DIPT" shingles bent and sawed with wavy butts for thatched effect.

STANDARD STAINED SHINGLE COMPANY
1028 Oliver Street N. Tonawanda, N. Y.



The adaptability of "Creo-Dipt" Shingles stained to harmonize with stucco walls pleases architects.

Residence of Mr. Dilen, "Winding Way," Avondale Cincinnati. Architects, Hall & Burroughs.

We have a few good openings for Special Agents and Exclusive Dealers. Write at once.

G-F-T
ROOFING SLATE
FOR QUALITY AND SERVICE

Slate costs but slightly more than shingles or prepared roofing. That's why you should use **Genuine Franklin Tunnel Slate**.

G. F. T. Roofing Slate will last 30, 40 or 50 years. From three to five times as long as the ordinary roof. The cost is much less than one-third and there are never any repairs. That's **SERVICE**.

The **Quality** of G. F. T. Roofing Slate is indisputable. It is the ideal roof under any and all conditions. It will make good all our claims.

Ask for the **FREE BOOK** that explains
G. F. T. Roofing Slate and the Price.

SLATINGTON SLATE CO., Slatington, Pa.
(Established 1852)
Sole Manufacturers of G. F. T. Roofing Slate

—It Stays and Satisfies

VULCANITE ORNAMENTAL ROOFING

will without paint or repairs **outlast** any other roof covering. It costs less to buy and less to lay. Thoroughly fireproof and resists all weather conditions.

This roofing is laid in strips, one edge of which is cut in a shingle or slate pattern. It is durable and very decorative. Seven handsome, mellow shades to select from—colors which cannot fade because they are the natural tint of the crushed rock surfacing.

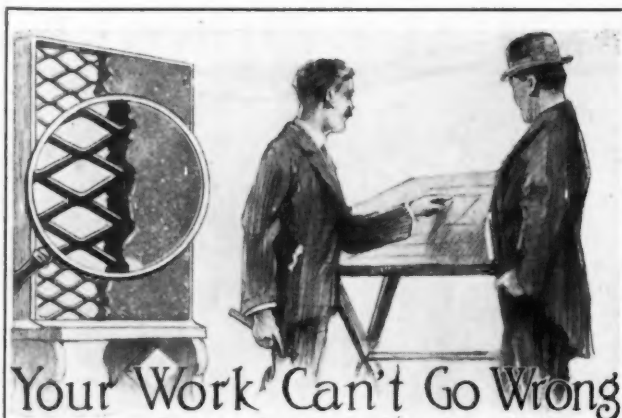
Vulcanite Ornamental Roofings are made in several artistic designs such as diamond-shaped tile effect, mitered slate effect, and V-edge effect.

Vulcanite Asphalt Shingles known under the trade name **Vulcanite**, are better than wood shingles. They last longer, are fire-resistant and do not crack or break. You forget roof troubles when you use any of the **Vulcanite Roofings**.

Write for Catalog and **FREE Samples**.

Patent Vulcanite Roofing Co.
2500 Ogden Avenue
CHICAGO :: ILLINOIS

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



"Stucco Specifications" explains "Standardized" Wall Construction. It is new, up-to-date and complete in its information. You can rely upon it to lead you the right way in all your stucco work; the way that makes every job you take show a profit and please the owner.

"Stucco Specifications" is based on the data of the American Concrete Institute (National Association of Cement Users.) Its contents form the basis for

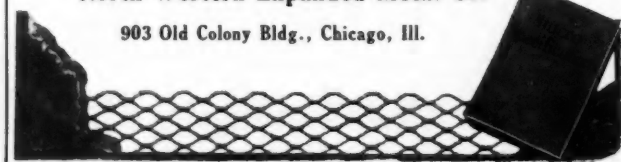
"Standardized" Wall Construction on **Kno Burn** Metal Lath

"Kno-Fur" for all kinds of outside stucco work and "Kno-Burn" for inside plastering are approved as the best forms of metal lath construction, because they are made with the famous "mesh that makes the plaster stick."

"Stucco Specifications" covers every detail from mortar mixing to finish. It is illustrated with cross section views showing just how a "Standardized" Wall is constructed.

There is no other book just like it. A request from you will bring it to your desk without cost or obligation. Ask for booklet No. 36.

North Western Expanded Metal Co.
903 Old Colony Bldg., Chicago, Ill.



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

New Sizes of "Vandor" Hammers

Our readers will be pleased to know that in response to many requests, the Van Doren Manufacturing Company have arranged to supply the "Vandor" vanadium carpenters' hammers in a more complete range of sizes than formerly.

You will now be able to get a hammer of this brand in any of the following:

- No. 21 1/2—16-oz. Nail Hammer, "Standard" size.
- No. 22 —13-oz. Nail Hammer, "General Purpose" size.
- No. 22 1/2—10-oz. Nail Hammer, "Finishing" size.
- No. 721 1/2—16-oz. Ripping Hammer, "Standard" size.

These are the hammers that have the perfect "Vandor" bite in the claw, and are sent out with numbered guarantee tag on each.

They are warranted to draw anything from a headless brad to a spike. Drop-forged from vanadium steel, tempered for the highest efficiency and handled with hand-shaved, second-growth hickory handles.

From any dealer, or, write the Van Doren Manufacturing Company, at Chicago Heights, Ill.

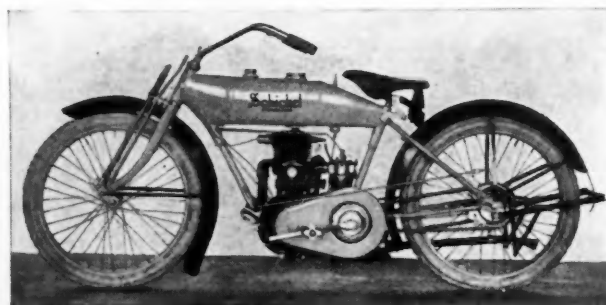


Shickel Motorcycles for Builders

A good many carpenters and other building mechanics are already making good use of the motorcycle for getting to and from their work and around from one job to another. Many more are right now getting the motorcycle fever and before long will be deciding on which machine to invest in.

For pure pleasure there is nothing ahead of motorcycle riding. In fact, the two-wheeler is about the only pleasure car that *every one* can afford to enjoy.

And besides its pleasure use carpenters and builders get real value-received out of their motorcycles in a business way. It is the general verdict among fully half of our readers that the motorcycle has a real economic value to



Get there on a Schickel!

builders in addition to its pleasure value. Our recent confidential census of our readers have brought out this fact conclusively.

A high grade motorcycle with all the latest improvement, a strong, durable machine, is illustrated. This is the Schickel 1914 Big Six chain drive motorcycle. The manufacturers are the Schickel Motor Company, Stamford, Conn. All our readers who are thinking about motorcycles should write for their finely illustrated catalog.



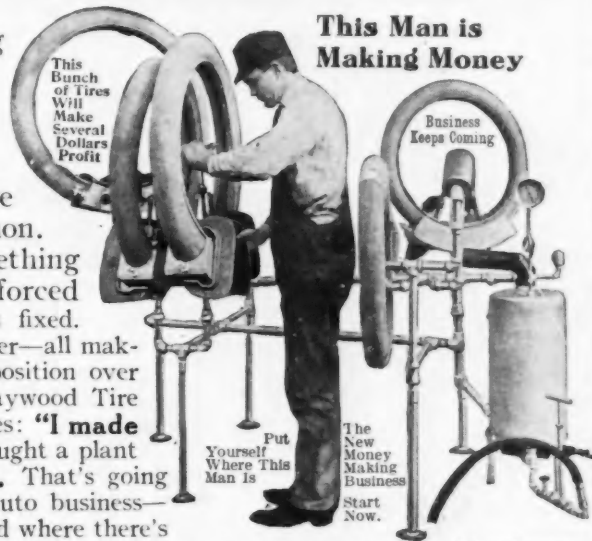
Profits in the Drain Tile Business

Concrete drain tile offers one of the greatest money-making possibilities of the century. It is said that in no other legitimate business today is the demand so great, the profits so certain, or the initial investment so small. The opportunities are open to the beginner with small capital and to those already established in the concrete business.

For farmers must have drain tile—and they prefer cement tile to clay. The cement tile man can undersell clay tile because he pays no high freight rates or dealers' commission. His business is transacted directly with the consumer.

\$250⁰⁰ MONTH REPAIRING AUTO-MOBILE TIRES

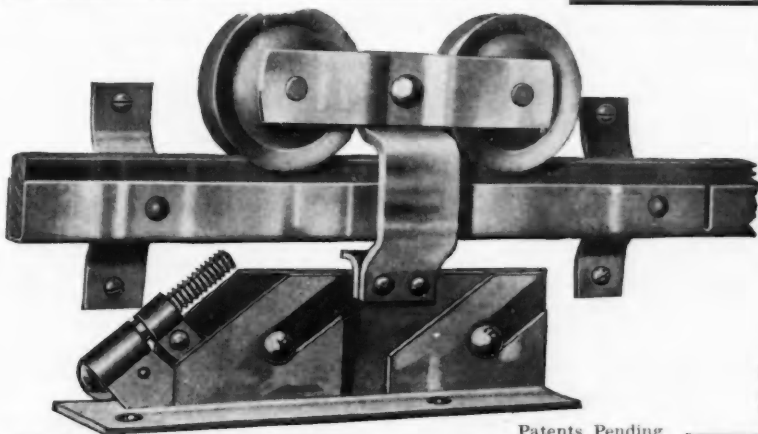
Be first to enter this new big paying business in your town. Open your pockets. Let the dollars pour in. Act quick. Every auto sold means more tires to mend. Automobile business is growing fast—enormous field for tire repairing. Punctures and blowouts are common. Tires need retreading and vulcanizing. Something going wrong all the time. Thousands forced to buy new tires because they can't get old ones fixed. Think of the old bicycle days—repair shops on every corner—all making money—busy day and night. Autos make same proposition over again—only ten times bigger and better. Users of Haywood Tire Repair Plants are making big money. Johnson, Tex., writes: "**I made as high as \$18 profit in a day.**" Another man who bought a plant September, 1911, writes he has **cleared over \$3,000.00.** That's going some! Operate a plant as side line in connection with auto business—garage or as an independent business. Find neighborhood where there's a bunch of autos—get all the steady business besides transient work. Experience unnecessary. You learn quick. Simply follow directions—practice a few days on a couple of old tires and you'll be ready to coin money. Business comes fast and easy.



Repair Tires at Home. Young men! and boys repair father's tires—get money he pays garage man. Get the neighbor's work. Make money to attend college or to start a garage and repair business. **Auto owners**—repair your own tires—save money—pay for your outfit in short time. We have outfits for home use. Anyhow investigate. Send today for catalogue. See the wonderful possibilities in this marvelous field. Learn of the enormous money-making opportunities in this fascinating new business.

HAYWOOD TIRE & EQUIPMENT CO.,

695 N. Capitol Ave., Indianapolis, Ind.



Patents Pending

IF YOU HAVE NEVER USED SHARON No. 2 PARLOR DOOR HANGERS

Don't fail to try a Set

No Cutting, Grooving or Counter-sinking needed.

Fits any width opening. Simple and always accessible adjustment.

Its smooth, easy, absolutely noiseless running has never failed to please. Money-back guarantee.

Write the

SHARON HDW. MFG. CO. SHARON, PA.

THE BEST LUMBER

FOR THE OWNER OR THE INVESTOR TO PAY FOR IS

THE BEST LUMBER

FOR THE CARPENTER AND BUILDER TO USE.

Don't Forget That Good Reputations are Built on Good Recommendations. USE AND RECOMMEND

CYPRESS

(OF COURSE)

BECAUSE IT'S "THE WOOD ETERNAL"

& LASTS & LASTS & LASTS & LASTS & LASTS & LASTS

Write SOUTHERN CYPRESS MANUFACTURERS' ASSOCIATION

1216 Hibernia Bank Bldg., New Orleans, La.

For VOL. 1, Cypress Pocket Library. (Full Reprint of U. S. Gov. Rept.)

SHEET METAL GOODS

We manufacture and carry in stock a very complete line of Metal Shingles, Ventilators, Skylights, Metal Windows, and other architectural sheet metal goods.

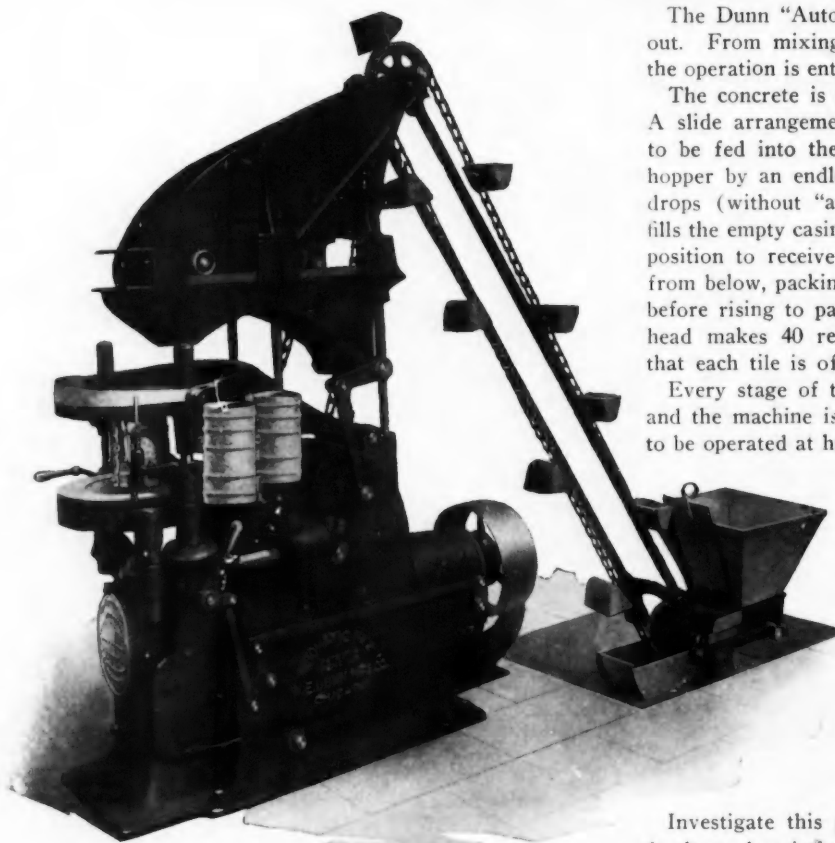
Our prices, the quality of our goods, and prompt shipment are sure to please you. Give us an opportunity to bid on your next order. We are quite sure you'll be well pleased and money ahead.

Ask for Our Circulars.

FOSTER SHEET METAL WORKS

530 N. 10th Street, Springfield, Illinois

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



Automatic Cement Tile-Making Machine Offered by
W. E. Dunn Manufacturing Co.

The Dunn "Automatic" tile machine has just been brought out. From mixing the concrete to making the finished tile, the operation is entirely automatic. Here's the process:

The concrete is discharged from mixer into lower hopper. A slide arrangement permits a required amount of material to be fed into the boot, and from there conveyed into top hopper by an endless chain bucket conveyor. From there it drops (without "arching") into the automatic feeder which fills the empty casing, which has been automatically placed into position to receive it. At this instant the packer head rises from below, packing the bottom of tile for several revolutions before rising to pack the sides. On its up stroke the packer head makes 40 revolutions, and 20 on its down stroke, so that each tile is of equal density from bottom to top.

Every stage of the operation is under direct lever control, and the machine is equipped with back gearing, permitting it to be operated at half speed without changing the speed of the pulley; this is sometimes necessary in making a big tile. The Dunn "Automatic" makes six tile per minute. It saves the labor of *at least* one man, which means it will pay for itself in a year from this *one feature* alone. Solidly constructed with heavy base and large bearings, and all working parts are enclosed away from dust. It is claimed by the manufacturers to be the only tile machine that can be *operated by one man*. Makes all sizes, from 3 to 16 inches in diameter.

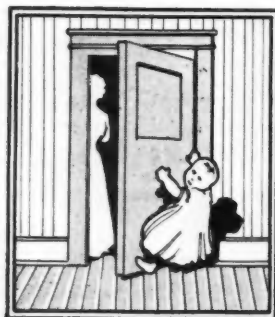
Investigate this great time and labor saver. Write today for large descriptive folder and prices, addressing W. E. Dunn Manufacturing Company, 4132 Fillmore Street, Chicago.

Weigh this Evidence

Here's the greatest improvement of recent years in the way of a double-action door spring—the

STANDARD CHECKING SPRING HINGE

Combines all the advantages of the old style double action hinge with the all-important Door Check feature—an ingenious device, so constructed that the door swings slowly, stopping at "dead center." No "swing bang" motion; can't fly back unexpectedly causing a score of different accidents.



The Standard Checking Spring Hinge fills a long-felt want. Children are safe where it is used. Works like a charm; absolutely noiseless; push it open as hard as you like. It comes back only so fast. The only practical hinge of the kind for double-acting doors between dining room to pantry or kitchen in residences, apartments, hospitals, vestibules, churches, or public buildings. Guaranteed absolutely dependable. Warranted to satisfactorily swing and control inside doors not exceeding 34" in width and 7 feet in height. Strong, durable and will wear indefinitely.



This—
Danger

Specify this modern hinge in your buildings. Your name and address on a postal card will bring complete information. Write while you think of it.

THE STANDARD MFG. CO.
SHELBY OHIO

Or This—
Safety

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



Stanley Ornamental Surface Butts No. 165

Save Time and Labor and Please the Owner

The Ornamental leaf screw the surface of the door, saving half the time of mortising. The slotted ball tip can be unscrewed and the pin reversed so that the butt can be used on either right or left hand doors.

The handsome, dignified, **Beveled Edge** design harmonizes with the popular designs of hardware. Made in all finishes

Write for Booklet "A" describing this and many other lines of "Stanley" Quality Hardware.



The Stanley Works
New Britain, Conn

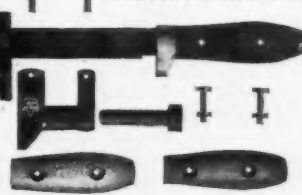


You Can't Beat This **KEEN KUTTER** Wrench

This Keen Kutter wrench is put together to stay. It is made of flawless tool steel of first quality. The bar is forged in one solid piece from end to end and the handle is part of the bar. There is no nut at the end. The selected beechwood gripper handles are fastened to the shank with two steel rivets. No strain can work these handles off nor loosen them. This Keen Kutter wrench stays with you. If it fails to stand the roughest usage that a wrench can get, the dealer is authorized to refund the money.



Black
Jack
Wrench
KB10
Price
\$0.75



"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.

St. Louis New York Philadelphia
Toledo Minneapolis Sioux City
Wichita



Protect Your Buildings

The property owner gets to know you when you are working on his buildings. He has confidence in you. It is easy for you to get the job of protecting his buildings from lightning. You are the logical man to install

BARNETT'S LIGHTNING RODS

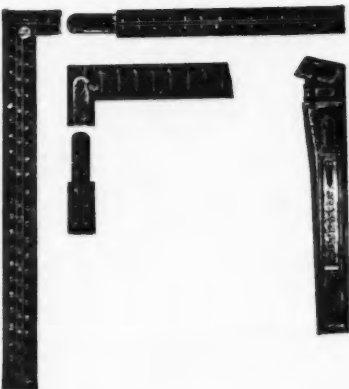
Insurance does not protect buildings. In spite of insurance, lightning will strike and insurance won't protect life, won't cover the inconvenience of being burned out; won't replace valued articles or cattle. And no property owner can get insurance for the full value of his buildings.

Barnett's pure copper cable Lightning Rods give **GUARANTEED PROTECTION**. They can be easily attached to any building by the carpenter. There's a good profit in it.

Write for **FREE SAMPLES** of Copper Cable and Catalog of Lightning Rods, Weather Vanes, Etc.

WILL YOU REPRESENT US IN YOUR TERRITORY? Write for our offer and price list

JOS. L. BARNETT & CO., RIVERSIDE, IOWA



This is the
**Standard
Take Down
Square.**

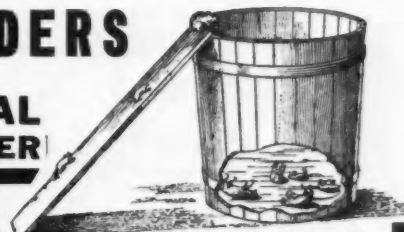
It makes
good with
the user.

Send and
know
more about it.

**Southington
Hardware Co.**
Southington, Conn.

GET ORDERS

for the
**UNIVERSAL
RAT CATCHER**



Merchant and lumber dealer in your locality will buy one of these Rat Traps. It's a sure and quick way to rid all buildings of the pests. One of these Catchers placed in a livery stable in Scranton, Pa. caught over 100 rats in ONE MONTH. Trap made of galvanized iron; can't get out of order; lasts for years; always clean. 18 inches high, 10 inches diameter. One delivered prepaid upon receipt of \$3. Rats and mice die; no marks left on them.

My proposition requires no time from your work. I can show you how to make money easily. Don't be afraid to ask how. Cost you nothing to find out. I'll guarantee you can sell these Universal Rat Catchers easily.

WRITE TO ME AT ONCE.

H. D. Swarts, Inventor and Manufacturer, Scranton, Pa.

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

GERMANTOWN



MASTER BUILDER HATCHET

\$1.50

Brought to Keenest Cutting Edge

Octagon Handle

Swell To Prevent Slipping

Best That Money Can Build

No. 319. Size 1.....3½ inch Bit
No. 320. Size 2.....3¼ 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 Master Steel, the best material yet developed for the purpose. 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 (\$1.50)

FREE—With each **Master Builder Hatchet** we will give free a METAL CAP or SHIELD to protect the cutting edge.

