

SEPTEMBER 1914

AMERICAN CARPENTER AND BUILDER



THE WORLD'S GREATEST BUILDING PAPER



BUILDER TYPES

Picturing certain important groups of "Our Readers"

④ THE ARCHITECT AND BUILDER

He is a more practical architect because of his building experience. He is a better and more up-to-date builder because of his study of planning. His work gives fullest satisfaction since all is under one responsibility. Here's to the Architect and Builder — already in control of the great bulk of America's building work and the logical heir to still more in the future.



Price 20 Cents

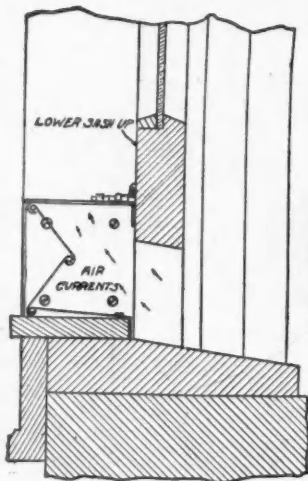
FRESH AIR

WITHOUT
Draft, Dirt, Rain or Snow

By the use of

BERRY WINDOW VENTILATORS

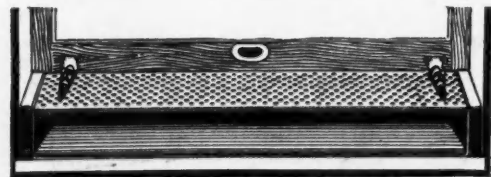
PERFECT VENTILATION



Cross section of window showing ventilator open

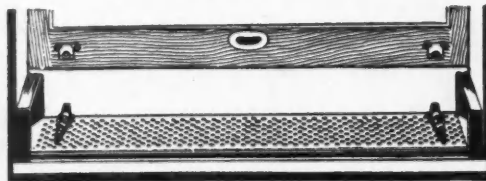
for the living room, bedroom, office, kitchen, nursery or shop is assured by the use of Berry Window Ventilators.

The supply of fresh air is admitted through the ventilator and deflected upward, eliminating all chance of draft, while the impure air is forced out through the opening between lower and upper sashes. Any room equipped with a Berry Ventilator has a complete Ventilation System and is absolutely burglarproof.



Showing window open with ventilator in use

Construction of Berry Ventilator



Showing window open with ventilator closed and not in use

Ventilators are constructed of a new process galvanized metal, finished with two coats of heavy enamel and come in stock sizes of 3 inches apart, from 17 inches to 71 inches—finished in black, mahogany or oak, or white enamel. Adjustments furnished with each ventilator, permitting same to fit any opening any part of 3 inches greater than stock sizes. The Berry Ventilator is collapsible, operating like an accordion, and the amount of air admitted can be regulated by raising or lowering the window. (We can furnish

ventilators in special sizes or finishes. Send us your specifications.) Ventilators are easily applied and the only tool required is a screw-driver.

TAKE ADVANTAGE

of the popular demand for fresh air that is growing stronger every day.

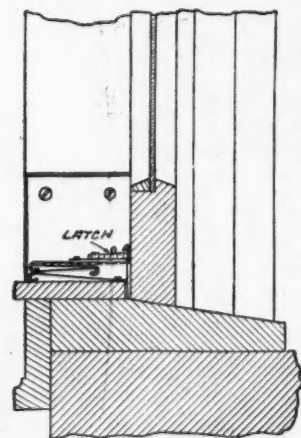
BECOME OUR AGENT

We have a liberal proposition that will interest you, put them on your houses, schools, churches, offices, etc. Establish yourself in your locality as the ventilating man, and handle a ventilator that has been proven by experts as scientifically correct. Write for special proposition to all *American Carpenter and Builder* readers.

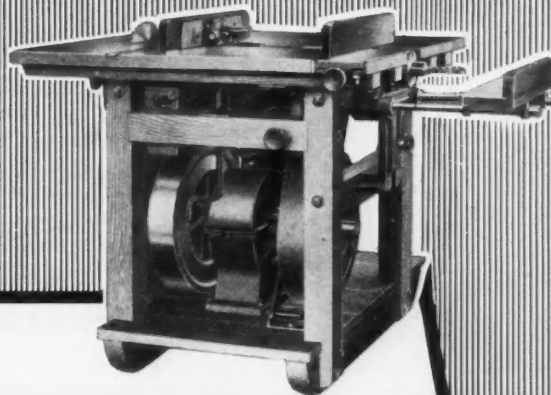
BERRY
WINDOW VENTILATOR SALES CO.

14-16 West Randolph Street CHICAGO

Cross section of Window showing ventilator closed



How To Make More Money

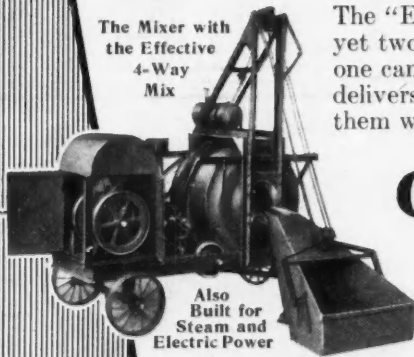


“EVEREADY” SAW RIGS

SAVE THE WAGES OF SIX MEN

That's **one** way, Mr. Contractor, the “EVEREADY” Portable Saw Rig makes you money. If the **saving of wages for six men** is not a “clincher” argument for the “EVEREADY,” figure its **wide range of uses**; besides cross-cutting and rip-sawing, this mechanical masterpiece **joints, sands, jig-saws, grooves, bores, mitres and grinds tools**. All attachments included—**no extras to buy**.

The Mixer with the Effective 4-Way Mix



Also Built for Steam and Electric Power

The “EVEREADY” is built **heavy and strong** for **any** service, yet two men can easily move it. So simple in construction that any one can do perfect work with it. And the “EVEREADY” **Engine** delivers **real power**. Bore, 4½ inches; stroke, 6 inches. Compare them with others. We guarantee over 4 **actual brake** H. P.

OSHKOSH MIXERS

This sturdy, well-built mixer has **proved best** by many a **test** in all classes of work. Your men need not be concrete “experts” to get **perfect results** from the OSHKOSH MIXER. Any one can produce a smooth, well blended mix, **guaranteed** inspection-proof. Few parts; loads and cleans easily; mixes any material; requires little power.



Live Agents Wanted in Open Territory

OSHKOSH MANUFACTURING COMPANY

316 S. Main Street, Oshkosh, Wis.

Chicago Office, 1440 Monadnock Bldg.



Write for Free Catalog Today

Coupon, letter or postal brings the Oshkosh Catalog—the book that every contractor should have—and can have for the asking. **ASK!** Mail the Free Coupon TODAY.

Mail This Coupon Now!

OSHKOSH MFG. CO.,
316 S. Main St., Oshkosh, Wis.
Please send me—FREE—the big Oshkosh Catalog—the book that shows me how to make more money.

Name

Address

This Book Shows You How To Make Money



**YOU LOST THAT BIG JOB
BECAUSE YOUR BID WAS TOO HIGH**

YOU ALSO LOST THE ADVERTISING WHICH THAT JOB WOULD HAVE GIVEN YOU. IT HURTS, BUT NEXT TIME

REDUCE YOUR BID \$400.00 TO \$700.00

AND DEPEND UPON THIS FLOOR MACHINE TO MAKE GOOD EVERY CENT OF IT. IT RUNS BY ELECTRICITY.

THINK THIS OVER—THEN WRITE US—NOW.

**THE AMERICAN FLOOR SURFACING MACHINE CO.
TOLEDO, OHIO**

THE AUTOMATIC BALL BEARING ELECTRIC FLOOR SURFACING MACHINE

Contractors and builders find, dresses in paying quantities, quarter-sawed oak, etc., the way they want it or rapidly refinishes old floors. Having ballbearings, roller and dust-suction fans spin true and easy: yielding arms give flexible or rigid roller as needed: self-propelling with automatic control (as shown) gauges roller cut for even work and brakes forward pull for large capacity—you simply guide. Surfaces to base baseboard with Edge Roller. No hand scraping



Booklet tells all about it and our **FREE TRIAL OFFER.**

Made in several sizes for small rooms or large areas.

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

Patented Oct. 15, 1912.
Machines sold outright for use anywhere.

Scraping Floors by hand is expensive.

Reduce your cost. Improve your work.

The Fox Floor Scraper does it.

Shipped on 10 Days Trial

Fox Supply Company
Dept. A
Brooklyn, Wis.

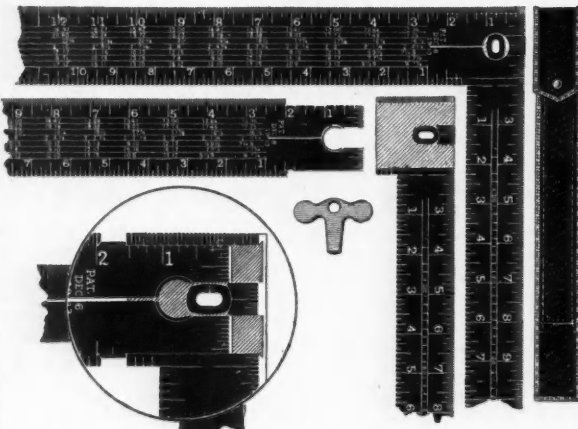


Complete Scraping Outfit Consists of

- 1 clamp block for sharpening knives.
- 4 crowd knives, large size.
- 3 old floor knives, small size.
- 1 Special Knife, substitute for sander.
- 1 burnisher. 1 file.
- 1 wrench. 1 oilstone.

Complete set of instructions for operating.

Price \$25.00



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

STEEL SCREW



WIDE, STRONG FRAME

HARGRAVE

Hargrave H Quality

Standard Clamps

WEAR LONGEST PLEASE BEST

The Steel Screw and the wide, Strong frame are two of the reasons. For others and full particulars about the Hargrave line of superior tools, write today to Dept. H.

The Cincinnati Tool Co.,
NORWOOD, OHIO



IMPERVITE is Guaranteed to Waterproof Walls: Cellars & Pits.

A facing of IMPERVITE MORTAR on the inside will resist water on the outside.

ASK FOR BOOK No. 62

The Standard Paint Co.

NEW YORK
BOSTON
CHICAGO

THE IDEAL
Electric Floor Sander

For surfacing all grades of wood floors, works equally well on new or old floors. Removes paint, varnish, dirt, grime. Will surface 5,000 square feet once over in eight hours.

The lowest priced and most efficient floor sander on the market.

The Ideal Floor Sander is simplicity itself and built mechanically correct to withstand years of hard service.

Write for our **FREE TRIAL** proposition



Ideal Floor Sander Co.
No Inc.
105-109 N. Canal St.
CHICAGO

M. L. Schlueter's Rapid Floor Surfacing Machines

PERFECT RESULTS GUARANTEED

Our Latest
"The BABY SURFACER"

Especially adapted to use in small rooms. Old or new floors. Will surface from 500 to 800 square feet per day.

VACUUM CLEANER PAN! NO DUST!
Will do the same work but costs, complete with 100 ft. Trailing Wire and two Rolls Garnet Sand-Paper, etc.

Less than Half the Price of Our Larger Machines. Write for our **FREE TRIAL OFFER** and catalogue.

DEMONSTRATING AND SALESROOMS:
225-227 W. Illinois Street, Chicago, Illinois



H. P. Motor Roller may be attached to either side of Machine.

Sept. 1, 1914

Mr. Bill Ding Kontraktor,
Dear Bill:

"I am a Democrat" said David B. Hill, but . . . tho I am looking for work, it is not a political job that I want. I want to work for YOU.

I want to do your hardest, meanest jobs;—the kind most men hate,—finishing wood floors. No matter how old, tough or gummy. It's pie for me. I "eat 'um up."



This Sander FREE to Cash Buyers

Price for Scraper . . . \$22.00
Price for Sander . . . 2.50

I've worked for the best and biggest building contractors and all agree that I've got the day-lights knocked out of all competition in finishing wood floors quickly and economically.

You want let me go when you see my work—when you realize the time and labor I'll save—the DOLLARS I'll add to your bank account. I'll do more GOOD WORK than any three or four men you can get at ten times my price.

You don't have to take my word for that either. You may be the judge and jury Your decision will be final. I'll have nothing to say—but the work done for you.

Give me a chance to SHOW what I can do for YOU. If you are not entirely satisfied—more than pleased—just say so, and I'll take my leave and there'll be no hard feelings on either side.

Let me begin making money for YOU—TODAY. Mail the coupon NOW, while you think of it.

The ADJUSTABLE FLOOR FINISHER

PERPETUAL GUARANTEE
If at any time or for any reason thru fault of the machine the ADJUSTABLE FLOOR FINISHER fails to please you, you may have your money back if you want it.



H. P. Didriksen Anderson Ind.

Without obligating me in any way. Tell me more about your Adjustable Floor Finisher with the understanding that if I buy for cash I get the Sander FREE.

THIS COUPON IS WORTH \$2.50 CASH

Name.....
Town..... State....

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 "handy man" in a few hours' time. 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. WORKS, SIDNEY, OHIO

DUMBWAITER PROFITS

No builder ever made a profit out of an inferior DUMBWAITER. There is not sufficient profit in the sale of an inferior DUMBWAITER to make it worth while, and you take a chance of losing a customer whose future business or good will might be worth money to you. If you take the word of the manufacturers, there are no poor DUMBWAITERS made. Nevertheless some must be better than others. **The BEST is none too good. Those who know say "THE SEDGWICK IS THE BEST"**

Try a Sedgwick outfit and see why. Send for Catalogue L—it is sent free and is worth money to you.

SEDGWICK MACHINE WORKS
132 Liberty Street NEW YORK

WARNER ELEVATORS and DUMB-WAITERS

We give you more good material—good workmanship—good Elevator and good service than any elevator builder on earth—for your money.

Send for Catalogue

The Warner Elevator Mfg. Co. : Cincinnati

A FREE Book For You

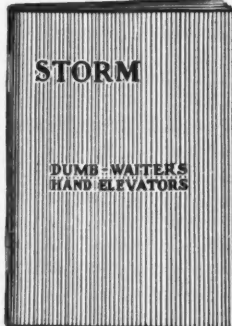
You should have this book because it completely illustrates and describes

STORM

Elevators and Dumb-Waiters

We will help you estimate the cost of elevators or dumb-waiters for any of your buildings. Help you install them too. We can furnish any kind or size of elevator or lift you want.

Get Our Catalog.
Storm Manufacturing Co.
Harmon and Vesey Streets
NEWARK, N. J.




CARPENTERS AND BUILDERS make extra money by installing this practical necessity in new and old homes. It saves 3650 trips to the cellar each year. **"WIFE'S JOY" DUMBWAITER—Ball Bearing—Disappearing** Operates quickly by a press of the button. Takes up no room. Top lies flush with floor; can be walked on. Practical for any home. Keeps food perfectly. Can be installed complete in 2 hours. **WRITE FOR CIRCULARS.** Fifteen Days' Free Trial Without Any Deposit.

AMERICAN ELEVATOR CO. - - Bloomsburg, Pa.

CHELSEA

EXEMPLAR OF QUALITY

Send for our Elevator and Dumbwaiter catalog

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



KITCHEN


CARPENTERS WANTED AS AGENTS
During Fall and Winter Months. Big Money! Ready Seller.

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. Cost of installation nominal. Write for new catalog just now
York Automatic Dumbwaiter Works, 639 W. Market St., York, Pa.

CELLAR


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.



We Furnish a Complete

Automatic Dumbwaiter for \$18.00

Including car, guides, rope, nails, machine, etc. Send us your measurements and write for further particulars.
Agents wanted. Exclusive territory given.

ACME DUMBWAITER CO., 78 Broadway, Brooklyn, N. Y.



STOP THOSE RATTLING WINDOWS

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

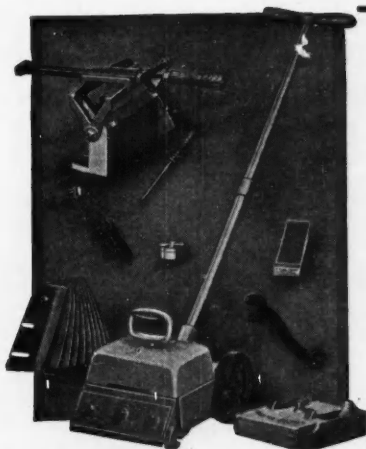
AUTOMATIC SASH HOLDERS

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



Makes Floor Scraping an Easy Job

The automatic action of the Acme Floor Scraper allows the operator to stand in an easy, upright position while working. No back-breaking positions to get into, and no lifting. Simplest and most effective floor-scraping machine on the market.

Let me prove this by having me send the complete

ACME FLOOR-SCRAPING OUTFIT

to you on a week's free trial basis at my expense.

Catalog and complete detailed information of my Free Trial Offer are yours for the asking.

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

"SPRING-DRIVEN"



The Triple "A" Spring-Driven Floorsmoother

Is Equipped with a Steel Spring "ENGINE"—a Feature Possessed By No Other Machine

Only one operation required—the push forward. This winds the **Spring Motor**, which automatically stops the machine and starts it back on the cutting stroke. Works just like two men on a cross-cut saw.

You can do as much work in one hour as you can do by hand in a day.

ADJUSTABILITY

Its wide range of adjustments permits of reversible shear cut, working close to baseboards, in corners, small rooms, or halls, etc. Takes off a shaving as wide as your hand and of uniform thickness. Leaves the floor as smooth as satin—without wave or chatter.

Write Today for Full Particulars and 30 Days Trial Offer

TRIPLE "A" MACHINE CO., Room 325, 300 W. Grand Ave., CHICAGO

SEND ME

THIS COUPON

Everywhere I go machinery is replacing hand labor and old fashioned methods—car unloaders, steam shovels for excavating, tractors for plowing, automobiles, trucks to replace horse drawn wagons, automatic machines in factories replacing scores of mechanics. Everywhere it is one endless effort to cut down costs.

The reason behind the Weber Double Acting Floor Scraper is the same. I'm a contractor myself. I saw a place where building costs could be cut down, so I made the Weber Floor Scraper. I knew from personal experience just what features were needed. And I did not rest until I got them.

NOW--I have a machine that I can swear by. It works either forward or backward, with or across the grain.

It has both PUSH and PULL--it has a nose that smells out the work in the close corners and it just eats up a strip by the baseboard. Some machines are almost uncanny in their operation. They seem to think. If you want a floor scraper that seems almost to think, then it's the Weber for you.

Don't dream about it a single night. Write NOW for a Weber Double Acting Floor Scraper for a 5 day FREE TRIAL. Then sit back and have a smoke and watch it work. It'll take you about 5 minutes to realize that your floor scraping troubles are at an END. Fill out the coupon and send it to me now.

The WEBER DOUBLE ACTING Floor Scraper

Weber Mfg. Co. 670-71st Ave., West Allis, Wis.

To John F. Weber, Pres.

Please send me one of your Double Acting Floor Scrapers on 5 Day Free Trial.

NAME _____

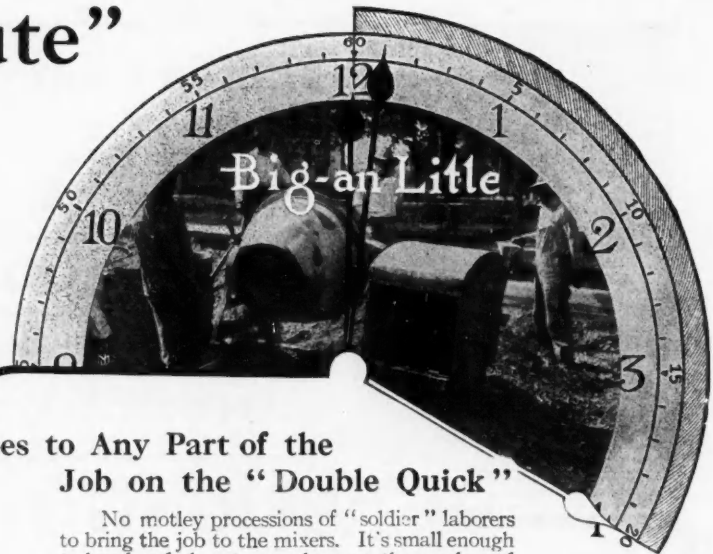
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EXPRESS _____

“A Mix A Minute”

At an Operating Cost of But
3 Cents per Hour

Entire batch, wet or dry, folded against itself and thoroughly kneaded 2½ times with each drum revolution. 12 to 20 drum revolutions per minute. Two wheelbarrows per batch.
DAILY CAPACITY up to 75 yds. with loader.
DAILY CAPACITY up to 50 yds. without loader.



Goes to Any Part of the
Job on the “Double Quick”

No motley processions of “soldier” laborers to bring the job to the mixers. It’s small enough to be placed almost any place on the work, and it’s a mighty easy matter to “put it right where you want it.”

Two “Big-an’-Little” Mixers on a big job means you’ll accomplish as much in one-third the time and with less men and less expensive delays.

The “Big-an’-Little” with Side Loader

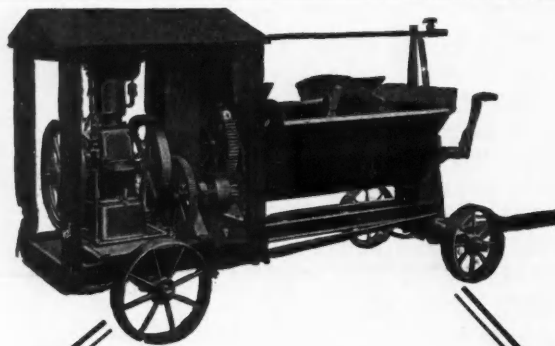
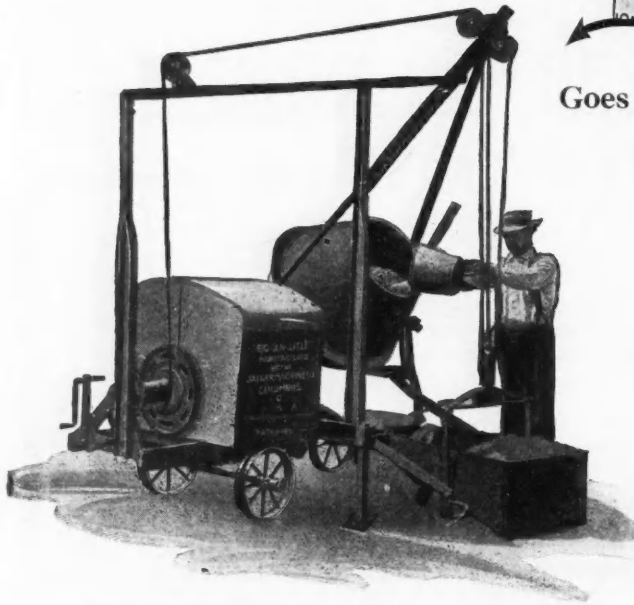
Time and money saved by increasing output.

Capacity one batch; loads while other batch is mixing, and operates by regular, quick-acting “Big-an’-Little” Hoist directly connected with engine.

Our Catalog, sent on request, will give you a lot of valuable ideas on the concrete mixing experience of men who have tried all sizes of Mixers.

Send for illustrated literature now.

THE JAEGER MACHINE COMPANY
318 W. Rich St. COLUMBUS, OHIO



We Can Save You Money In Your Mortar Mixing

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

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

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

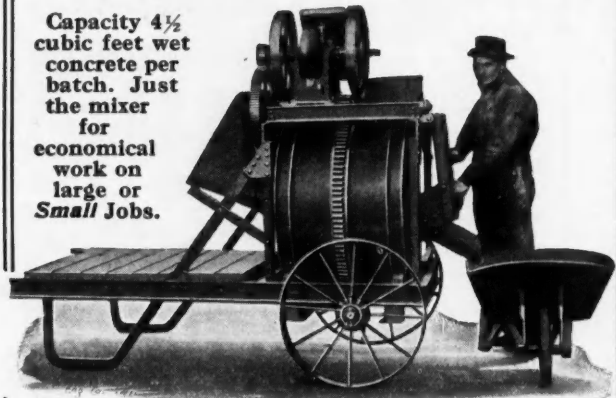
BUILDERS—Get The Facts About The Blystone

Let us send you our catalogs and other matter explaining in detail just how the Blystone can save YOU money. Write us for this information right now—while you have it in mind. Asking us for details puts YOU under NO obligations.

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

ARCHER CONCRETE MIXER

Capacity 4½
cubic feet wet
concrete per
batch. Just
the mixer
for
economical
work on
large or
Small Jobs.



Saves the Work of 5 Men

The Archer Mixer by fast mixing and by discharging the concrete directly into the forms saves the work of five men. No wheeling is necessary. Loading platform is low. Barrow dumps into the charging hopper which is strongly braced so it will not bend or “give” under weight.

The price of the Archer makes it an attractive investment for the Carpenter and Contractor. It is built of first quality iron and steel with blue annealed steel plate drum. 3½ H. P. Gasoline Engine. Platform 5 feet long by 38 inches wide and 21 inches high. Can be used anywhere on the job—in the basement or on the roof. We agree to refund your money if the Archer does not do all we claim. Write for full description and price.

Archer Iron Works
2430 West 34th Place

CHICAGO,
ILLINOIS

Are You Making the Whole Profit Mr. Builder?

Do you figure closely and work hard for Small Profits and then "pass up" the money on the Cement Work?

Why don't you "CASH IN" on the experience of others—thousands of prosperous builders who have taken advantage of our "MAN TO MAN" proposition?

Why don't you equip yourself with the

LITTLE WONDER "FIVE"

"The Mixer that Makes the Money"



Capacity
WITHOUT
Side Loader
5 cubic feet
per batch—
35 to 50
cubic yards
per day

Capacity
WITH
Side Loader
5 Cubic feet
per batch—
70 to 100
cubic yards
per day

This is the Concrete Mixer you want because it has behind it the endorsement of more Builders than any other. It has this because it has made good in your particular field—it is particularly adapted to your work. It will mix mortar as well as concrete. It is the original of its type and has exclusive features that time alone develops—strength in every part, durability, economy of operation, etc., that spell satisfaction and profit. Check up with any and every other mixer on every vital point and you'll find the WONDER outclasses all others.

TEN DAYS' FREE TRIAL

on your own work without obligation, and we even pay the freight if the machine is not fully satisfactory in every respect. Write us NOW and we'll put you next to the most profitable investment you ever made.

100 AGENCIES—ASK FOR THE NEAREST TO YOU

WATERLOO CEMENT MACHINERY CORPORATION

103 Vine Street, Waterloo, Iowa

NEW YORK

PHILADELPHIA

PITTSBURGH

KANSAS CITY

Supplies the Demand for a Small Perfect Mixer



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, thirty to forty yards per day. Cost for power, twenty-five cents per day. The largest, best and most complete mixer on the market for the money.

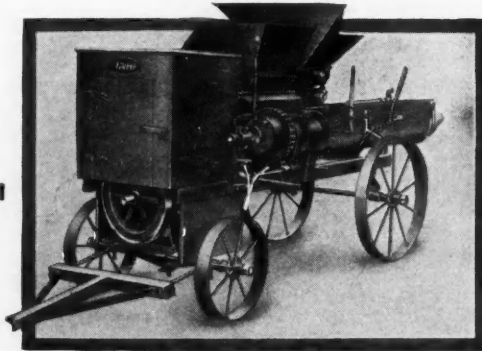
Write for Further Particulars
SIOUX CITY ENGINE & MACHINERY COMPANY 9th and Division Sts. SIOUX CITY, IOWA

Capacity
 3 to 5 Cubic Feet
 Per Batch

Weight, 800 Lbs.

On Trucks,
 1000 Lbs.

On Trucks
 with
 Engine,
 1400 Lbs.



The BABY GRAND CONTINUOUS MIXER

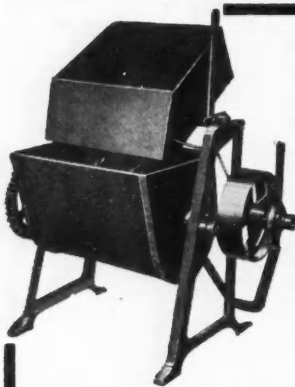
combines all the good features of mixer and hoist at the price of one machine.

The BABY GRAND is a logical investment for the Carpenter and Contractor because both mixer and hoist are greatly used in modern construction. You can afford the Baby Grand. It is portable; capacity, 4 to 5 cu. yds. an hour. 2½ H. P Gasoline Engine furnished with the machine.

The HOIST is mounted on the frame (see illustration). Operates with or independent of the mixer. Simple friction clutch for starting and hand brake for holding load. Capacity of hoist, 400 pounds. Lifts load 100 ft. per minute.

Our latest CATALOG gives a complete description. Send for it. We also make the HARTWICK TWO TROUGH MIXERS for heavy construction work.

HALL-HOLMES MFG. COMPANY
 436 Oak Street Jackson, Mich.



Think of It!

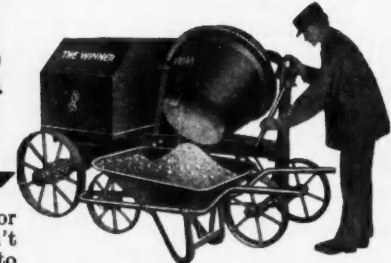
This **HELPER** mixer that will mix mortar and concrete, only **\$35.00**

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., 132 Rath St., Waterloo, Iowa

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 BEST CEMENT BLOCK IN THE WORLD

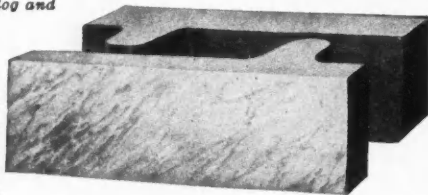
Continuous open air space; reinforced all around; staggered bearings. Makes strongest buildings and silos at least cost.

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.



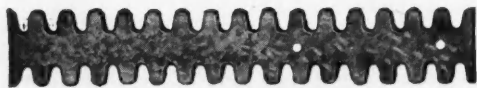
WHY TAKE A CHANCE

of having a defective wall from using a scrap wall tie in varying thickness as light as tin.

Ask your dealer the weight of a box containing 1000 ties and if the weight is below 50 pounds you are buying an inferior tie and entitled to rebate.

To be safe, specify the

WHALE BONE WALL TIE



and if your dealer cannot supply same, order direct from us and we will ship the same day as received, at price of \$2.50 per 1000, Pittsburgh, Pa.

ALLEGHENY STEEL BAND COMPANY
 BELL PHONE: 718 Cedar North Side, PITTSBURGH, PA.

**"THE STANDARD"
LOW-CHARGING**

Keeps Down Your Costs—Builds Up Your Profits

THE profits which you make as a contractor depend upon your actual working costs after you have taken on the job. There is no better way of reducing costs in your work than being properly equipped, and the contractor who is

using the right kind of equipment in the right kind of way is not only in a better position to put in the more attractive bid, but also is in a better position to make greater profits after he is awarded the contract.

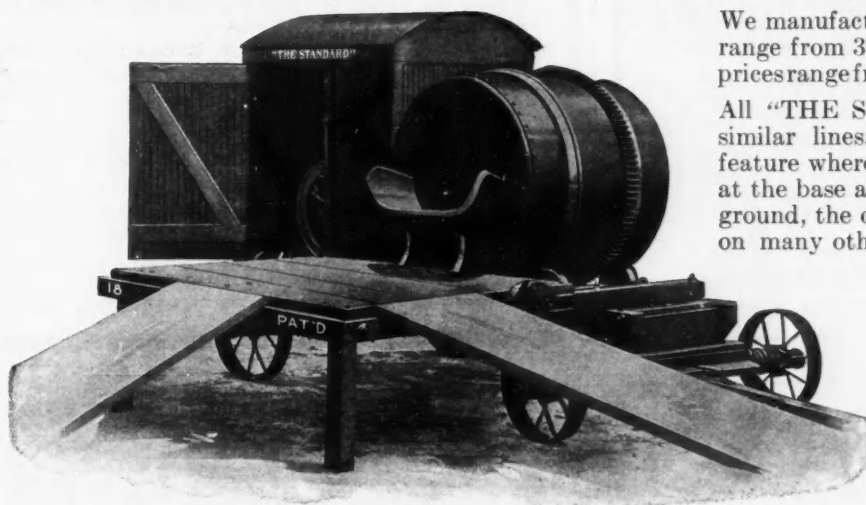


Figure Y90-5

By "THE STANDARD" construction there are no cumbersome strain effecting bucket-booms which necessitate great weight, bulk and high first cost. Great difficulty is experienced in transporting and sinking such large machines in the grade when on the job. Take advantage of

the easy portability and economy of installation which is offered you in "THE STANDARD."

Send for Catalog No. 449
This Catalog contains other information on proper equipment

Figure Y90-5 is a type of "THE STANDARD" which may be easily and frequently moved as the work progresses, or from one job to another.

Figure Y90-18 Shows "THE STANDARD" designed for handling mixed concrete without the necessity of having a separate hoisting equipment. Both mixer and hoist are driven by the same engine. Built in all sizes.

Information on other types will be sent upon request.



Figure Y90-18

THE STANDARD SCALE & SUPPLY CO.

CHICAGO
1345-47 Wabash

NEW YORK
136 Broadway

PITTSBURGH
243-45 Water St.

PHILADELPHIA
35 S. Fourth St.

CLEVELAND
1547 Columbus Rd.



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 Slush. 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.

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.

“227 Cu. Yards Laid in Three Days”

R. L. SANDERS
Withee, Wis.

Withee, Wis., 1-29-14.

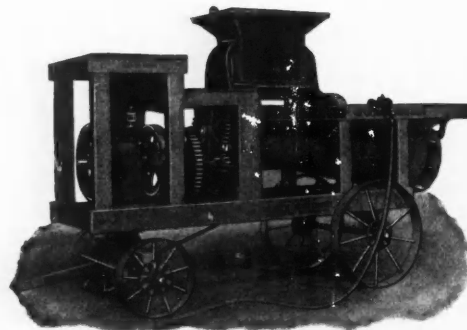
THE KNICKERBOCKER COMPANY,
Jackson, Michigan.

Gentlemen:

The No. 9 Coltrin Mixer that I have been in constant use in the summer season for the past three years, and has been more or less abused owing to various ones running same. Since I purchased the machine second hand a year ago, my expense for repairs was my order of recent date, \$3.70, and this could have been avoided. I am highly pleased with its make-up, and can recommend the Coltrin Mixer with pleasure to anyone.

I am sending you photo of one of my jobs with this machine the last season. There are 227 cubic yards in the piers and were laid in three days, which testifies to its capacity.

Yours very truly,
(Signed) R. L. SANDERS.



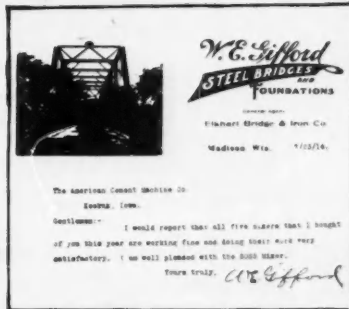
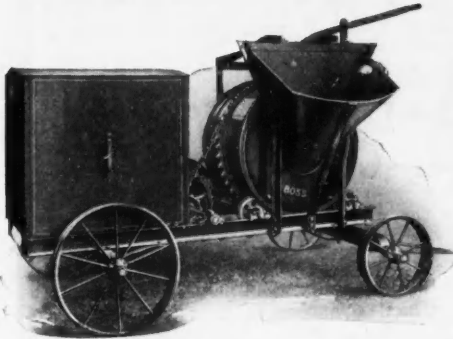
No. 9 Coltrin, Weight 1900 Pounds

The Coltrin Continuous Batch Mixers

Shipped anywhere on trial. Write for Catalog.

THE KNICKERBOCKER CO. :: JACKSON, MICH.

This Advertisement Written by Contractors and Owners of Boss and Steel King Mixers-Read It



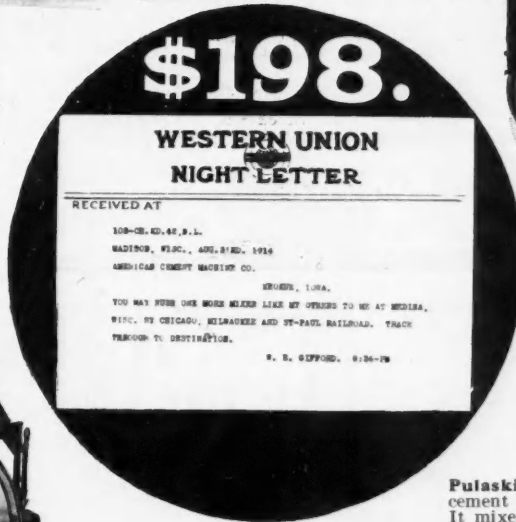
\$198.00 Buys

5-ft. cap. Boss Batch Mixer.
3-H. P. Mandt Engine.
Hoisting attachment, side-loader, etc., can be attached at any time at small additional cost.



Owens 5 of Our Mixers Telegraphs for Another

Read the letter and telegram published herewith. They prove that our claims are not exaggerated; they prove that our mixers with modern improvements do their work in a way that satisfies. They should convince you that it is better for you to buy a BOSS and be safe than to buy some other and be sorry.



A Wonderful Mixer at a Remarkably Low Price

At \$198 you save the price of it because other mixers of same capacity and quality sell for twice as much. The BOSS has no unnecessary parts, no small castings to break, no excess weight. It's built of steel, light in weight and once paid for, your expense stops. No upkeep or expense for repairs like you have on heavy, cumbersome, cast iron machines.

The BOSS Makes Good

Pulaski Lumber Co., Pulaski, Ill., write—"Your cement mixer we bought last spring works alright. It mixes well, every batch the same. Has plenty of power and is well built."

A. D. Brogan, Meservey, Iowa, writes—"Your mixer can't be beat. Engine has plenty of power and you are safe to make most any guarantee as the Boss will do the business."

Atlantic, Gulf & Pacific Co., New York City, write—"The Cement Mixer you sold us has worked very satisfactorily, efficiently and economically. We think it a good tool, and a great saver, and very suitable, especially for sidewalks, curbs, gutters and other similar works."

Henry Wickham, Dedham, Iowa, writes—"I am pleased with your mixer. A week ago I took the machine, 2 men and myself and put in 1800 running feet of sidewalk in 13 hours and only one man fed the mixer. If there is any mixer that can beat it for its size, they will have to show me."

Whitewater Bridge Co., Whitewater, Wis., writes—"We have tried several machines and we think your machine the best we have ever used. We are contemplating the purchase of two more of your mixers for next season."

The above are only a few of the letters we have. They voice the sentiments of thousands of other owners of BOSS Mixers.

THE STEEL KING BIG CAPACITY MIXER

Made entirely of steel. Light in weight but sturdy. Mixing capacity sufficient for 80% of your jobs. Handles 7 wheelbarrows per minute. Sold on a guarantee and at a price much cheaper than you would pay for the heavy, cumbersome, cast iron mixers that are idle half the time waiting for repairs.

Something New---A Manufacturing Triumph---The Mandt Mortar and Plaster Mixer

The first successful machine of its kind on the market. Mixes fast and thoroughly. Mixing blades are our own invention, and guaranteed not to pull out hair. Write for full particulars.

Cut Out and Mail Coupon

The American Cement Machine Co., Inc.
1006 Johnson Street - - KEOKUK, IOWA

The American Cement Machine Co., Inc.
1006 Johnson Street, Keokuk, Iowa

Gentlemen: Send me literature, terms and other particulars about mixers indicated below. Write for

Little Boss, Steel King Mandt Mortar Mixer

Put cross (X) in square opposite machine you are interested in.

Name.....
Town.....
State.....

Make CONCRETE PORCHES as a Profitable Side Line

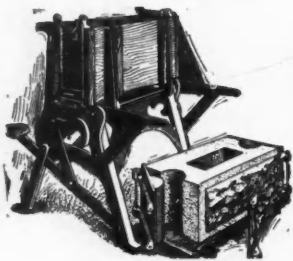
Let "A concrete porch on every house" be your slogan. Porches made with Dunn Molds are easily made, look well and last forever. Making and erecting concrete porches dovetails in with your other work—every house in town can use one.



The molds for making the porch illustrated costs only \$39—and the same molds will make blocks for chimneys, lattices, etc. We sell them on 15 days' trial. Also molds for making concrete vases, flower boxes, columns, chimneys. Write for the Porch Mold Catalog.

A Free Book About Concrete

Besides describing the most complete line of concrete machinery for building contractors ever marketed, the new Dunn catalog shows where the big profits are in concrete products. Write for a copy today.



Dunn Combination Cement Block Machine

Makes three kinds of blocks—Face Down, Side Face and Two-Piece Hollow Wall. Has a capacity of 150 perfect block per day—the special off-bearing system removes all risk of breakage. The price of \$40 literally gives you three machines in one. Don't buy it until you have tried it for 15 days—free. Block machine catalog sent upon request.

W. E. Dunn Mfg. Co.

4132 Fillmore St., - Chicago



DUNN No. 1
with Power Discharge

Patent No. 842262 and 782700

The Logical Mixer for Contractors

It is the logical mixer, because it saves labor, saves time, requires little power and is easily transported to and from jobs.

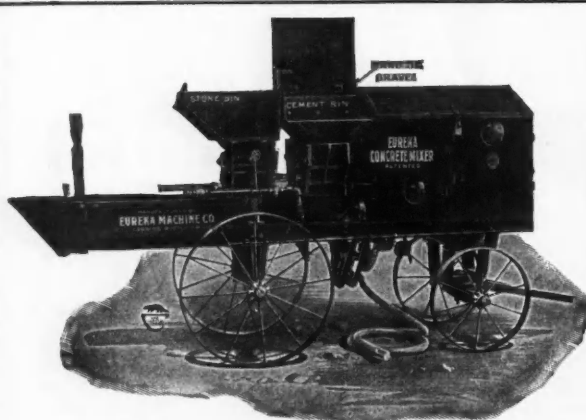
The 4-blade mixing principle assures better mixed concrete than is usually possible.

The all steel and iron construction means unusual strength and reliability.

The easy method of discharging removes the hardest work from mixing.

The prices—\$67.50 to \$224—are low enough to suit any building contractor.

And—it's sold on 15 days' trial. Write for the mixer catalog.



We have some mighty interesting facts for you about the

EUREKA SELF MEASURING MIXER

"WHERE GUESS WORK ENDS"

May we show you these things in a clean cut way—one business man to another—no extravagant claims, no glittering generalities, JUST PROOFS AND FACTS THAT HAVE AN IMPORTANT BEARING ON YOUR WORK.

GASOLINE, STEAM OR ELECTRIC POWER

- It costs you less than half as much to buy it!
- It costs you less than a third as much to run it!
- It costs you less than a fifth as much to move it!

The Eureka Mixer, capacity for capacity, with any standard batch mixer, weighs less than half as much.

Powerful, Simple, Easy to Operate. Its Cost is Surprisingly Low. Send for the Facts Now.

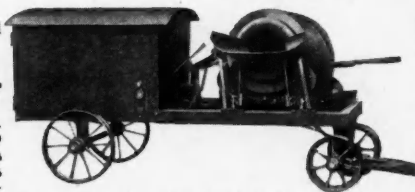
EUREKA MACHINE CO., 12 Case Street, Lansing, Michigan

JUST RIGHT in Price, Capacity and Construction

That's the beauty of buying a Northwestern machine. You can get a mixer that will suit you in capacity, construction, and price. All our machines are built to satisfy and they do it. By ordering a Northwestern Mixer you avoid a big initial investment and all future worry and expense.

Northwestern Special Batch Mixer

Capacity 5 cu. ft. per batch. 40 to 50 cu. yards a day. This is a speedy and durable mixer that will soon pay for itself. Has the sturdiness, simplicity, and mechanical perfection that makes it a winner. Low Charging. High Closed Discharge. Combined cone and cylindrical drum. Strongly braced truck. Wide face truck wheels. 2 1/2 H. P. Engine. Let us send you a complete description of this mixer which can be bought at about half the price asked for other machines of the same quality.



Carpenter's Hand Batch Mixer

An especially strong, well-made little machine for handling small batches of concrete quickly and with a small amount of labor. 3 cu. ft. of loose material per batch. Perfect mixing guaranteed. Best iron and steel construction. Weight 220 pounds. PRICE . . . \$28.00



Get Our Complete Catalog of Mixers, Hoists, Moulds, Brick and Block Machines, Crushers, and all Concrete Machines and Supplies.

Northwestern Steel & Iron Works
625 Ball Street - - - Eau Claire, Wis.

**“Straight
to the Mark”**



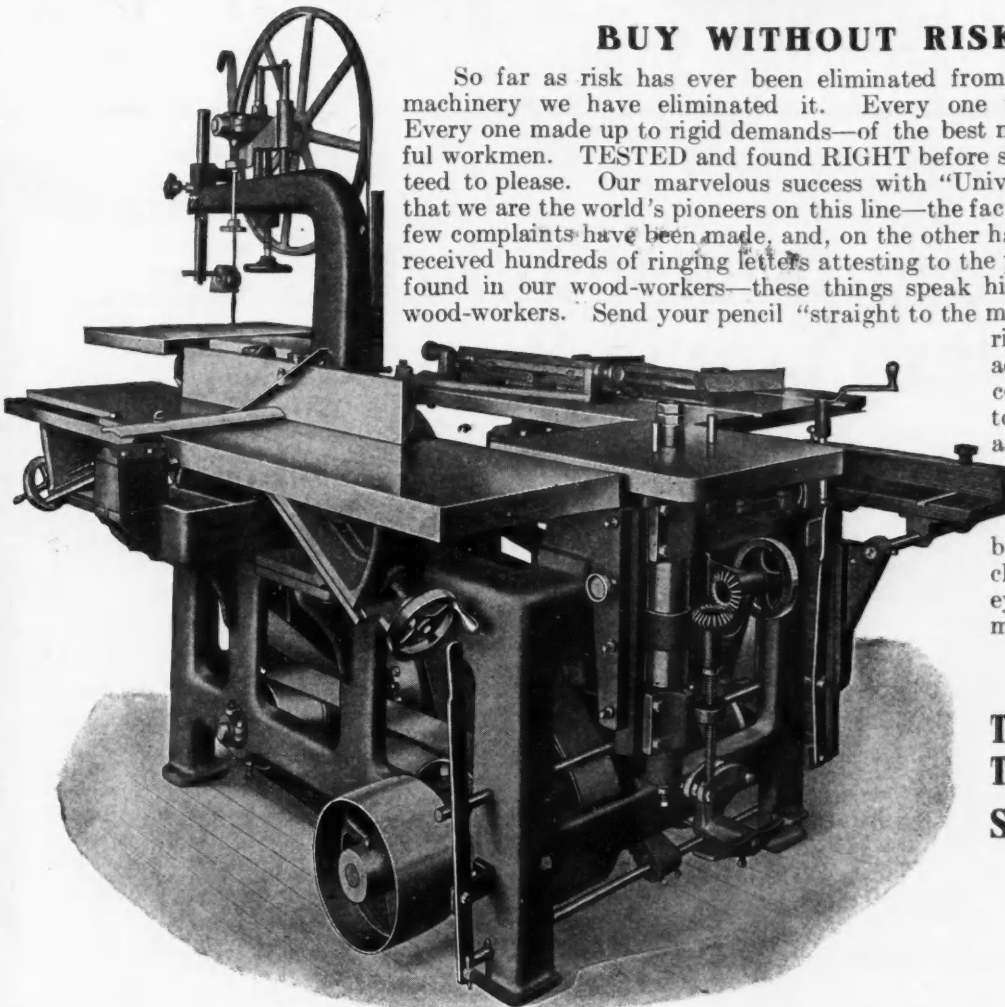
You are trying to hit the mark of greater success. The Sidney “Famous” goes straight to that mark! With a “Famous” Wood-worker in YOUR shop you will find business picking up right along.

THE SIDNEY TOOL CO.,
Sidney, Ohio
Gentlemen: Show me how your line
will enable me to hit the mark of a
greater success. Send Catalog No. 12.

Signed.....
Address.....

**The Famous “31” Universal Woodworker
saves time, cuts cost, eliminates
much hand labor—PAYS!**

BUY WITHOUT RISK

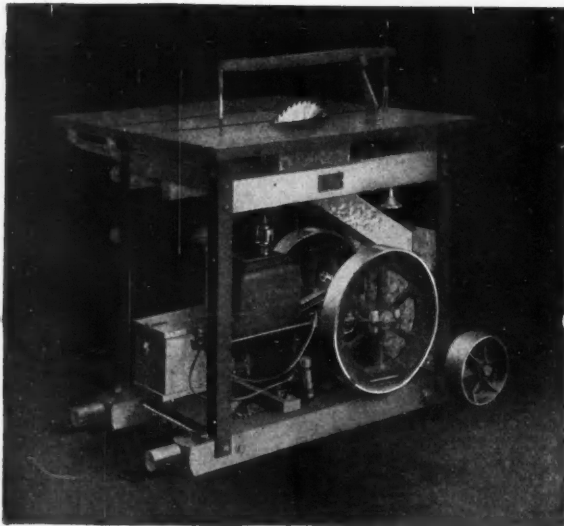


So far as risk has ever been eliminated from the purchase of machinery we have eliminated it. Every one fully guaranteed. Every one made up to rigid demands—of the best materials, by careful workmen. TESTED and found RIGHT before shipped. Guaranteed to please. Our marvelous success with “Universals”—the fact that we are the world’s pioneers on this line—the fact that exceedingly few complaints have been made, and, on the other hand, that we have received hundreds of ringing letters attesting to the profit possibilities found in our wood-workers—these things speak highly of SIDNEY wood-workers. Send your pencil “straight to the mark” in the upper

right corner of the ad—fill out the coupon and mail it today. Paste it to a Post-card. It will come straight to us, You will thus be aiming a little closer to the “bull’s eye” of more money.