GERMANTOWN TOOL WORKS

518 Commerce St., Philadelphia, Pa.
62 East Lake St., Chicago, Illinois

Efflorescence Eliminated at Small Cost

The question has been repeatedly asked if anything can be done to prevent the highly objectionable white exudation of sodium sulphate, erroneously called saltpeter, which makes its appearance with aggravating persistence, year after year, on the surface of brick, stone and concrete walls.

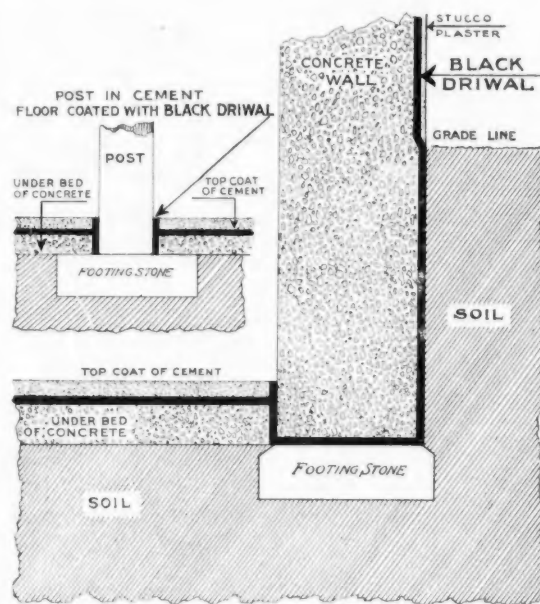
The remedy is simple. It consists in making the wall dry by the well known prescription, "An Ounce of Prevention."

The efflorescence usually appears in the spring of the year, when the moisture and frost in the wall are coming out. Efflorescence, which occurs at any other time of the year, is confined to certain spots which examination will reveal to be more damp than any other portion of the wall, such spots are to be found near downspouts or eaves, or near the ground.

Walls can become saturated with moisture, even to the caves, no matter how high, absorbing water from the foundation stones. Capillary attraction will draw water as high as the wall is built, and efflorescence will appear anywhere on the face of that wall.

A simple and inexpensive method to overcome efflorescence to prevent dampness from being absorbed is to coat the exterior surface of the wall above and below the ground with "Driwal" coatings, either clear or colored, as desired.

So much of the success in obtaining a dry and comfortable house depends upon the thorough waterproofing of the foundation wall and the cellar floor, that we have prepared the following drawing to show just where the waterproofing should be applied.



Detail of Foundation Showing Where "Driwal" is Applied to Keep Out Dampness and to Prevent Efflorescence

The water must be completely shut off by a coating across the bottom of the wall, as well as over the floor and side wall.

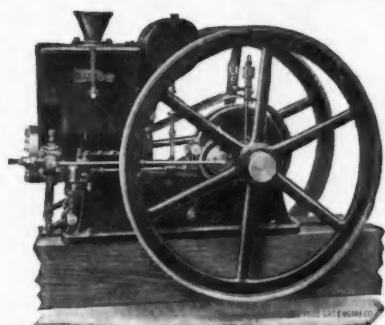
The heavy, black line indicates where it should be applied. A failure to insulate the wall across the bottom, as well as on the sides, will result in its sucking up water and becoming saturated. It is as necessary at this point as is a good watertight sole to your rubber boots.

The line is made heavy, but it is not necessary to apply as heavy a coat as the line indicates. Be sure that the surface is dry before applying.

By writing to The Billings-Chapin Company, Cleveland, O., readers of the **AMERICAN CARPENTER AND BUILDER** will be sent "Driwal Booklet No. 5," fully describing waterproofing and damp-proofing coatings; it is free for the asking.

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

THE FOOS



Just Why It Is Different

If you want to know, send for the catalog that tells you in plain language all about its exclusive design and construction. Find this out before you spend a dollar on any other engine.

The Foos engine can be furnished for all kinds of service from 1½ to 325 H. P.

Send for Bulletin 47

The FOOS GAS ENGINE CO.
704 Linden Avenue Springfield, Ohio

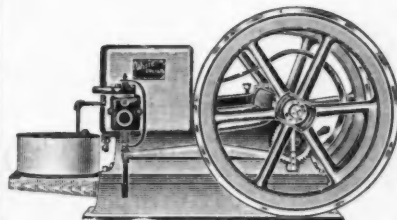


Let me send you
a **WITTE Engine**
to earn its own cost
while you pay for it

Take Full 60 Days' Free Trial
to Prove It's Worth Having

Five-Year Guaranty

I unqualifiedly
guarantee every
WITTE engine for
five years against
defects, and con-
sequent faulty op-
eration. I carry
the risk, as I have
done for my thou-
sands of customers
during 27 years.
Ed. H. Witte.



WITTE Engines

Kerosene, Gasoline, Distillate, Gas

Sizes, 1½, 2, 4, 6, 8, 11, 12, 15, 20, 25, 30 and 40 H. P. Stationary
Portable and Sawing Styles. Used and recommended by shop, mill,
and factory men all over the earth. All my life I have been a shop
man, making my own engines. I sell only what I make. That is
why, for 27 years, WITTE engines have always made good and
stay good.

Look at These Prices!

4 H. P., \$ 75.50
6 H. P., 99.35
8 H. P., 139.65
11 H. P., 208.90

Other sizes proportionately low. WRITE FOR MY FREE
BOOK, and all about my New Liberal Offer BEFORE you arrange
to try any engine. I save you money, besides giving you the
easiest chance to get the best engine service. Write me to show you.

ED. H. WITTE, Witte Iron Works Co.
1779 Oakland Ave., Kansas City, Mo.

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

NO LANK
NO FAN
NO FREEZING
TROUBLE

For Muddy, Gritty Water You Need a Novo Trench Pump Outfit

The waterways are big and the rubber-faced
suction valve is quickly removed for cleaning.
Pitman and levers will not break under strain and
gears are cut, reducing wear and noise. Novo
Trench Pumps will suck water twenty feet.

Novo Double Trench Pumps have a very large capacity.
One or both pumps can be used. Novo Single Trench Pumps
are made in two sizes (3,000 and 5,000 gal. per hour), with 1½
to 3½ h. p. Novo Engines mounted on steel trucks or wooden
skids. Novo engines are made in ten sizes; 1 to 15 h. p.;
"The Engines for Every Purpose."

Send for the Novo Book, "Reliable Power"

for full specifications of the big line of Novo Outfits and Engines. The
section on Pumps will prove a valuable guide to getting the right pump
for your work.

NOVO
REG. U.S. PAT. OFF.

NOVO ENGINE CO.

Clarence E. Bement, Secy. and Mgr.

442 Willow Street
Lansing Mich.

**ENGINES
AND OUTFITS**



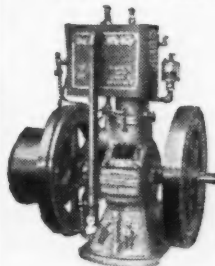
Novo Trench Pump Fig. 1457
Pumping Water from Excavation

WHO PROFITS

when the engine goes right, MR. CONTRACTOR?
And your mixer or other machinery is turning out
its full capacity.

YOU KNOW VERY WELL

that all the time your engine "goes and goes right," as
does the "NEW-WAY," your estimated profit is being
maintained, and you are not losing
the wages paid men waiting for the
engine to be fixed.



You Will Not Be Annoyed

by comments from idle men as
to what ails the engine,

IF YOU SPECIFY AND DEMAND

when you buy your mixer, that it must be equipped with
a "NEW-WAY" direct cooled engine, because it "goes
and goes right."

Therefore, it is money in your pocket to insist on the
machine you buy being equipped with the right power—

The "New-Way" AIR COOLED ENGINE

Write for Catalog Y

The "New-Way" MOTOR COMPANY
LANSING, MICHIGAN, U.S.A.

Pennsylvania Saw Co. Move Sales Office

The general sales offices of the Pennsylvania Saw Company have been moved from Philadelphia to the Works at Frackville, Pa. Correspondence concerning Vanadium saws should be addressed hereafter to their Frackville office. Write them there for their interesting circulars and catalogs.

✱ Davenport Vitrified Blocks

The practical value of hollow clay tile building blocks is no longer questioned by contractors and builders. For high-grade, fire-proof, permanent construction, costing only a small per cent more than timber, clay tile blocks are in wide demand. The accompanying illustration shows how Davenport vitrified blocks appear in the new residence of Mr. L. P. Best, at Seventh and Ripley Streets, Davenport, Iowa. This photograph shows the house shortly after the work was begun. It is now finished very attractively on the outside with cement plaster, rough casting. Inside the plaster is applied directly to the blocks, no lath being used. These vitrified blocks are hollow and make a dry, moisture proof, warm wall.

These Davenport vitrified blocks are made by the Daven-

port Brick & Tile Co., 370 West 3rd Street, Davenport, Iowa. Besides the Davenport vitrified building blocks, they manufacture also vitrified foundation blocks and silo blocks. Here is a line of business that contractors and builders can work up to their own personal advantage in many sections of the



Laying up Davenport Vitrified Building Blocks, to Be Finished Later with Stucco

country. Silo building is a big line; and up-to-date farmers are specifying hollow tile.

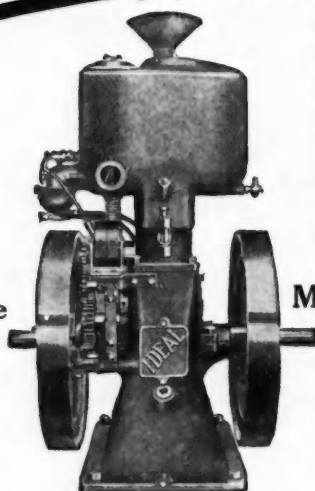
These people have an interesting proposition to make to our readers, which it will pay to investigate. Write for their new free books, "The Davenport, 'Iowa' Silo," and "The Ideal Building Material."

"It Pays"

"Ideal"

Frost Proof
Fool Proof
Dirt Proof
Self Oiling
Boxes Enclosed
Crank Case
Large Valves
Requires No Skilled Labor
to Operate

Type



to buy power that will keep your equipment on the jump—that can be relied upon when it's needed—that's what pays in the power question. "Ideal Power" pays big dividends when it comes to "Constant Service" and Always-on-the-Job Efficiency. It's the power you should have, because it IS right power for your equipment.

Engines

Use "Ideal" Pumps
"Ideal" Hoists

Write for Catalog No. 314

When Buying Equipment — Buy "Ideal" Power

Original Gas Engine Co.

630 Kalamazoo St., E.

R. E. OLDS, Chairman

Lansing, Michigan

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

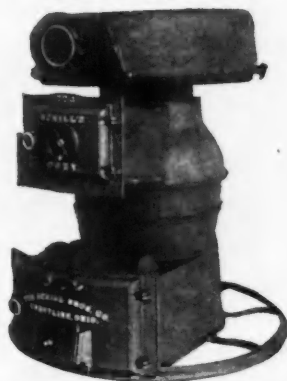
Cozy Homes with Cozy Furnaces

Made in four sizes—20, 22, 24 and 26-inch firepot. Large ashpit and door; duplex grate. Grate can be replaced without disturbing the fire. Heats intensely without forcing. Easily set up because there are no bolts in the casing. Door frames hold casing in place.

We recommend this furnace to you. Estimates for heating plants gladly furnished, free. Send us your floor plans. Our Contractors' Installation Dept. will serve you without charge.

Catalogs and Further Particulars
on Request.

THE SCHILL BROS. CO.
CRESTLINE, OHIO



New Typewriter \$18 in U.S.A.

A Remarkable Typewriter, Carried in Grip or in Overcoat Pocket. Standard Keyboard. Does Work of \$100 Machine. Over 33,000 in Daily Use.

Bennett Portable Typewriter

is just the machine for the architect, contractor, carpenter, builder. Bills of material, tender of bids, contracts, estimates, time sheets, bills, *all writing*, can be done easier, quicker and more accurately than by irksome longhand.

**Write your contracts in clear, legible type,
and avoid costly mistakes**

The Bennett is strong, serviceable. Weighs 4½ lbs. Easily carried. Always ready for writing. \$18 price possible because built by mechanical experts—the same who make \$1000 Elliott-Fisher Billing Machines. Has only 250 parts—some typewriters have 5700.

Every typewriter improvement: Visible writing, 84-character standard keyboard, marginal release, reversible ribbon.

Money-back Guaranty

The Bennett is sold on a money-back-unless-satisfied guaranty. Write for catalog, get a Bennett. Try it ten days—if not satisfactory you can return. Agents can earn good money selling Bennetts. Get our proposition.

Geo. G. Bennett Co., 3303 Cedar St., Harrisburg, Pa.

First Efficient Typewriter under \$50



Over
33,000
in
use

A few
live
Agents
Wanted

Cut Heating Costs by Using Bituminous Coal!!

Owners of buildings can cut heating costs 17 per cent, and more, by using Bituminous Coal instead of Anthracite, because a dollar spent for Bituminous coal buys more heat than a dollar spent for Anthracite—and, by buying the less expensive coal, 17 per cent at least can be saved.

And in addition to the saving made in buying coal, here is another bigger saving.

KEWANEE Smokeless Firebox Boilers

will take from Bituminous Coal, and use for making steam, 22 per cent *more* of the heat units in that coal than the ordinary boiler can get from Anthracite.

So a KEWANEE Smokeless Firebox Boiler saves 17 per cent, at least, by allowing Bituminous Coal to be used—and then 22 per cent more because it is a more efficient boiler. These facts have been proven.

KEWANEE BOILER COMPANY

Kewanee, Illinois

Steel Power and Heating Boilers, Radiators, Tanks and Garbage Burners

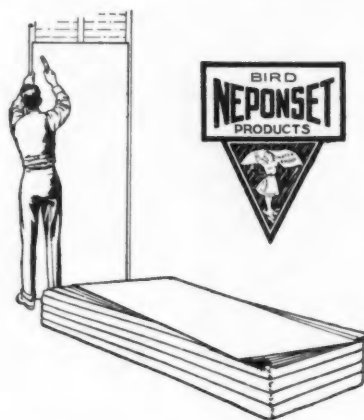
Chicago

New York

St. Louis

Kansas City

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



UNIQUE

*It is necessary to see a
room finished with.*

NEPONSET
WALL BOARD

in order to appreciate the beauty of this material. When you have once seen a room of this sort, you will see that this Wall Board, with its three finishes, is more than an inexpensive substitute for laths and plaster.

When you finish a room with NEPONSET Wall Board you create something that will advertise you 365 days in the year.

*Write for samples of all finishes
and name of dealer.*

BIRD & SON

**EAST WALPOLE, MASSACHUSETTS
23 RIVER STREET**



New York Chicago Washington
Portland, Ore. San Francisco
Canadian Plant, Hamilton, Ont.

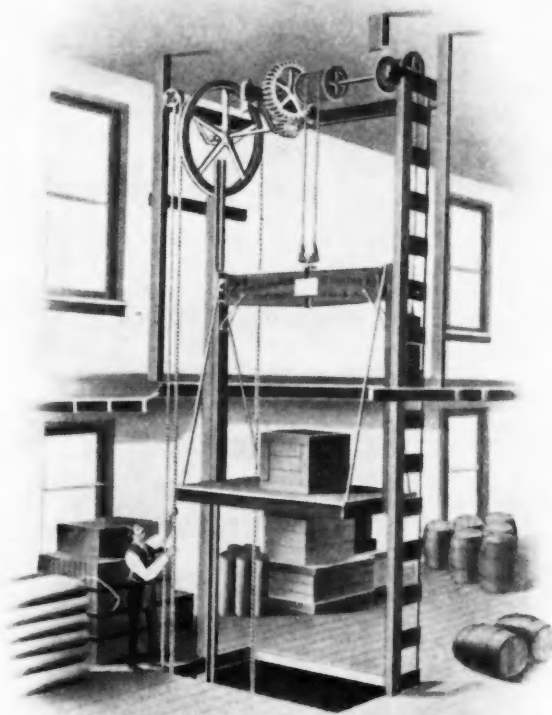
Elevators and Dumb Waiters

The Warner Elevator Manufacturing Company, Cincinnati, O., have been building elevators for more than fifty years, and have one of the largest exclusive elevator plants in the country.

They make all kinds of passenger and freight elevators of both the hydraulic and electric type.

They also manufacture automatic push-button elevators for private residence service, automatic dumb waiters, twelve different types and kinds of hand-power elevators and dumb waiters which are designed for capacities from 1,500 to 4,000 pounds for buildings of two, three and four stories. Most of these types are carried in stock and can be shipped in a week's notice.

The hand-power elevators are well built and designed. The platforms are made entirely of hardwood, well ironed



Arrangement of Warner Hand Power Lift

and braced, and fitted with a cam safety device. Each elevator is fitted with two $\frac{3}{8}$ -inch lifting cables and two $\frac{3}{8}$ -inch counterweight cables. All the overhead gearing is cut on a special gear-cutting machine which makes an easy-running, noiseless elevator.

The overhead frame is made of yellow pine, well seasoned, and the gearing is all set up in the factory before the elevators are shipped. This alone makes it very easy for any carpenter or mechanic to erect these elevators from the drawings and blue-prints which they furnish.

The guides are all made of pine and faced with maple tracks. The counterbalance weights are adjustable and can be made heavier or lighter, as the case may require.

These elevators are sold complete, f.o.b. cars their factory, and the only thing necessary in installing them in your building will be the nails and screws used to hold them in place.

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

It Has the Looks of Wood Paneling

but not the high price. Cannot be distinguished from real wood except on very close inspection, because

CAL-CO-CRAFT

is an exact reproduction of wood on paper. Gives the color, grain and finish of the natural wood. Applied like wall paper and paneled off with simple moulding strips. Splendid for use in halls, dining rooms, churches, clubs, etc. Compared with the effect, the price is absurdly low. Ask for samples in the various finishes.

Dept. C

The Cott-a-lap Co.

Chicago, Ill.
Walkerville, O., Can. Somerville, N.J.

Elbert Hubbard Uses Plastergon



Dining Room of Elbert Hubbard's Nationally Known East Aurora Inn, Finished in Plastergon

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Plastergon is

THE ONLY GUARANTEED WALL BOARD

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WALL-BOARD

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They come in every size and various styles adapted to every kind of building—barns, schools, houses, churches, etc. They are well made, ventilate thoroughly, and show you a very good profit.

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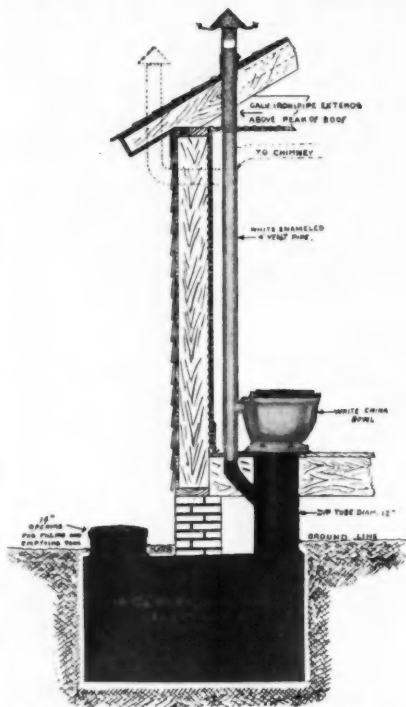
For ten generations, except when called to the defense of their country in the Colonial and Revolutionary Wars, the Sedgwicks have continued in the craft, manufacturing from metal and wood machines and mechanical devices which have contributed largely to the wonderful progress of the United States, handing down from father to son the skill and experience accumulated during more than two and a half centuries of specialized effort.