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

ASK US About Our No. 3 Portable Saw Rig

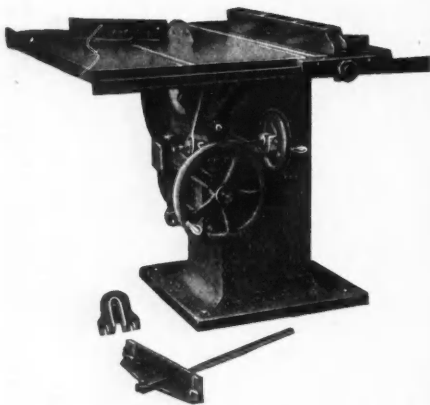


We manufacture six sizes of Portable Saw Rigs, as well as a full line of Contractors' Equipment.

WRITE for our large and well illustrated catalog

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

Let Chicago Machinery Exchange Start You in Business



CHICAGO No. 10 VARIETY SAW

We have the largest line of high grade

Wood Working Machines

in the United States, and we are in shape to supply an equipment that will meet any requirement or pocketbook. We can figure on the entire outfit, including the machinery, line shafting, belting, motors or gasoline engines, and will also plan your shop.

We also have a separate department carrying a large stock of second-hand machines that are offered at bargain prices. Very often you can select a mixed outfit of new and good second-hand tools and get an excellent combination for comparatively little money.

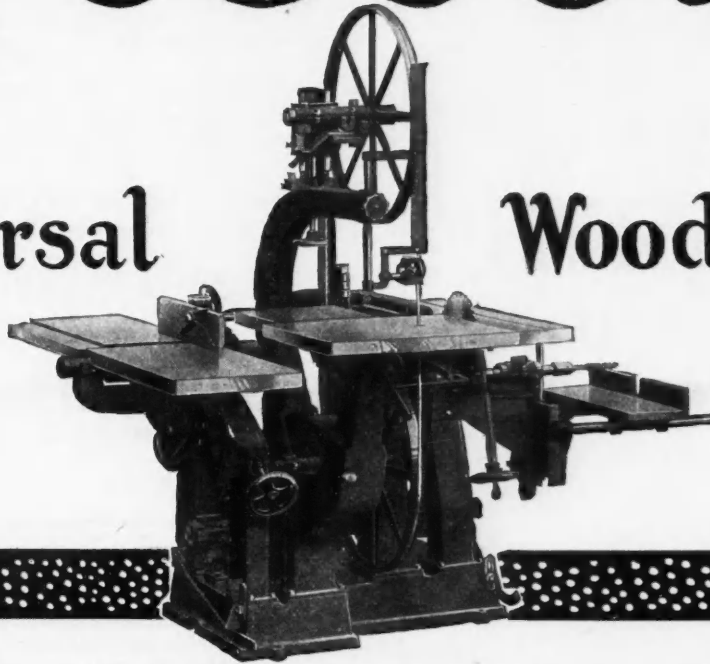
Chicago Machinery Exchange

1215-1223 Washington Blvd. :: CHICAGO

The New Crescent

Universal

Woodworker



A New UNIVERSAL Woodworker

A new compact machine, of remarkable completeness and capacity, made to fulfill the demand for a machine lighter and lower in the cost than our Universal Woodworker No. 51 to 59.

It will satisfactorily do the same kinds of work without sacrifice in point of convenience and workmanship on our larger woodworker

Splendid Value For The Money

This machine is very similar to our larger model in many respects; It consists of five principal parts, Band Saw, Jointer, Saw Table, Shaper and Borer. These are so mounted that either of them can be operated independently of the others and each is provided with a separate Starting and Stopping Lever.

As on our larger model four men can work on this machine without interference.

Each part is driven by an endless belt and when not in operation, is stopped, thus reducing wear to a minimum and saving power. All belts are so located in the machine that they are entirely out of the way. This is by no means a light machine and full satisfaction is guaranteed.

If you are considering buying any kind of Woodworking Machinery such as Variety Woodworkers, Planers, Shapers, Surfacer, Swing Saws, Jointers, Saw Tables, Band Saws, and special equipment, you should have our Complete New 1914 Catalog. Write for it.

THE CRESCENT MACHINE CO.

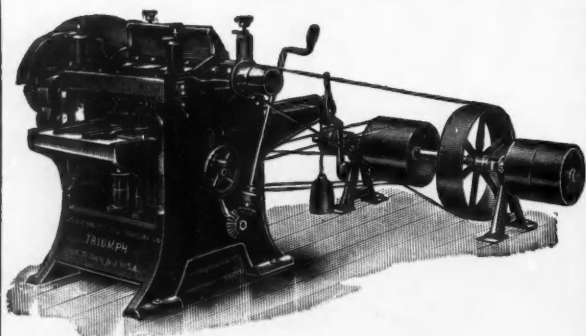
224 Main Street,

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LEETONIA, OHIO.



Make it Yourself
With a
"TRIUMPH"
PLANER, MATCHER
AND MOULDER

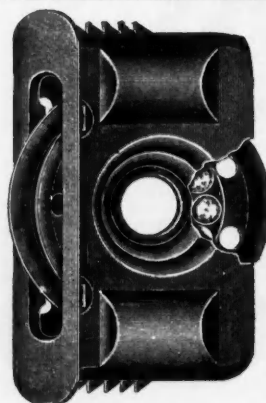
A contractor owning a "Triumph" can keep in his own pocket a large part of the profits he's been paying to the mill man. Because it has all the refinements of the big mill machines and does just as good work—but it needs little power, little floor space, and the price is moderate. You can make your own flooring, ceiling, siding, casing, wainscoting, and a large variety of moulding and trim.

The contractor with a "Triumph" has a big advantage over his competitor who hasn't one.

**American Saw Mill
Machinery Co.**

80 Main Street
HACKETTSTOWN
NEW JERSEY

1360 Hudson Terminal
NEW YORK CITY
NEW YORK



No. 10 Ball Bearing

**"Grand
Rapids"**

**BALL BEARING
ALL STEEL**

Sash Pulleys

Fasten automatically.
No Nails. No Screws.
Just bore four holes.

The automatic saw tooth fastening feature and the simple and easily made mortise will save in labor enough to pay for the pulleys.

The Bearing contains eleven 1/4-inch Solid Steel Balls running in lubricant.

NOISELESS EVERLASTING

Write for FREE Samples

Grand Rapids Hardware Co.
MANUFACTURERS

158 Eleventh St. :: Grand Rapids, Mich.

CARPENTERS

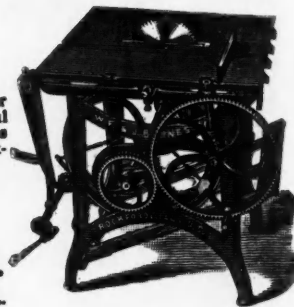
In these days of close competition need the best possible equipment, and this they can have in

**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.

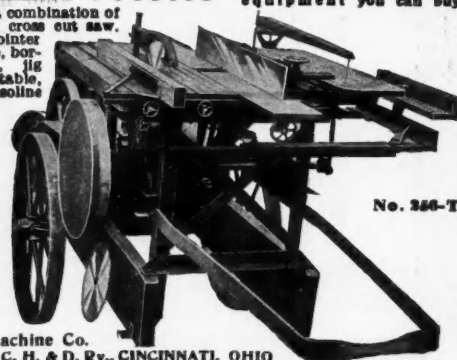


**Parks Portable Shingle or Combination
WOODWORKING OUTFITS**

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. 356-T

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

THE EFFICIENCY WOODWORKER

In the Shop - On the Job

The Machine You'll Eventually Buy

READ THESE LETTERS

103 Cannon St., Charleston, S. C.
Gentlemen: Nov. 24, 1913.

I have this to say for your Efficiency Woodworker that the money that I paid for it was the best I ever spent for any machine I ever bought. It is the handiest and most compact combined with plenty of strength and power for all the work a contractor may have around a building. I can say further that none of the parts have failed during the 21 months that I have had the Efficiency and it has been in constant use and is good for a long time yet. I wish you all the success that can come your way and thank you for the attention received from you. I am,

Yours respectfully,
(Signed) T. J. Sheridan,
Contractor & Builder.

Buffalo, N. Y., Aug. 7, 1914.

Gentlemen:

Replying to your inquiry as to how I am getting along with The Efficiency Woodworker recently purchased of you wish to say your representative will recall that when he was endeavoring to sell me this machine he was pointing out its possibilities. I replied, "Well, you'll have to show me." How well he succeeded was evidenced by the fact that I promptly accepted the machine and paid for same.

I might add further that this machine has saved us approximately \$65.00 each on four houses recently completed and I can honestly recommend it to any contractor desirous of efficient workmanship.

Yours very truly,
Dewey Building & Realty Corporation,
(Signed) R. C. Dewey, Pres.



Are you still on the job in the old-fashioned way?

Do your men still sweat and toil ripping, cutting, jointing, grooving, etc., by hand that which could be done with machine in one quarter of the time?

Are they compelled to wait idly on the job for the piece the mill forgot to send?

Do you still waste the odds and ends of lumber on the job?

An Efficiency Woodworker will place you in a position truthfully to answer NO to all these questions.

Write NOW for Descriptive Folder C

BUFFALO WOODWORKER & MACHINE CO., Inc.

19 Illinois Street, Buffalo, N. Y.

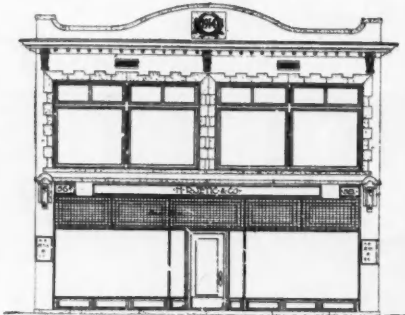
WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN CARPENTER AND BUILDER

Get Our Help

With That New Store Front

Don't make your plans until you have written us for full information and description of the famous Petz Bars.

On account of their strength, ease of installation, and beauty of outline and finish, Petz Bars are preferred above all others by leading architects and contractors.



They will not break glass, and have held glass unharmed in the severest wind storms, when all other bars failed.

Lots of good solid information in our booklet on "Modern Store Front Construction." Let us send you a copy. We have a blue print showing the detail of our construction in full size which will be sent any architect or building contractor upon request.



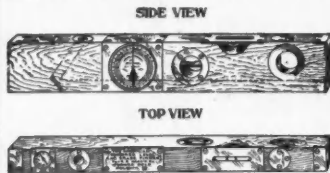
Detroit Show Case Company

Sole Makers

491 West Fort St. Detroit, Mich.

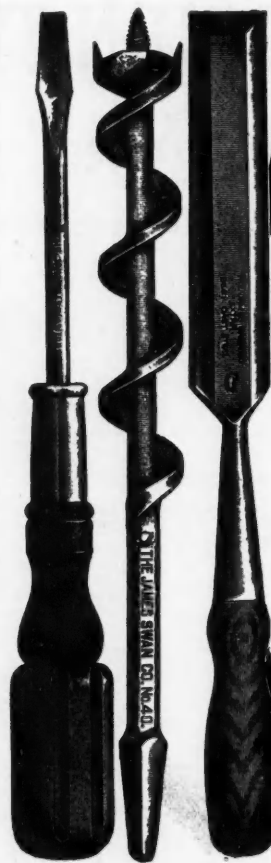
Something Every Man With Any Mechanical Ideas Should Have for Himself—And As an Agent

With Compass the New Improvements Now Make The American Combined Level and Grade Finder Most Practical, Durable and Convenient Instrument Made




At one glance you can get the true slant on any line or grade either in degrees, inches or percentage, or all at the same time, and will at once give the exact distance needed to plumb up to a true level. The additional spirit level glass now placed in middle of instrument with points on dial will give 3 grades for leveling. The longitudinal recess shown in cut is well worth the low price of the instrument. Write AT ONCE for circular and Testimonials. Special Introductory Price given to First Applicants with privilege of Agency. ADDRESS

Edward Helb, Mfr., Box 255, Railroad, Penna.



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.

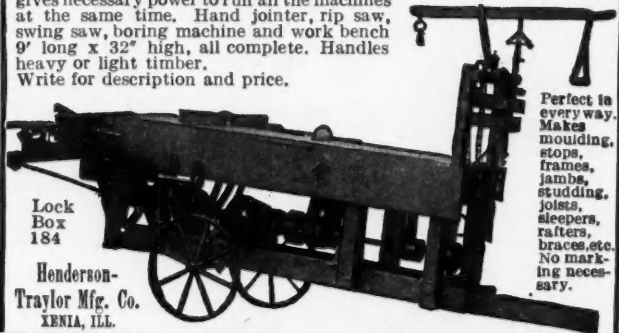


It's a plain guide to all that is best in carpenters' tools and your assurance that you are dealing with an old, reliable firm that makes tools as good and solid as its reputation.

ASK FOR CATALOG
The
JAMES SWAN CO.
Seymour,
Conn.

Henderson House and Barn Builder

The best designed machine for framing all material for any building. All material, including bridging braces for a two-story, hip roof residence 16'x32' was prepared in 3 hours and 20 minutes. 4-h.p. engine gives necessary power to run all the machines at the same time. Hand jointer, rip saw, swing saw, boring machine and work bench 9' long x 32" high, all complete. Handles heavy or light timber. Write for description and price.



Perfect in every way. Makes moulding, stops, frames, jamba, studding, joists, sleepers, rafters, braces, etc. No marking necessary.

Lock Box 184

Henderson-Taylor Mfg. Co. XENIA, ILL.

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

Fine Beveled Edge Shank and Socket

Chisels



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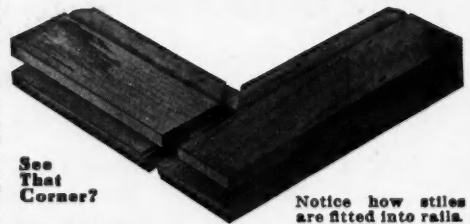
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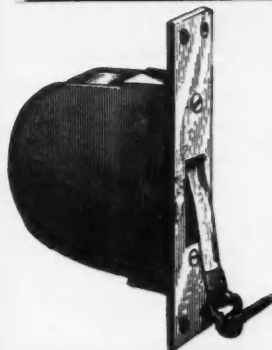
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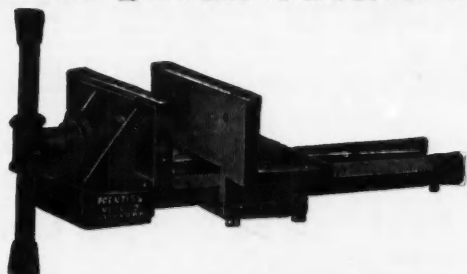
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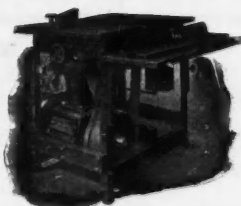
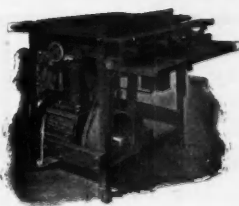
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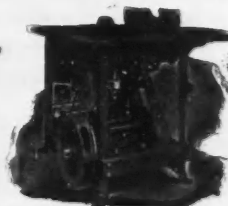
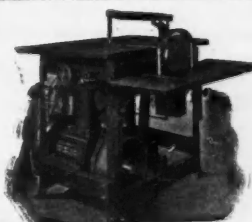
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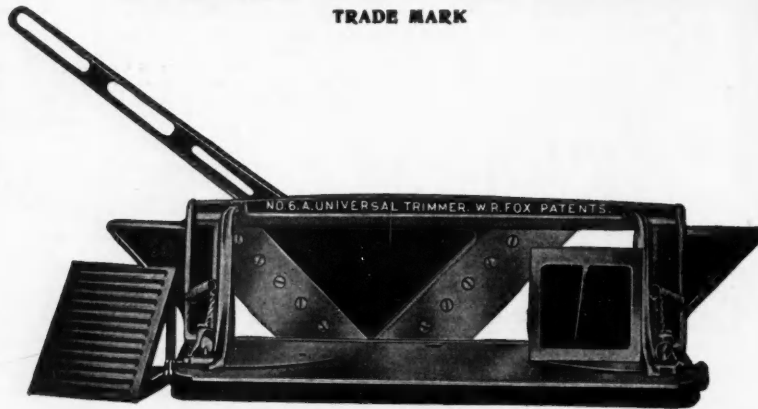
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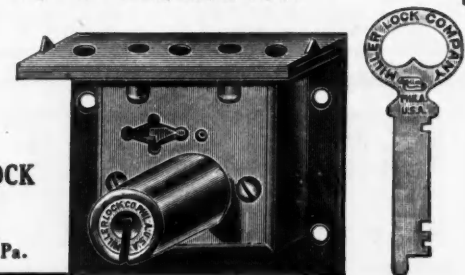
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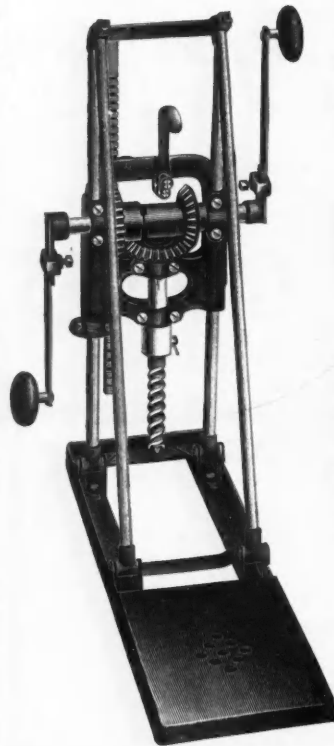
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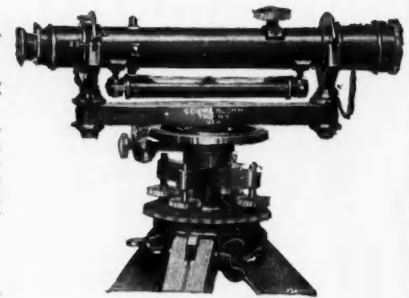
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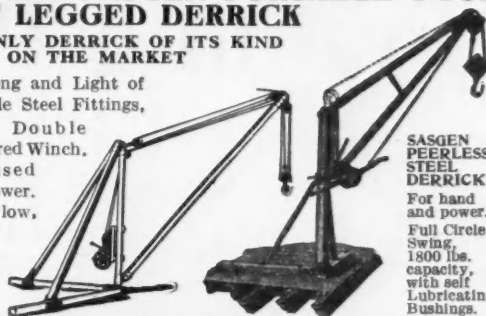
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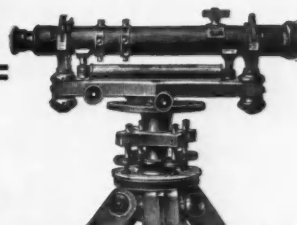


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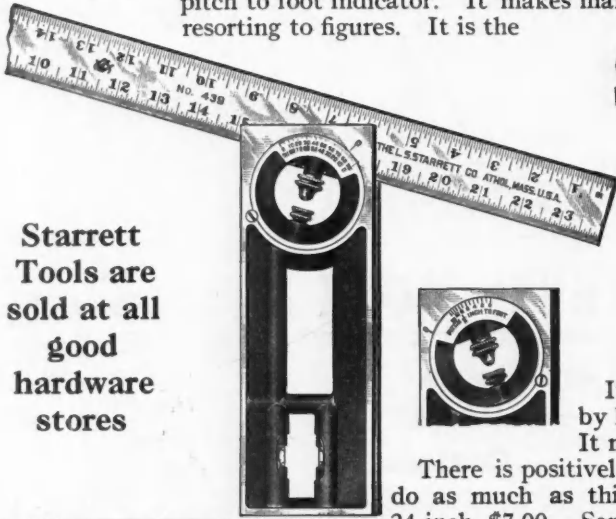
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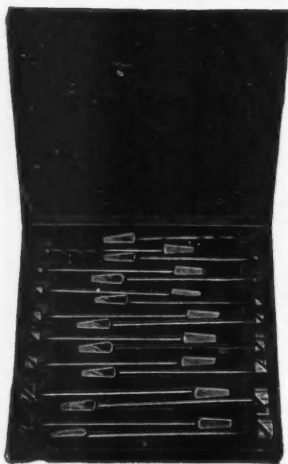
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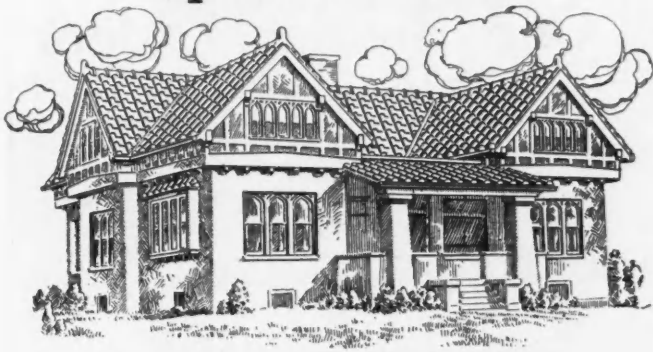
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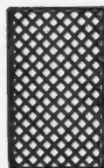
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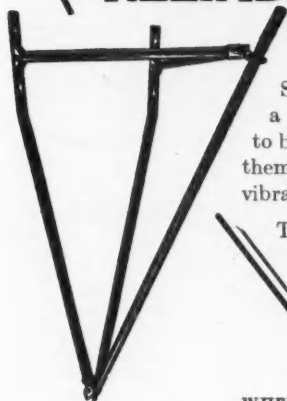
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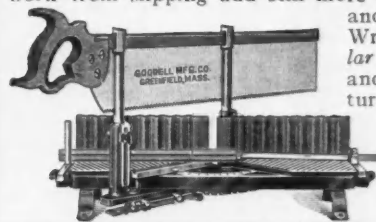
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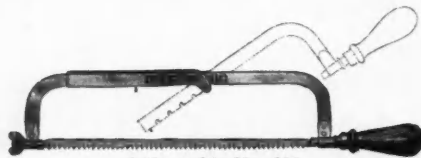
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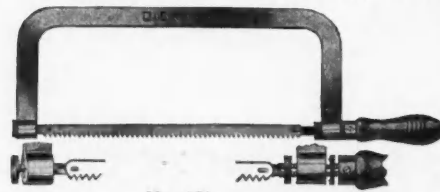
INCORPORATED

Keystone Saw, Tool, Steel and File Works

PHILADELPHIA, PA., U. S. A.



Adjustable No. 110



No. 25½

HESS SANITARY LOCKER

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



The Standard Steel Medicine Cabinet

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

Costs Less Than Wood

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

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

HESS, 920L Tacoma Bldg., CHICAGO

Makers of Steel Furnaces

Free Booklet

SAVED BY BUYING A **\$50** Bovee Economy Furnace **\$50**

At Manufacturers' Prices.



Has large combustion chamber. Saves one-third of the fuel. Has perfect Ventilating System. Most perfect hot air plant sold. Send pencil sketch of floor plan for our manufacturers' price and illustrated catalog. Address

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50 8th Street,
WATERLOO - IOWA

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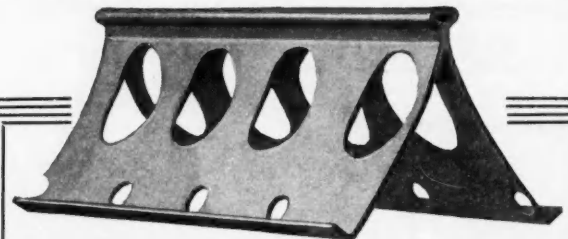
When in the market for Plumbing and Heating Supplies and you wish to

**SAVE
20 to 40 Per Cent**

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

Small orders are as carefully handled as large ones.

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



BERGER'S Corner Beads

Write for catalog

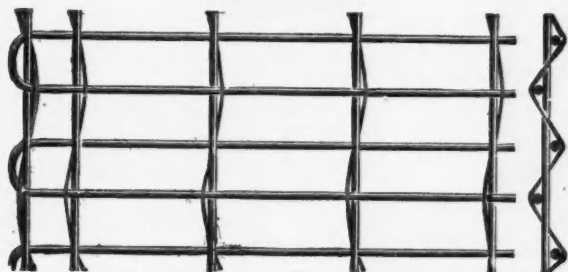
The Berger Mfg. Co., Canton, Ohio

New York Philadelphia Cincinnati San Francisco
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WIRE LATHING

(GREENING'S)

PATENT TRUSSED STEEL WIRE LATHING



ELIMINATES ONE-HALF OF INSTALLATION COST, owing to its Truss formation, which makes it possible to staple or nail it directly to studs or joists without furring.

It will take sharp corners without cutting, and has a sustaining power of three and one-half times greater than square mesh lathing of equal weight. IT EMBEDS ITSELF COMPLETELY in the mortar and is thus secured from the corrosive action of the atmosphere, and WILL NOT RUST.

Another feature of this Wire Lathing is the fact that rust will not attack the smooth round wires, as it does the thin cut edges of the metal fabric. Walls or ceilings plastered on this lathing will never crack or drop off, the key being so firm.

Send for our Booklet No. 6 AA on Wire Lathing for further information.