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Where There Is No Water or Sewer*



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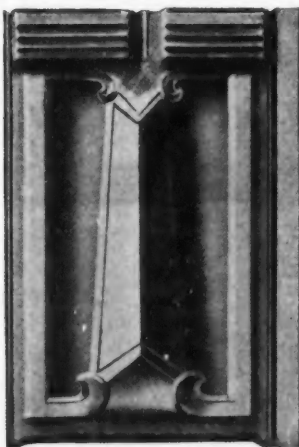
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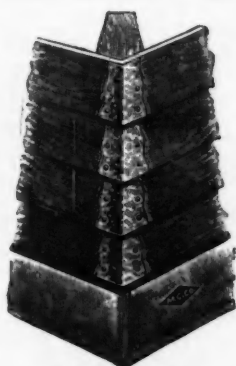
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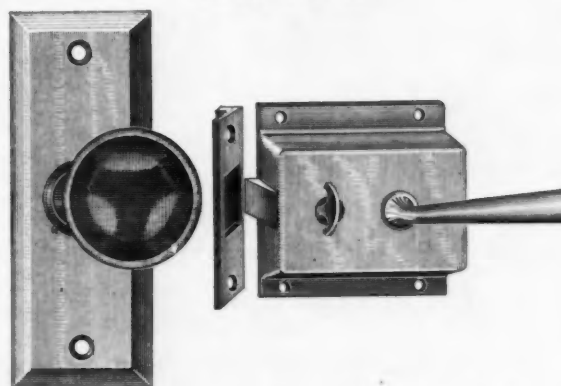
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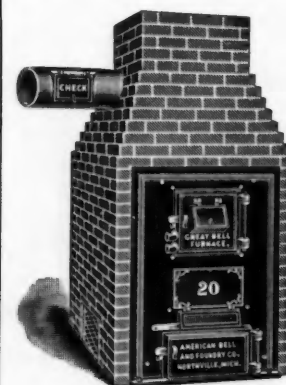
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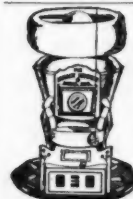
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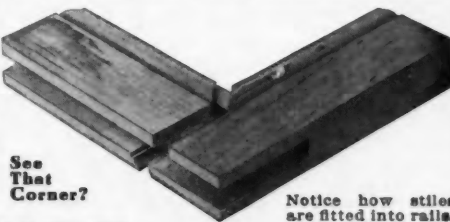
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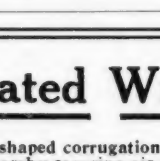






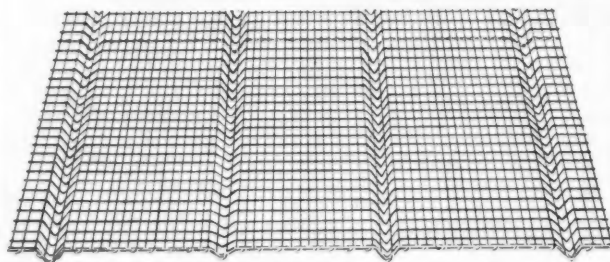








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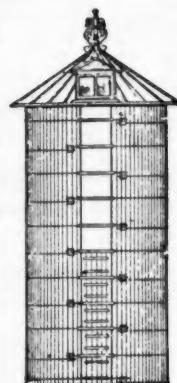
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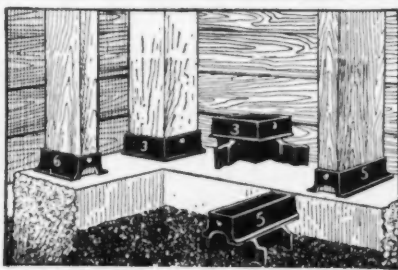
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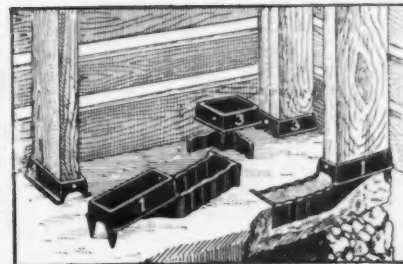
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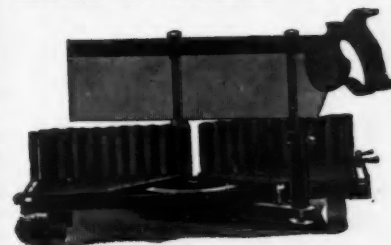
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with little labor and will make a perfectly true job. It makes no difference what thickness the doors are, and whether hard or soft wood, for the MILLER works true on them all.

Complete with five cutters, covering locks from one-half inch to one and one-eighth inches thick.

Sent subject to trial. Thousands now being used by carpenters and contractors everywhere. Additional particulars sent upon request—write for them.

A. W. Miller Manufacturing Co.

Riverside, Calif.

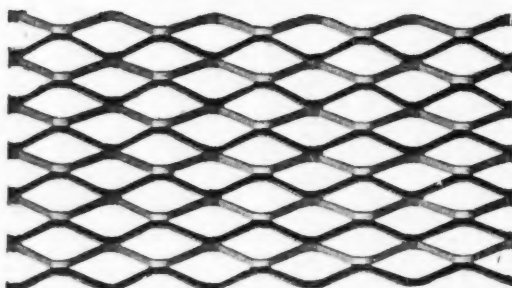
Cincinnati, Ohio

Our Butt Mortiser and Rule Gauge, 75 cents Postpaid

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

SPECIFY AND USE SYKES METAL LATH

*Provide the Best
at a low price*



SYKES EXPANDED CUP LATH

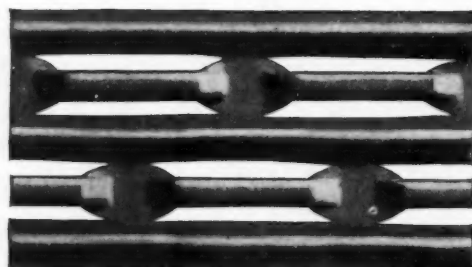
is self-furring; can be fastened directly to the sheathing or studding; keys perfectly. When this lath is imbedded in the plaster, it makes a strong, reinforced wall. The strands are wider and stronger than in the ordinary lath. Weighs more to the square yard than any lath of the same gauge. Furnished with Anti-Rust (oil) coating, painted black or galvanized. Sheets 18x96 inches. 20 square yards to the bundle. Gauges 27, 26, 25 and 24.

Sykes Metal Lath

present opportunities for the builder to decrease the cost of construction. This lath furnishes a strong, rigid base for all stucco and plaster work. The use of Sykes Metal Lath is recommended where a first-class material is desired but where the cost must not be great.

We would like to send you samples of the two kinds of lath shown here. Our circulars describe them fully. Send us your name and address.

Sykes Metal Lath & Roofing Co.
NILES, OHIO



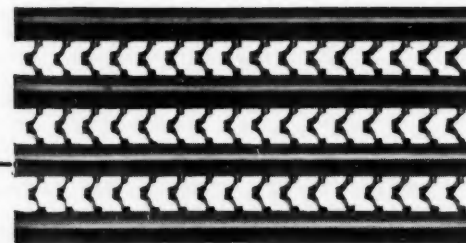
SYKES TROUGH SHEET LATH

The unusual design, strength and keying principle of this lath makes it desirable for use on any kind of a building. Perfect for inside plaster work. Easy to apply; easy to plaster on, and saving in material. Size of sheets: 13 1/2, 15 1/2, 18 1/2, 23 1/2 in. wide by 96 in. long.

THERE IS NONE BETTER

SYKES METAL LATH FOR ALL BUILDINGS

SYKES METAL LATH ALWAYS DEPENDABLE



RIB LATH

Rigid—Easy to Plaster—Perfect Clinch

RIB LATH is a superior metal lath with beaded ribs that span between the studs making it exceptionally stiff and rigid, and permitting a wider spacing of studs. RIB LATH provides a perfect clinch for the plaster, which will not streak or crack. Saves time, labor and material in erection. Furnished in three types and nine different weights. RIB LATH on RIB STUDS provide a fireproof hollow partition with open passage for conduits, pipes, etc. Also Detroit Diamond Lath and Steel Corner Beads.

VALUABLE RIB LATH HAND BOOK—Containing details, specifications, tables, illustrations, etc.—FREE to those interested in building.



Trussed Concrete Steel Company

644 Trussed Concrete Building

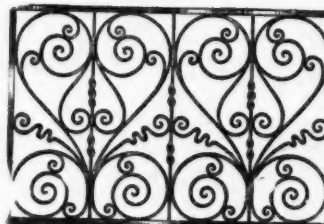
DETROIT

MICHIGAN

Reinforcing, Hy-Rib and Lath, Steel Sash, Etc.

Send Us Your Plans for Estimates

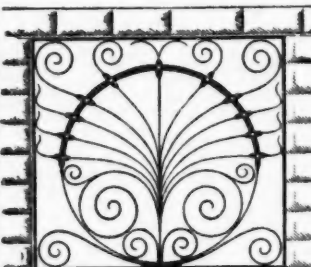
—ORNAMENTAL IRON—



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



Mr. Builders:—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

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

Window Frames 87c

Overstocked. Your opportunity. Seven carloads of Frames ready for shipment. Made entirely of Clear Soft Oregon Fir, practically all vertical grain. Outside Casings, 1 1/2 inches. Drip Cap Head. Cost less than the raw material to make them. Guaranteed quality.

Prices for regular 2-light Check Rail Window Frames range from 87 cents for 12x20 to \$1.54 for 40x30. 2-light. Sale is limited to the stock on hand. Send for Special Frame Circular NOW.

BUSTED PRICES

Big Sale \$1.85 On Nails

10,000 kegs of genuine galvanized wire Nails will outlast all other kinds. Put up in regular kegs. Price per keg of 100 lbs., as follows:—

10 pennyweight, \$1.85. 8 pennyweight, \$2.05
6 pennyweight, \$2.10. Shingle Nails \$3.00.

Also 5,000 kegs of Nails, mixed all kinds in a keg: good assortment, handy to have around your workshop. During this sale only, per 100 lbs. \$1.35 Order by Lot CP-1100

**"Oregon"**
\$3.65

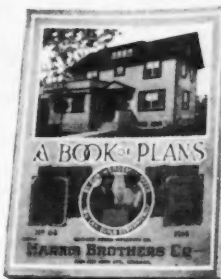
Size 2 ft. 8 in. x 6 ft. 8 in. 1 1/2 inch thick Glazed Clear D. S. A. Glass.

No. 10 - CP - 381 Pacific Coast Fir—the coming Wood. Low Price and High Quality Combined.

2-10x6-10 \$4.25
3-0x7-0 4.70

\$10,000 Plan Book Free

Our new 1914 edition is just off the press and now ready for distribution. Every builder should have a copy. 130 pages handsomely illustrated, photographic reproductions, floor plans, complete prices, etc.



A most comprehensive volume. Too valuable to give away indiscriminately, but sent FREE to any contractor-builder or any person interested in building. Full of practical suggestions. Fill in coupon below.

Also send for our Building Material Catalog No. 103.

**"Washington"**
\$4.30

Size 2 ft. 8 in. x 6 ft. 8 in. 1 1/2 inch thick Glazed Clear D. S. A. Glass.

No. 10 - CP - 378. Made of Pacific Coast Fir. Hardwood Value at Soft Wood Price

2-10x6-10 \$5.05
3-0 x7-0 5.35
Extra for Rev. Plate Glazing.

Three Shipping Points

CHICAGO. Our main plant, yards and millwork warehouse—Everything ready for immediate shipment.

MISSISSIPPI. Prompt shipment direct from our Southern kiln-drying and storage yards. Yellow Pine lumber of all kinds. Low prices on account of saving in freight and handling charges. Especially suited for Central, Southern and South-western trade.

SEATTLE. Pacific Coast stock—Fir Timbers, Dimension Red Cedar Siding and Shingles,—all kinds of lumber. Quick shipment; low freight rates for Western territory.

You must send us your inquiry at once and get our guaranteed DELIVERED prices.

**"Pacific"**
\$5.90

Size 2 ft. 8 in. x 6 ft. 8 in. 1 1/2 inch thick Glazed Clear D. S. A. Glass.

No. 10 - CP - 390. Clear Fir can be finished to imitate Oak Birch and other hardwoods. Any finish—Stain, Oil or Paint.

2-10x6-10 \$6.65
3-0x7-0 7.00

OUR GREAT 1914 OFFER

Here is the Greatest Sale ever advertised—the opportunity you have long sought for—a chance to buy staple lumber and building material—Roofing, Wire, Fencing, every kind and description, in fact, Merchandise of every nature, at unheard of low prices.

We have determined that the year of 1914 is going to be the Banner year in our great lumber department. We have on hand 20,000,000 feet of high-grade lumber suitable for the construction of Buildings, no matter for what purpose intended. Come to our great yards in Chicago and let us show you this stuff actually in stock. We can also ship you direct from our Pacific Coast and Southern Kiln Drying and storage Yards. No other concern in the world has a more complete stock of everything needed to build.

SEND US YOUR LUMBER BILL

You can order a complete carload of material from us, including everything you need to construct and equip and we will ship it to you, WITHOUT ONE CENT CASH IN ADVANCE.

All we want to know is that the money will be paid us as soon as the material is received, unloaded and checked up.

WONDERFUL FREE PLAN OFFER

We furnish complete Blue Print Plans, Specifications and Material List free for any of the building designs shown in our Book of Plans providing the material is purchased from us, or upon receipt of \$2.00 as deposit, we will send for examination, a complete \$50.00 set of Plans, Specification and Descriptive Material List. Money will be refunded if plans are unsatisfactory.

ARCHITECTURAL SERVICE

We maintain a special department of personal service for the individual builder. We develop building ideas and make plans to order to suit any requirements. We employ building experts who are thoroughly familiar with all kinds of construction. They are men of experience in actual building, constantly at your service, ready to give expert advice and dependable information.

"Portland"
\$1.75

Size 2 ft. x 6 ft. Five Cross Panel Door. 1 1/2 inch thick.

No. 10 - CP - 325. Clear Fir, Solid raised panels.

2-6x6-6 \$2.01
2-6x6-8 2.04
2-8x6-8 2.05
2-6x7-0 2.36
2-8x7-0 2.40
Costs less than Yellow Pine.

"Seattle"
\$2.28

Size 2 ft. 6 in. x 6 ft. 6 in. 1 1/2 inch thick. Two-Panel Fir Door.

No. 10 - CP - 326

2-6x6-8 \$2.34
2-8x6-8 2.37
2-6x7-0 2.70
2-8x7-0 2.78

Other sizes in stock.

Olympia"
\$2.70

Size 2 ft. 6 in. x 6 ft. 6 in. 1 1/2 inch thick. One-Panel Fir Door.

No. 10 - CP - 327

2-6x6-8 \$2.75
2-8x6-8 2.77
2-6x7-0 3.17
2-8x7-0 3.25

Complete list of sizes and prices in our Building Material Book.

Best Quality House Paint 95c

Our paint department is under the personal supervision of Mr. V. Michaelson, for 30 years the foremost paint man in America. His picture has appeared on over 8,000,000 cans. Paint of quality is his specialty. Every gallon has our strongest guarantee. Our Ready Mixed Barn Paint at 56c a gallon will outlast any similar paint produced.

Floor Scraper \$19.75

Wonderful Introductory Offer Regular \$40 Scraper

Hard work made easy. A customer's letter, "I did more work in two hours than a gang of six could do in a day by hand." Our Guaranteed "Adjustable" Scraper weighs 125 pounds. Includes six blades, also burnisher and wrench. Rubber tired iron wheels. Adjustable overhead weight insures true and even cut.

Our Guarantee

BACKED BY \$10,000,000 CAPITAL AND SURPLUS

We guarantee absolute and complete satisfaction. There is no half way about this guarantee. Every purchase you make from us will be exactly as represented, and you will be satisfied in every way, or we will make just such amends as are within our power. We will take back any unsatisfactory article at our freight expense both ways and refund the purchase price. We refer as to our responsibility, to the publisher of this or any other publication, any bank or express company, and to the public at large.

HARRIS BROTHERS COMPANY

35th and Iron Sts., Chicago

THE GREAT PRICE WRECKERS

Owners of Chicago House Wrecking Co.

Fill in This Coupon

HARRIS BROS. COMPANY

35th and Iron Sts., Dept. CP 145, Chicago

Without any obligation or promise to buy, please send me the following catalogs and full information free:

(Put a check mark opposite the books you want.)

.....Catalog of Lumber andCatalog of Plumbing and Building Materials. Heating

.....Book of House andSpecial Catalog and samples of Roofing.

Name.....

Address.....

County.....State.....

R. R.....P. O. Box.....

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

GOVERNMENT JOBS OPEN

PARCELS POST AND INCOME TAX mean the appointment of many

extra Railway Mail Clerks, City Carriers, City Postal Clerks, and Internal Revenue Clerks. Many Clerks in the Government Offices at Washington will be appointed.

\$800 TO \$1,800 A YEAR, FOR LIFE

Rapid advancement to higher Government Positions. "No lay-offs" because of STRIKES, FINANCIAL FLURRIES or the WHIMS OF SOME PETTY BOSS. THE POSITION IS YOURS FOR LIFE.

Country residents and city residents stand the same chance for immediate appointment. Common-sense education sufficient. Political influence NOT REQUIRED.

Spring examinations everywhere

Write immediately for schedule showing the places and dates of the SPRING examinations. Don't delay. Every day you lose means the loss of just so much coaching before the rapidly approaching examinations.

FRANKLIN INSTITUTE Dept. D-206 Rochester, N. Y.

FRANKLIN INSTITUTE
The Pathway to Plenty
Dept. D-206, Rochester, N. Y.

The coupon filled out as directed, entitles the sender to free sample questions; a free copy of our copyrighted book, "Government Positions and How to Obtain Them," free list of positions now available and to a chance for FREE Coaching for Examination here checked.

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.. Railway Mail Clerk (\$900 to \$1800)	.. Customs Positions (\$800 to \$1500)
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.. Bookkeeper (\$800 to \$1800)	.. Canadian Government Positions
.. Clerk at Washington (\$800 to \$1600)	.. Automobile Chauffeur

Name.....

Address..... D-206

Use this before you lose it. Write plainly.



OAK FLOORING

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

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

Contractors and carpenters find it very profitable to lay $\frac{1}{2}$ inch stock over old floors in old homes during dull periods. A little canvassing is all that is necessary to secure jobs. A carpenter or handy man can lay OAK FLOORING successfully.

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

Write for Booklet

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



Wgt. 4 lbs.
Jaws 28" long
Folds in space
 $14\frac{1}{2} \times 2 \times 2"$
(Folded)

Price Prepaid, \$1.60 in U. S.

All Steel BUCKEYE SAW VISE



Jaws 14" Long
Wgt. 2 lbs.
Price Prepaid, 90 cts. in U. S.

(Folded)

The Newest Carpenter Tools

No Shift Folding Saw Vise

SMOOTHER,

Price, \$2.00

JACK,

Price, \$2.50

FORE,

Price, \$3.00

PREPAID IN U. S.



BUCKEYE PLANE

These are the easiest and quickest adjusted planes on the market. They are guaranteed not to tear out, chatter or clog. Even when used against the grain in the most difficult wood.

Ask Your Dealer, or Order Direct

Buckeye Saw Vise Co.

2050 W. 55 St. CLEVELAND, O.



FIRE—Excitement reigns supreme!

Panic—In a twinkling of an eye.

Exit—The terror-stricken rush.

Door—Though tightly closed—

Bolt—Columbia opens with a gentle push.

Full information upon request.

**The Columbia
Iron & Wire Works Co.**
Canton, Ohio

GENUINE BANGOR

**Roofing Slate
Structural Slate
Blackboards**

Large Facilities, Prompt Deliveries
EAST BANGOR CONSOLIDATED SLATE CO.

East Bangor, Pa.



Reg. U. S. Pat. Off.

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 a raid 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.

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

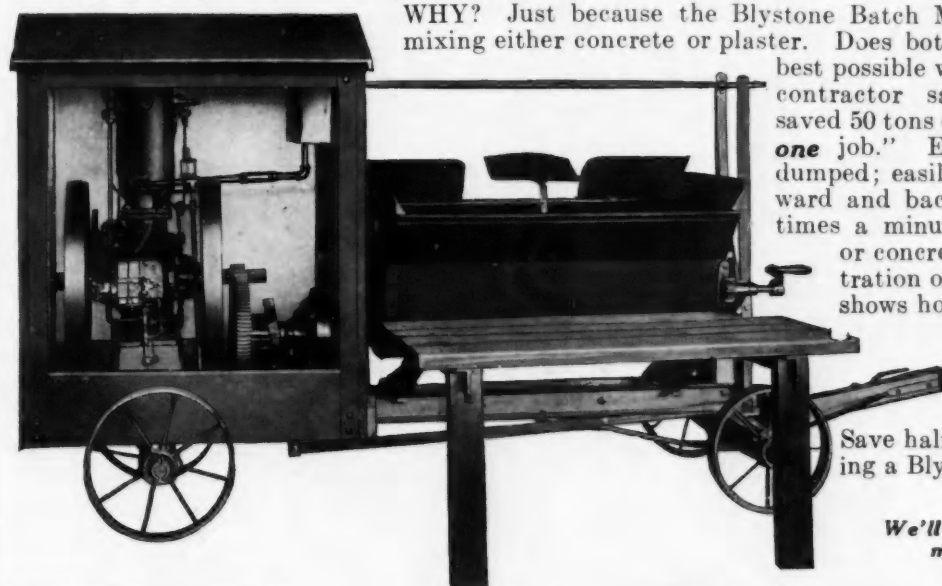


MACHINERY PALACE

AT THE PANAMA-PACIFIC FAIR

ALL PLASTER MIXED WITH A BLYSTONE

The Blystone Batch Mixer is actually proving its worth as a *mortar mixer* on the buildings for the Panama-Pacific Fair. Seventy-five percent of the Contracting Plasterers in San Francisco are using the Blystone in preference to any other machine.



WHY? Just because the Blystone Batch Mixer can be used for mixing either concrete or plaster. Does both equally well—in the best possible way. Economical. One contractor says: "The Blystone saved 50 tons of hardwall plaster on *one* job." Easily charged; easily dumped; easily cleaned. Mixes forward and back, over and under, 40 times a minute—a batch of plaster or concrete in a jiffy. The illustration of the mixing principle shows how it's done.

You want a machine that will do your work—that will serve a double purpose. Save half on equipment by buying a Blystone.

We'll be glad to give you more particulars. Write us.

R. M. SCHELL E. A. BAKER
SCHELL & BAKER
CONTRACTORS
NO. 14 WEST FIRST STREET
BELL PHONE MAIN 417
MANSFIELD PHONE 631

MANSFIELD, O., 12-10-13
The Blystone Mach. Co.,
Cambridge Springs, Pa.