We are also manufacturers of GRIMM'S GALVANIZED CORRUGATED WIRE LATHING.

BUFFALO WIRE WORKS CO.

(Formerly Schoeler's Sons)
BUFFALO, N. Y.

For Your Protection

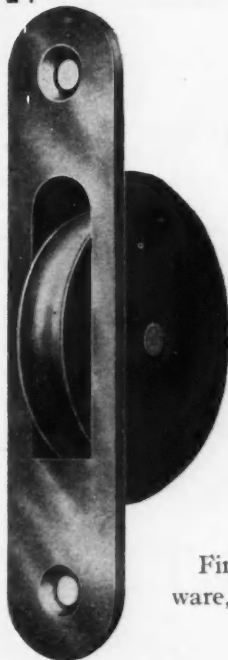
Specify and be sure you receive

"American" Sash Pulleys

Electrically Welded and Unequalled for Strength

Furnished with plain axle, ball or roller bearings—all of hardened steel.

Finished to match any hardware, non-rusting and guaranteed.



The American Pulley Co.

PHILADELPHIA NEW YORK CHICAGO BOSTON

This is the sure way to make money



Standard Shingle.

This is the Bridgewater (Mass.) High School. It is roofed with 5,500 square feet of **W. & C. Metal Shingles**. How about the public buildings in your town? Why not get after them before someone else does? **Now!**



In handling W. & C. Metal Shingles the first thought is, "What's in it for me"; "where do I get off?" Here's "what's in it for you": Firstly, you are handling the very best product of the kind made; you are creating a booster on every roof you put it on; you are laying pipes to a big lucrative business from the minute you start on the first roof; you are getting an absolute protection in your territory; as long as you represent us every roof in your territory must go through your hands with all the fat profit thereunto appertaining, and you're given a square deal from the start to the finish.

Walter's and Cooper's Metal Shingles

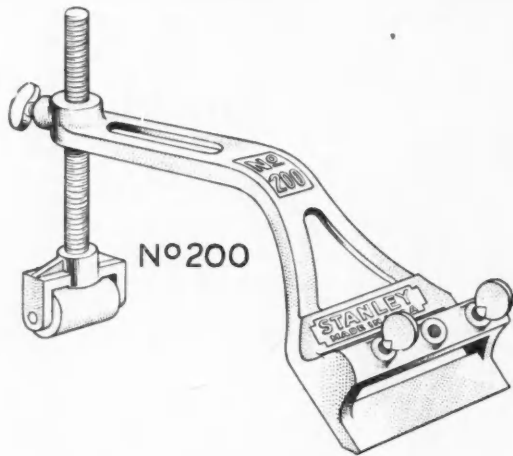
Honest metal shingles, backed by a service test of thirty-two years, fire, wind, storm, rust and decay proof; easy to lay; cost no more than common wood shingles. Let us send you the book M. W. It goes into metal shingles thoroughly. Go after it today.

Agents Wanted Everywhere.
Ask for Catalog.

National Sheet Metal Roofing Co.

339-78 Grand Street, Jersey City, N. J.

Stanley Tools



STANLEY CUTTER AND CHISEL GRINDER

The **STANLEY CUTTER AND CHISEL GRINDER** is a device for holding Plane Irons, Chisels and other similar cutting tools that they may be ground or honed to any desired angle or bevel, insuring an accuracy that is very difficult to obtain when the tool is held in the hand.

The tool to be sharpened is rigidly held in the Grinder by thumb screws, and may be given any desired angle by means of the large screw attached to the roller frame, which raises or lowers the main body.

As shown in the cut the Grinder is fitted with two thumb screws and three thumb screw holes. By the use of two thumb screws, the tool to be ground is held much more firmly than is possible with the use of a single screw.

The thumb screws are placed in the two outer holes when wide cutters are to be held. For narrow cutters the middle hole and one of the outer holes may be used.

A special circular containing more detailed information is now ready. May we send you some?

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



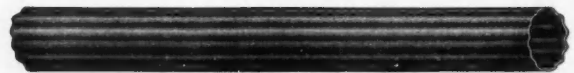
FIRE—Excitement reigns supreme!
Panic—In a twinkling of an eye.
Exit—The terror-stricken rush.
Door—Though tightly closed—
Bolt—Columbia opens with a gentle push.

Full information upon request.

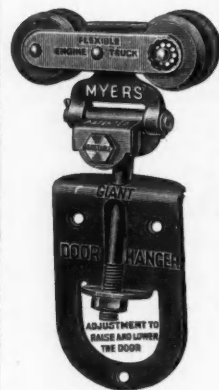
The Columbia Iron & Wire Works Co.
Canton, Ohio

C. G. HUSSEY & CO.
Pittsburgh, Penna.

MANUFACTURERS OF **COPPER**
In Sheets, Plates, Rolls
CORRUGATED COPPER CONDUCTOR PIPE



Copper Nails, Copper Rivets, Conductor Pipe, Eaves Trough, Elbows, Shoes, Mitres, Soldering Coppers, Gaskets, Etc.



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



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 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.

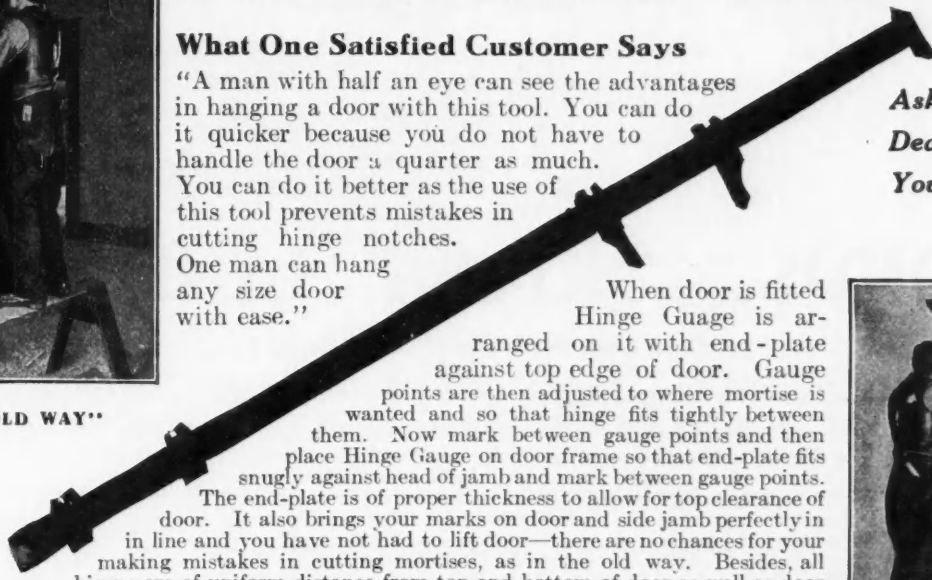
Why You Should Use the R-W CARPENTERS' HINGE GAUGE



"THE OLD WAY"

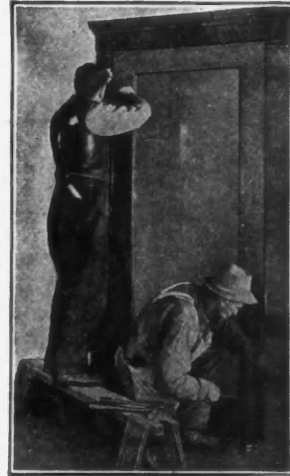
What One Satisfied Customer Says

"A man with half an eye can see the advantages in hanging a door with this tool. You can do it quicker because you do not have to handle the door a quarter as much. You can do it better as the use of this tool prevents mistakes in cutting hinge notches. One man can hang any size door with ease."



Ask Your Dealer to Show You One

When door is fitted Hinge Gauge is arranged on it with end-plate against top edge of door. Gauge points are then adjusted to where mortise is wanted and so that hinge fits tightly between them. Now mark between gauge points and then place Hinge Gauge on door frame so that end-plate fits snugly against head of jamb and mark between gauge points. The end-plate is of proper thickness to allow for top clearance of door. It also brings your marks on door and side jamb perfectly in line and you have not had to lift door—there are no chances for your making mistakes in cutting mortises, as in the old way. Besides, all hinges are of uniform distance from top and bottom of door as well as door frame, and if desired, doors may be interchanged.



THE R-W WAY

Richards-Wilcox

MANUFACTURING CO.
AURORA, ILL. U.S.A.

A hanger for any door that slides.

ITS OTHER USES

1. Convenient tool for accurately locating lock mortises.
2. Excellent tool for hanging blinds, casement windows, screen doors, etc.
3. Can be used as tram-rod for laying out all kinds of circle work, such as centers for brick work, or any purposes where circles or segments must be laid out with great accuracy.
4. Very useful where it is desired to accurately transfer several marks from one piece to others.



NEW!

You know the old, reliable Cannon Ball Barn Door Hanger—competitors have been trying to equal it for years and haven't hit the mark yet.

Well—if such a thing is possible—we've improved the Cannon Ball—made an addition which gives the user protection plus.

A cover for Cannon Ball track—as illustrated above, is now to be had at nominal cost with new track. It gives the finishing touch of protection—makes the outfit positively weatherproof in every respect—keeps rain and weather away from the hanger and top of the door itself—and adds but little to the cost.

**New Track For Cannon Ball Barn Door Hangers]
Now Furnished With Cover if Desired**

Write for detailed information—prices, etc. In addition to the largest line of door hangers, we make the best barn equipment, too. Ask us.

Hunt, Helm, Ferris & Company

304 Hunt St.

HARVARD, ILL.

If You Want to be Looked Upon as a Big Man

in your trade in your town; if you want to increase your business on the sound lines of giving your customers the utmost value, and picking out those who are willing to pay a fair price for good material and good workmanship, it will pay you to listen to our message; to use



Genuine Bangor Roofing Slate

The whys and wherefores of this suggestion we shall be very glad to prove to you without obligation on your part.

Simply tear out the coupon attached and mail it today.

It will cost you only a postage stamp and bring you rich dividends.

You have nothing to risk and may have a good deal to gain. Isn't it worth your while to write it? Do it now. Then you won't forget about it.

Sept., 1914

Genuine Bangor Slate Co.
Easton, Pa.

Please send information.

Signed

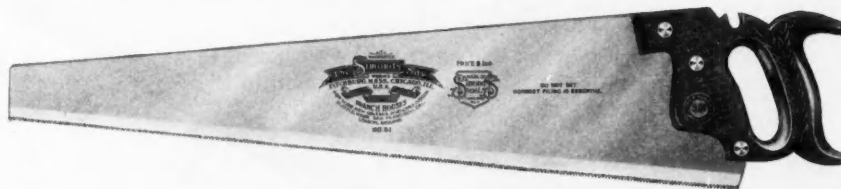
Address

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



Genuine Bangor Slate Co.,
Easton, Pa.

Did You ever own a really smooth cutting saw?



SIMONDS No. 51 BLUE RIBBON NO-SET HAND SAW

A Saw that Does Not Need Setting

THIS saw cuts absolutely smooth. Cuts free and easy. Keen and sharp. It will cut any kind of dry wood. It is essentially a fine finishing saw and besides is a fast cutting, true running saw for almost any kind of work. No matter how many saws you own you need this saw.

Carved and polished apple wood handle. Large hand hole. Four brass screws. Simonds special Crucible Steel blade. Straight back.

Packed individually. Price, \$3.00 each. 26-inch, 10-point.

It will be the best \$3.00 you ever invested in a saw. At your hardware dealers, or sent direct on receipt of price, if dealer does not have this saw.

Simonds Manufacturing Company

FITCHBURG, MASS.

17th Street and Western Avenue, CHICAGO, ILL.

40 Murray Street, New York City

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.

Announcement of Third Annual Prize Contest



**Closing Date
Oct. 15th**

**Winning Letters
to Appear in
Nov. "A. C. & B."**

We Want 100 (or more) Answers to This Question of Moment to Every Carpenter and Builder:

"How Can I Turn My Spare Time to Profit During the Winter Season?"

There are hundreds of ways to do it. Enterprising readers of the "American Carpenter and Builder" are solving this problem successfully every year, adding many a neat sum to their winter income. We want to hear from these now—for the benefit of other builders.

Our big Winter-Work Contest of two years ago and again last fall made such a hit that it has become an annual institution. Hundreds of our subscribers came forward at that time with frank, helpful letters.

WE want all of these and others, too, to write us now. Here's your chance to do a good turn—to help some fellow workman—and at the same time to win a nice prize. Are you able to keep busy right through the cold weather? Yes! Then how do you manage it? Many of your brother builders are not so lucky; they have not been able to get just the right combination, and often find their supply of hard, round, iron dollars cut down just when they are needed most.

For the benefit of these—to give some suggestions that might help other carpenters and builders at this season of the year—won't you

kindly write us a letter telling what you have found out about developing and handling spare-time sidelines?

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

In order to encourage a full and free discussion and interchange of ideas, we offer a number of **\$10.00 First Prizes** and **\$3.00 Second Prizes** for the most helpful and sensible letters on winter work for Carpenters and Builders. If you have been up against the part-time problem and have mastered it, won't you write and tell just how you did it?

NO able bodied man can afford to loaf around even part time." He owes it to his family and to himself to turn every hour to account.

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

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

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

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

Prepare your contributions **AT ONCE**. They must reach this office at least by **October 15th** to appear in the **NOVEMBER American Carpenter and Builder**. Write today and help a friend. Address **WINTER WORK EDITOR, American Carpenter and Builder, 1827 Prairie Ave., Chicago.**

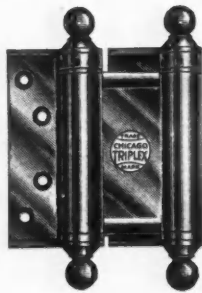
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CHICAGO SPRING BUTTS

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.

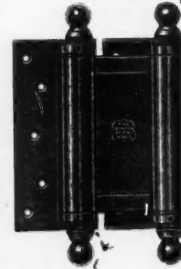
Chicago Spring Butt Company,

CHICAGO

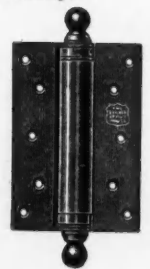


NEW YORK

Yes! the World does Move! Facts are Stubborn Things



Don't Buy
SPRING HINGES
OF
OBSOLETE
CONSTRUCTION
ONLY



BOMMER

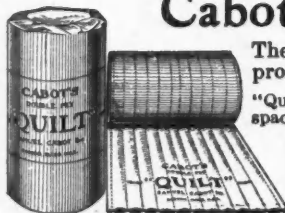
Double Acting Spring Butt Hinges

have the weight-supporting bearings correctly located to liberate the action of the springs, reducing breakage and increasing spring power, preventing unequal wear of the barrels, and giving practically unlimited durability. Bommer double-acting spring hinges open alike at both casings and both doors when both doors are opened.

The carpenter can avoid guesswork and save time when hanging double-acting doors in pairs, as he can scribe and fit both doors of a pair from the same side of the opening.

**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, Conservo Wood Preservative.

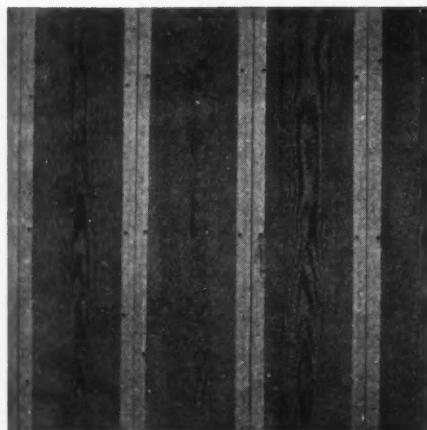
STANDARD

for 30 years
**MORRILL
Saw Set**



The Morrill Special Saw Set accurately sets any hand saw; takes out the wrong and puts in the right set at one operation. Send for Free Booklet: "Saw Points."

**CHAS. MORRILL, 98 Lafayette Street
NEW YORK**



METALLIC BATTEN STRIPS

PRACTICAL—EVERLASTING—ECONOMICAL

These Batten Strips of Galvanized Metal will never warp, split, or draw away from the boards. Offer no obstruction to sliding doors. Allow for expansion and contraction of the siding. Made in 8-foot and 10-foot length with interlocking joint. Easily cut; no waste. Nailed directly to siding with small nails.



End view showing joint closed. A perfect fitting Batten at all times, in all weathers. Beautifies any building.



End view showing joint open. Provides for expansion or contraction of the siding so nails will not work loose.

Metallic Batten Strips make strong, neat joints. They make the building wind-proof, weather-proof and rat-proof. Also valuable for lining grain bins or wagon boxes.

Write for Free Sample and see for Yourself

METALLIC BATTEN COMPANY

Owensville, Indiana

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The
**World's Greatest
Building Paper**

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

The
**World's Greatest
Building Paper**

American Carpenter and Builder

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

Published on the first day of each month by

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RADFORD BUILDING, 1827 PRAIRIE AVE., CHICAGO

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

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

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

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

VOL. XVII

SEPTEMBER, 1914.

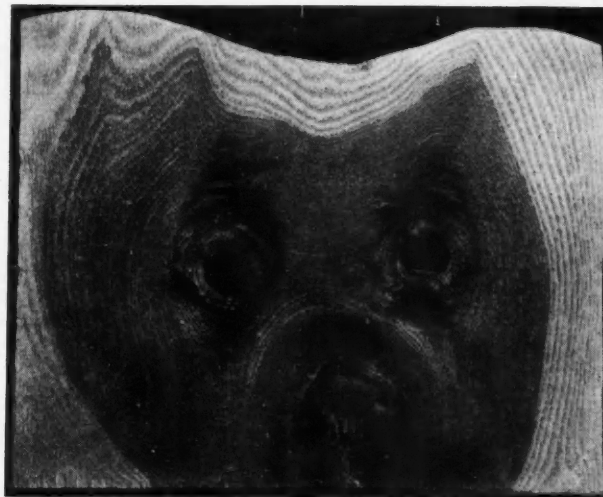
No. 6

Twelve Things to Remember

- THE value of time.
- The virtue of patience.
- The success of perseverance.
- The pleasure of working.
- The dignity of simplicity.
- The worth of character.
- The power of kindness.
- The influence of example.
- The obligation of duty.
- The wisdom of economy.
- The improvement of talent
- The joy of originating.

A STRONG point has been made in several recent letters from successful builders, and it is a good business suggestion, that *customers and prospective customers* are interested in the AMERICAN CARPENTER AND BUILDER because of the reliable information on all building matters it contains. Several copies should be kept constantly in every contractor's office, where they can be easily picked up and

read by all who come in to talk over building projects.



THE MASCOT OF THE ROTARY BIRCH CLUB
No, This Isn't a Bull Pup, It's a Piece of Black Ash Veneer Cut by the Kiel Woodenware Company, Mellen, Wis., and Photographed Without Retouching Exactly as it Came From the Lathe.

With the Compliments of the Rotary Birch Club, Wausau, Wis

✦
"DO what you are paid to do—and then some—it's the then-some that gets your salary raised."

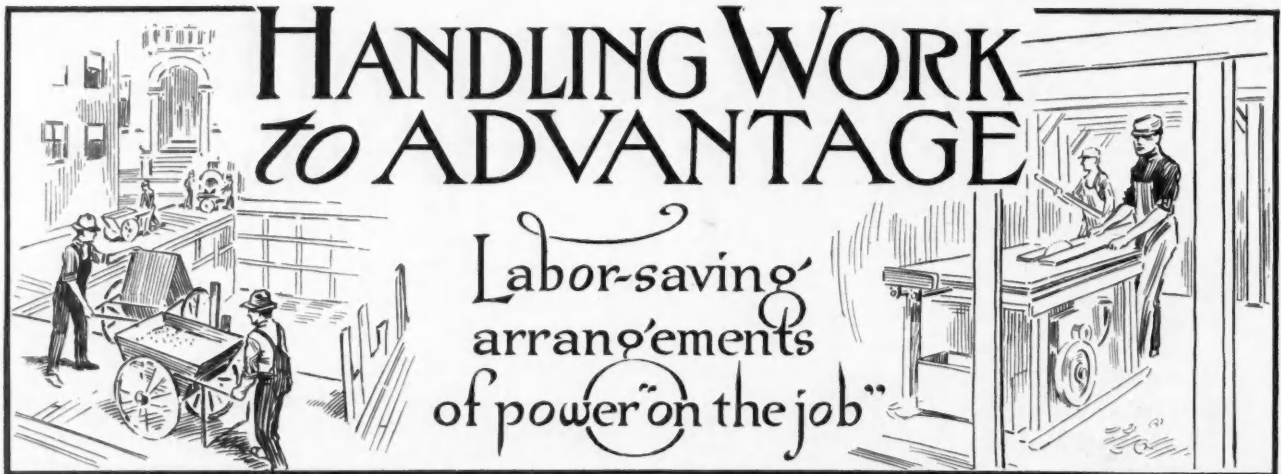
—James B. Miller.

✦
**Chicago Carpenters
Re-Elect Metz for
17th Term**

John A. Metz, member of the Board of Education, has been re-elected president of the Carpenters' District Council of Chicago for the seventeenth term. The council represents 22,500 carpenters and millmen. Daniel J. Galvin was chosen secretary-treasurer for the thirteenth time, Winn F. Duel, vice president, and William C. White, J. C. Johnson and F. C. Bromley, business agents.

I didn't begin with askings,
I took the job and I stuck;
And I took the chance they wouldn't
And now they're calling it luck. —Kipling.

See Important Contest Announcement on Page 35.



Important! Cash for YOUR Way! This new department belongs to our readers. We invite you to fill it up with brief illustrated descriptions of the little labor saving tricks and methods you are using in connection with your concrete mixing, power hoisting, portable saw rigs, etc. Furnish us with a little pencil sketch or photo with each letter if possible. We want this department to be extra practical and interesting; and to make it more exciting we will pay \$10.00 (in goods selected from our ad pages) for the best letter each month; also \$1.00 (in advertised goods) for every other letter published. Address LABOR SAVING Editor, American Carpenter and Builder, Chicago.

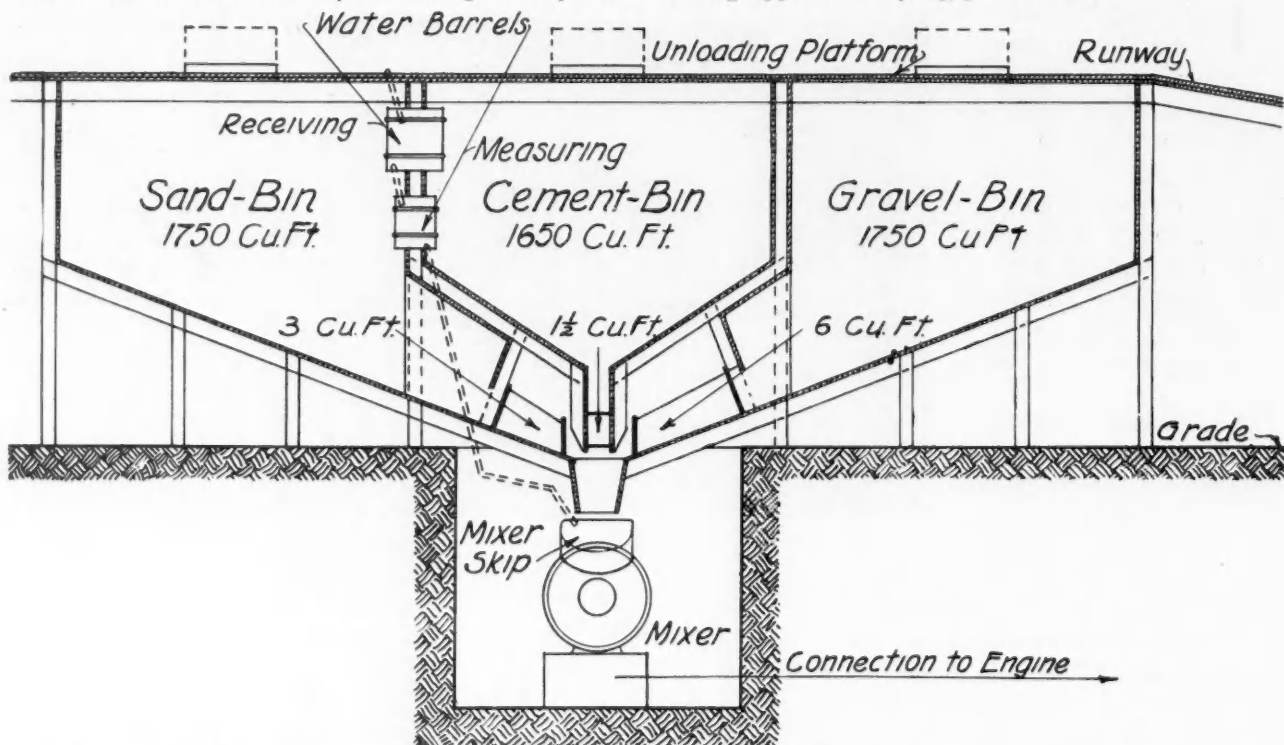
Four Men Only Needed on Huge Mixing Plant

INGENIOUS SYSTEM OF CEMENT, SAND, AND GRAVEL BINS CUTS LABOR COST—BULK CEMENT PROVES ECONOMY—AN INSPECTION OF METHODS USED BY CONTRACTOR H. J. WEEKS ON NEW UNIV. OF MICH. CONCRETE GRAND STAND

BULK cement is being used on the new concrete grand stand for the football field of the University of Michigan. When the designer, engineer and general contractor, H. J. Weeks, of Detroit, was awarded the contract he immediately investigated conditions for an economical plant. Advantages resulting from the use of bulk cement appealed to him and he set about to convince the owner, the Athletic Association of the University of Michigan, to permit

him to use cement in this form. This permission was, however, not granted and the first four cars contained cement in sacks. Bulk cement appealed so strongly to the engineer that he persisted in arguing for it with the result that permission to use it was finally granted. Cement in bulk is now being used exclusively.