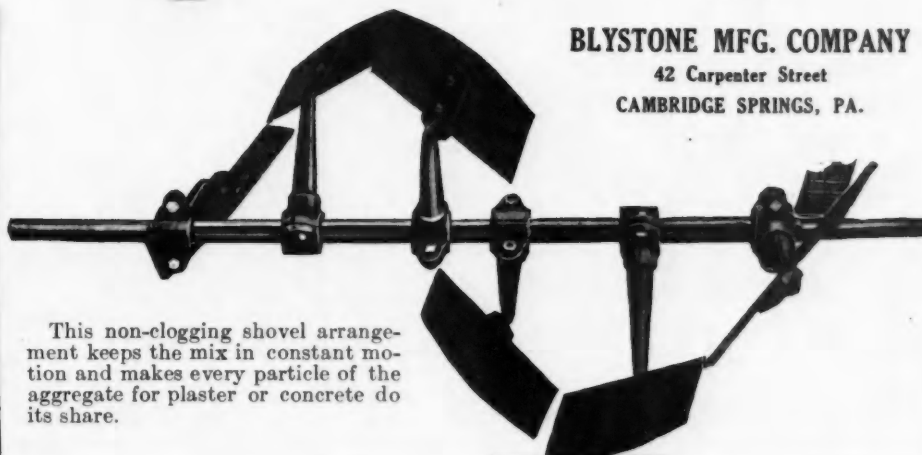
Gentlemen:—We have used our Blystone Mixer practically every day since we received it, mixing both mortar and concrete and we have found it to be entirely O.K. Would not use another make without an open drum. It is so easy to handle and needs so few repairs, due to its simple build, and costs so little to run that it cannot help but be a money maker.

We would unhesitatingly advise anyone in masonry or concrete work to purchase one of your machines.

Yours very truly,
SCHELL & BAKER.
Reg. No. 19419. Per—
Date 12-24-13.

BLYSTONE MFG. COMPANY

42 Carpenter Street
CAMBRIDGE SPRINGS, PA.



This non-clogging shovel arrangement keeps the mix in constant motion and makes every particle of the aggregate for plaster or concrete do its share.

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

YOU

Can Now Get
this large
"YANKEE"

with spring in
the handle to
drive it back
quickly for
the next
push.

A Quick
and Power-
ful Tool for
Carpenters
and Builders.

Drives most any
screw, large or
small, and in
about one-tenth
of the time of the
ordinary screw
driver.

Can be furnished with
a Drill Point Attach-
ment, Countersink and
Screw Holder Bit, same
as the No. 31.

Let us send you the "Yankee" Tool
Book anyway. A postal brings it.

Your dealers sell the "Yankee"

North Bros. Mfg. Co.

Department A

PHILADELPHIA, PA.



No. 2 Single Drum

ERIE HOISTS

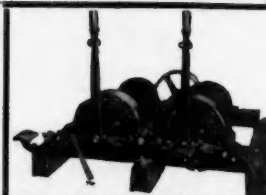
Prices \$25 to \$150

We manufacture a complete line of "Reliable Erie" Contractors' Hoists and can please you in price and quality. "Reliable Erie" Hoists give the greatest lifting efficiency and require the least horsepower of any hoist made. They are saving and simple.

Before deciding to buy any particular hoist, look over the Erie line, illustrated and described in our catalog.

A postal card will bring this book.

Erie Clutch & Pulley Co.
Erie, Penna



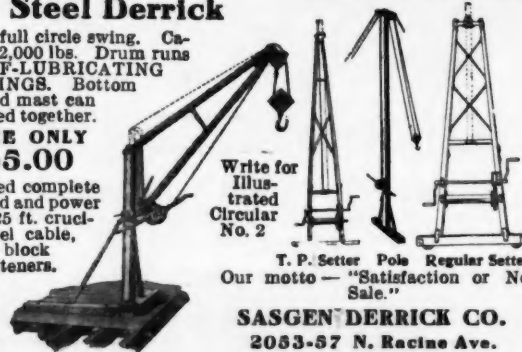
Hoist No. 2, Double Drum

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

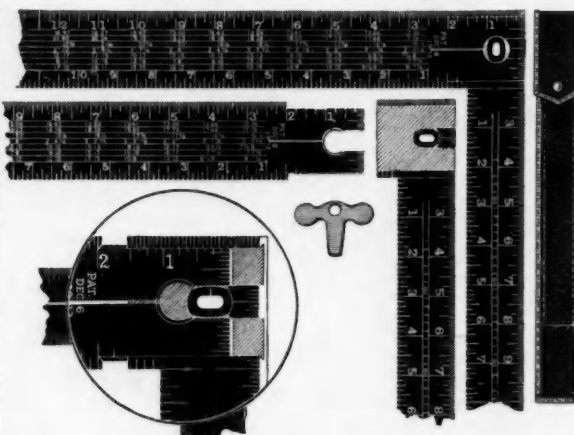
equipped complete for hand and power with 125 ft. crucible steel cable, swivel block and fasteners. \$2.00 less for hand power only.



Write for
Illustrated
Circular
No. 2

T. P. Setter Pole Regular Setter
Our motto — "Satisfaction or No Sale."

SASGEN DERRICK CO.
2053-57 N. Racine Ave.
CHICAGO, ILL.
CANADIAN OFFICE, 13 JARVIS STREET, TORONTO, ONT.



Nicholls Expansion Fit Take Down Square No. 500-R

Eccentric Cam expands end of body in milled portion of tongue, making an absolutely solid joint, also taking up wear.

Long bearings assure accuracy.

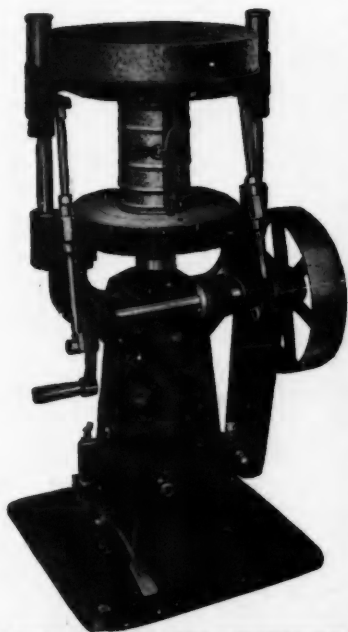
Strength where tongue joins on to body. All other Take Down Squares are cut half into at this point.

These are stamped with our **Rafter Framing Rule**, giving cuts for seventeen different pitches of roof.

Send for our **Little Book** on Rafter Framing. It is **Free**.

We re-finish and re-true old Squares, **35c** each. Include enough postage for their return.

NICHOLLS MFG. CO.
OTTUMWA, IOWA



DUNN No. 1 Drain Tile Machine \$165

The price of \$165 for this Drain Tile Machine is surprising, but not nearly so surprising as the high quality tile it makes, and its simplicity of operation! This DUNN No. 1 makes all size tile, from 3 to 12 in. in diameter and has an average capacity of 2,000 perfect tile per day. The Packer head gives 2-way service—up and down. No overhead frames, no flimsy construction anywhere; most of the weight is in the base, and all mechanism is enclosed in a single heavy casting. Get full particulars by writing today for catalog No. 10.



DUNN Pipe Molds

The big profits are in big drain tile and sewer pipe, and DUNN Molds gives you the big opportunity to build a big business in this line. DUNN Molds make first-class products, unusually dense and firm, and all sizes from 6 to 36 in. in diameter by 24 in. long. Use wet mixture and require no tamping. Price of 12-in. mold is \$7.50. Price of other sizes, full information on DUNN Molds and some interesting facts and figures on the profits possible, are in catalog No. 20. Write for a copy.

The Market Place for Concrete Machinery

We are National Headquarters for Concrete Machinery for this reason:

DUNN Machines are put right up to users on their merits. They are shipped on two weeks' trial and must *prove* their ability to satisfy the most exacting conditions.

We don't consider a purchase completed until the purchaser has *convinced himself* that DUNN Machines are just as efficient, just as reliable and just as profitable as we have stated them to be.

Why DUNN Machines Don't Cost Much

DUNN Machines are as good as it is possible to build them. No expense is spared in manufacturing; we use the best materials the market offers and employ the most expert workmen obtainable.

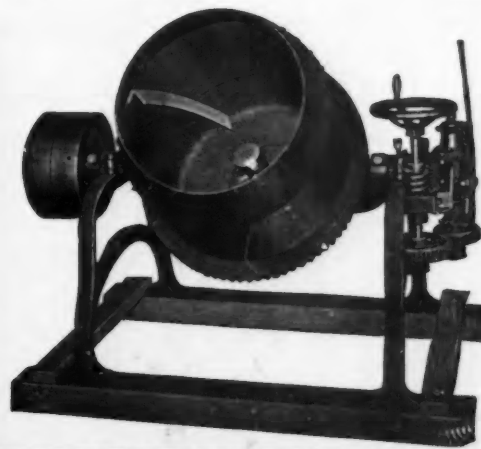
And, on top of this, we give liberal guarantees that leave no room for doubt.

Why, then, are the prices so low?

Because our policy of dealing direct with our customers means the elimination of all intermediate profits.

For every dollar invested in DUNN Machines you get one hundred cents' worth of VALUE. Prove it, by getting full information on any DUNN Machine you are interested in.

W. E. Dunn Mfg. Co.
4132 Fillmore Street
CHICAGO



DUNN "Utility" Mixer \$100

Concrete demands proper mixing—and a proper mixer. The DUNN "Utility" makes faulty mixing impossible. Mixes in full view of the operator; can be charged from either side; has nothing to clog or get out of order; mixes a 5-foot batch every two minutes; has hand-wheel discharge (power discharge, if desired).

Catalog No. 40 describes this thoroughly, also the DUNN No. 0 Mixer, selling for \$60. Write for a copy today.



DUNN Block Machine \$40

Don't buy three block machines when one is enough. This DUNN Machine makes face-down, side-face and two-piece wall blocks—and they're good, strong blocks because the machine permits the use of a wet mixture. Its capacity is 150 block per day, **without skilled labor**, and our system of off-bearing assures freedom from breakage. Makes three sizes—8x16 in., 10x16 in., and 12x16 in. Other important information in

Catalog No. 30.

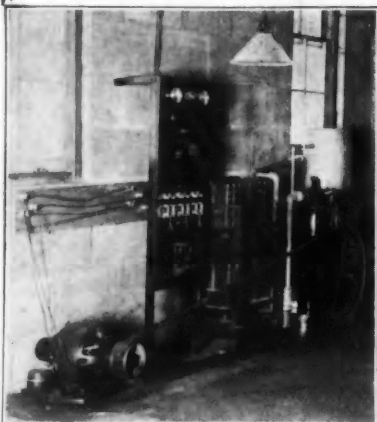


DUNN Concrete Porches

You can build concrete porches and a big business by using DUNN Molds. Concrete Porches are liked by owners of concrete, brick or frame houses, because they look good and outlast the house. We furnish DUNN Molds for making them complete, also for making Chimneys, Posts, Piers, Lattices, Cornices, Vases, Silos, etc. Get full information and prices by writing for catalog No. 50.

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

At Time House is Built



is the logical time to install a

Fairbanks-Morse Electric Lighting Set

You will act in the interest of the builder of a country home by suggesting it to him early.

A Complete Electric Plant

with kerosene engine, generator, batteries and switch-board. Will light 50 lamps, and furnish current for many electrical conveniences, small motors, etc.

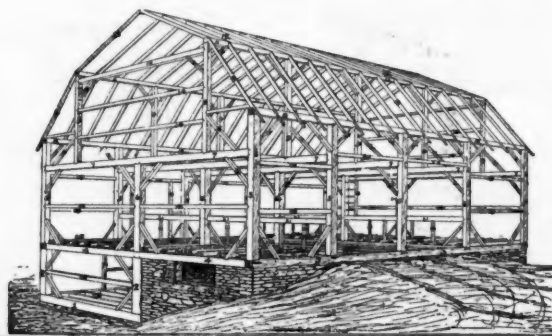
Write for Catalog 15D1409

Fairbanks, Morse & Co.

New York

Chicago

San Francisco



FRAMING

HOUSE FRAMING, BARN FRAMING, ROOF FRAMING

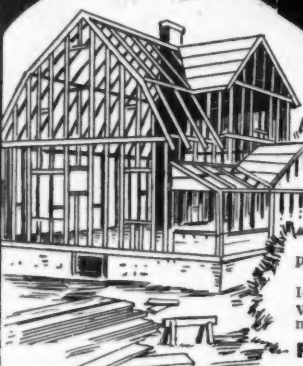
By W. A. Radford. 338 (6x9 inch) pages, 182 illustrations dealing with house, barn and roof framing, covering the subject in its multitude of forms and designs in a most thorough manner. Nothing is omitted that will help and guide on the construction of houses, barns, roofs, etc., while particular care has been taken to exclude any and every method of framing that has not been given a thorough and convincing test by experienced builders.

Have you received your copy?

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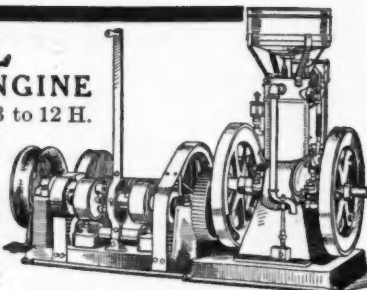
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Gasoline is 9c to 15c higher than coal oil. Still going up. Two pints of coal oil do work of three pints gasoline.

Amazing "DETROIT"

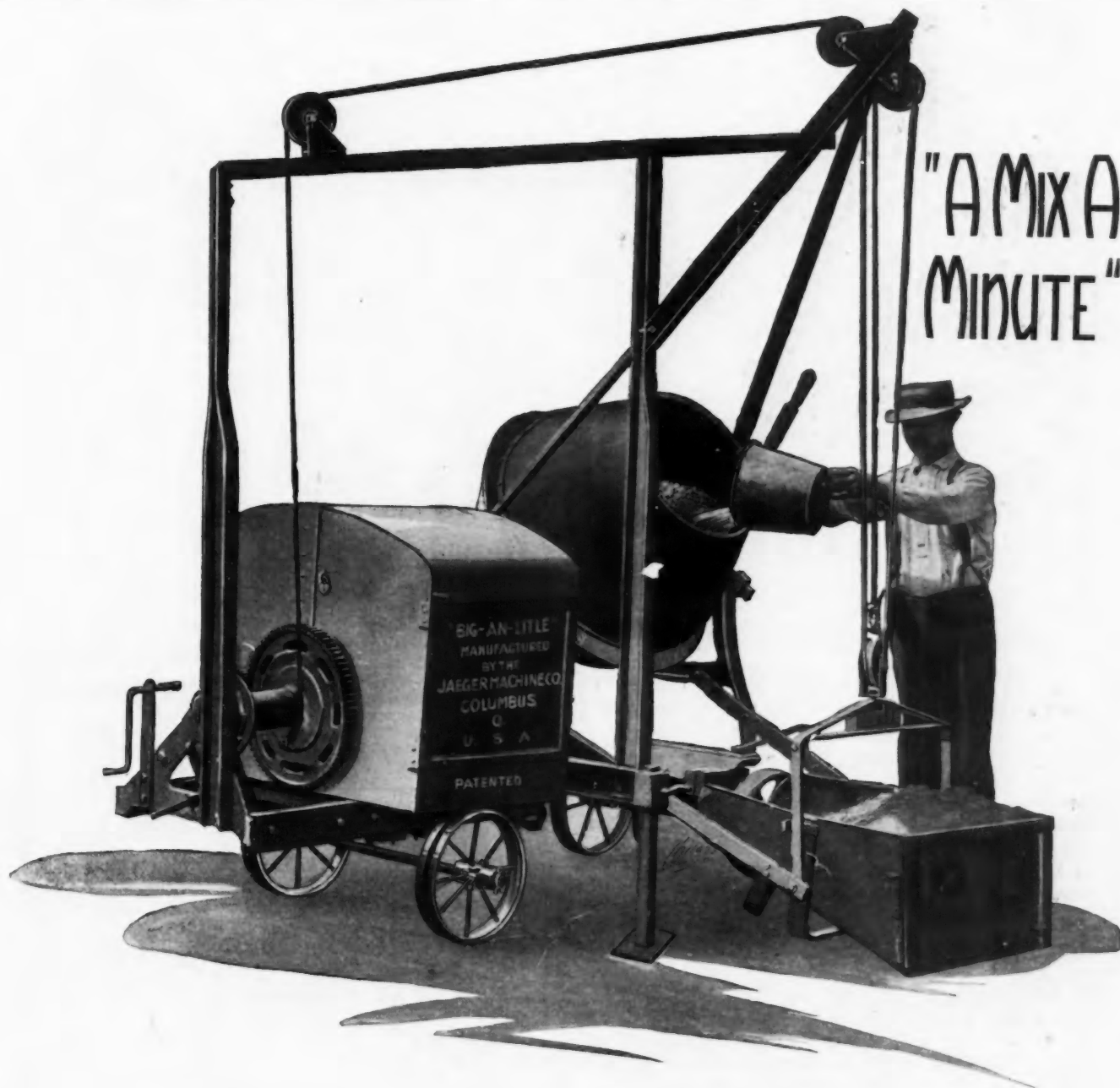
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Most Popular Mixer at Cement Shows

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A mixer of quality — powerful — strong — fast — yet economical.

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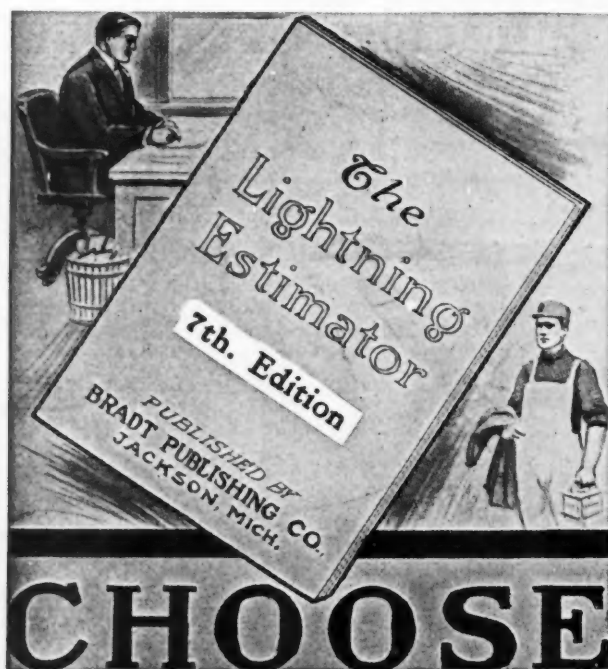
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Don't hesitate to grasp this opportunity to win success, for there's always room at the top for the man who knows how.

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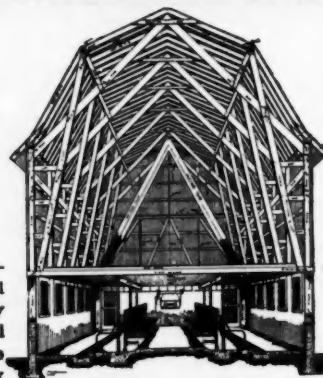
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You need no nails or lumber. It saves a big expense in one season.

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ON THE CONCRETE JOB WITH THE SMITH HAND MIXER

CONCRETE
SIDEWALKS
BRIDGE
ABUTMENTS
FOUNDATIONS
CURB and
GUTTER WORK
BARN
APPROACHES
WELL CURBS
ETC.

ANY small concrete job can be handled to advantage with a Smith Hand Mixer. Four men with one of these machines can mix twice as much concrete as by hand. With the machine they secure a uniform mix easily and without undergoing the back-breaking strains of shovel mixing.

Run a Smith Hand Mixer between your sidewalk forms and discharge the concrete directly into place without wheeling.

Tie a Smith behind your wagon and run out along the highways and put in your bridge abutments, culverts, etc. You'll find you can easily cut your cost in half.

Elevate this Hand Mixer over your foundation forms and chute the concrete directly into place. Cut out the extra expense of wheeling the mixed concrete from mixer to forms.

This machine is well adapted to curb and gutter work as it is light and very portable. Run it along as the work progresses and save the bother of moving a heavy mixing platform.

The Smith Hand Mixer might well be called the "Farmer's Friend" for it can be used on the farm in a dozen different ways, all of which will prove to be money savers. Build your barn approaches, floors, etc., pig-pens, hen-houses, wells, curbs, etc., with it. Make them sanitary and everlasting. You'll find it pays and pays well.

Write for our special booklet covering the Smith Hand Mixer and see just what this machine is. Send for it now—Booklet No. 17-11.

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COUPON
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Give "UNCLE SAM" One of Your
**SMITH HAND MIXER
FOLDERS No. 17-W**

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¶ You contractors—carpenters and building owners—why not buy weatherstrips direct from the manufacturer and do your own installing?

¶ By our unique plan, we have cut out the usual big selling expenses, which enables you to buy direct from us, make a profit on the strip and good money on the installation besides.

¶ Durametal Weatherstrips have been successfully sold for over 10 years and have stood every possible test. Their durability and simplicity makes them superior to all others.

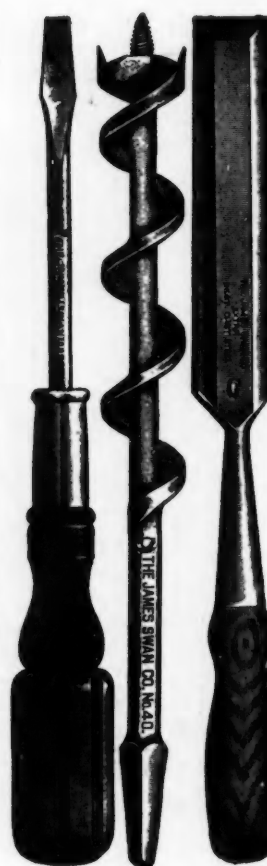
¶ Made of best heavy zinc, and fully guaranteed. Write for samples and prices now before you turn another page. There's money in this for YOU.