The cement, sand, and gravel cars are delivered on a 1,000-foot siding having a capacity of 13 cars, and costing approximately \$375 to install.



Section Through Materials Dumping Platform, Sand, Cement, and Gravel Bins, and Concrete Mixer Pit. With This Labor Saving Arrangement Three Men Only Were Required to Get All Materials Into the Mixer. This Plant Would Be Economical On as Small as a 2,000 Barrel Job.

Handling Work to Advantage

39

Before any cars of bulk cement had been received, a canvas canopy was purchased in order to catch the dust that was expected to arise from the unloading of the loose cement. The unloading created so little dust that the canvas has never been used. One man in the cement car is able to unload a 231-barrel car in 1½ days, and one team with a bottom-dump wagon hauls this up a runway and dumps it into a hopper above the mixer.

The haul from the unloading track to the hopper

devices for the concrete. The cement descends into a box of 1½-foot capacity, the sand into a 3-foot inclined trough, and the gravel into a similar 6-foot trough, giving thereby a 1:2:4 mixture. The two men operating the measuring devices stand on the ground level and below them is the skip of the mixer. The mixer was set below ground in order to reduce the height of the incline above to a minimum.

Water is obtained from a measuring barrel between the hoppers, and piped directly to the mixer skip.



These Two Men Work the Gates That Allow Exactly the Right Amount of Cement, Sand and Gravel to Come Down Each Time into the Mixer. "Let the Teams Do the Work," Says Contractor Weeks.

averages about 200 yards. Aggregate is unloaded on the ground and reloaded into a bottom dump wagon. All materials are brought up a 16-foot incline, at the top of which there are three openings, each of such width that a wagon will easily span it. One opening is for sand, another for cement, and the third for gravel. The cement bin is lined with tin, with its opening protected in such a manner as to be waterproof. When the wagon is dumped rapidly, no dust arises, even during a moderately high wind. Each bin has a capacity of approximately 2½ cars, which for the cement, gives a supply that will last two days.

Immediately below the hopper are the measuring

Above this is a second barrel of larger capacity and having an automatic intake and shut-off. When the measuring barrel is empty, it opens the valve from the receiving barrel and closes it as soon as the measuring barrel becomes filled. The intake to the receiving barrel is open as long as the barrel is less than full, so that the flow of water is not dependent on the city water pressure.

Only two men are required to operate the measuring device for the sand, gravel and cement, with one man at the top whose functions are to open and close the hopper openings for the teamsters, and to see that all materials in the hoppers are flowing.

The mixer empties into a bucket, is elevated in a 110-foot tower and spouted to position. One engineer operates the engine controlling both mixer and elevating device. When using the tower, an average of 1½ batches per minute is delivered, while on such work where wheeling from the mixer is necessary, only one batch in two minutes is used. Runway, bins, measuring boxes and tower were installed for approximately \$480.

Four men handle the entire plant and deliver all the concrete that can be economically used. The contractor further claims that it is his opinion that such a plant would be economical for as small as a 2,000-barrel job.

Who knows a better or more labor saving way than this? Efficiency builders, here's a chance for you!
—EDITOR.

American Law and the Spite-Fence

INTERESTING LEGAL TANGLE IN CINCINNATI GIVES RISE TO UNIQUE QUESTION

By Felix J. Koch

"SPITE-FENCES" have been going up in Cincinnati to such extent that city organizations have at last used their influence with the city building inspectors, and, in turn, the city solicitor's offices, to call a halt,—by having the former refuse a permit,—and the latter, when appealed to, refer the matter to the courts. Court procedure is necessarily slow,—hazardous,—and often costly,—and so, rather than risk all this, many a man who would otherwise vent his wrath in a spite fence, will give his anger time to cool while he considers the cost,—and, hence, concludes otherwise. Where not,—well, then the burden of responsibility for permitting erection of spite-fences will rest with the Court.

All of this has been brought to a focus and has recently been before the courts in Cincinnati as result of refusal of the city building inspector's office, upheld by the city solicitor's office, to permit one Strack on Myrtle Avenue, in the residential suburb of Walnut Hills, to erect a spite-fence, as result of a neighborly quarrel, between himself and his neighbor.

The attorney in charge of the "Spite-Fence Case," as it is called in the city solicitor's office, gives us the following view of the matter:

"The permit to erect the spite-fence was refused on the theory that if the builders should erect said fence, it would constitute a 'public nuisance,' resulting in 'annoyance and injury to, and disturbing the adjacent

property-owners,' rendering, moreover, the 'ordinary uses of said property-owners' property physically uncomfortable and interfering with the enjoyment of their legal rights to the same.'

"The Supreme Court of Ohio has decided that a man can erect on his property anything that he wishes, so long as the erection is not against the 'peace, quiet and health of the neighborhood.'

"Our theory, however, is this: 'That in this case the fence already partly existed and so we have a mandamus proceeding against a public official to give the building permit.'"

Those in charge of the other side say, "The matter is the outcome of a neighborly quarrel and that if this fence be put up here, such fences can be put up anywhere; constituting public nuisances and the like. Civic organizations are urging strongly against their erection, as the eventual outcome will be a town, the horror of whose appearance can be but slightly imagined.

"On the other hand, we well know that Ohio law has permitted the erection of such fences before; but now, acting on public policy, we wish to prevent their general use, and so want the Court to decide whether or not permits for such structures shall issue.

"Unless the Court order otherwise, spite-fences may become ubiquitous, resulting in constant interference with the peace and quiet of the given neighborhoods."

Word has just reached us that Strack, who wishes to build the fence, has won the case; i. e., secured the mandamus, and as the fence must now be permitted, it is hardly likely that any one else will question another's right to build such a fence. The fence in question is to be about twenty-five feet in height.

Along with the problem of the spite-fence comes that of other quasi-nuisances. Within a very few squares of the now-famous Walnut Hills spite-fence, some years ago the administrator of an estate,—in order to speedily sell a lot,—is accused of having erected a number of the very cheapest of cabins and renting these to the lowest class of negroes, for little or nothing. Naturally, neighbors, to whom the property had been offered before, rose in protest; and, finally, bought the lot from the estate, as it wished, as being the only means of evicting the undesirable newcomers.



A Spite Fence Long Maintained Next an Apartment House on Reading Road in Avondale, a Cincinnati Suburb

Extra Profits

How
Builders
make
Money
"On the side"



PRIZE LETTER—Real Estate and Insurance Helps Builder's Business

NEW JERSEY CONTRACTOR TELLS HOW PARTNER-
SHIP BRINGS EXTRA PROFITS

Extra Profits Editor, Belmar, N. J.
AMERICAN CARPENTER & BUILDER:

WITH regard to the question of "extra profits," we wish to point out to our fellow subscribers the advantages to be gained by handling real estate and insurance in connection with contracting and building. The success we have met with during less than one year's experience under such a combination, leads us to believe that no agency proposition, taken up as an adjunct to carpentering and building, will show greater returns than real estate and insurance. While real estate is a business by itself, yet it is so closely allied to the building business, that we are working the two together with splendid results. When we get a line on a man who wishes to buy a lot and build, it is possible for us to handle the entire transaction—sell the lot, construct his building, secure a mortgage loan for him if he requires one, and insure his building against loss or damage by fire. Of course, we do not always land the whole proposition, but we can safely count on some part of it. For example:

A short time ago we sold a lot and at the same time secured for our client a mortgage loan to cover a portion of it. The other part of the lot was reserved free and clear. Aside from netting us good, substantial commissions, our handling this transaction put us on

the inside track and gave us a certain amount of prestige. Upon closing the deal, our client announced his intention of building on the free and clear portion of his lot, and, naturally, when he was ready for bids on the work, we received the first set of plans that were given out. We were beaten by another contractor, who is now going ahead with the job; but we have been instructed by the owner to write his insurance, which, while it may appear to some to be a small item, offsets in a measure the time we spent in preparing our estimate.

Let us cite another case: A lady listed her property with us, as well as with other local real estate agents, for sale. It happened that she disposed of the property through another agency. Upon contracting to sell, she informed our real estate department, stat-



"We Suggested that She Buy a Lot from Us."

ing she was in line to buy another house and lot. We showed her several good propositions, but none of them suited her. At the same time, however, we called her attention to some new and attractive homes we had recently built for other parties, and suggested that she buy a lot and let us build to suit her requirements. After all of our competitive real estate agents had shown her houses they had for sale, this lady finally came to us and requested that we show her some vacant lots. We did so, but a competitor who had some cheaper lots on his list, made the sale. When it came to building, however, the lady stated that she liked our work, and that she would have no other contractors build her house, which we now have in



"It's a Great Combination."

course of construction. The matter of insurance on this house has been duly taken care of by our real estate department.

To any builder desiring an increase of profits, we recommend taking as a partner, a live, honest, real estate man. Start in a booming town, work together and share losses and gains equally. Any good real estate man can talk intelligently on a building proposition, and vice versa. That kind of team work will mean added facilities for getting prospects, and, incidentally, more business. We find that such a partnership places the builder in a position to get in on the ground floor, while commissions earned from selling, renting, insuring property and placing loans, count for much in the way of extra profits.

J. N. GARRABRANDT,

For Garrabrandt & Conover, Real Estate, Insurance,
Mortgages, Contracting and Building.



Cash Prizes for Personal Experience Letters About EXTRA PROFITS

THERE are many ways in which carpenters and builders pick up considerable money "on the side." There are any number of popular building novelties and pieces of modern equipment for buildings that are being sold by carpenters and builders. Hustlers in the building field secure the agency for such building specialties and find it no trouble at all to work up a nice little business in connection with their regular building work.

We believe that a good many more of our readers might just as well be picking up these extra profits. Of course, conditions are not the same in all localities; but almost everywhere a wide-awake man can find sale for some of the special lines announced in our advertising pages. We want to hear from all of our readers who have been handling agency propositions in connection with their building work. We want brief, straightforward letters that tell actual facts. Give us your personal testimonials about the way the agency business goes and also what effect it has on your regular building work. All letters must be signed, but names will not be published if requested not to.

For the best letter each month we will pay \$10.00 (in goods selected from our advertising pages); also \$1.00 (in advertised goods) for every other letter published.

Study through our advertising pages and note the variety of interesting offers for carpenters and builders to act as local agents. There seem to be good opportunities for profits in connection with each of the following:

Dumbwaiters	Metal ceilings	Door and window
Store Fronts	Metal shingles	screens
Ventilators	Weatherstrips	Lighting systems
Skylights	Wood mantels	Lightning rods
Silos	Wall board	Detachable hinges
Furnaces	Floor finishing	Keyless locks
Bath room outfits	Steel roofing	Shinglers chairs
Vacuum Cleaners	Waterproofing	Clothes driers
Coal chutes		Popcorn machines

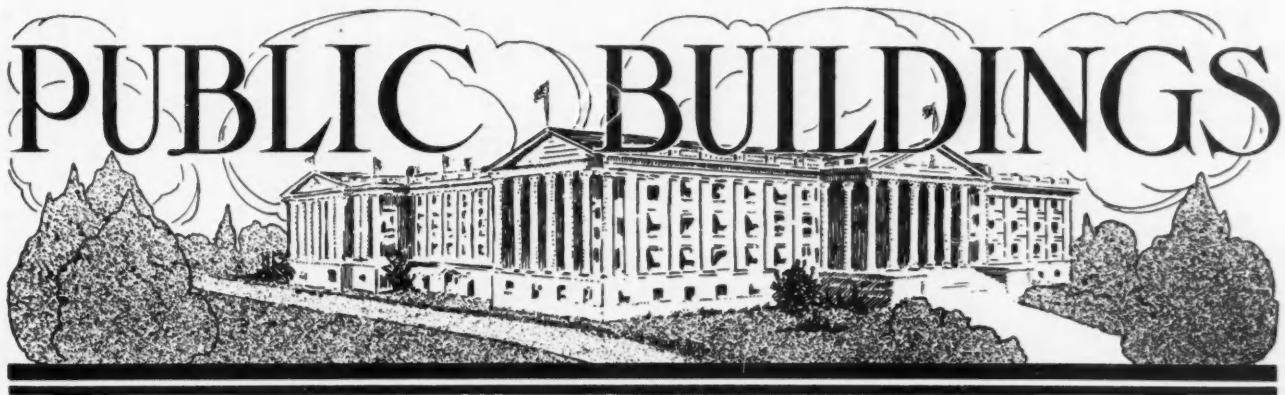
We would like to hear from builders who have had experience in handling any of these. Your advice and encouragement may be worth many dollars to other builders. Address EXTRA PROFITS Editor, American Carpenter and Builder, Chicago.



By H. C. Haner, Foreman Shaver

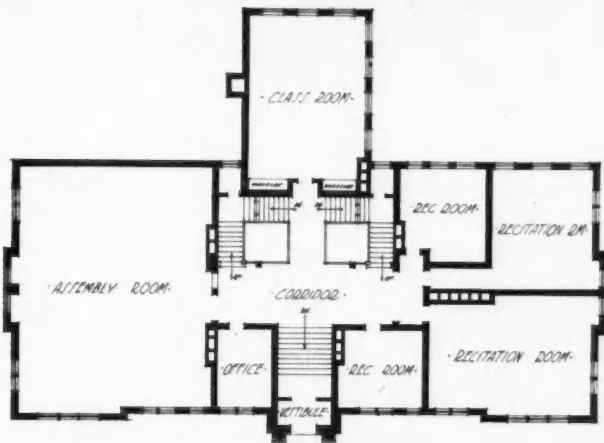
It is not always an easy matter to get help in mill-building that is intelligently useful, and some curious pieces of work are often the result of having to have a barn carpenter make mortises and tenons for a saw-mill job. An incident of this sort will illustrate the meaning more clearly. On a certain mill there was employed a millwright who was particularly fractious in cases of this kind. One of the men, who had the misfortune to be numbered 13 on the rolls, made a mortise that looked as if it was intended for a mold for the wooden teeth of a gear, and when the old man took the number of the sill to locate the man that did the work, we all looked for some sport. "Number 13," he said, "I see one of your mortises here that looks like an inverted tin pail that a wagon has run over. If you can make a tenon that will fit that mortise, and that you can get to go in the hole, I will say you are a first-class mechanic, and if you can not do it, take your tools off the job." He took his tools.

FALSE START WITH WRENCH—I have a fairly good chance to observe men in all lines connected with building, and believe that there is no part of the business in which so many mistakes are made as there are in that branch of it relating to power woodworking. It does not seem to make any difference how long a man has been at the business or for how short a time he has been working out the intricacies of a machine, they all seem to have a penchant for turning a bolt or nut the wrong way. It may be noted that nearly every man who gets the least bit troubled with a machine, will turn a nut the wrong way to loosen it. When he is in any sort of a hurry a man will get his muscles to the straining point and come down hard on the wrench handle, when, suddenly remembering which way to turn, reverses his pull and the nut will generally come off easily. The bad part of this is that these nuts and bolts will become weakened from this hard straining and let go when least expected and give a repair shop bill in place of service. Very few bolts are threaded left handed, and then only those intended to hold saw collars or heads on a saw mandrel. Remembering which way the strain comes will often save trouble in loosening a nut and save a thread.

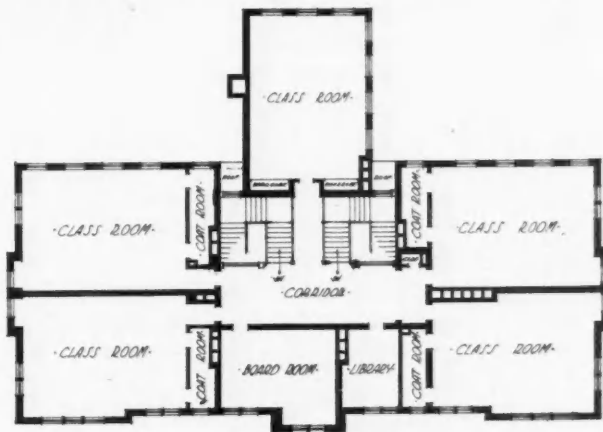


Modern School Building at Fulton, Ill.

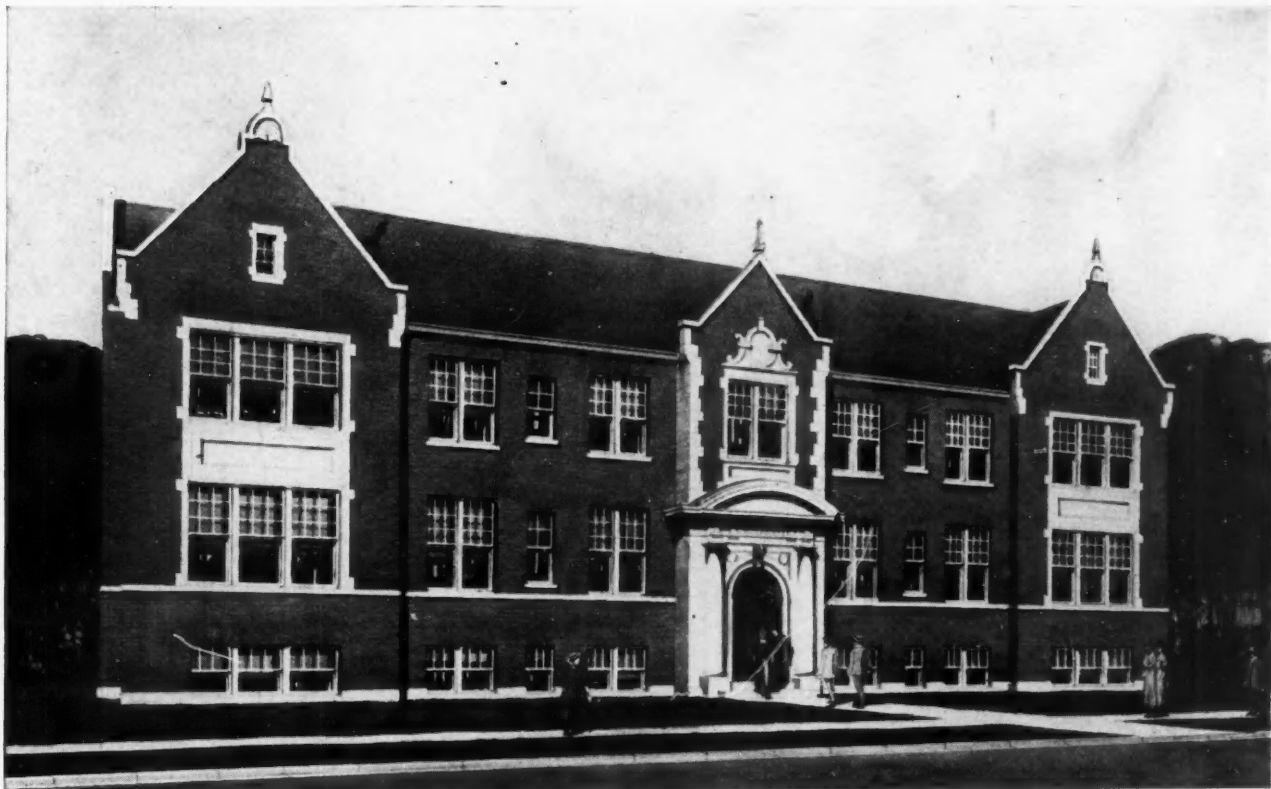
PERSPECTIVE AND FLOOR PLANS OF TEN-ROOM GRAMMAR AND HIGH SCHOOL



Main Floor Plan.



Second Floor Plan.



New Grammar and High School Building Now Under Construction at Fulton, Ill. G. W. Ashby, of Chicago, Architect.

BETTER BUILDING

WHY AND HOW



Better Work at Less Cost

WE LET IN A LITTLE LIGHT AND CONVERT THE BOSS TO MODERN INTERIOR WALL CONSTRUCTION METHODS

"SOME mighty convincing photos you have there," remarked the Boss Carpenter as he slid into our extra chair and asked for a match. "They show that some good work is being done these days, in spite of what the 'oldtimers' say."

"Good work? Well I just reckon—the very best that's been done this year, if we're any judge. These photos have come from many different corners of these U. S. and illustrate the work our best builders are doing this season.

"Do you want to know why it is that they look so classy?"

The Boss opined he would like to know the reason—

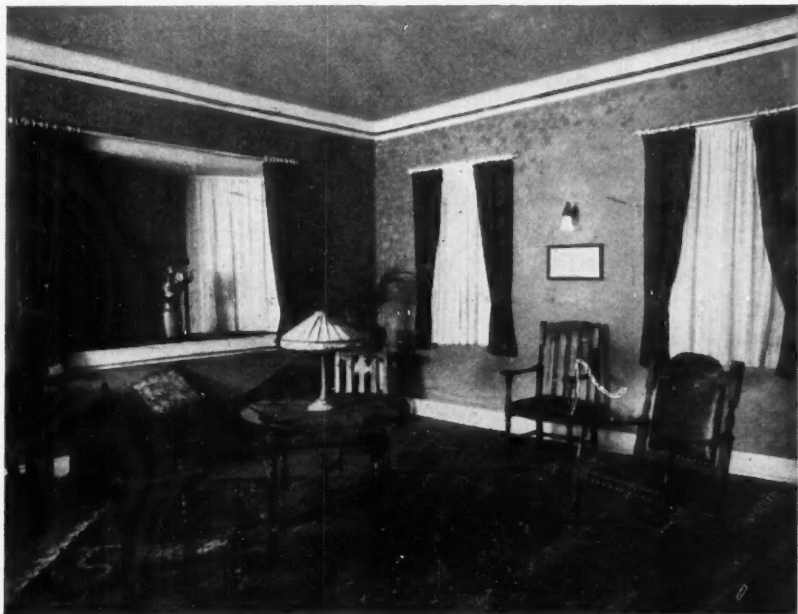
that is, if it might be anything else than that extra money was spent for extra careful work. "That's the usual answer," he said. "If you are willing to pay the lathers and plasterers extra money not to mess up your rooms for you, there is a chance—just a bare chance, mind you—of their taking some pains and turning out a job that can be finished up in classy style."

"Wrong again," we interposed, forestalling any further breaking out of the Boss' chronic grouch about careless plastering.

"Instead of costing more, the cost of every one of these jobs—so the builders tell us—was less. And



Interior of a Beautiful Indiana Residence Looking from Living Room Across Unique Entrance and Stair-Hall to the Dining Room. All Inside Walls and Ceilings Constructed of "Roberds Ideal" Wall Board.



One of the Finest Residences in Minneapolis. All Walls and Ceilings Throughout Constructed of "Compo-Board". This View of the Living Room Shows Work So Carefully Done that Expensive Wall Paper Could be Put on Directly Over the Boards Without Need for Paneling.

the reason was—*wall board.*"

Now, our good friend, the Boss Carpenter, is a conservative chap, a thoroughgoing builder of the old school; yet, withall open to conviction about new-fangled things we are all the time running onto, and entirely willing to give them a good tryout, if we are able to persuade him they are O. K.

The Boss is, in fact, the type of responsible builder, now numbered by the



A Notable Example of "Beaver Board" Construction is the Residence of Mrs. Wolf, San Antonio, Tex. In Every Room Some Strikingly Beautiful and Different Effect Has Been Produced. This Bedroom is Finished in White Enamel with Panel Trim Very Inconspicuous.

best builders and architects are using wall board *from choice* for the complete inside wall construction of their best residences and other buildings. Wall board is no longer just an easy repair material that anyone who can pound his thumb can put on, himself; but is a real building material for new work and for the complete wall finish of all rooms from cellar to attic.

"Of course you know that wall board comes in large sheets and is nailed right onto the wall studs and headers, without any need for laths or for plaster. The wallboard sheets naturally divide the surface into panels; and as a matter of



Living Room in Central New York Residence in Which No Lath and Plaster was Used, the Finish Throughout Being "Plastergon" Wall Board. Note Attractive Paneling Effect With Strong Contrast Between Dark Finished Battens and Light Spaces.



THE SUCCESS OF WALL BOARD FOR PUBLIC AND BUSINESS BUILDINGS IS DEMONSTRATED BY THESE TWO "FIBERLIC" WALL BOARD PHOTOS.

Attractive Ceiling Finish for Department Store Basement.

Clean and Artistic Ceiling and Side Walls in New York School Room.