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Durametal Weatherstrip Co.

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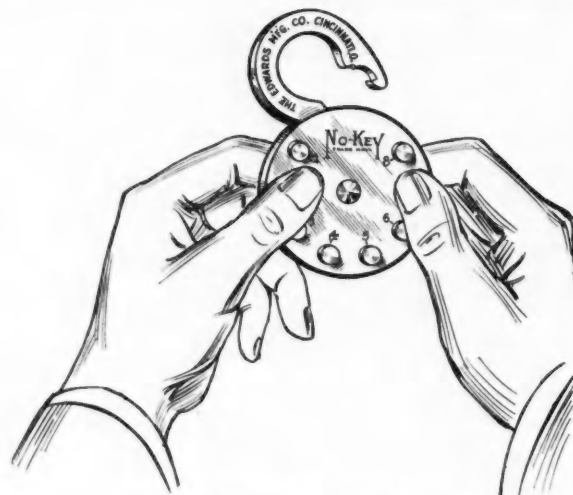


When you want tools of any kind—tools that you can bank on to be just the kind and quality you want them to be, insist on the Swan Trade Mark.



It's a plain guide to all that is best in carpenters' tools and your assurance that you are dealing with an old, reliable firm that makes tools as good and solid as its reputation.

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The
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Iron and Steel

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No Keys

MERELY PRESS THE BUTTONS

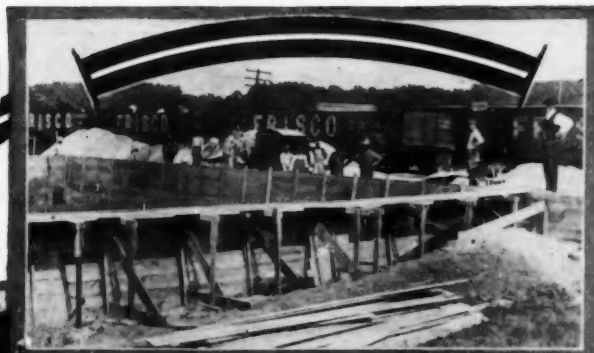
HERE'S A LOCK that requires **No Key**—no knobs to turn—no clicks to count. To open it, just put your fingers on the buttons—the right buttons, and pinch—just a little bit. It flies open at once. But if you don't know the right buttons, you cannot open it—and you cannot pick it, for there's nothing to pick. Opening the No-Key Padlock when you know the combination is just as simple as turning on the electric light.

Abolish the Key Nuisance

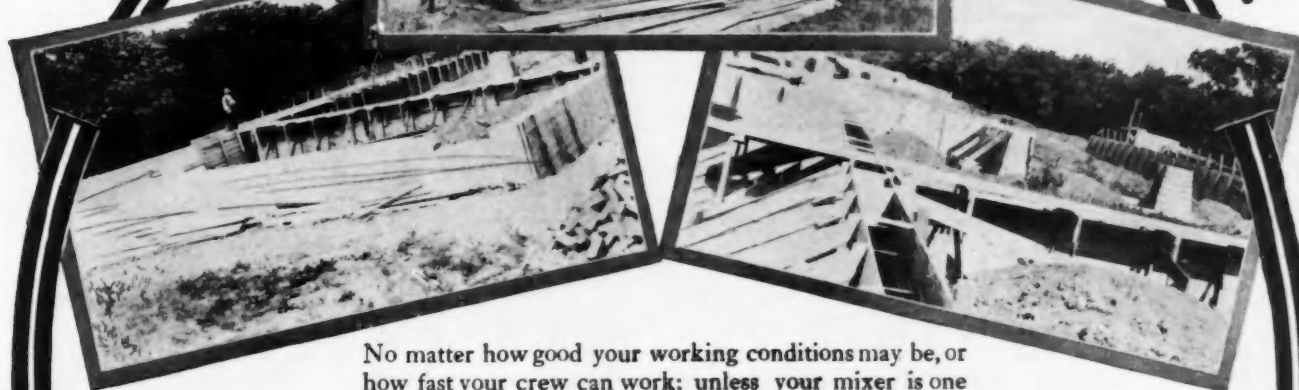
Notice the buttons numbered from 1 to 8. Eight buttons are on each side, any of which may be included in a combination. Padlocks are set on different combinations, and as more than 40,000 are possible, each purchaser is assured of a combination known only to himself. The No-Key Padlock is made of solid brass and bronze, without a bit of iron or steel to rust out. It will last a lifetime. Made in one size only—weight 5½ ounces.

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

How Many
Times
4333 cu. yds.



Did You
Mix Last
Year?



No matter how good your working conditions may be, or how fast your crew can work; unless your mixer is one which can be relied upon to **push—rush—stand up—never break down—and pays for itself**—your mixing plant is not worth a d—m!

**This is good common sense—spoken by progressive contractors
“THINK IT OVER”**

The above illustration shows a foundation installed for the Railway Ice Co., Monett, Mo., 300 feet long, 50 to 70 feet wide, 4 to 9 feet high = 4333 cu. yds. mixed—on this small yardage an 8 foot

“The STANDARD” Mixer
Low Charging

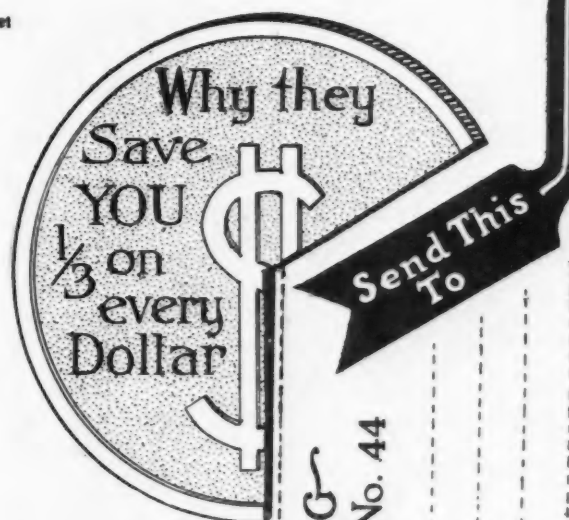
paid for itself. Does this mean anything to you. It shows what an **“Iron Foreman”** can do—it rushed—pushed the work—stood up without a whine, until it completed the job and paid for itself.

Did you ever watch **“The STANDARD”** at work. Did you ever notice that the charging was done directly from the wheelbarrows—this means one-third saving on first cost operating cost—time and labor, and is why the mixer was able to pay for itself.

Does it interest You?

**Let us give you dope on the self-paying “Iron Foreman”
You need it for your work.**

Send for Catalog No. 44



**SEND 1/3 SAVING—
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243-245 Water St.

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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.

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

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

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

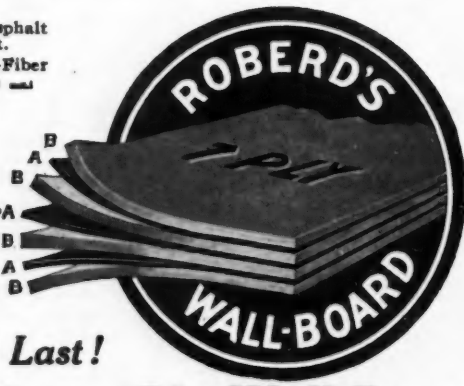
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The W. H. Mullins Co.

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SALEM, O.

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

A Carpenter's "Right-Hand" Material

You always want your "right-hand" man on the job. To have the correct material handy for every job is often just as important.

The test of 15 years' time has proved



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very useful in a multitude of ways. Beside its principal use as a wall board, nothing better can be found for

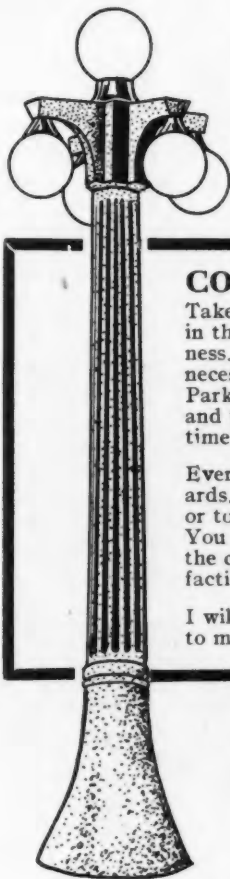
- lining garages and outdoor sheds for warmth.
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- quick repair partitions in any kind of building.
- enclosing rooms in attic or cellar.
- building dust-proof closets and cabinets.
- panels in wainscoting or beamed ceiling.
- drawer bottoms, case and cabinet backs, shelves.
- in fact, you'll run into a job nearly every day that Compo-Board will help you do better and quicker.

Sold by dealers almost everywhere, in strips 4 feet wide and up to 18 feet long. Write us for free sample and booklet—we'll tell you who handles it in your town.

Northwestern Compo-Board Company

5777 Lyndale Ave. No.
MINNEAPOLIS, MINN.

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CONCRETE LIGHTING STANDARDS

CONTRACTORS

Take the enormous opportunities offered in the Concrete Lighting Standard business. Only a very small investment is necessary. These posts are ideal for Parks, Driveways, Entrances. Cities and towns buy hundreds of them at a time for street lighting purposes.

Everyone is interested in these Standards. They are ornaments to any city or town. Easily sold and at a big profit. You can underbid any competitor, even the cast iron post, and give better satisfaction.

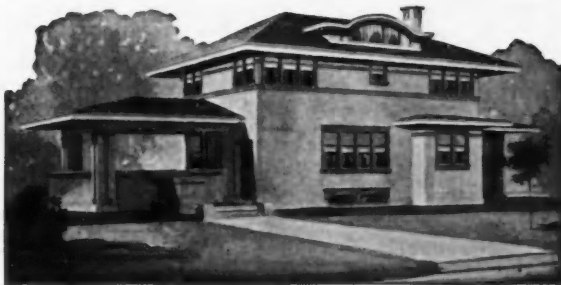
I will sell the Standards or the Molds to manufacture them.

MY FREE BOOKLET

will tell you how easy it is. Send for it. It will help you double your income. I shall be glad to figure on any special designs of molds or standards that you may submit to me. **I Save You Money.**

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The Post Man
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Cement Houses and How to Build Them

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American Carpenter and Builder
1827 Prairie Ave. CHICAGO, ILLINOIS



Do You Remember When This Event Occurred?

It was a long, long time ago.

So long ago that most people who were alive then have forgotten it. And yet it was great news then.

Sitting Bull had surrendered!

Such a scene can never occur again. Mr. Indian of today instead of wearing a blanket and hunting for scalps, clothes himself in fashionable attire and goes in for athletic honors.

That is only one of the great changes that

have taken place in our country since Richmond Straight Cut Cigarettes first won their immense popularity—42 years ago. During this time, Automobiles, Electric Lights, Telephones, and many other improvements have become a necessary part of our everyday life.

But through all this period of change Richmond Straight Cuts have stood supreme, the best of all Virginia Cigarettes. They cannot be improved upon.

20 for 15c

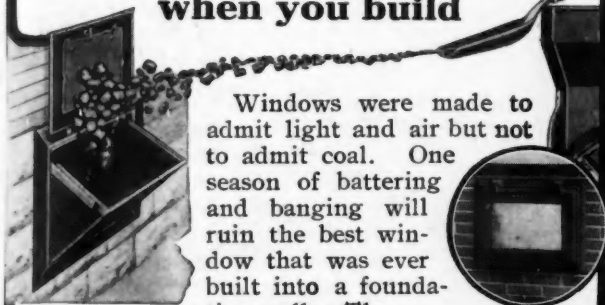
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Friends for
forty-two years



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Remember the Coal Man when you plan and when you build



Windows were made to admit light and air but not to admit coal. One season of battering and banging will ruin the best window that was ever built into a foundation wall. The

Majestic Coal Chute

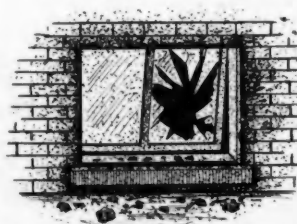
absolutely protects the foundation and the woodwork from being injured while the cellar is being filled with the winter fuel. The door opens upward locking against the building protecting the siding. The Hopper swings out and catches all the coal direct from the wagon, barrow or basket. The coal is delivered in the cellar and *nowhere else*.

When not in use the Majestic Coal Chute closes "burglar-proof". But it does not prevent the light from out of doors from getting in. Made of the best of cast metal with a life-time guarantee the Majestic adds much to the value of the house but increases the cost only a trifle.

Special proposition to contractors and builders on request. Write for it.

THE MAJESTIC FOUNDRY AND FURNACE CO.
1000 Main Street Huntington, Indiana

ACCIDENT!!



CAN'T HAPPEN
WITH A
CANTON
Coal Chute

Why be bothered with broken windows, dirtied lawns and soiled foundations?

The CANTON COAL CHUTE avoids all this and is a modern chute in every way. Why? Because it is simple, sensible and practical. It securely locks itself on the inside when the hopper is closed. It is therefore



BURGLAR PROOF

The owner may, if he desires to avoid a trip through the cellar, arrange it to lock from the outside. Very substantial and neat and made in three sizes.



Send for our Complete Catalog B-1
of Builders' Iron Work

Canton Foundry & Machine Co., Canton, Ohio

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It is our practice during the dull season, which begins January 1st, to make a material reduction in our charge for hot-air furnace equipments, and all purchases made for shipment between January 1st and May 1st are billed at the reduced prices. If, therefore, you can make it convenient to order within that time, you will secure the very lowest price it is possible to make on furnace heating equipments. The quality is unchanged; we make but one quality and that is the *best*.

Remember, we sell our furnaces and equipment *direct from factory to consumer* and we give you factory prices. We assume responsibility for the success of the equipment, and we will give you two months' cold weather trial, now or next winter, before we are paid, and if you are not satisfied, the outfit may be returned at our expense for freight both ways, and you pay us nothing.

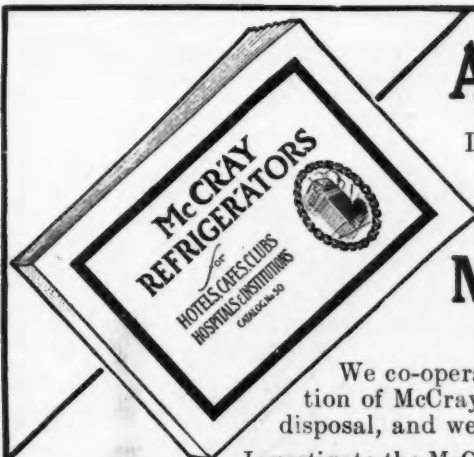
Such an offer means that our goods will please you, for if they would not we could not offer to sell, year after year, on such terms.

Send us a sketch of your house and let us tell you just what we can do. This will cost you nothing and will put you in the way of saving money and securing comfort for years to come.

Hess Warming & Ventilating Company
1220 Tacoma Building, Chicago

If you are a builder and contractor, let us know, for we have a profit-sharing arrangement which we make with builders, and it would pay you to ask us about it.

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For Private Residences, Hospitals, Hotels and Public Institutions

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Investigate the McCray "built-in" Refrigerators for residences, that are iced from the outside. The ice chamber has two doors. One opens up on the porch for outside icing. The other door opens from the kitchen. This keeps the iceman from tramping through the kitchen. Then in cold weather one can dispense with ice, as the refrigerator is sufficiently cooled by leaving the outside door slightly open.

The McCray Refrigerator, properly planned and installed, always reflects credit on the architect and builders.

Send Now for These Books---FREE!

No. 91—Regular Sizes for Residences.

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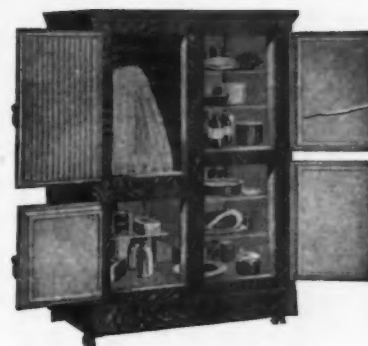
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McCray Refrigerator Co., 606 Lake St., KENDALLVILLE, IND.

For Branch Salesrooms in Principal Cities, See Your Local Telephone Directory.



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

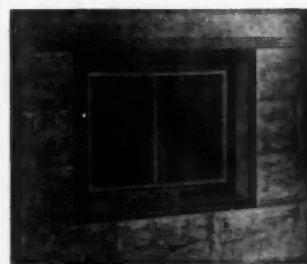
uses less fuel and lasts longer than others.

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

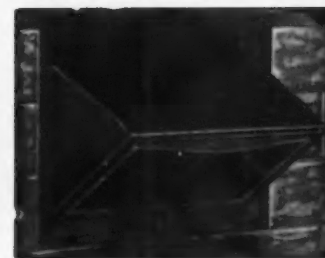
Waterloo, Iowa



The Window Chute

A Real Window—A Perfect Coal Chute

Useful 364 days in the year for light and one day for (the coal man)



A Burglar-Proof, Air-Tight Window which conforms with architectural lines. Looks best and is best. Write for booklet giving full description.

Holland Furnace Co.

Dept. "A. C." :: Holland, Mich.

—"Holland Furnaces Make Warm Friends"—

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



A WHITE TRUCK

Is Your Best Advertisement

YOUR ownership of a White guarantees to your customers the most prompt and efficient delivery system money can buy. A White Truck will cost you a little more to begin with, because it is built a little better, but it will cost so much less to operate and maintain that it is by far the best investment in the end. Always ready to run, good twenty-four hours of the day in all seasons, in a White Truck the dependability of your service to your customers is always assured.

What Lumber Companies Say

"We are satisfied with the White Truck because it has given us good results considering the hills we must climb with it. We have been able to take orders from people living in other towns which we could not do before we had the truck."

Clark Brothers & Company
Plymouth, Pa.

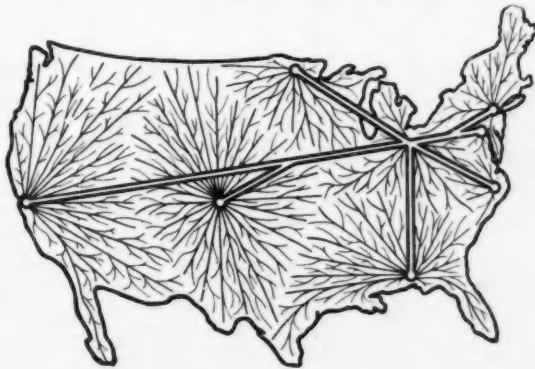
"We purchased a three-ton White Truck from you on Nov. 13, 1912, which has been in continual service since, and up to this writing have had no expense for repairs connected therewith, and is giving entire satisfaction."

West Lumber and Manufacturing Co.
Plymouth, Pa.


THE WHITE COMPANY
 Manufacturers of Gasoline Motor Cars, Trucks and Taxicabs
 CLEVELAND

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

The **TONCAN** System



Covers more territory than the combined railroad systems of the United States.

Rust-resisting, Anti-corrosive Toncan Metal (Black and Galvanized Sheets and Formed Products) sold everywhere.

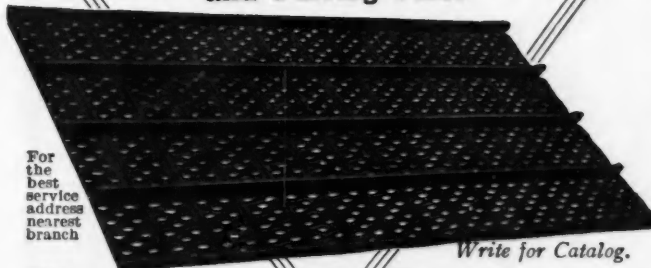
The Stark Rolling Mill Co.
Canton, Ohio

General Distributors
for the Dominion of Canada

THE PEDLAR PEOPLE, Ltd.

Oshawa Montreal Winnipeg Toronto

Berger's Rib-Trus 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

For Thirty Years **BYERS HOISTING ENGINES**

have satisfied their users. Write for Catalogue.

The JOHN F. BYERS MACHINE CO.
Ravenna, Ohio



TEN DAYS' FREE TRIAL

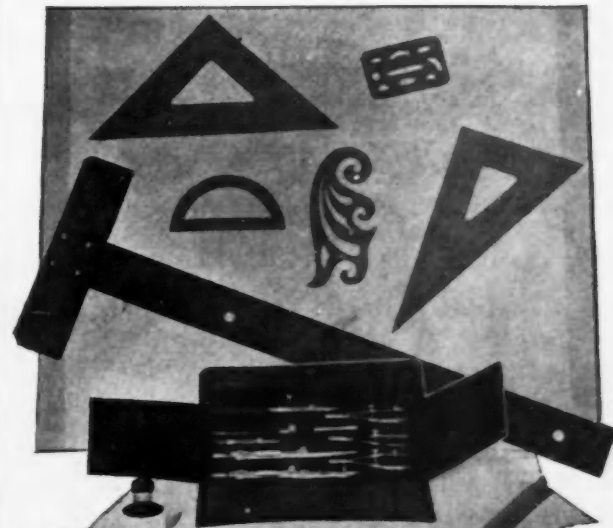
allowed on every bicycle we sell. We **Ship on Approval** and trial to anyone in the U. S. and **prepay the freight**. If you are not satisfied with the bicycle after using it ten days, ship it back and **don't pay a cent**.

FACTORY PRICES. Don't buy a bicycle or a pair of tires from anyone at any price until you receive our latest **Art Catalog** of high grade bicycles and sundries and learn our **unheard-of prices** and **marvelous new special offers**.

IT ONLY COSTS a cent to write a postal and everything will be sent you **FREE** by return mail. You will get much valuable information. **Do Not Wait; write it NOW!**

TIRES, Coaster-Brake, rear wheels, lamps, parts, repairs and sundries of all kinds at half usual prices.
MEAD CYCLE CO. Dept. T-122 CHICAGO

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



FREE \$20 Outfit \$20 Library

The outfit, exactly the same as those used by architects, engineers and expert draftsmen, consists of imported German silver drawing instruments in morocco case, 20 x 25-in. drawing board, ebony lined mahogany T-square, transparent triangles and French curve, German silver protractor, triangular scale, ink, pencil, pencil pointer, erasers and erasing shield, drawing paper, thumbtacks, etc. Made by one of the largest manufacturers of mathematical instruments in the world and guaranteed absolutely accurate.

The magnificent library consists of four massive volumes, bound in half red morocco, gold stamped. Contains 1,720 7x10-inch pages, 1,037 illustrations, full-page plates, diagrams, etc., covering completely the entire work of the architectural, structural and mechanical draftsman. Of enormous value to students as a reference work in connection with the personal instruction of our expert draftsmen.

Remember, the outfit and library—combined value \$40—do not cost you one penny. They are included absolutely free with the course.

Earn \$100 to \$250 a Month

The American School is making this special offer to the many carpenters, contractors and builders who never had a chance to get a technical education. This is a wonderful opportunity for you to get the training you need. Learn drafting—the foundation of architecture and all engineering professions—in your own home, and without giving up your work. Our new, easy method will make you an expert draftsman in a comparatively short time. If you are a carpenter, contractor or builder this course will save you money. For it will train you to read the modern blueprint accurately. If you want to make drafting your profession, you can earn from \$100 to \$250 per month—it depends only upon your ability and the kind of instruction you have had. There is a constant demand for draftsmen—it is one of the few occupations where the demand exceeds the supply.

Grasp Your Opportunity

Fill in and mail the coupon today—now! Let us tell you how easy it is to fit yourself for a big job and big pay as a draftsman. Remember, we send you a \$20 drawing outfit and a four-volume reference work of the same value **absolutely free** when you enroll. Isn't this worth investigating?

American School of Correspondence, Chicago, U.S.A.

Free Offer Coupon

AMERICAN SCHOOL OF CORRESPONDENCE, Chicago, U. S. A.

Gentlemen: Please send me full information about the course checked below, also further particulars regarding the drafting outfit and library sent **FREE** with this course:

..... Architectural Drafting
..... Structural Drafting
..... Mechanical Drafting

Name

Street

City

A. C. & B. 3-14



Let me design your CHURCHES

My experience in church work is valuable to you. My knowledge of church architecture assures your getting the most approved, up-to-date designs. The work I have done for hundreds of Builders, Contractors, and various Church Boards throughout the country proves that I can do satisfactory work for you. I can plan a church to meet your needs.



Presbyterian Church

Minden, Nebr

I CAN SAVE YOU MONEY



First Congregational Church

York, Nebr.

by furnishing plans and specifications at the lowest possible cost. Tell me what you need. Information is free. You pay me only for actual services. Let me show you what I can do for you. Fill out the coupon and mail it. You pay nothing in advance fees and you will not be obliged to give me the work unless I show you that I can do it better, quicker, and at a smaller cost than anyone else.

ALFRED W. WOODS,
—ARCHITECT—

LINCOLN

NEBRASKA

----- TEAR OFF THIS COUPON and MAIL -----

Alfred W. Woods, Architect,
Lincoln, Nebraska.

DEAR SIR:—

We propose building a church as per details given below. Please send us information as to what architectural service you can furnish us. It is understood that this information costs us nothing.

Proposed Cost.....

Frame, Brick or Stone.....

Denomination.....

Seating Capacity.....

Size and Location of Lot.....

Name

Address

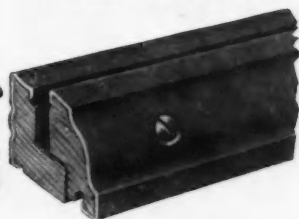
Town and State.....

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Here's Where
It
Ventilates

THE PETZ SASH No. 80



The air comes under the sash on the outside and flows up through the vents behind the glass, preventing frosting and sweating of the window.

To make the window perfect, it should be entirely enclosed. This gives the cool air from the outside full possession of the windows and keeps them absolutely clear—that means dollars to the merchant—your client.

This sash, like all Petz store-front material, is made of genuine red cypress with a heavy gauge copper drawn over it on both outside and inside. The glass rests in the wood and is kept from the grip of the metal, preventing cracking by the unequal expansion of metal and glass.

Full particulars of the ventilated sash and all Petz bars will be found in Catalog B. Send for it.

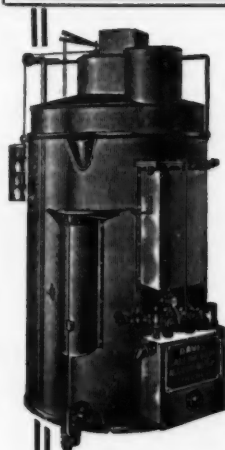
Detroit Show Case Co.

491 West Fort St.

:-:

DETROIT, MICH.

A GAS SYSTEM FOR YOUR BUILDINGS



DAVIS GENERATOR

Big Profits
Easy to Install
Any Carpenter Can Do It
Clean White Light
No Danger from Explosion

DAVIS LIGHTING SYSTEM

provides the safest means for lighting homes, stores, churches and offices. The best system known for lighting farm houses. Piping can be run to provide barn lights. No leakage; no explosion. Generator will also supply gas for cooking. The most complete, convenient, sanitary system that can be had.

WE PAY YOU

to act as our Agent for Davis Acetylene Lighting Systems. We want a reliable man in each town. Write us today and let us tell you how to make money the year around. Good pay; no expense; no risk.

ASK FOR PARTICULARS

DAVIS ACETYLENE CO.,
ELKHART, INDIANA

THIS GUARANTEE PROTECTS YOU

We guarantee Vanadium Saws and if at any time they prove defective, we authorize the dealers to exchange them for new ones.

16 in.	18 in.	20 in.	22 in.
\$1.60	\$1.80	\$2.00	\$2.15
24 in.	26 in.	28 in.	30 in.
\$2.30	\$2.50	\$2.70	\$2.90 each

Straight or Skew Back, in Hand, Panel, Ship Carpenter or Rip—Any Teeth Desired



VANADIUM SAWS "Smile at Nails"

REMEMBER THIS

If your hardware store does not sell Vanadium Saws, we will send you one by parcel post. Tell us what kind of a saw you want. Try it out. Give it the hardest service you can think of.

Vanadium Saws are tougher, but they're as easy to file and set as an ordinary saw. The hang and set is perfect. An easy saw to work with. Don't hesitate to try a Vanadium Saw. If it doesn't make good on every claim, we'll return your money. Read our ads in the November and December issues of the A. C. & B. Write us now for description and price list.

SAVE 50 TO 75 CENTS

For every order sent in on the coupon below, deduct FIFTY CENTS from the above prices on 16 in. and 18 in. saws, and SEVENTY-FIVE CENTS from the price on all other sizes. Delivered FREE by Parcel Post or Express.

MONEY BACK IF NOT SATISFACTORY

PENNSYLVANIA SAW CO.
FRACKVILLE, PA.

PENNSYLVANIA SAW CO.,
Frackville, Pa.

Enclosed find \$..... Send the following saws;

Name _____

Address _____

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



Let's Get Acquainted

We realize there are many A-1 carpenters who want to get the best chisel they can get and who have never used *White Chisels* and cannot get them from their dealer, as he does not carry them. To these carpenters we are going to make a special offer. We will send parcel post paid to any point in the U. S. a set of the above chisels, 6 to a set, $\frac{1}{4}$ " to $1\frac{1}{2}$ ", leather tips—our very best chisels for \$4.00. Regular price is \$4.40.

Buffalo, postage not paid. We will not duplicate any orders—all later orders must come through your dealer.

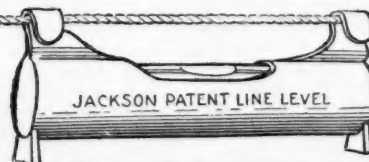
We make this offer so that every good carpenter in the U. S. can see how good our chisels really are—how much longer they will wear and how superior in every way they are to the so-called "good" chisels. If we have a dealer in your town, we will ship through him—if not, will ship to you direct.

DO NOT DELAY. SEND TODAY. WE GUARANTEE SATISFACTION

The L. & I. J. White Company, ¹⁵ Columbia St., Buffalo, N. Y.

The Jackson Aluminum Line Level

is Needed by
Every Builder



This two-inch level takes the place of the usual sixteen-foot straightedge. It saves time and labor and is positively accurate on lines stretched from one to forty feet.

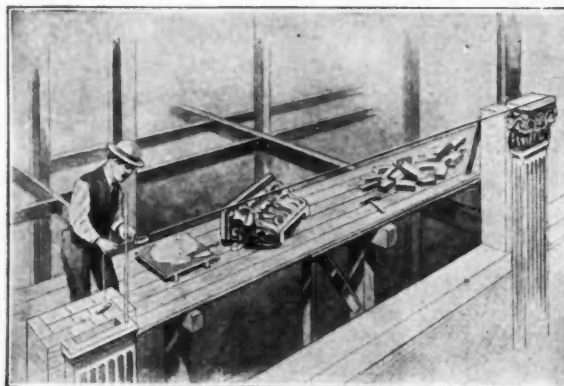
Illustration at left shows how simple it is. Just stretch a line between the two points, attach the Jackson Level as shown in top cut and—that's all! One man can use it. Suitable for use by carpenters, builders, contractors, bricklayers, masons and architects, and is useful for use in shops and factories for lining up shafting, etc. Can also be used as a pocket level, as it is readily attached to any ordinary steel square or pocket rule.

Fits the Vest Pocket

Made of aluminum, finely finished, fitted with a proved level glass. Will last a lifetime because there's nothing to wear out. The complete outfit includes level, line, double clamp spring attachment, all in a neat leatherette case. Only weighs one-fourth of an ounce and can be carried in vest pocket.

If your dealer is out of stock send us \$1.00 and the Jackson Level comes to your door prepaid. We will also send free tool catalog.

Joseph Woodwell Company, 201 Wood St., Pittsburgh, Penna.



Hammer Insurance

SPECIAL



¶ Our "VANDOR VANADIUM" Nail Hammers in two sizes. No. 22, 13 oz. Finishing; No. 21 $\frac{1}{2}$, 16 oz. Standard. We will send either size Parcel Post for your Dealer's name and \$1. ¶ This Hammer we insure for life. Made for hard work and lots of it. ¶ You can return it any time if it proves defective and get a new one.

This hammer is warranted to draw anything from a headless brad to a spike. ¶ Drop Forged from the toughest Vanadium Steel. Second growth hand shaved Hickory Handle. Tempered in oil. Easy to work with. Get one to-day. Remember only \$1 and your dealer's name for either size, 13 oz. or 16 oz. Mail your order NOW.

Van Deren Manfg. Co., Inc. Chicago Heights, ILL.
(Vanadium Dept.)



This Pearson's Automatic SHINGLE NAILER WILL PAY FOR ITSELF ON FIRST JOB

Do your nailing fast—faster than ever before. You can use this Pearson's Nailer on any pitch roof. Wear mittens, gloves, etc. This "Hand Nailer" is the only Nailer—throw nails in by the handful—then start nailing. Nails easily driven through tin or quite heavy sheet iron.

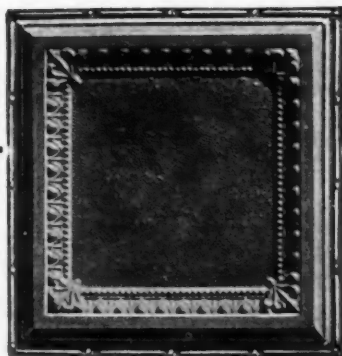
These nailers are made in two sizes—The BLUE Nailer for 3d common No. 14 gauge wire nails. The RED Nailer for 3d galvanized No. 13 gauge $1\frac{1}{4}$ inch wire nails. It will come right to your door, quick by insured parcel post, all prepaid for only \$5.00.

IT MAKES GOOD.

PEARSON MFG. CO.

ROBBINSDALE, MINN.

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REPUTATION IS NO TRIFLE

You will grant that you cannot be too careful of your reputation as a dealer. Then you cannot be too careful of the vital things that make up your reputation.

Take Metal Ceilings for instance. By handling those stamped "Brooklyn" you show great discretion in choosing a product, the use of which will add to your good name.

Why? Because "Brooklyn" Metal Ceilings are not only made from superior material, but are artistically designed.

Write us and we will prove it.

BROOKLYN METAL CEILING CO.
283 Greene Ave., Brooklyn, N. Y.

It Doesn't Take an Expert To Lay—

BAYONNE ROOF AND DECK CLOTH

With tin, tar or prepared roofing, the first cost is not only greater, but you also have to employ a roofer to lay them.

Bayonne has every advantage claimed for these roofings, and in addition, so many exclusive qualities that there is no comparison.

Bayonne is both a roof and floor covering—waterproof, wearproof and weatherproof. It is the only really reliable roof or deck covering for surfaces that are subjected to foot wear.

Can be laid dry by anyone, and only requires one coat of paint, and no sizing. By following our simple instructions, even a grown boy can do a creditable job with **Bayonne**.

Write today for Sample Book "N" containing full instructions for laying, and list of prices.

JOHN BOYLE & COMPANY, Inc.

112-114 Duane St., 70-72 Reade St.
NEW YORK CITY

202-204 Market St.
ST. LOUIS



Get Into Business For Yourself

You'll never get anywhere as long as you're hammering away for the other fellow. You've got to get into business for yourself if you want to get ahead.

Instead of pounding away as a carpenter you should take the contracts yourself and you would earn more in a day than you can now hammer out in a week.

You've got just as good stuff in you as the man you're working for. You can learn as much about the building business as any big contractor knows. And you don't have to take 10 or 15 years to get this knowledge. There is a better way—and that is through the clear and practical Building Courses of the International Correspondence Schools.

Learn Building Contracting and Increase Your Earnings

With the practical experience you get on the job coupled with one of these thorough instruction Courses, you can learn more in six months about drawing plans, making estimates, selecting materials and construction methods than you can pick up in six years by experience alone.

Thousands of carpenters have built big and profitable contracting businesses on the knowledge they gained from the I.C.S. *You can do the same.*

Just mark and mail the attached coupon, indicating the Course in which you are most interested. And the I.C.S. will send you free of cost a complete description of this Course and an interesting booklet "1,000 Successes in Architecture."

Mark the Coupon—NOW

International Correspondence Schools

Box 910, SCRANTON, PA.

Please explain, without obligating me, how I can qualify for the position before which I have marked X.

Architect
Arch'l Draftsman
Contract'g & Build.
Building Inspector
Estimating Clerk
Law for Contractors
Structural Eng.
Structural Draftsman
Concrete Construct'n
Plum. & Heat. Con.
Supt. of Plumbing

Foreman Steam Fit.
Plumbing Inspector
Heat. & Vent. Eng.
Civil Engineer
Surveying
Mining Engineering
Mechanical Eng.
Mechanical Draftm'n
Stationary Eng.
Electrical Engineer
Electric Lighting

Electric Railways
Automobile Runn'g
Sh.-Met. Pat. Drafts.
Textile Manufact'g
Bookkeeper
Stenographer
Advertising Man
Window Trimming
Commer'l Illustrat'g
Civ. Service Exams.
Chemist

Name _____

Street and No. _____

City _____

State _____

Present Occupation _____

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TIN PLATE CHARCOAL IRON TERNES

METAL SHINGLES

CORRUGATED SHEETS

ROLL ROOFING

"CANTON"**Improved Steel Ceilings
Skylights**

Special Sheet Metal
Work of all kinds.
Large stocks car-
ried at factory and
our branch houses.
Get our prices.
Write for catalogs.



New York Branch and
Warehouse:

The Canton Steel Ceiling Co.
221 11th Avenue

Minneapolis Branch and
Warehouse

The Canton Steel Ceiling Co.
206 South 3rd Street

GALVANIZED SHEETS BLACK SHEETS

VENTILATORS

EAVES TROUGH

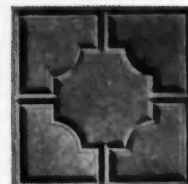
CONDUCTOR PIPE

FOR 30 DAYS ONLY

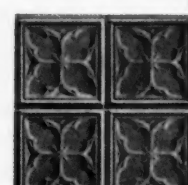
we will make a special price reduction on any ceiling made up from the plates shown here. It means a big saving for you.

KLAUER METAL CEILINGS

and Side Walls are primed with one coat of light gray paint on both sides. Wood brackets for cornice and cone head nails furnished without extra charge. With every shipment we send blue print showing exact size and arrangement of each member of the design. Stamped buttons for nail holes save 25% on the cost of erection and prevent mistakes in matching.

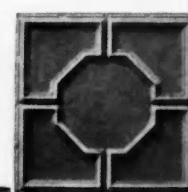
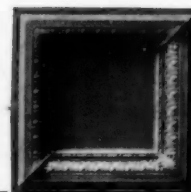
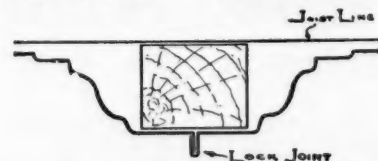
**TAKE ADVANTAGE OF
BIG DISCOUNT**

by placing your order now. There's a Klawer Ceiling for every one of your buildings. We'll furnish estimates free of cost. Write us for particulars and our handsome catalog. Look it over before your busy season starts.



Klawer Manufacturing Co.
DUBUQUE Dept. 9 IOWA

SEND FOR
FINE FREE
CATALOG

**METAL CEILING****See that Joint?**

The Acme of perfect construction.
Don't nail or slip the joints. Lock them.
Full information in catalogue E.

S. KEIGHLEY METAL CEILING & MFG. CO.
PITTSBURGH, PA.

**THE GALE**

BARN AND
GRANARY **VENTILATOR**

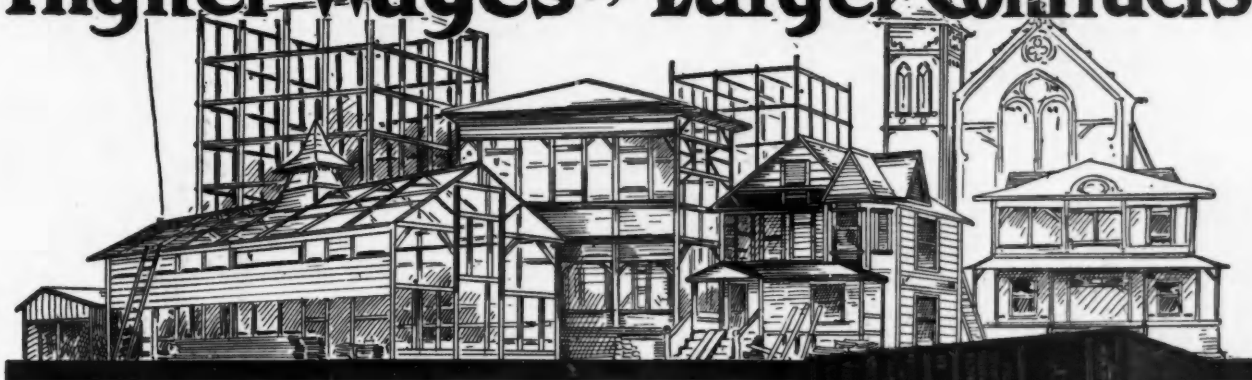
For all your buildings
INEXPENSIVE, BEAUTIFUL, STRONG
Made of heavy galvanized iron.
Screened inside. Storm-proof and bird-
proof. Perfect ventilation guaranteed.
All you have to do is to place ventila-
tor on roof and nail fast.

Write for Illustrated Circular
with Complete Prices.

Galesburg Sheet Metal Works,
Galesburg, Illinois

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

EASY and SURE Steps to Higher Wages and Larger Contracts



The man who climbs to success is the man who knows how to do things in the best modern way. A bigger share in the

BUILDING OPPORTUNITIES OF TODAY

is surely yours to claim! You can do it without technical training or hard study. To master every detail of your trade or business will be a pleasure instead of a laborious task if you will let us send you for five days' free examination absolutely at our own expense and risk, a set of

RADFORD'S CYCLOPEDIA OF CONSTRUCTION

Carpentry, Building and Architecture

A Practical Uplift to Complete Mastery of Modern Building Methods and Materials

Twelve Massive Vols.—5,000 pages, 3,000 illustrations. Up-to-date, practical, thorough. All in simple English, without higher mathematics. Latest materials and methods. The cream of practical experience of the world's best known builders and contractors. Every detail covered—Carpentry; Framing; Concrete Work; Masonry; Steel Construction; Fire and Waterproofing; Drafting and Design; Heating; Ventilating; Plumbing; Decorating; Contracting; Estimating Cost, etc., etc.

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12 Massive Vols.—Bound in $\frac{1}{2}$ Morocco leather, with full Persian library covers. A brand new work, costing over \$100,000 to compile and publish, built along new lines especially for the practical builder or contractor. Without magazine, \$1.00 less.