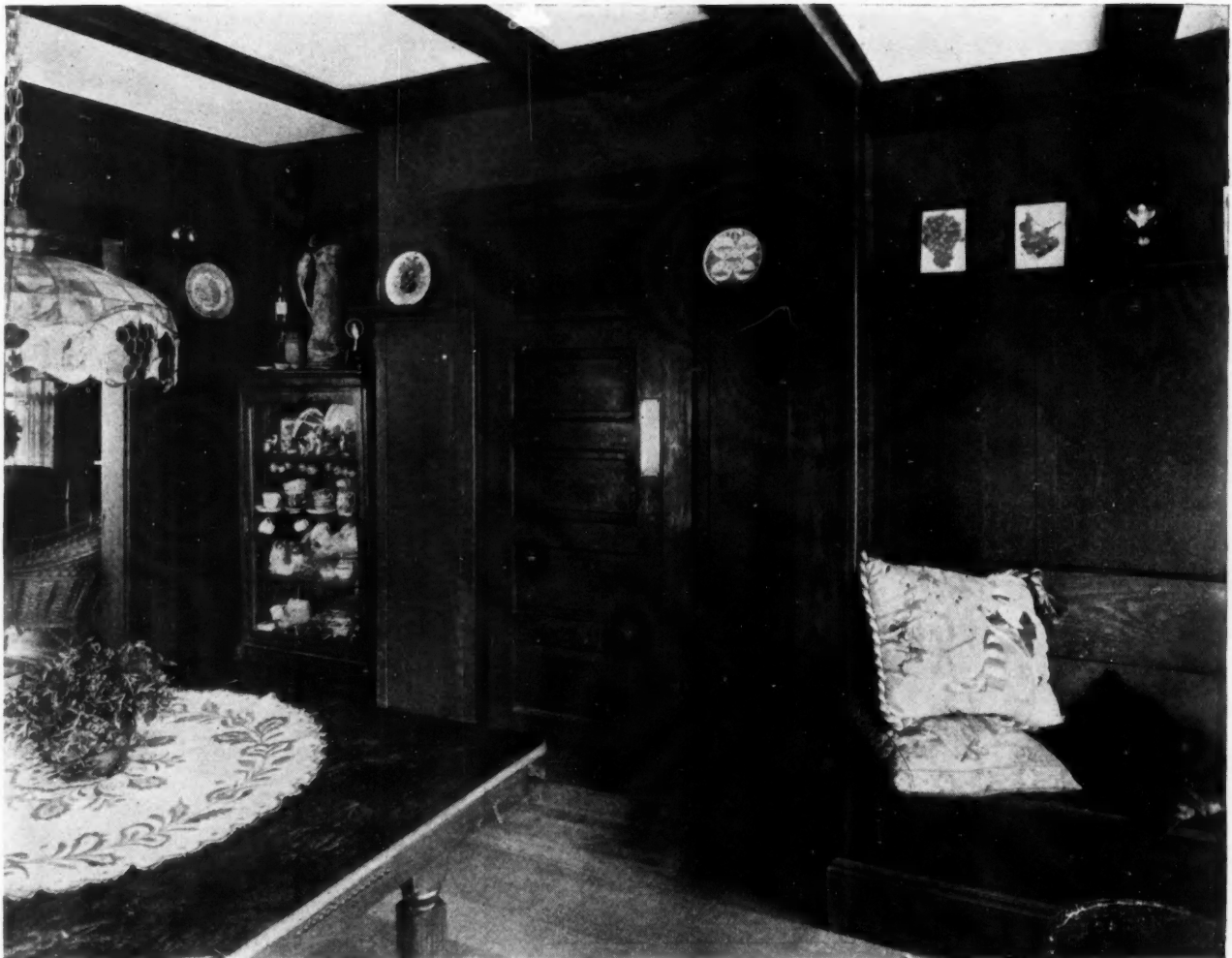
fact, paneling is a rather important feature of most wall board jobs. Panel strips cover the joints and are used elsewhere for ornamental effect.

"However, with extra careful work, some wall boards are laid so that no joints show at all. This gives a chance for allover decoration and goes to show

the great possibilities in wall board finish.

Paneling Important in Wall Board Work

"As for paneling, it has practically always been in favor. Earliest architects have used it and in each age it has had added to it traditions of the times.

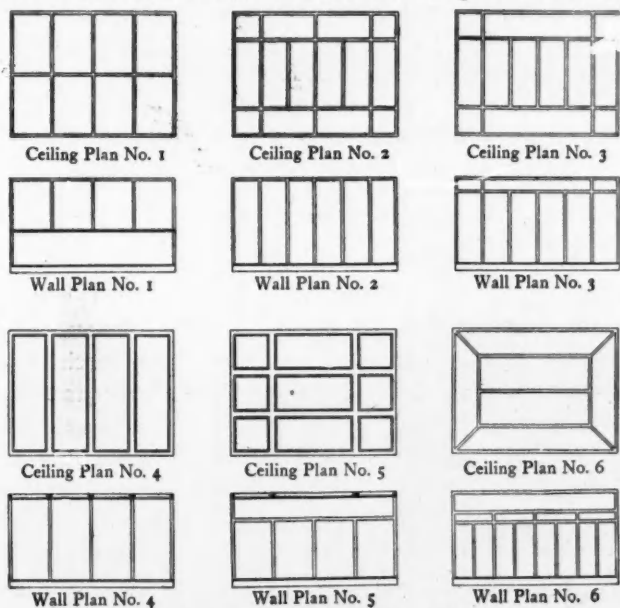


Three Styles of "Neponset" Wall Board Produced These Beautiful Rooms. Quarter-Sawed Oak Finish for Dado, Pebbled Surface Brown Colored Board Above the Plate Rail, and Light Cream Colored Board in Ceiling Panels.

Though many will complain that panels seem to limit and bond the wall, giving the impression that the room is strapped or tied, many more feel that the opposite is true. This is reasonable; for, like the ships in a harbor or trees against a sky, panels give the impression of size, and the more there are of them the larger the bay and the wider the horizon.

"Panels certainly beautify otherwise uninteresting walls; when a plain restful decoration is used like paint or cloth or leather, panels are needed. As soon as the room is paneled, it becomes distinctive and takes upon itself certain individuality not possible with plain or even with patterned decorations.

"It is easy to make paneled rooms all different. In the first place, how many different panel treatments are available and how endless are the possibilities of



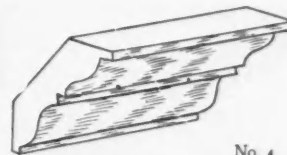
Six Attractive Paneling Schemes Suggested by the Service Department of the Beaver Board Companies.

paneling. Each room has its wall spaces and its opportunities; each room has its outside and inside exposure, its relation to other parts of the house and its place in the color scheme of the entire house. Each room has its wood work. There is nothing monotonous about the paneling if it is carried out correctly. Each room has its possibilities and limitations and these alone give opportunities for varied arrangement of panels. Then, too, the materials with which to work are varied; there are different styles of decorative strips and different kinds of finishes and stains for these strips.

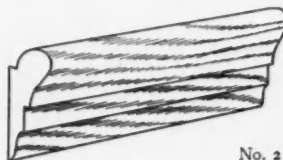
"This brings us to the question of planning or laying out paneling. Paneling should always be skillfully planned and for this reason wall board companies maintain departments of design, decoration and art service to assist builders in laying out the panels for their homes. The only objection to paneling is an objection to poor paneling, for in simple work bad composition is a glaring fault and in rooms where the paneling is to be elaborate bad arrangement of panels is doubly deplorable.



No. 1
Square cornered strips for any kind of room, should never be less than $\frac{3}{8}$ " x 2" dressed, and may be used effectively up to $\frac{3}{4}$ " x 6". This is the simplest style procurable, but more elaborate styles may be obtained.



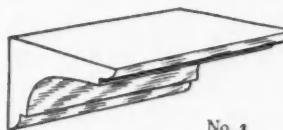
No. 4
A cove mould is used instead of two decorative strips in finishing corners formed by two walls. In kitchens, closets, etc., where simplicity is desirable, it may be used.



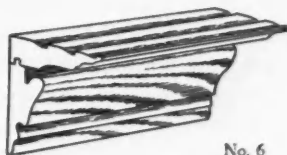
No. 2
One of the many styles of picture mouldings. Can be used advantageously instead of a regular decorative strip, on walls just below ceiling.



No. 5
The chair rail or wainscot cap is also of many styles. It may also be used in dining-rooms, living-rooms, etc., to good advantage.



No. 3
Common crown mould is effective in treating the angle formed by the wall and ceiling; it is more appropriate for rooms where very artistic effects are desired.



No. 6
In dining-rooms, restaurants, etc., this plate rail would be very attractive. Various styles are easily procured to suit every requirement.

"The laws of unity, of subordinating non-essentials and of accenting essential features should be carried out to the very last detail and in all there should be absolute clearness. Each part should be most logical.

"Where it is difficult to panel there should be as little contrast between stiles and panels as possible, but where the room is large and the wallspaces well proportioned, contrast simply adds to impression of symmetry and beauty in the room.

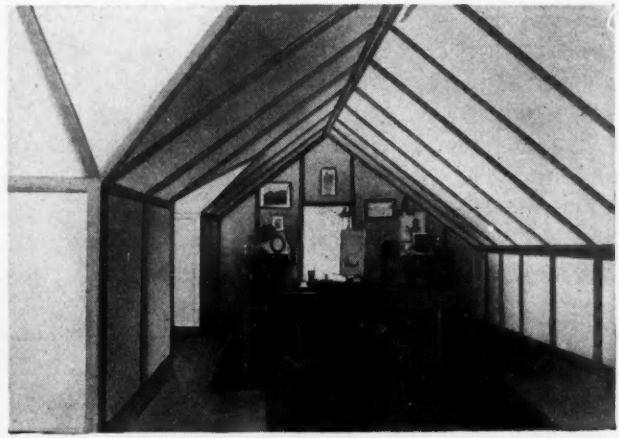
"The room to be paneled should first be considered as a whole—in this way, can unity, a prime essential, be secured. A principal point of interest should be chosen—a fire place, mantle, mirror, an attractive wall space between two windows, or a rich cabinet or the location for such a cabinet. The chief feature of each wall should be regarded closely. If possible, try to focus the decorations in the room to one point of interest and subordinate other features of other walls.

"As many panels of similar size and relation as is possible should be obtained in the room. The mind delights in putting like with like and so is pleased with panels of similar size and proportion and with stiles or strips of similar width and arrangement. While there is delight in noting the likeness between members of the same set, there is as great pleasure in noting the contrasts between members of different sets. Contrasts between broad and narrow panels and between square and oblong ones are pleasing.

"In paneling, the panel is the thing and the stile is subordinate to it. Therefore, a wall simply cut in two is not always advisable, as it makes the style the



A High Grade New Jersey Optical Goods Store with Rich Beam Ceiling Used in Connection With "Fiberlic" Wall Board.



A Wisconsin Attic Transformed Into a Cozy Den for the Boys by Finishing off with "Cornell" Wall Board Nailed to Rafters and Studs

central figure. Stiles should, on the whole, be broad. The broad panel, or decorative strip of lattice is desirable. Panel strips may be enameled or stained to harmonize with the general treatment of the room and with its wood work, but they should offer substantial lines, particularly if the contrast is striking. A broad, dark panel with a narrow, white stile and a broad, light panel with a narrow, dark stile, are not pleasing. But if both the stile and panel are of the same color, or if the panels are narrower, then the narrow stile may easily be permitted. However, the desirability of contrasts leads to the rule that broad stiles are best.

"With regard to the shape of the panels builders should remember that square panels are not pleasing, just as, for some psychological reason—unbroken uniformity, no doubt—squares are not pleasing. The oblong, on the other hand, is always restful and makes possible all sorts of combinations of lines. The oblong combined with the square, too, gives remarkable opportunities.

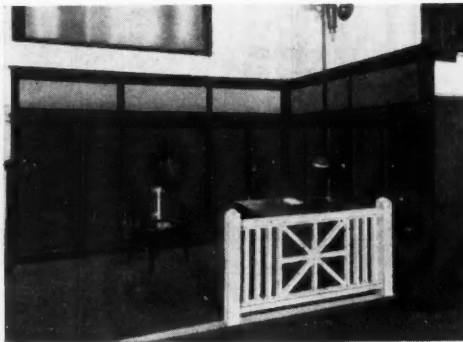
"It might be suggested in this connection that when it becomes desirable to make three panels of equal size

and shape, the center one should be, in reality, a little larger if possible, otherwise it may look smaller. However, this rule applies particularly when wide stiles are used.

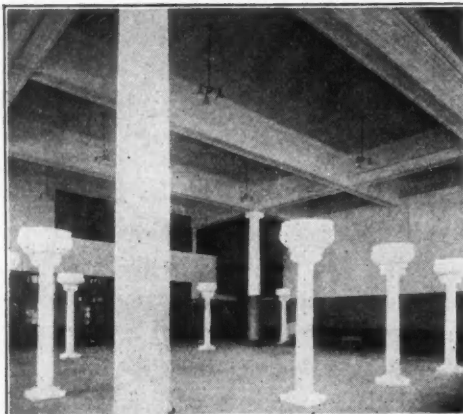
"When it comes to decorating panels, the usual period decorations may be carried out in detail, which would not be possible were the wall finished without paneling. Stenciling—the luxurious lines of Italian designs, French beauty and vivacity and German richness and ease, the torch and acanthus of the Greek and the golden bee of Rome make most correct and pleasing decorations, decorations that become a part of the room itself and not mere ornaments that are added to it. Paneling also may be formed by cut-out decorations, by wood applique and by box treatment, that is, by forming a border within the panel and treating all that is outside of it one tone and all that is inside another. Stucco ornaments, also may be used with good effect.

"However decorated, correct paneling brings out the beauty of furnishing of a room. Consider the difference that is made when a buffet is put against a plain wall or a motly papered one and when it is placed to fit right into the paneling at a focal point in the wall.

"The popular craftsman home has been one of the exponents of the panel treatment of walls and ceilings. Another factor and perhaps a greater one to encourage paneling and lead to its increase in favor, has been the spread of the use of wall boards. Wall boards embody the panel



Light Office Partition Constructed of Wall Board.



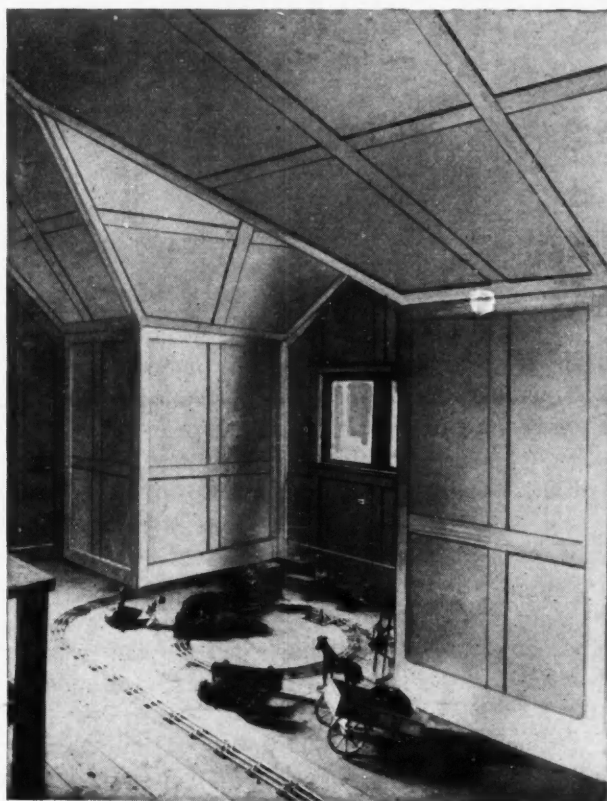
Walls and Ceilings of Taft Hall, Auditorium Armory, Atlanta, Ga., Constructed of Carey "Ceil Board".



Melvine, Chicoine Co. Store, Toledo, O., Ceiling Work all of Carey "Ceil Board".

treatment. Wall boards are applied in panels directly to the studding and headers in new buildings and over old material when remodeling. They are put on so as to leave a small space at the panel divisions—these, covered with the panel strips, decorative strips, batons, or lattice, as stiles, move all imperceptibly to the eye and thus withstand the strains, shocks, and vibrations that come with the settling of the building and with other the expansion and contraction of the wooden parts, due to vagaries of climate and temperature. Thus the walls are not only beautiful, but the paneling makes possible greater adaptability and a crack-proof quality not possible with a solid wall of plaster or cement.

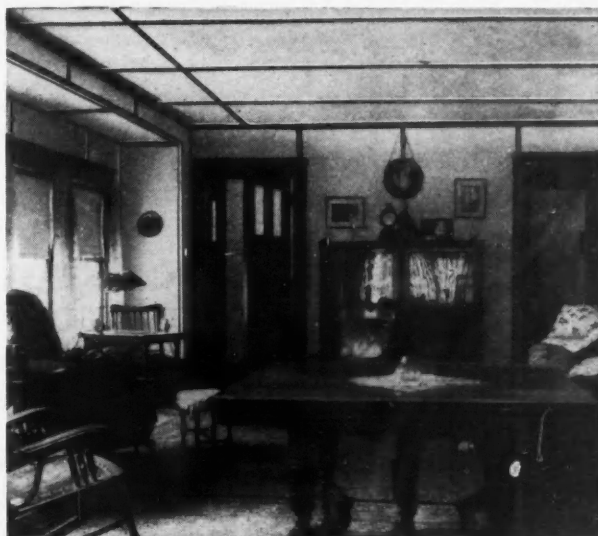
“With wall boards the panels are so bonded and pressed as to be absolutely wholesome and sanitary.



Thanks to “J-M Wall Board” This Old Attic Space is Now a Children’s Playroom.

They give further advantages of being permanent; panels of wall board are light in weight and easy to fix and decorate and after having been used may be used again. This is a particular convenience when there is trouble with wiring or plumbing. The panel arrangement may be changed from time to time and the entire decorative scheme made over at little cost. The pebbled surface of the board takes all paint decorations beautifully, particularly flat-tone oil paints which may be washed; if it is desired, a bit of stippling or a change in the stenciling may be used with the result that the room is done over and made effective in a new way.

“Paneling, in the modern sense, in homes where

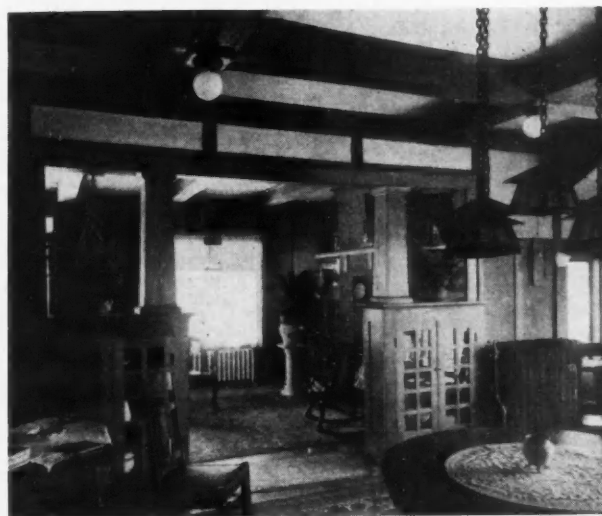


Big Living Room in Old Wisconsin Farm House Completely Rejuvenated by Use of “Cornell” Wall Board.

wall boards are used have very practical reasons for being. It is not only logical and therefore beautiful, but it offers certain indisputable advantages; it is easy to apply and decorate and easy to change, if such is desired. It is wholesome, durable and permanent, crack-proof and most of all suited to all the strains of wear and time.

“Conservative folks choose to wait till a material has been thoroughly tested in actual use and under all sorts of conditions before they use it. Wall board has been so tested. You can bank on a wall board job absolutely, and recommend it to the most particular of your friends and customers.

“*Built of Wall Board*’ is the story told by everyone of these photographs. They show better work, but the cost was less. If you have not yet tried wall board—try it *now*. Oh, yes, it’s great for winter work, too.”



Very Rich Interior Effect in Residence of Mr. R. B. Fuller, Evansville, Ind. All Walls and Ceilings Thruout Constructed of “Utility” Wall Board.



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. 26—Stresses in Queen Truss

THE BOSS SHOWS HOW TO DETERMINE THE AMOUNT OF STRESS IN THE MEMBERS OF A QUEEN TRUSS DUE TO DEAD LOAD ONLY

“WHEN we were considering the different kinds of timber roof trusses,” said the Boss, “I showed you a form of truss called the queen truss. As this type of truss may have passed from your memory, we will turn back in the log book and look at Fig. 5 in Talk No. 22, and refer to this figure in this Talk as Fig. 15. I told you at that time that a queen truss is seldom used for spans over 65 to 70 feet. The six-panel truss shown in Fig. 16 is generally used for spans from 35 to 50 feet. The longer the truss the greater the number of panels. We also saw that for this type of truss a one-third pitch roof is considered to be the most economical, but the slant of the rafters should be at least equal to that of a one-fourth pitch roof. The angle between the slanting rafter and the horizontal should lie between 35 and 60 degrees, 45 degrees being a very common angle.

“In Talk No. 24 we saw how to construct the stress diagrams for a simple form of truss, and you were told how to determine the kind of stress present in the members as well as the amount of this stress. Today we will do the same thing in connection with this queen truss. We will construct a stress diagram for the dead load, which in this case consists of the weight of the truss itself and the roof covering. You were told in Talk No. 25 how to determine these quantities and how to arrange the proper amounts of load at the joints of the upper chord. Since we do not believe that it is necessary to go into detailed calculations for determining a set system of loads to apply in this

case, we will use simple loads of 1000 pounds per joint as shown in Fig. 16. The end joints, of course, having loads of 500 pounds as in previous cases, and the reactions are each one-half of the total load. These loads will do just as well as to represent the principle which we wish to show as would be the case if we calculated loads for a given roof.

“You see, we letter the truss in the spaces between the arrows and the members just as we did in previous cases. We assume a given scale, for instance, 1 inch = 2000 pounds, and begin to lay off our load line as shown at the extreme right of the figure. The load *ab* being 500 pounds, is laid off to scale as $\frac{1}{4}$ -inch on the load line. The load *bc*, which reads 1000 pounds, will be laid off $\frac{1}{2}$ -inch on the load line, and so on until all of the loads down to *gh* are laid off along the line in their proper order, and the reactions or supporting forces, *hi* and *ia*, finish up the load line. The point *i* should be half way up the line, since the two reactions are equal and their sum equals the total load upon the truss.

“Beginning at the extreme left-hand joint, we see that we have the members *bj* and *ji* meeting at this joint. To determine the amount of stress in these members we draw a line from *b* on the load line parallel to the direction of the member *bj*. Also from *i* on the load line draw a line parallel to *ji*. The intersection of these two lines will determine the location of the point *j*. Checking off these members as found, we now pass to the next joint to the right on the lower chord of the truss. Here we have the members *jk* and *ki* acting about this joint. If we attempt to draw a line from the point *j*, just found in the stress diagram, and another line from the point *i*, we will find that the points *j* and *k* fall together as shown in the diagram. This means that the stress in the member, *jk*, due to the dead load on the upper chord of the truss, is zero, since the line *jk* has no length. The stress in the member *ki* will be the same as in the member *ji*. If we had a system of ceiling loads suspended from the

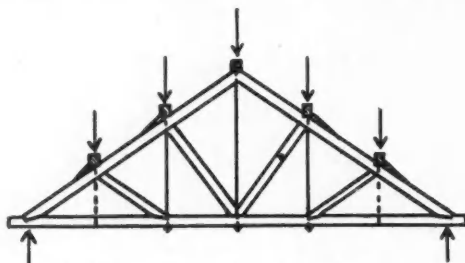


Fig. 15. Construction of Queen Truss.

lower chord of this truss, we would find that the member *jk* was stressed up to an amount equal to the load suspended from this joint of the lower chord.

"You will remember that we found that only two unknowns at a time could be handled about any joint in the truss. We see that we may now pass to the joint directly above on the truss and determine the stresses in the members *cl* and *lk* which meet at this joint. From *c* on the load line draw a line parallel to the direction of the line *cl* in the truss. Likewise from the point *k* in the stress diagram draw a line parallel to the member *kl* in the truss. Where these two lines intersect place a letter *l* to represent the point common to both lines. The lines *cl* and *kl* will then represent the stresses in the members corresponding.

spond on either side of the center line of the truss. This principle allows us to leave our stress diagram where it is and measure off from this diagram stresses for the members on the right-hand side of the truss which do not show up by letter in the stress diagram. For instance, we have seen that the stress in the members *dn* and *eo* are the same. We will also find that the stress in the members *cl* and *fq* are the same; likewise *lm* and *pq*, or any other pair of corresponding members.