FREE Radford's Portfolio of \$30,000 Prize Building Plans—Over 300 designs of houses, bungalows, outbuildings, apartments, churches, etc. Ranging in cost to suit any purse.

FREE Complete Set of Guaranteed Working Blue-Prints and Specifications for any house design selected from Portfolio—Ordinarily costing \$75 to \$100. We will also include One Full Year's Subscription to the "American Carpenter and Builder," the world's greatest building paper, without extra cost to you.

If you are a Carpenter or Builder, you can do all the ordinary work of the Construction Engineer or Designer without any deep mathematical calculations, thus insuring your title to better recognition, wider responsibilities and higher wages.

If you are a Contractor, your clients will appreciate dealing with a man who is able to give them the latest practical suggestions, and who has back of him the experience and resources of one of the largest architectural firms in the world.

12 MASSIVE VOLUMES

**SENT ON APPROVAL
FOR FIVE DAYS' FREE EXAMINATION**

No Obligation. No Expense. No Risk to You
We Take all the Risk

READ THE COUPON

ON NEXT PAGE

RADFORD ARCHITECTURAL COMPANY,

1827 Prairie Ave., Chicago, Ill.

SIGN AND MAIL COUPON TO-DAY

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

He Waited Too Long



"If I only had this set of books twenty or thirty years ago, they might have changed my whole life. The knowledge in the big CYCLOPEDIA would have enabled me to increase my earning power, to take on big work, paying big money, and possibly have helped me to make a fortune in the building business."

Hundreds of letters like the above have come to us, breathing between the lines the same pathetic story of regret—showing how hard it is for the untrained man to really get ahead in life. **The opportunity is yours NOW**, and the way is easy. **Don't wait too long. Don't wait at all.** Read the terms of our **NO-RISK, Guarantee Offer** over again, and **sign and mail coupon today.** You risk absolutely nothing, and you will reap the benefit ever afterward.

VERY BRIEF LIST OF CONTENTS

To realize their tremendous scope, you must see the books—you can get the books for five days' examination without cost to you.

A.C.B.
3-14.

**Radford
Architectural
Company**

1827 Prairie Ave.,
Chicago

Please send me, express prepaid, your 12-volume Cyclopedic of Construction, for five days' free examination, with privilege of return at your expense. I enclose \$1.00 deposit, which you agree to return if I decide not to keep the books after examination. If I keep the books, I will pay \$2.00 a month until the special price, \$23.80 is paid, otherwise I will notify you within five days after receipt of books.

Your offer also includes Radford's Portfolio of Plans (over 300 designs), and one full year's subscription to the American Carpenter and Builder. You also agree to furnish set of Blue Prints and Specifications, if ordered within 2 months after acceptance of books.

Name.....

Town.....State.....

Street.....

Carpentry.
House Framing
Uses of Steel Square
Rafter Cuts
Strength of Timber
Roof Trusses
Stair Building
Drafting and Design
Working Drawings
How to Read Plans
Blue-Printing
Architectural Forms
Architectural Lettering
Construction Contracts
Forms of Contract
Architect and Owner

Specification Writing
Inspection of Work
Cost Estimating
How to Bid with Safety
Timekeeping, Superintendence
Cement Construction
Origin of Portland Cement
Advantages of Concrete
Common and Hydraulic Lime
Cements (Portland, Natural, etc.)
Proportions for Mixing
Aggregates (Sand, Gravel, Crushed Stone, etc.)
Mixing by Hand and Machine
Depositing Concrete
Concrete Troubles
Waterproofing Concrete
Concrete Blocks and Brick
Cement Mortar
Stucco and Plaster
Concreting Machinery and Tools
Concrete Mixers

Block Machines
Number of Blocks Required
Brick and Tile Machines
Forms (Wood, Metal)
Cement Houses
Foundations
Floors and Walls
Roofs and Chimneys
Fireproof Construction
Concrete Sidewalks
Ornamental Use of Concrete
Surface Finishes
Art Tile and Mosaics
Terrazzo Floors
Concrete on the Farm
Fence-Posts and Gate-Posts
Sewer and Drain Pipe
Concrete Silos
Reinforced Concrete
Principles of Design
Reinforcing Materials and Systems
Industrial Buildings
Concrete Piles
Sewer and Tunnel Work
Bridges and Viaducts
Culverts, Reservoirs

Estimating Concrete Work
Standard Specifications
Masonry Construction
Building Stone
Brick and Brickwork
Mortar for Masonry
Bonds and Joints
Steel Construction
Steel Shapes
Use of Handbook Tables
Allowable Stresses
Rivets, Tie-Rods
Columns, Beams and Girders
Floor and Roof Arches
Roof Trusses and Coverings
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Electric Wiring
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Paperhanging
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Useful Tables, Rules, etc.

**12 Big Volumes—Free Premiums—No Risk
SENT FOR ONLY \$1.00**

RADFORD ARCHITECTURAL CO.
1827 Prairie Ave., CHICAGO, ILL.

PIN A DOLLAR BILL TO THIS COUPON AND MAIL IT AT OUR RISK TODAY



\$300 MONTHLY for YOU

BE MY GENERAL AGENT IN YOUR COUNTY! GET INTO AN HONEST, DIGNIFIED BUSINESS of your OWN!

The man who makes big money doesn't depend upon his own efforts. He organizes other men and makes a profit from their labor, too. I show you how to do just that. Give you valuable exclusive sales territory absolutely free. Put you in a position to manage a large crew of successful agents and make fat commissions on their work as well as yours. With the fastest selling specialty on earth—with the help I can and will give you, and with money rolling in from your own sales and the sales of from six to ten men working under your direction—YOU SIMPLY CAN'T HELP BUT SUCCEED.

You are an opportunity seeker. All you want is the chance. I know you will do your part. If anyone will convince you that he can establish you in a paying, honest, dignified business where big money is practically sure, you'll take the job, won't you?

All right, I'll take you up on your own proposition. I'll appoint you as my representative on that very basis. I'll convince you that we've got the best selling specialty in existence. I'll prove to you that when you secure the exclusive representation for your county that you're not entering into a dinky, paltry agency proposition. You're putting yourself in line for an amazingly big paying business of your own with profits of from \$30 per week upward.

Over 70% Are Without Bath Rooms

In country and small towns and cities, the percentage is vastly greater than that. These people have gone without the exhilarating, invigorating health-giving bath simply because until now they could not get it. They have used all sorts of makeshifts, sponge baths, wooden, zinc and metal tubs of various kinds. Heavy, clumsy, unsanitary, in-the-way tubs. Lugging them in and out before and after the bath. Taking up valuable space all the time.

I have invented a practical bath tub that can be used in any room—bedroom—sickroom—kitchen—anywhere—a tub that can be sold at a price within reach of the masses—a tub that is light and yet durable, one that can be folded up and stood up in any corner when you are through with it.—THE ROBINSON STEELINE PORTABLE BATH TUB.

I wish I could show you this wonderful tub. Look at the picture. See how it folds up after the bath. Pick it up with one hand and stand it away in a corner just as you would an umbrella. Isn't that the climax of convenience? In use it's as stable as the stationary tub—as luxuriant a submergent bath as any city bathroom affords—Can't tip or splash, equipped with a handy self-emptying device—plenty of room—just the right shape—simple—perfect, absolutely idea.

We build it of STEELINE, the wonderful new material, and guarantee it for ten years.

YOU MAKE \$5.00 ON EVERY SALE

Think of it. What's the use of wasting your time and effort pushing some specialty that sells for a few cents, when the same time and energy will make you \$5. You get exclusive territory. We protect you. Give you county rights. No cost to you to secure exclusive territory. Then you, can appoint sub-agents. If you are a hustler you can make more on this proposition than many a high class salesman makes on a straight salary. In fact there is no limit to what you can earn. Just one sale a day means \$30 a week. Think of that—two a day means \$60 a week.

NO EXPERIENCE NECESSARY I don't care if you have never had a day's selling experience in your life. I know that you can sell this tub and sell it fast enough and often enough to make big money. I know it because fifty per cent of my best representatives are men and women and even boys and girls who never sold a dollar's worth of any kind of goods in their life before they started to work for us.

This is no fairy-tale. No dream of mine. Every word I write is founded on what has been done by the representatives who are now working for me. I know that they are just ordinary men and women. I know that if they can sell these tubs as they are selling them that YOU can do the same thing—that YOU can make the big money just as they do. I want to tell you all about it—what my men have done and what you can do. Let me send you full descriptive matter about my goods and convincing testimonials from others I have helped to succeed.

Write to-day—NOW this very minute—either a postal or letter. These exclusive county agencies won't last long. Pick one of these plums while you can—NOW!

H. S. Robinson, Pres., THE ROBINSON CABINET MFG. COMPANY

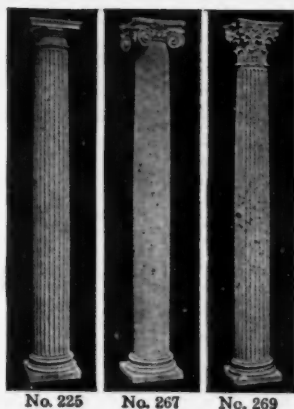
255 VANCE ST., TOLEDO, OHIO For Canadian Territory Write Our Canadian Branch at Walkerville, Ontario, Canada.

I tell you people are simply falling over each other to buy these tubs. All you have to do is to show them and write out the order. In the country and smaller towns practically every home is a prospect. Even in the city it is surprising how they sell. Right here in Toledo, Mr. N. J. Smith is averaging two sales a day. Used to work in a hardware store at \$65 a month; now he makes that much every week. You can, too. I will send you the records of lots of men who are making big money—just ordinary men and ordinary towns.



DEMONSTRATING TUB FREE

I grant credit—Furnish a sample. Help you out—Back you up—Don't doubt—Don't hesitate—Don't hold back—You cannot lose. My other men are building homes, bank accounts, so can you. Act then, quickly. Send no money. Just name on penny post card for free tub offer. Hustle!



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.

SEND FOR CATALOG



MANUFACTURED BY

RUDOLPH HEGENER CO., 9232 TO 9234 HARBOR AVE. CHICAGO

We are prepared to furnish composition capitals of standard design.

DEPARTMENT B

Composition Capitals

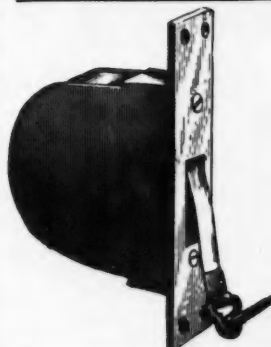


Roman Corinthian



Italian Renaissance

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.

Start to Succeed NOW

Mail the Coupon



Forget the past. Better times are ahead. Start up out of the old rut NOW. Mail the coupon. We want to tell you how you can learn Plan Reading, Estimating, Contracting, etc., IN YOUR OWN HOME. We furnish plans of buildings now being built. Never mind the cost—it's small. We want ambitious men now in the building line. Write today.

\$15.00 Outfit and All Blue Print Plans Free

CHICAGO TECHNICAL COLLEGE

1017 Lake View Building, Chicago, Ill.

Gentlemen: I have marked with a cross (X) the branch or branches interesting me.

☐ Architectural Draft'g ☐ Bldg. Superintendence
☐ Builders' Course ☐ Structural Drafting
☐ Estimating ☐ Structural Design
☐ Plan Reading ☐ Mechanical Drawing
☐ House Planning ☐ Machine Drafting
☐ General Contracting ☐ Machine Design

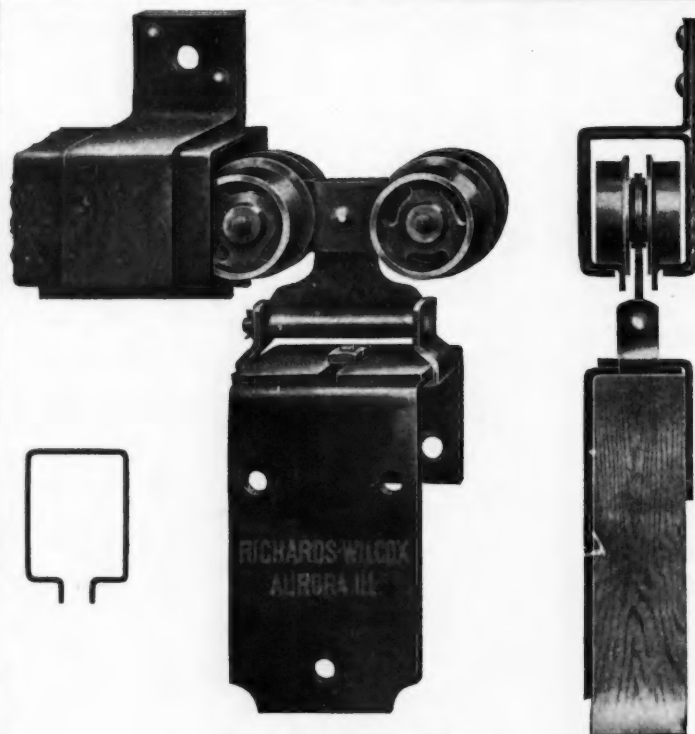
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Address

Town..... State.....

College or Home-Study Course

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



CORN BELT TROLLEY BARN DOOR HANGERS

THE barn door hanger that is cheap is never any good. It is as much of a handicap to properly operating doors, as boots of lead would be to a swimmer.

Everyone wants the best hangers on the NEW barn, because they serve better and longer. Service is what you should purchase and service is what you buy in every pair of Corn Belt Trolley Barn Door Hangers.

Full particulars on request.

Richard's-Wilcox

MANUFACTURING CO.
AURORA, ILL. U.S.A.

A hanger for any door that slides.

"Self Cleaning Type."

HINGED pendant extra strong and permits door to swing out at bottom if desired. Suitable for doors 1½ to 2 inches thick. Track can be attached to side or ceiling supports, and is furnished in any length up to ten feet in one piece. A pair of hangers consists of two hangers, one center and two end brackets; lag bolts for brackets and carriage bolts for hangers. Weight—hangers, per pair, 10 pounds; track per foot, 2½ pounds. Runs in No. 35 Trolley Track. Distance from top of door to center of hole in bracket, 5½ inches.

You Can Set It Right the First Time



It is the New

Russell Jennings Solid Head Expansive Bit

ISN'T this the kind of an Expansive Bit you have been looking for? Of course it is! It is adjusted by a worm in mesh with a rack formed on the cutter, and one turn changes the diameter exactly ¼". A slight pressure on the clamping screw keeps the worm from turning, so the cutter can't creep. Great, isn't it? It is made with Precision turned shank or ordinary bit shank, and is built for hard service. *Send for Our Bulletin on Precision Tools.*

RUSSELL JENNINGS MFG. CO.

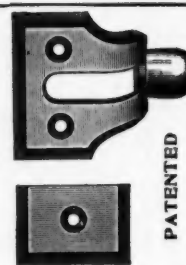
:: Chester, Conn.

21-69



The Ives Window Ventilating Lock.

A Safeguard for Ventilating Rooms.
A Lock, quickly applied and operated.
Affording Sure Protection against Intruders.



PATENTED

CHILDREN KEPT IN.

BURGLARS KEPT OUT.

—WRITE FOR DESCRIPTIVE CIRCULAR.—

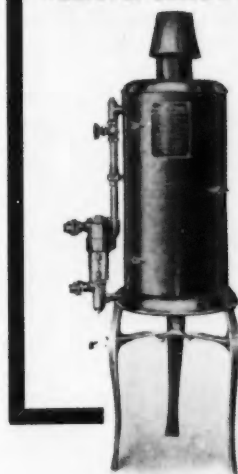
THE H. B. IVES CO.,

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

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

Hot Water Always on Tap—Day and Night

No running up and down stairs, no bothersome water tanks, no kettles littering up the stove. Simply turn the faucet and in a few seconds the hot water comes pouring out. This is possible wherever there's a



Parrott Heater

installed in the basement. It is the only convenient, reliable means of providing an instantaneous hot water supply. No expense unless the hot water is running. Ten gallons of water heated for one cent.

The Parrott Heater requires only 20"x 16" floor space. Capacity 2 gallons of hot water every minute. Investigate the Parrott at once. It is sure to satisfy your clients. Price almost as low as that of boiler and heater. Good money made by installing Parrott Heaters. Safe—a child can operate it. We guarantee the Parrott.

Contractors, Carpenters, Builders, write for Free Special Literature, prices, etc.

Michigan Gas Appliance Co.
Jackson, Michigan

"BUILDING FOR TOMORROW"

That is what the architect or builder is doing TODAY when he specifies

"AMERICAN" Pressed Metal Sash Pulleys

"Americans" Wear Indefinitely

Face plates are lacquered, plated or of solid brass or bronze to match any hardware. Plain, ball-bearing, and roller bearing axles. Steel pulleys, electrically welded. Locked by patent process. Combination grooved for cord or chain. Non-rusting. Guaranteed.



Steel
Ball
Bearing

Patented

Send for Catalog

THE AMERICAN PULLEY CO.
Office and Works, Philadelphia, Pa.
New York Boston Chicago

These BUILDING HELPS will make MONEY for YOU

KEES METAL BUILDING CORNERS—used in place of corner boards with lap siding, form a perfect, weather-proof mitered corner.



They save all the slow, careful work of cutting and fitting. Made of galvanized iron, formed to shape, nail holes pierced, treated to hold paint.

The Kees line is complete—corners and angles for 4 in. and 6 in., and bungalow siding up to 10 in. wide.

Our new Folder shows many attractive buildings finished this way.

Write today for FREE samples and delivered prices. It will mean added profits for you.

F. D. KEES MFG. CO., Box 552, BEATRICE, NEB.

GOSSETT HINGES—The one best means of attaching full-length window screens—the only kind that keeps out all the flies.

They're hinged at the top, easily put in place or removed, yet always perfectly secure.

Patent guide flange makes it a lot easier to hang screens. No loose parts to rust tight or get lost.

Try a pair and you'll always use them.



**Berger's
Metal Lumber**

replaces wood as a structural material
stick for stick. Why not use Metal
Joists and eliminate plaster
cracks and obtain a vermin-
proof, rodent-proof sound-
proof and fire-proof floor
at practically same
cost as with wood
joists. Write for
catalog.

The Berger Mfg. Co.
For the best service address
nearest branch
New York Minneapolis Boston St. Louis Philadelphia San Francisco
CANTON, OHIO

**THE DENNIS "CLINCHER"
FELT WEATHER STRIP**
(PATENT PENDING)

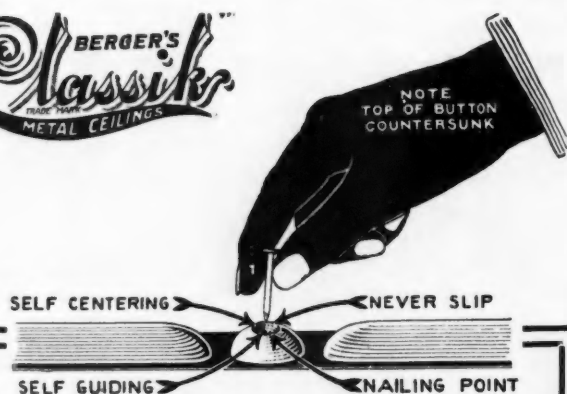
**Specify The
W. J. Dennis
Clincher Felt
Weather
Strip**

**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.

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



The Nail Can't Slip

There are two big new features of our Berger's Classik line which assure a great saving in erection cost and naturally will get you a bigger profit on each job.

The bead is made extra long in shape of half an oval, reinforcing the ceiling plates at joints, fitting snugly over underlapping bead, making a tight and perfect fitting joint.

The top of Nailing Button is counter-sunk, forming a self-centering, self-guiding, never-slip nailing point.

These features eliminate calking or tamping of joints, which has been an expensive factor heretofore, and permits the erector to install the job in a thorough and first-class manner.

Write us concerning profits you can make in Classik Steel Ceilings

The Berger Manufacturing Company Canton, Ohio

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

We also manufacture Ferro-Lithic and Multiplex Reinforcing Plates, Metal Lath, Roofing, Eaves, Trough and Conductor Pipe, and Sheet Metal Building Products of all kinds.

Export Dept., 11th Ave. and 22nd St.
NEW YORK, N. Y.



ARTISTIC HOMES

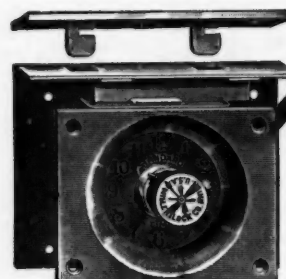
A book of 280 (8x11 inch) pages showing perspective views and floor plans of 250 artistic modern homes. A large variety of designs are given so as to meet the taste of the majority of home builders. There are artistic houses for people of moderate means and others for the more wealthy, but in every case the design is made with reference to comfort and economy.

Every design shown has been made by the best architects in the world, who have made a study of home architecture and that alone.

GET YOUR COPY FREE

This cloth bound book will be sent Free, postage paid, to anyone sending their renewal or a new subscription. Regular subscription \$2.00 per year.

American Carpenter and Builder
1827 to 1833 Prairie Avenue, Chicago, Ill.



No. 3380
All Brass

Size 4"x3"

LAUGHS AT LOST KEYS

Here's the lock for your tool chest or your shop cabinets. Safe as a bank. No keys to lose. Locks automatically. A few turns of the knob opens it. Made of brass and fits all chests from 1/2" thick and up.

"Standard Time" KEYLESS CHEST LOCK

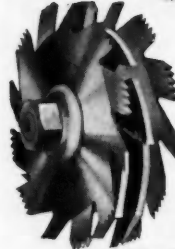
will prevent the theft of your tools. You are the only one who can open the lock. Price very reasonable. Can you afford to be without this strong protector for your valuable tools? Of course not.

Write for Keyless Lock Catalog

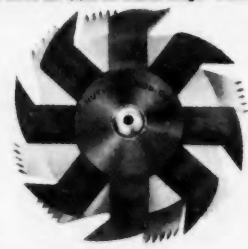
Miller Lock Co., Frankford, Philadelphia, U. S. A.

Huthier 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 1/4" to 2" or over. Will cut a perfect groove, either with or across the grain, and leave edges smooth. Will ship to any responsible firm on ten days' approval; if not satisfactory you are

at liberty to return at our expense. We also make a 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.

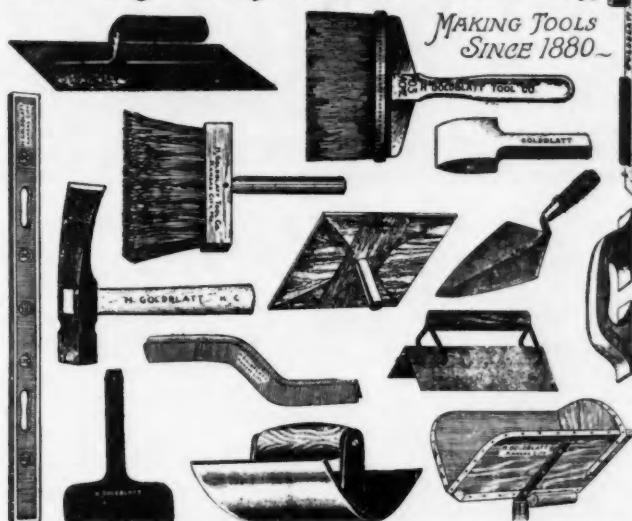
Try our Scraper Blades and you will use no others.

HUTHIER BROS. SAWMFG. CO., 1101 University Ave., Rochester, N. Y.

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

GOLDBLATT'S 1914 CATALOG

*Shows a Good many Other Tools which are
BROTHERS and COUSINS to Those Shown Below.
This Catalog Talks when it comes to Low Prices.
Our Catalog & Handy Book is Free - Ask us For a Copy.*

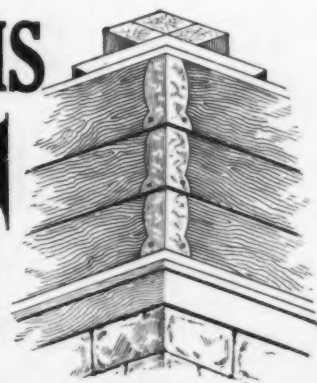


MAKING TOOLS
SINCE 1880

H. GOLDBLATT TOOL CO.

212 E. 15th St. - Kansas City, Mo.

GET THIS



Ask your
building
supply dealer
for a

MERWIN METAL SIDING CORNER

If he does not have them in stock, send
us a postal for sample.

Don't mitre the corners—Merwin them.
It's quicker, easier, stronger.

Practically invisible when painted.

Made of heavy, weathered, galvanized steel.
Used on the best or the cheapest work.

*They Save You
Money*

MERWIN MFG. CO.
ERIE, PA.

MAKERS
OF
"HERRINGBONE"
WALL TIES

AND
"YANKEE"
PLUGS

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.

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

"Opportunities"

Have you anything to Sell, Barter or Exchange,
Want Help, Agents, or a Situation? Use our

Classified Department

RATES 5 CENTS A WORD. CASH WITH ORDER

No Display Type Allowed in Classified Advertisements

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O. L. PARKER, PATENT ATTORNEY. Formerly member Examining Corps, U. S. Patent Office. 920 G. St., Washington, D. C. Pamphlet of instructions sent upon request.

PATENTS THAT PROTECT AND PAY—Books free. Highest references; best results. Send sketch or model for free search. **Watson E. Coleman, Patent Lawyer, 622 F St., Washington, D. C.**

PATENTS secured. Legal protection our specialty. HARRY PATTON CO., Suite 355 McGill Bldg., Washington, D. C.

Wanted

WANTED—Position with architect; 6 years' experience as architect and builder. Have technical education. Address **CHAS. M. THOMAS, Clinton, Ind.**

WANTED AT ONCE—Millman thoroughly understanding house construction; also the making of stairs, cupboards, sash and doors and frames. One able to lay out work from blue-prints. Write, giving salary desired and references of ability. **NORTH AMERICAN CONSTRUCTION CO., Mr. Wheeler, Bay City, Mich.**

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.**

For Sale

"HEAVEN AND HELL"—Swedenborg's 400-page work, 15 cents, postpaid. **PASTOR LANDENBERGER, Windsor Place, St. Louis, Mo.**

A FIRST-CLASS PLANING MILL in one of the best towns in Kentucky is for sale. A splendid chance for a contractor to operate a construction company. **MILL, care American Carpenter and Builder.**

Miscellaneous

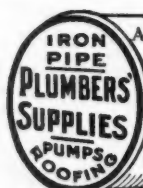
CABINET MANTELS direct to builder, \$3.00 to \$40.00. **AMERICAN MANTEL TILE & GRATE CO., Hamilton, Ohio.**

FREE—\$1.00 Self-Setting Plane Certificate and Pencil, free. See ad., page 24. Self-Setting Planes on trial at Our Risk. **GAGE TOOL CO., Vineland, N. J.**

EXCELLENT OPPORTUNITY for contractor to engage in Lumber business and continue contracting. Only yard in town. Address, **MR. H. E. ATTWOOD, No. 607 Palace Bldg., Minneapolis, Minn.**

Instruction

DRAFTSMEN'S, BUILDERS' AND FOREMEN'S COURSES—Day, evenings or by mail. **MAACK'S ACADEMY OF ARCHITECTURE, 1742 Chouteau Ave., St. Louis, Mo.**



At Lowest Factory Prices

Also complete Water Systems, Heating Plants, Wall Board, etc. Get our BIG BARGAIN CATALOG, mailed free, and save middlemen's profits—1-3 to 1-2 cost. Goods guaranteed. Write to-day **King Co., 115 F W. 3d St., Cincinnati, O.**



We Ship on Approval

without a cent deposit, prepay the freight and allow **10 DAYS' FREE TRIAL** on every bicycle. **IT ONLY COST** one cent to learn our unheard of prices and marvelous offers on highest grade 1914 models.

FACTORY PRICES Do not buy a bicycle or a pair of tires from anyone at any price until you write for our new large **Art Catalog** and learn our wonderful proposition on the first sample bicycle going to your town.

RIDER AGENTS everywhere are making big money exhibiting and selling our bicycles. **We Sell cheaper** than any other factory.

TIRES, Coaster-Brake rear wheels, lamps, repairs and sundries at half usual prices. Do Not Wait; write today for our latest special offer on "Ranger" bicycle.

MEAD CYCLE CO. Dept. T-122 CHICAGO

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

PULLMAN AUTOMATIC VENTILATOR

Three sizes—2x12 inches, 3x15 inches, and 4x18 inches. Box of brush brass;

hood of black enameled steel; copper screened; brass screws throughout. Handsome and substantial. Can be installed in lower sash rail of window. Best, cleanest, neatest, ventilator for homes, offices and all buildings. Our line is complete. Prices reasonable.

Write for Free Catalog and Prices.

Pullman Automatic Ventilator Mfg. Co. York, Penna.

Three Tools in One

SQUARE LINE GAUGE MITRE



Compact, strong, no loose parts. **Guaranteed accurate.** Should be in every carpenter's and mechanic's tool kit. If your dealer can't furnish you with "The Rule Tool" send 25c for one post-paid. Pays for itself a thousand times over.

THE RULE TOOL CO., 15 Hermon St., NEWARK, N. J.

WINDOW GUARDS ELEVATOR ENCLOSURES

Fences, Gates, Railings, and Wire Specialties.

Send specifications for prices, etc. Write today.

KOKOMO FENCE MACHINE COMPANY 502 North Street Kokomo, Indiana



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



SEND TODAY FOR COMPLETE CATALOGUE "41"
EVERY ARTICLE GUARANTEED

EVERYTHING IN GUARANTEED PLUMBING & HEATING SUPPLIES

BUY AT WHOLESALE PRICES. Bathroom Outfits, Sinks, Pipe, Fittings, Valves, Faucets, Heating Boilers, Radiators, Water Pressure Systems and Lighting Plants for Country Homes, etc., etc.
Our \$200,000.00 plant behind our GUARANTEE.

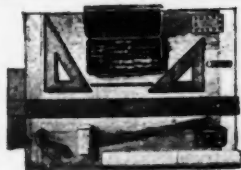
JOHN HARDIN COMPANY

39 Years at 4543-53 Cottage Grove Ave., CHICAGO

8 Grape Vines, 6 Currant Bushes \$1

All best 3 year old stock. If planted now or early spring will fruit next summer. Should ground be frozen we tell you how to protect and keep them dormant ready for early spring planting. Orders accepted now and forwarded at any future time if preferred. Grapes are Worden, Niagara, Iona, Concord, the best early, medium and late varieties. Large cherry currants. Write for list of our 81 Friend Makers, consisting of all kinds of Fruit Trees, Berries and Roses.

The Landscape Garden Co., Newburgh, N. Y.



Remit by M. O., Reg., Mail, etc.

DRAWING ROOM OUTFIT, \$3.75

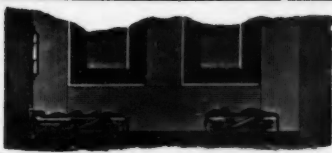
No Toys. Regular \$8.75 Special

Every Carpenter or Builder should have an outfit like this on hand. This outfit can be used for Designing Any Job You Have, from a chicken house to a skyscraper; useful to have around buildings while in course of construction.

OUTFIT consists of Board, T-Square, Triangles, Fine Set of Instruments, Scale, Tacks, Pencils, Rubber, Curve, etc. Better outfit for \$5.80, \$8.75 and \$12.50. Send for circular B. Money back if not satisfactory in any way. THE T-SQUARE & TRIANGLE CO., 30-32 Clinton St., Newark, N.J.

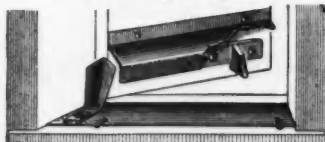
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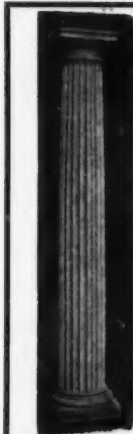
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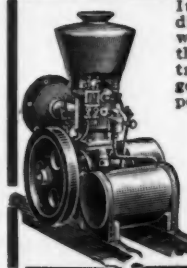
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6	Pr. 50x3-5 x7 Butts	2.55	2.05
3	Pr. 50x3-6 x6 Butts	2.70	2.15
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3	Pr. Iron B 55-5 x6 Butts	.55	.45
2	Pr. Iron B 55-5 x7 Butts	.65	.50
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16½	Pr. 60x3-5 x7 Butts	2.55	2.05
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17	Pr. 60x3-4 x5 Butts	1.50	1.20

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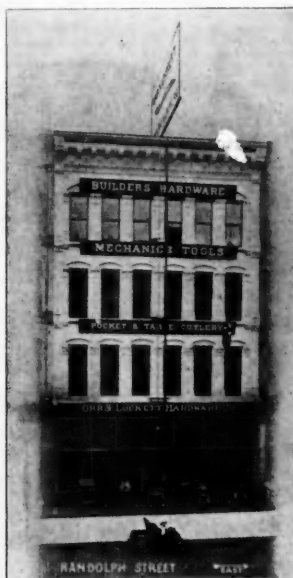
Sets	Design	Finish	Former Price	Sale Price
1-Wrot. Brz	Piedmont	Lemon Brass	\$2.25	\$1.80
2-Wrot. Brz	Piedmont	Sand Copper	2.25	1.80

FRONT AND VESTIBULE LOCK SETS

Sets	Design	Finish	Former Price	Sale Price
1-Cast Brz	Colonial	Lemon Brass	\$12.60	\$10.10

INSIDE LOCK SETS

Sets	Design	Finish	Present Value Set Former	Our Price Set Sale
8-Cast Bronze	Fr. Renaissance	Sand Copper	\$ 1.85	\$1.50
6-Cast Bronze	Greek	Sand Brass	4.50	3.60
6-Wrot. Bronze	Aramis	Sand Copper	1.25	1.00
9-Cast Bronze	Greek	Sand Brass	5.10	4.05
4-Cast Bronze	Louis XIV	Sand Brass	4.10	3.30
3-Cast Bronze	Colonial	Lemon Brass	2.65	2.10
8-Wrot. Bronze	French	Lemon Brass	1.35	1.05
12-Cast Bronze	English Gothic	Sand Copper	5.30	4.25
5-Cast Bronze	English Gothic	Sand Ant. Brass	5.30	4.25
6-Cast Bronze	Colonial	Lemon Brass	1.35	1.10
7-Cast Bronze	Greek	Sand Copper	2.25	1.80
16-Wrot. Bronze	Piedmont	Sand Copper	1.15	.90
1-Cast Bronze	Colonial	Sand Copper	3.30	2.65
12-Cast Bronze	Colonial	Plain Bronze	3.00	2.40
7-Cast Bronze	Modern French	Sand Copper	3.80	3.05
3-Cast Bronze	Plain	Sand Copper	1.90	1.50



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Sets	Design	Finish	Former Price	Sale Price
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1-Cast Brz	Colonial	Lemon Brass	8.05	6.45
1-Wrot. Brz	French	Sand Brass	6.85	5.45
1-Cast Brz	Colonial	Lemon Brass	9.00	7.20
1-Cast Brz	Colonial	Sand Brass	8.60	6.90
1-Cast Brz	Greek	Bower B'rff	7.50	6.00

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Sets	Design	Finish	Former Price	Sale Price
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1-Cast Brz	En. Gothic	Sand Brass	9.30	7.45
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Keyed Lath Keeps Plaster In and Up

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Bishopric Wall Board for interiors is a *permanent* finish. Can't crack, shrink, buckle or pull loose. Unaffected by dampness or changes in temperature.

To prepare outer walls instantly for stucco, plaster or concrete use Bishopric Stucco or Plaster Board. Comes in handy sheets. Goes on like wall board. Rigid and enduring—won't sag like other backgrounds.

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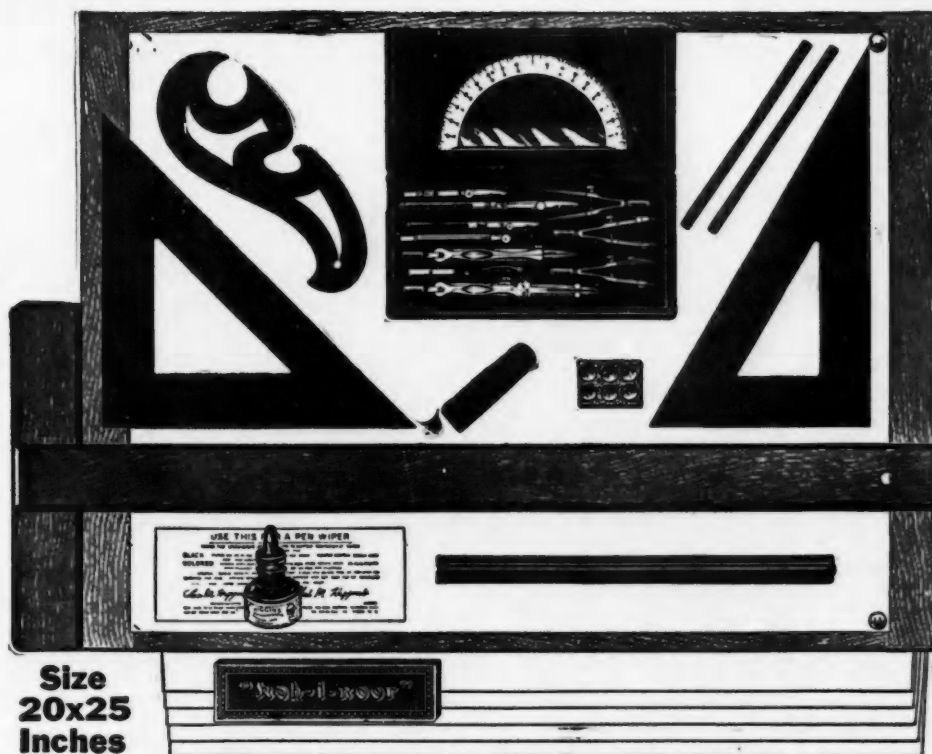
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Engineer's Equipment Co., (Inc.)
Chicago - Illinois

FREE COUPON

Chief Draftsman, Div 2663
Engineer's Equipment Co., Chicago, Ill.

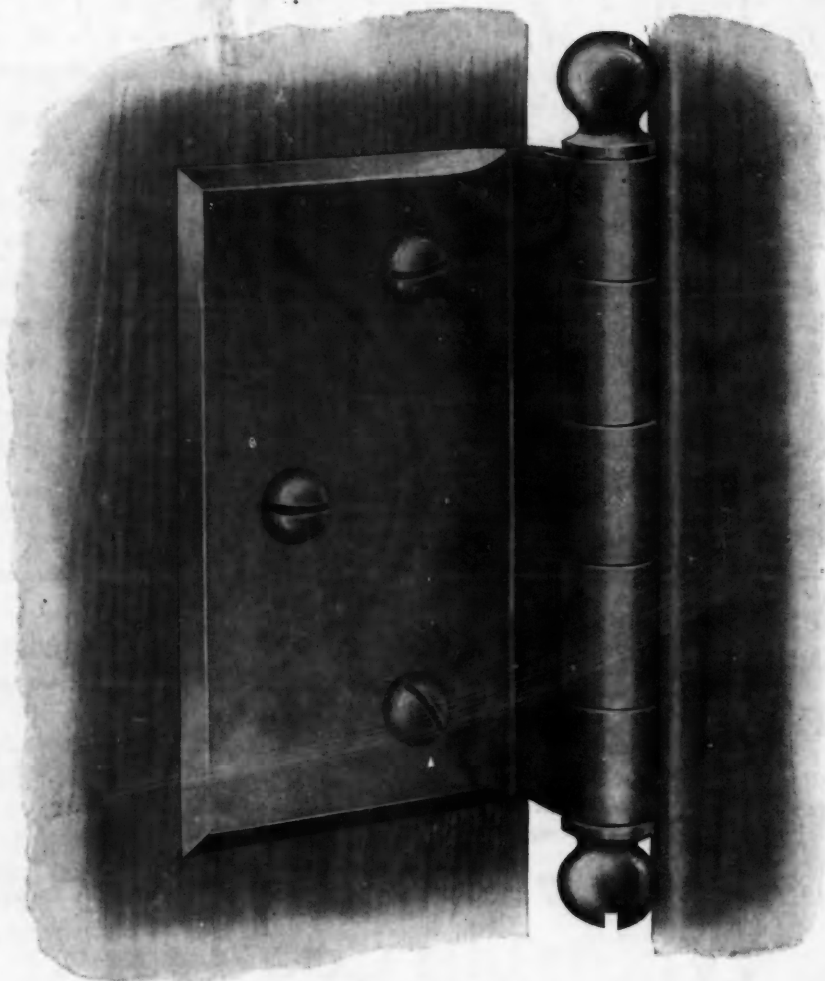
Without any obligation on me whatsoever, please mail your book, "Successful Draftsmanship," and full particulars of your liberal personal instruction offer to a few students. It is understood that I am obligated in no way whatever.

Name.....

Address.....

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

WE INITIATE — NEVER IMITATE A REVOLUTION



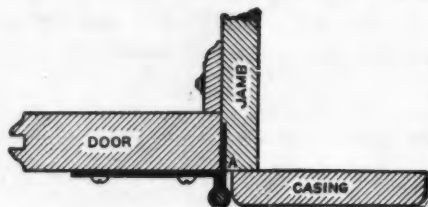
In building methods. "NATIONAL" Ornamental or Half Surface Butts have made it possible for the contractor and carpenter to cut in half the labor of hanging doors. There is but one side to mortise, the ornamental leaf being screwed to the surface of the door.

The lower tip is threaded and screws into the butt. It is also slotted for a screw driver, making it easy to remove the tip and affords ready access to the pin.

Style No. 450

here illustrated is a very popular design and can be furnished in all sizes from 1½" to 4" inclusive. These Butts are highly polished, have beveled edges and are double plated. They match the escutcheon plates with beveled edges.

No. 450

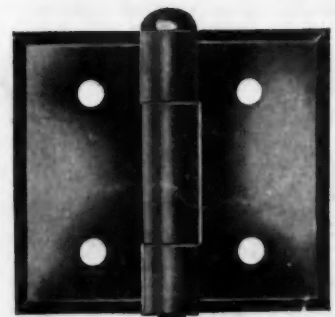


Ask for Booklet, "Ornamental Ideas," and give us your dealer's name.

Directions—Attach butt part "A" to jamb first, then set and wedge door into position and attach Ornamental Leaf to surface of the door. Simple, isn't it?



Be sure to look for the flag—it's stamped on all "National" Butts.—It stands for quality.



Surface Hinge

National Manufacturing Co., STERLING, ILLINOIS