"You will remember that Talk No. 24 was devoted to an explanation of Bow's Notation. This notation was used as a means of determining whether a member of a truss is in tension or compression by a careful inspection of the diagrams drawn. Applying the same

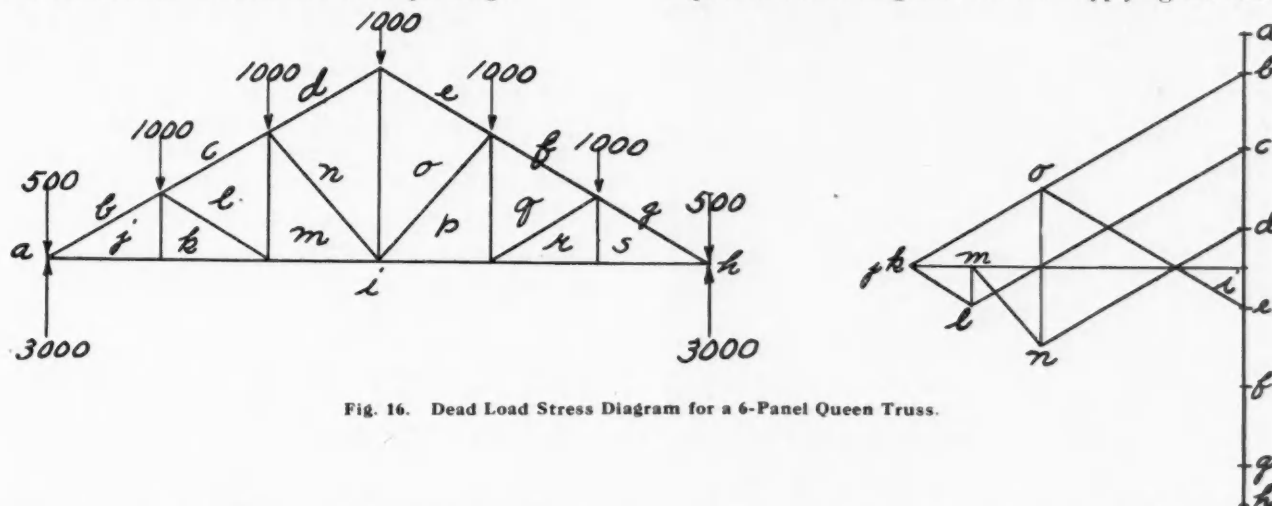


Fig. 16. Dead Load Stress Diagram for a 6-Panel Queen Truss.

"Next, we will pass to the second joint from the left-hand end on the lower chord where the members *lm* and *mi* meet. By a similar construction in the stress diagram, we draw *lm* parallel to the direction of *lm* in the truss and notice that where this vertical line intersects the line *ki* will determine the location of the point *m*, since all stresses in the lower chord will be measured by lengths of lines falling together on the horizontal line from *i* in the load line.

"Next, we will pass to the joint directly above on the truss. Here we have the members *dn* and *nm* meeting. From *d* on the load line draw a line parallel to *dn*. Also from *m* in the stress diagram parallel to *nm* in the truss. The intersection of these two lines will determine the point *n* and their lengths will give the stresses in members *dn* and *nm*.

"To complete the stress diagram for one-half of the truss, draw a line from *n* in the stress diagram parallel to the direction of *no* in the truss. Likewise from the point *e* on the load line draw a line parallel to *eo* in the truss. The intersection of these two lines will determine the location of the point *o*, thereby giving the amount of stress in the member *no*.

"You will see by an inspection of your diagram that the length of the line *eo* is the same as *dn*. This is as it should be, since symmetrical loading upon this symmetrical truss should produce the same amount of the same kind of stress in members which corre-

form of notation to the queen truss shown in Fig. 16, we see that the members reading about the first joint at the left-hand end of the truss are *bj* and *ji*. The member *bj*, reading the order of the letters clockwise about the joint and looking at the stress diagram at the right, is seen to be in compression, since the order of the letters in the stress diagram at the right reads downward toward the left. This indicates that the stress in the member of the truss *bj* acts downward toward the left or toward the joint about which we have read the order of the lines *b—j*. Likewise *ji* is seen to read toward the right in the stress diagram, showing that the stress in the member of the truss, *ji*, acts away from the joint, thereby indicating a tension in the member. The following table will show the results of tabulating the kinds of stress in the different members of the truss as obtained by the above scheme.

Member	Kind of Stress	Sign	Member	Kind of Stress	Sign
<i>bj</i>	Compression	+	<i>on</i>	Tension	-
<i>ji</i>	Tension	-	<i>fq</i>	Compression	+
<i>cl</i>	Compression	+	<i>qp</i>	Tension	-
<i>lk</i>	Compression	+	<i>po</i>	Compression	+
<i>ki</i>	Tension	-	<i>pi</i>	Tension	-
<i>kj</i>	Zero		<i>gs</i>	Compression	+
<i>dn</i>	Compression	+	<i>sr</i>	Zero	
<i>nm</i>	Compression	+	<i>rq</i>	Compression	+
<i>mi</i>	Tension	-	<i>ri</i>	Tension	-
<i>ml</i>	Tension	-	<i>si</i>	Tension	-
<i>eo</i>	Compression	+			

"At the close of the last Talk," said the Boss, "one of the men was asking in regard to the weight of snow on a roof and the effect of wind pressure. Next time we will start to discuss these quantities for the two common types of truss which we have handled, and will see how stress diagrams for snow loads and wind loads should be constructed.

Boss Carpenter Question Box

State your problems briefly yet clearly and the Boss will gladly answer them here.
Yours for Safer Building.—Editor.

Load Carried by Column

To the Editor: Arkansas Pass, Tex.

What central load will a 6-inch diameter hollow circular column, metal $\frac{3}{4}$ -inch thick, support if column is 14 ft. long?

Also will 2"x12" Southern pine joists spaced 12 inches on centers be of sufficient size to carry a floor load over a 24-ft. span in an office building?

J. L. ROBB.

Answer: The hand-book of the Cambria Steel Company gives the load to be carried by a 6-inch diameter hollow circular cast iron column $\frac{3}{4}$ -inch thick and 14 ft. long, as 62,000 pounds, for a central load with a safety factor of 8, column ends square.

As to 2"x12" yellow pine joists referred to, Kidder in his Architects and Builders Pocket-Book, gives 20 ft. as the maximum span for 2"x12" Georgia pine joists spaced 12 inches on centers in floors of office buildings where a total floor load of 93 pounds per square foot is to be carried.

THE BOSS CARPENTER.



Building Tile as Compared with Brick

To the Editor: Victoria, Va.

I would be glad to have you give me a few pointers as to how ordinary building tile compares with brick in lasting qualities, fire test and crushing strength when used in ordinary structures.

Is it necessary to fill the tile in wall construction at locations where loaded beams or trusses bear direct upon the wall?

F. A. SKILLMAN & Co.

Answer: These two building materials each have special advantages for use in building. Brick is used where strength and lasting qualities together with a good finished appearance are desired, and where weight is not a disadvantage. On the other hand, tile may be used where lasting qualities and medium strength are desired in connection with lightness and space-filling qualities. Building tile are used to a great extent in filling in panels either in walls or floors where the main strength of the structure is provided by the use of a steel or concrete framework, while brick may be used in a wall to provide both the strength of the wall itself and the space-filling qualities.

Brick and tile are both used in locations where fire protection is desired, and we believe that either one of the materials may be referred to as fire resisting. Tile may crack and fall away due to the action of the heat where brick would probably remain intact but might have a damaged surface. The crushing strength of brick is greater than that of tile on account of the solid nature of the brick.

We would not consider that it would be safe to place an I-beam or truss directly upon a tile wall of hollow construction without filling that part of the tile wall with cement or using a metal plate to distribute the pressure over a large area of the wall. Often piers are built up in the wall to carry heavy loads from trusses.

THE BOSS CARPENTER.

Floor Construction For Hall

To the Editor:

Ordinary, Va.

I am thinking of building a structure in which the upper story is to be used as a lodge hall, and would like to know if 2 in. by 10 in. yellow pine joists, 13 ft. long, and spaced 16 inches on centers, would be suitable for carrying the loads which are likely to occur on a floor of this type.

I would also like to know if 6 in. by 6 in. posts, 10 ft. long will be large enough to support an area of this floor 13 ft. wide and 14 ft. long.

WM. G. SAUNDERS.

Answer: We do not consider that 2 in. by 10 in. yellow pine joists 13 ft. long when spaced 16 inches from the center of joist to center of next joist would support a floor load, dead and live, of 120 lbs. per square foot, as we believe would be necessary in a structure of this type. It seems that a 2 in. by 12 in. (full size) joist should be used in this location and then should be limited to floor loads not greater than 100 lbs. per square foot live load.

A 6 in. by 6 in. yellow pine post 10 ft. long is considered safe to hold a load of about 28,000 lbs. if the load is placed absolutely central on the post; ends of post square with length of post and absolutely flat; post full 6 inches in size, and ends firmly supported in place. We figure that the load on a post in your floor on the basis of 120 lbs. per square foot, dead and live load, would be about 22,000 lbs.

THE BOSS CARPENTER.



Cotton-Wood For Dimension Lumber

To the Editor:

Swea City, Iowa.

We have a contract for a farm dwelling, and the party wants to use cotton-wood for dimension lumber. This was cut and sawed last winter, and we would like to know if it is all right to use it, and whether it will last as long as fir or pine.

HAGLUND BROS.

Answer: We judge that this material has not been seasoned sufficiently for use in building construction. Again, we doubt if cotton-wood would be suitable for work of this kind on account of its lightness and lack of strength, together with the possibility of warping and twisting which is likely to occur in this material. We believe that pine or Douglas fir would be preferred.

THE BOSS CARPENTER.



Audience Room in Church

To the Editor:

McLemoresville, Tenn.

I have been a subscriber to the AMERICAN CARPENTER AND BUILDER for the past three years and think it one of the greatest building papers published, and one that I could not afford to be without.

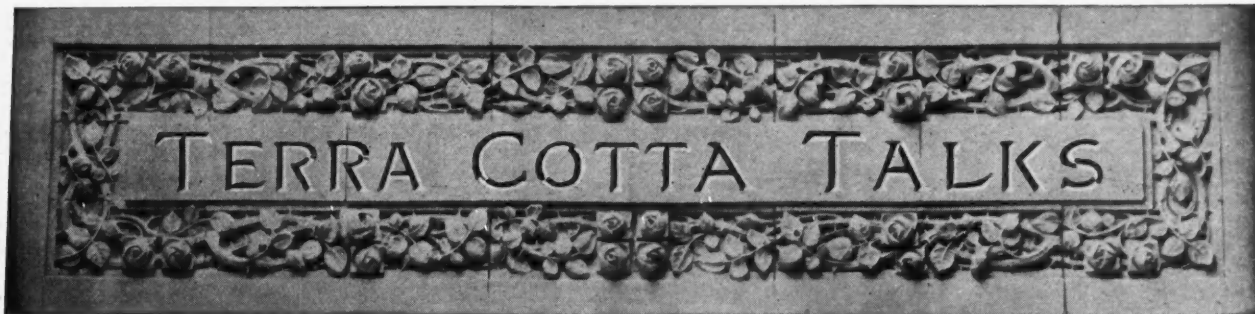
I would like to have your suggestions in regard to the design of the audience room in a church which is 36 by 36 feet in size, with the pulpit in corner. The pews are to be arranged in a circular manner. How much incline should be given to the floor? What is the proper way of arranging the floor girders under this audience room?

S. E. CARTER.

Answer: In a room 36 by 36 feet, with pulpit in corner, the floor may be either level or slant with a drop of one inch per foot of length. This would be a matter of choice with you.

To locate the girders supporting the floor joists, take the corner of the building back of pulpit as a center and with radii of 12 feet, 27 feet and 39 feet, draw three arcs of circles cutting the other walls of the building. This procedure will locate the center lines of the main girders of the building which are to support the floor joists and will allow the use of 12 and 16-foot joists over the different spans. Several brick piers will be needed to support these main girders. The floor from the pulpit to the first row of girders will be level; the second row of girders located 15 inches above the first; and the third row laid 12 inches above the second, if a sloping floor is desired.

THE BOSS CARPENTER.



Income Buildings on Single Lots

HOW WIDE-A-WAKE BUILDERS ARE IMPROVING THE "LEFT OVER" CITY LOTS

A LONG practically every business street are occasional single lots still undeveloped and apparently only good for a bill board and as a catch-all for tin cans, etc. For some reason the march of business has skipped over these possible building sites, perhaps believing a single lot too small a space for a profitable store building.

Now these left over lots are being picked up and used for one or two story buildings constructed of white terra cotta or of brick with terra cotta trim, all strikingly designed. These new buildings, though small, are getting the business. More than that, they are setting a new pace and forcing remodeling.

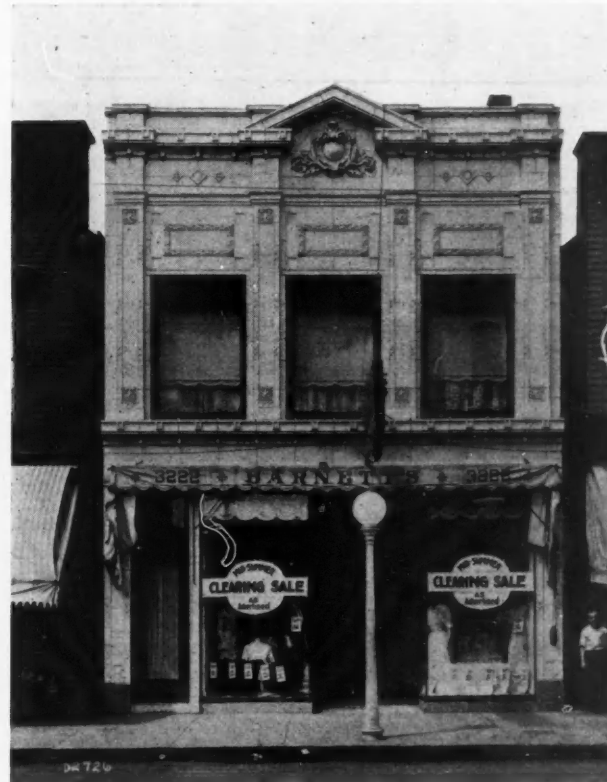
There is something in human nature that makes us all prefer the bright and new in our shopping and marketing; and the wide-awake property owners and builders are taking advantage of this by building with white vitrified terra cotta.



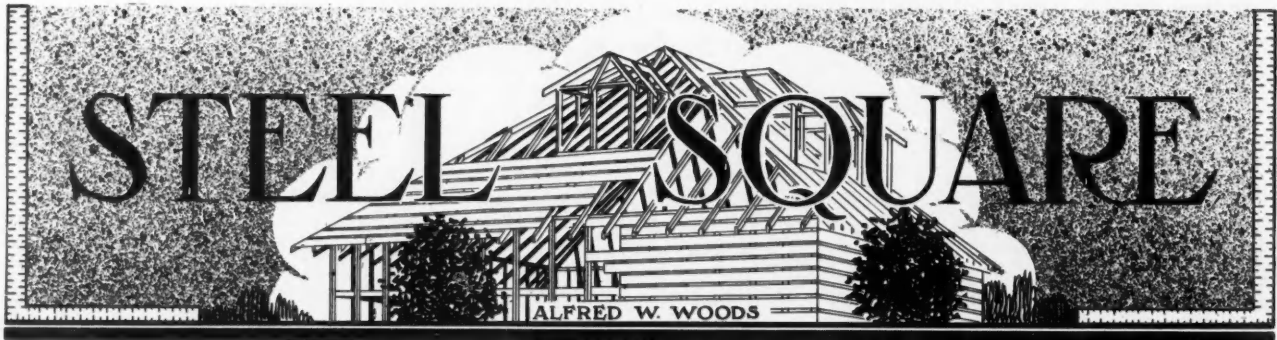
An Inexpensive One-Story Store Building on a Left-Over Piece of Ground on a Thickly Settled Residence Street



TWO VACANT LOTS TURNED INTO GOOD INCOME PROPERTIES BY THE ERECTION OF UP-TO-DATE BUILDINGS
Brick and Ornamental Terra Cotta Trim Bring This Store Building Into Prominence



This Little Building of White Terra Cotta Shines Out Like a Beacon Light in Comparison with Its Neighbors



Oblique Cuts

ILLUSTRATING THE SIDE CUT BY THE BLOCK SYSTEM FOR THE SQUARE CORNER WITH ITS RELATION TO OTHER ANGLES; ALSO BY THE USE OF THE STEEL SQUARE

By A. W. Woods

FOR our lesson this month we will take an old text and put some new frills on it with the hope of making it presentable—*oblique cuts*. This covers a wide range and goes under different names, such as miter cuts, side cuts, top cuts, hopper cuts, etc. They are all akin; and the main thing is to find out their relation to one another. After becoming thoroughly acquainted with one, the others may be known through its relationship.

It is quite the common practice among carpenters in framing a roof, for a building with right-angled corners, after having laid off the plumb cut, to take a block cut from the rafter and place it edgewise along the said plumb cut and scribe on the opposite side, then square across the back of the rafter. Then, laying off a diagonal line between these marks, will give the angle for the cut across the top of the rafter for either

by circular measure, as so many parts of a circle of which there are 360 parts, called degrees, reckoned from its center, as shown in the illustration. For the square cornered building, it is 45 and for the octagon, it is $22\frac{1}{2}$ degrees.

We have now gotten to the point to show why from the width of the block when applied as mentioned above, the side cut for either the jack, hip or valley rafter may be obtained.

By referring to the illustration, it will be seen that for the square corner, the tangents are equal in length and as it is the length of the co-tangent to set off (at right angles from the plumb cut) and this being equal the thickness of the rafter, fully explains the block system.

While the same rule holds good in the case of the octagon, there is vast difference in the length of the tangents, as will be seen in referring to the illustration; and the more obtuse the angle, the longer the co-tangent becomes.

Applying this method to the steel square, if we let 12 represent the tangent for the square corner, and by taking the length of the common rafter for a 1-foot run, will give the side cut of the jack; the side on which the latter is taken will give the cut. But in the case of the octagon, the tangent is only $\frac{5}{12}$ as long as for the square corner and that is the reason 5 is taken instead of 12 and by proceeding as for the square corner, will give the cut of the octagon jack.

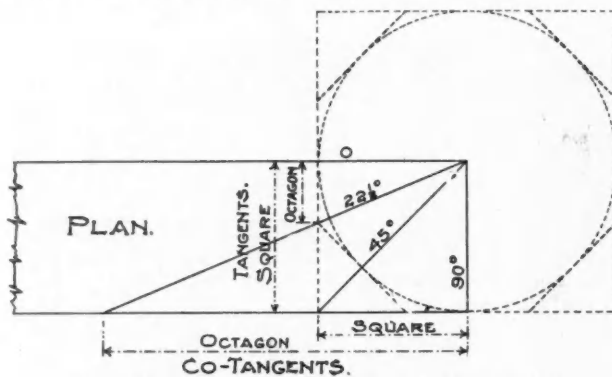


Diagram Explaining Block System of Rafter Cutting

a hip, valley or jack, and that too regardless of the pitch given the roof.

This method we believe is the one most generally used for obtaining the cut, but we dare say but very few using the method ever stop to think why it gives a correct result. It answers the purpose for the time being and they fail to grasp the governing cause and are all at sea when called upon to frame anything other than for a square corner. Yet, the same cause and effect applies to any angle the building may have. The question then naturally arises,—what is the governing cause? It is this: The angles are determined

THE ROOF FRAMERS FORUM

To Which Short Expert Contributions Are Invited and Thru Which Roof Framing Questions Will Be Answered.

He Gets His Figures by Proportion

To the Editor:

Rhineland, Mo.

In the March number of the AMERICAN CARPENTER AND BUILDER, page 81, I see a question by Mr. Will Allee and an answer by Mr. A. W. Woods. Now before going into the subject proper, I wish to offer a few words in explanation. I wish to state that I do not intend to criticise Mr. Woods'

reply or to offer my solution of the problem in a spirit of smartness or egotism. In fact, we wood butchers seem to be given somewhat to the habit of swelling up and putting the big *I* in the foreground. Too often we see in the "A. C. & B." a very good and interesting illustration of some new barn or residence, either complete, or in the course of construction, where the chief object of the builder has been to place his own photo (rather than that of the building) conspicuously before the readers. You, Mr. Editor, must publish these illustrations and the accompanying article, have a kicker on your hands (possibly lose a subscriber). If I am treading on the toes of anyone, just let him squeal.

Now to the question. Mr. Allee simply asks what figures to take on the square for a rafter having a 5 foot run and a 7 foot rise. My answer is 12 and 16 4/5. Figure it out, Mr. Editor, and if I am wrong, call me down.

Mr. Allee also asks how to find the length of the rafter. Take the diagonal of 12 and 16 4/5, which is practically 20 5/8. Multiply this by 5 and you have the length of the rafter along the working line. Add to this your lookout and you know what length of timber to use.

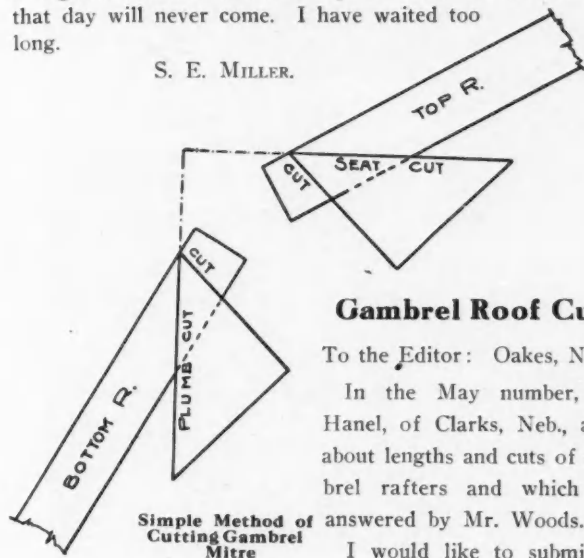
How do I arrive at these figures? It is simply a matter of plain proportion. I sent in this rule to the AMERICAN CARPENTER AND BUILDER and it was published some eight or more months ago, as well as I can remember. As I then stated, I have never seen it given in any of the text books on carpentry and joinery. I have worked with men who thought they knew much more than I do, but they did not know proportion from brokerage. But the rule is very simple when once understood and can be applied in many ways in our chosen pursuit.

I will try to explain to Mr. Allee how I arrive at my deduction. Your run is 5 feet; and what you are after is to learn what figure to take for the rise. You know that you must take 12 inches (one foot) five times for your run. So here you are,—5 is to 12 as 7 is to ? (what), or, to place it in the form given in the old arithmetics, $5/12 \div 7/x = 7 \times 12 = 84$, and $84 \div 5 = 16\ 4/5$.

Mr. Woods, in his answer, it seems to me, while going into a detailed explanation and giving the method for finding the length and cuts for hip, side cuts, etc., did not give the answer in a simplified form. Mr. Allee, you will notice, simply inquired what figures to take on the steel square and how to arrive at the required length of the common rafter.

In closing, let me state, the articles by Mr. Woods are one of the most interesting parts of THE AMERICAN CARPENTER AND BUILDER to me and each time that I see his name, I feel like taking off my hat. One of my ambitions is that I might understand the steel square as he does, but I fear that day will never come. I have waited too long.

S. E. MILLER.



Gambrel Roof Cuts

To the Editor: Oakes, N. D.

In the May number, Mr. Hanel, of Clarks, Neb., asked about lengths and cuts of gambrel rafters and which was answered by Mr. Woods.

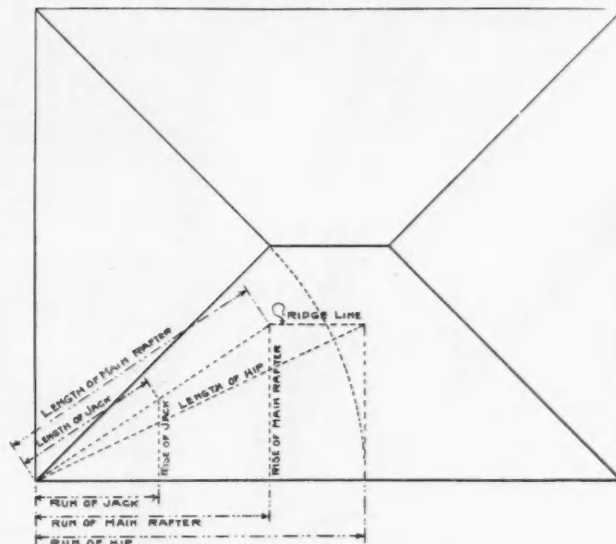
I would like to submit the

way I obtain the cuts at the joining of the two rafters. It requires no lengthy explanation, for it is simply a miter laid off on the plumb line of the lower rafter, which will give the top joint cut and a miter laid off on the seat cut of top rafter which will give bottom, or joint cut of same, as shown by the illustration.

WM. H. MCPHERSON,
Contractor and Builder.

Rafter Diagram

To the Editor: Polk, Pa.
Am enclosing a sketch of my method of getting the lengths of the different rafters of a hip roof. If the Brother Chips



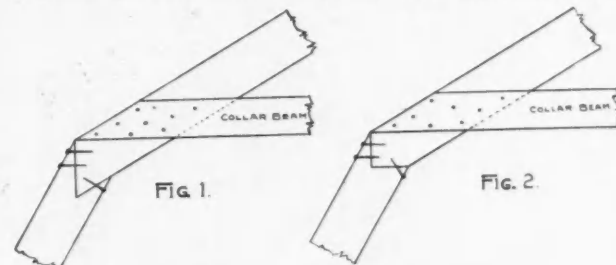
Rafter Lengths for Hip Roof.

do not understand it, I guess Mr. Woods can explain it to them. Although I have never seen it published, I think it is the most simple method.

R. A. AMON.

Two Gambrel Joints

To the Editor: Highland, Mich.
I have been building several lake cottages, this spring, the length of each being 24 feet. The rafters on the first one I built were spaced 24 inches on centers and the cornice had a 10-inch plancier. This caused the roof boards to extend

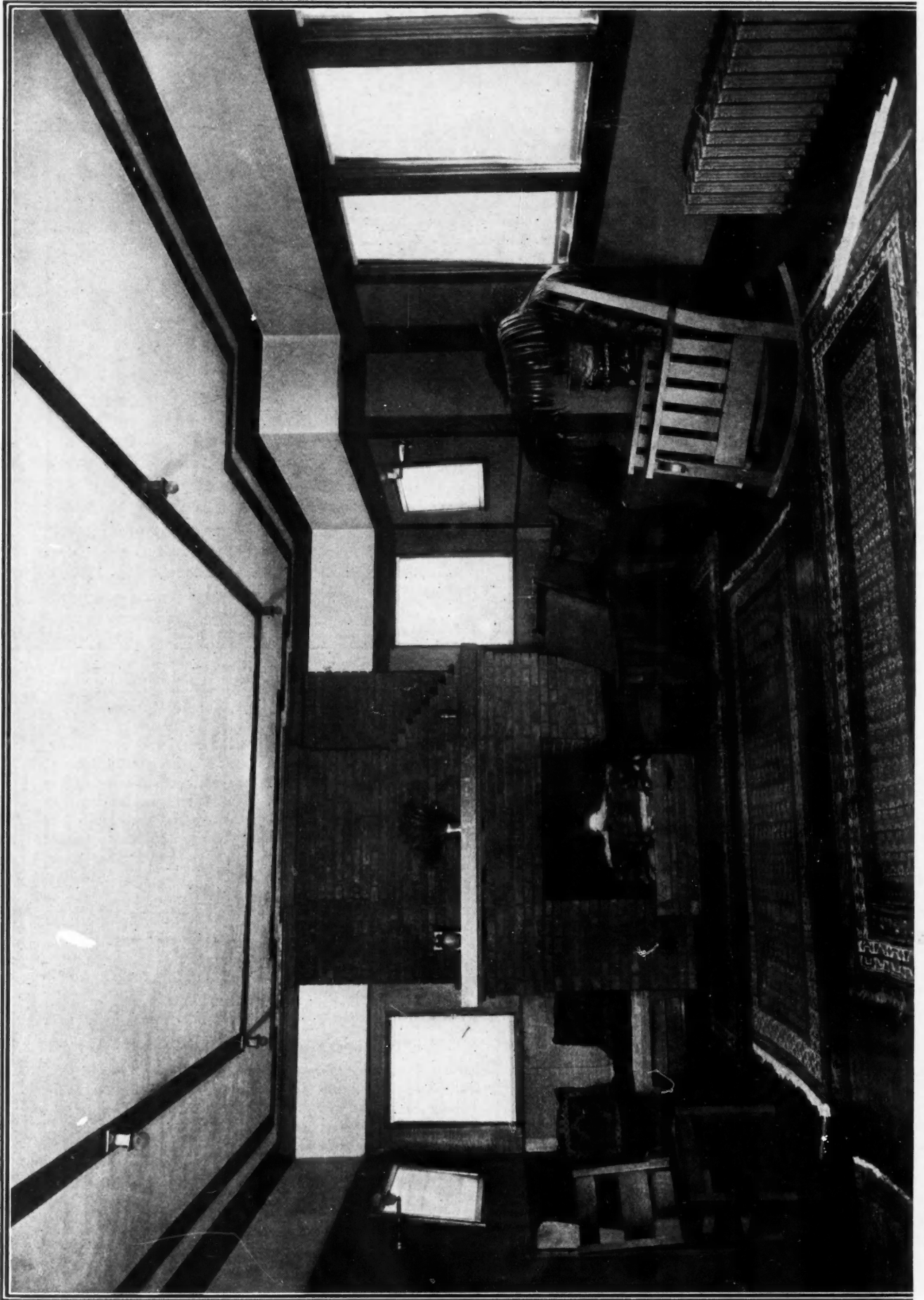


Two Strong Ways to Join Gambrel Rafters.

beyond the cornice more than one foot and had to be wasted. On the other cottages, I used just 12 rafters on each side, making 11 spaces and the roofing boards being in lengths 10, 12, 14 and 16 feet, were put on 10 and 16 feet and 12 and 14 feet, together and just reached without any waste.

The cottages have gambrel roofs and I made the gambrel joint the two ways, shown in Figs. 1 and 2. The first I call the plumb and pitch joint and second the plumb and level joint. I like the latter the best,—one reason being that it shows a difference in the ends of the top rafter and prevents getting them in with the crowning edge down. As the rafters are not covered, these joints look much better than a mitered joint.

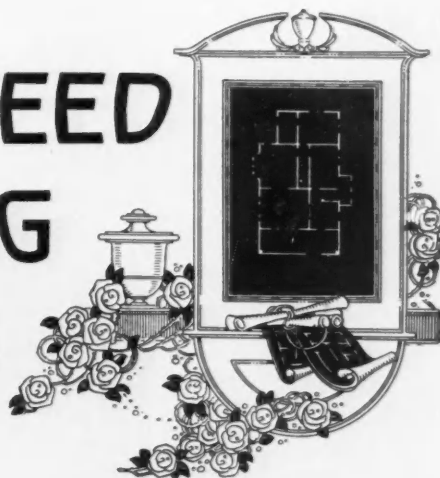
ALBERT GONNE.



A Modern Bungalow Living Room, Comfortable and Homelike. The Big Brick Fireplace and Built-in Chimney Corner Seats Strike the Note of Good Cheer and "Livability" of this Room. Notice the Simplicity of the Wood Trim—Flat Moulding for Continuous Head Trim and Flat Bands on the Ceiling. The Furniture is of the Same Style, Both as to Wood and Finish, as the Standing Trim. This is something that Careful Home Builders are Providing for These Days.



GUARANTEED BUILDING PLANS



Bungalow with Central Living Room

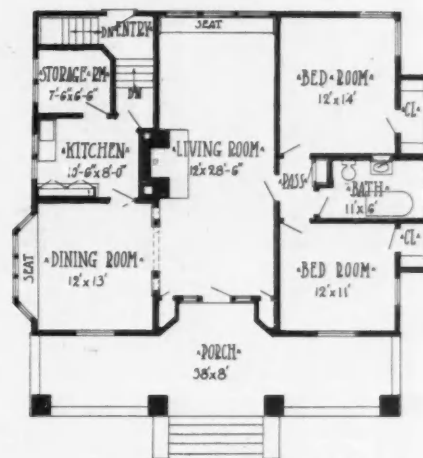
A plain little bungalow from outward appearance develops into a modern, up-to-date house of five rooms when you open the front door. An interesting feature of this plan is the 12 by 28 foot living room. It is built like a hallway through the center of the house. This splendid room is lighted principally from the rear, as the whole end of the room is practically one big window.

The front entrance being recessed, adds to the attractiveness of the front, besides giving two convenient closets for coats, umbrellas, etc. The blank partitions in this room provide for placing

large articles of furniture to the best advantage.

Modern living room furniture consists generally of large, heavy upholstered chairs and larger and heavier upholstered davenports. So it is necessary to make provision for such articles of furniture when plans are drawn.

Living rooms and bed rooms are separated in this bungalow as effectively as houses having up and downstairs, an arrangement that will appeal to every housewife. One chimney, with three flues, almost in the center of the house, furnishes smoke accommodation for three fires—the kitchen range, basement furnace and grate.



Floor Plan of Bungalow
Size 41 by 33 feet



A low cost, popular style bungalow, comprising some very interesting features. Size, 41 by 33 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$5.00 per set. Blue-prints consist of basement plan; roof plan; floor plan; 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. 6612.



Carefully planned home of seven rooms and an attic, besides screened loggia. It is 28 feet by 39 feet on the ground and 28 feet by 30 feet above the second floor. 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. 6613.

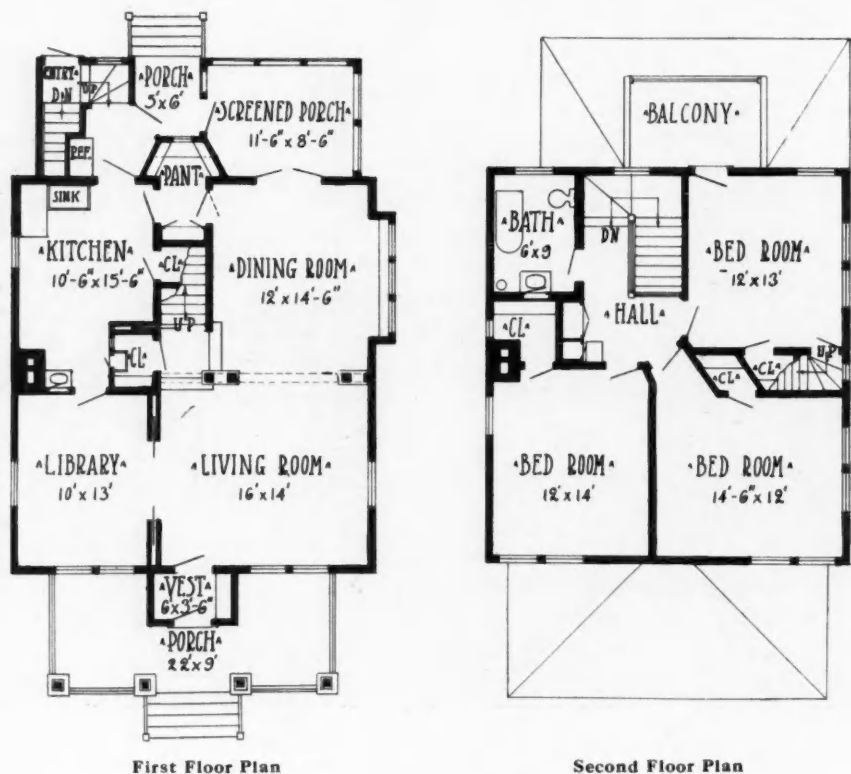
Square Built Hip-Roof House

A full two-story house, 28 feet by 39 feet, is illustrated in this design. On general principles a house that is nearly square divides into rooms with less loss of cubic space than houses of other proportions.

This plan has a one-story projection at the rear which was worked into a special feature for the following reasons: The house was designed for a lady who likes to serve meals in the open air when the weather is suitable. She wanted pleasant surroundings without adding unnecessary labor in changing from the regular dining room. So the rear porch was made eight feet six inches wide, extending nearly the whole width of the house. Twelve feet of this porch was covered into a screened summer dining room, which was made to connect with both kitchen and main dining room.

A grade entrance to the cellar and kitchen is provided in the far corner of the back veranda for the delivery of ice.

Upstairs there are three bedrooms, all large and airy, besides a good bathroom and the necessary clothes closets. On the first floor is the large living room and dining room so connected that they are intended to be furnished alike.



Arrangement of House, size 28 by 39 feet.

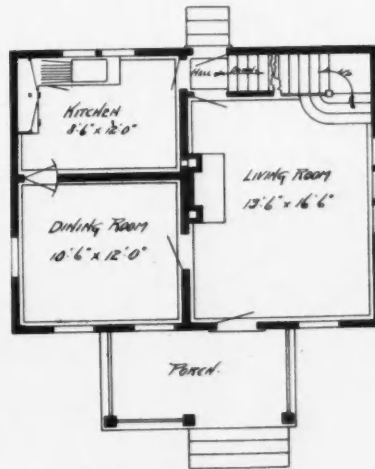
Five-Room Gable Roof House

This design shows a house 27 by 20 feet 6 inches, containing five very comfortable rooms besides the bath room and a very neat, attractive-looking stairway.

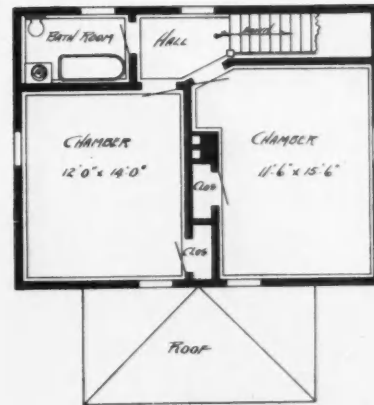
The large living room is one of the most interesting features about this little house, and it is a surprise to find a room of this size in a house so small. The house does not look so very small, either, after it is built and painted. There is something about the way the gables are treated and the style of the front porch that gives the house rather an important look.

It is a little larger than a shack on the ground and it is only one story high (without counting the roof); but it offers the very nicest arrangement of rooms with all the modern conveniences that a big house affords.

It took a long time for builders to plan out modern luxuries for families living in small houses. For many years city plumbing was confined to the more pretentious buildings. When small houses got cold water pipes as far as the kitchen sink, the owners considered



First Floor Plan.



Second Floor Plan.

Arrangement of House, Size 27 feet by 20 feet 6 inches.

themselves lucky, but now the plumbing in a small building is just as good and the work as carefully done as the plumbing in a mansion.

This design provides for a good sized chimney with separate flues and a splendid fire place. A small furnace will heat all the rooms because the house is

so compactly arranged and well built.

The stairway up from the living room is well planned for artistic effect. The stairway to the cellar leads down from the back entrance passageway, where it is shut off by doors from every direction. The whole plan breathes of comfort and luxury.



Five-room gable roof house, 20 feet 6 inches by 27 feet in size. 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. 6577.



Attractive six-room house, 36 by 28 feet on the ground. 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. 6581.

Six-Room Gable Roof House

Here is a very attractive house both inside and outside. The exterior is interesting on account of the gable roof and two outside chimneys, together with the manner in which the dormer windows are built.

In the interior of this house the main feature is the large living room, 14 feet by 27 feet, with a fire-place in the outside wall. This room is well lighted on three sides according to the best ideas of admitting plenty of light and sunshine into the house. The profuse lighting idea is fashionable now-a-days and the fashion is a good one.

Living rooms often are occupied 16 or 18 hours a day by members of the family and their friends. Sociability is encouraged by large, airy, comfortable rooms that are well lighted and well ventilated.

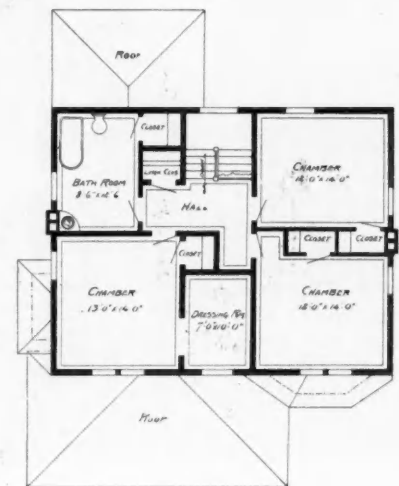
In this plan, the stairway is placed at the back of the house to avoid taking up valuable front space, either, upstairs or down. The eternal argument in regard to proper placing of stairways still

goes on and probably will never be settled to the satisfaction of all parties; but the fact stands out plainly that we have better and more convenient stair-

ways in our newer houses than were ever known to our fathers or grandfathers. This stair opens out of the kitchen as well as the front hall.



First Floor Plan



Second Floor Plan

Arrangement of House, size 36 by 28 feet.

Square House Sided with Role Roofing

A comfortable, rather imposing residence for a country home or large city lot is shown in design No. 6614. It is a square, solid house, with a veranda extending clear across the front. A sun parlor, built as an adjunct to the big living room, is one of the attractive features of this design. Sun parlors are becoming quite fashionable. They are recognized as being conducive to health, in addition to the decorative features.

A novelty of this design is the outside finish. The panels are made of mineral surfaced roll roofing, the slate chips or fine gravel being so thoroughly incorporated as not to wear off, at all times retaining the natural colors and interesting variegated tints. It is said to be economical because the colors are durable so that painting is unnecessary. In fact, the idea is to substitute a cheaper, better looking and more durable material to take the place of wood and paint, or of stucco.

The general design of this house calls for a hip roof. Hip roofs are as old as architecture, but they are just as popular as ever when employed to cover a house of this shape.

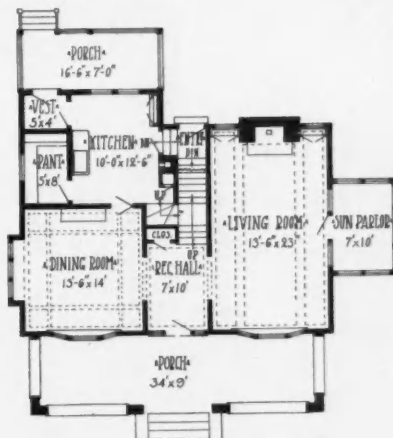
For genuine comfort it would be diffi-

cult to design better floor plans than these. Every facility for convenience and comfort has been provided in a very thorough manner. From the big front veranda to the back porch, and from the cellar to the roomy attic, every square foot of floor space has been utilized for some specific purpose.

It is unusual, even in a large house, to see a living room large enough to match up with this one. And the sun parlor annex is extra. That was hitched on to stir up strife and envy among the neighbor women.

There is a combination stair in this house that permits the housekeeper to run upstairs from the kitchen to look in the glass before answering the door bell.

At the back of the house is a fine rear porch overlooking the rear garden. A latticed screen, covered with climbing vines, extends back from the side of the porch steps. This interesting family garden is planted to all kinds of hardy flowers arranged to keep bloom in sight from snowdrop season in early spring to scarlet salvia late in the fall.

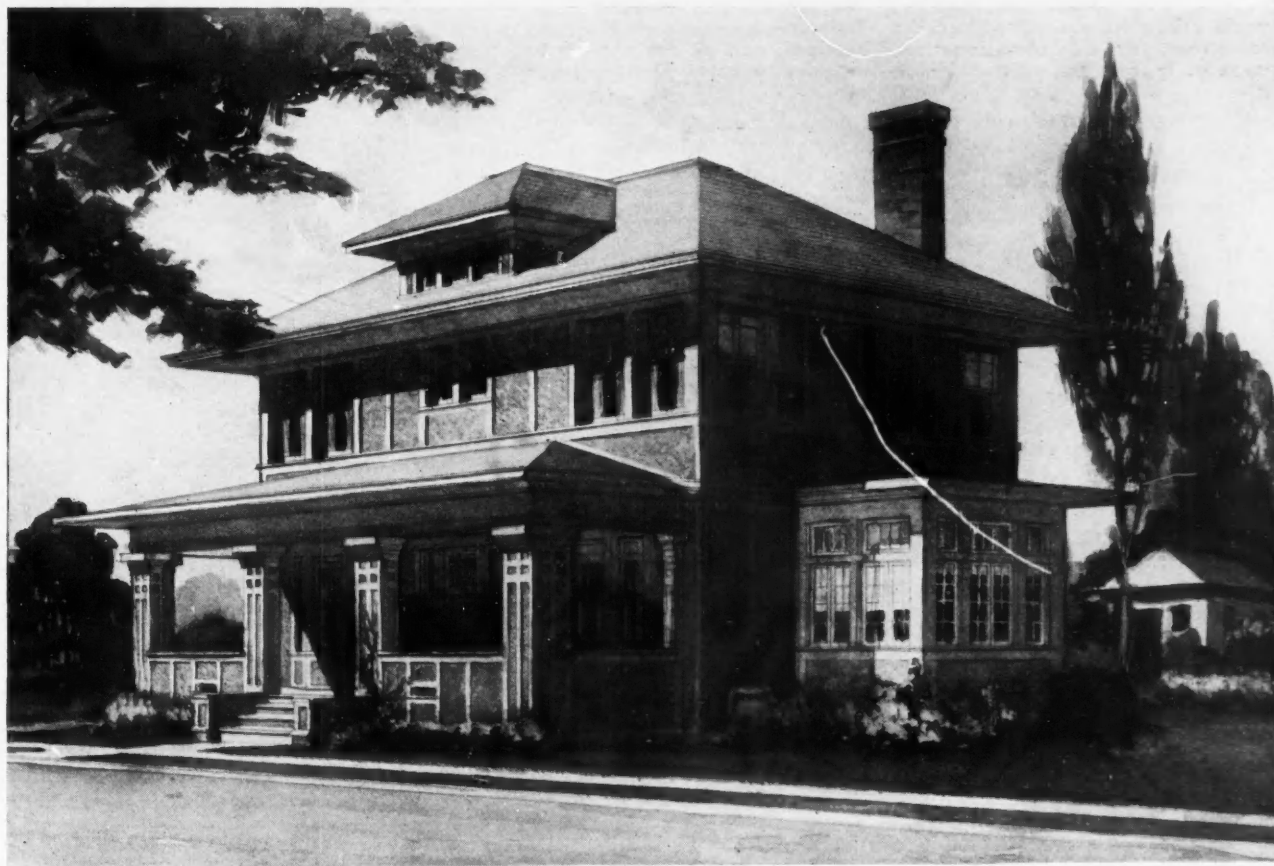


First Floor Plan



Second Floor Plan

Arrangement of House, size 36 by 28 feet.



A large square house with paneled siding. Size 36 by 28 feet. 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 details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6614.



Suburban house of seven rooms with accommodation for quite a large family. Size on the ground is 38 feet 6 inches wide by 31 feet in length. 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. 6574.

Suburban Seven-Room House

A style of house that is well liked in the country or outside of the thickly built up portion of the city is shown in this design. It is 38 feet 6 inches wide by 31 feet from front to rear.

The house is wide enough to require a good sized lot, and it looks important enough to be worth a wide lot.

It is set up well from the ground by a good cellar wall, which is built up $3\frac{1}{2}$ feet above the surface of the ground. This height of wall makes a depth of cellar sufficient for good windows. In fact the cellar is more in the nature of a basement. It is intended to be partitioned off, with a laundry on one side to suit the requirements of the family. The house was designed for a family of five or six because there are four bed rooms, also the kitchen and pantry are generous enough to provide a sufficient commissary for a good sized family.

A feature of this house which usually is difficult to plan is the center chimney. It is placed between the living room and the kitchen, the best place for the chimney when the style of architecture will permit it. It answers for the furnace in the basement, kitchen range and the grate in the parlor, with a sep-

arate flue for each. It saves the building of a separate chimney for the kitchen, and the arrangement is much more satisfactory when the work is carefully done.

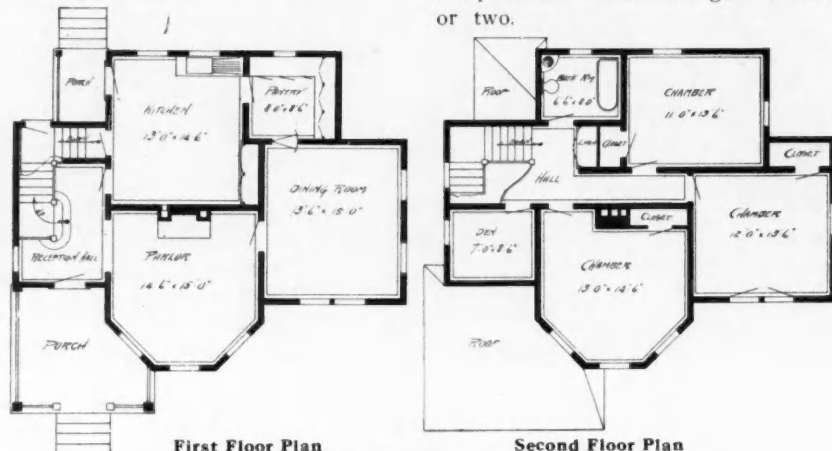
It is not so difficult to make a big chimney work right. There are a great many small chimneys built without much draft. It is easy to check a strong draft with a damper, but if the mason forgets to build a "draw" into the chimney the cook is helpless and the boss is obliged to eat his beefsteak rare.

A very attractive roof has been de-

signed for this house plan. It gives a full two story house in the center, with a lower roof on either side. The roof over the front stair is plenty high enough for the purpose, and the roof to the right, over the wing bed room, does not interfere with the value of the room in any way.

A house built after this plan is easily one of the most attractive houses in the neighborhood. It is so easy to have shrubbery and flowers at the side with a nice green lawn in front.

There is something about the style of the porch that demands a good climber or two.



First Floor Plan
Arrangement of House, Size 38 Ft. 6 In. by 31 Ft.

Seven-Room Two-Story House

The main idea in this design is general utility. It is a medium priced house containing some special features required by certain owners, one of which is a bedroom and bathroom on the first floor, an arrangement that old people appreciate, and it is convenient sometimes for persons who are not old.

In this design, the hall is of the good old fashioned kind with a stairway going up along the outside wall. Every man demands a coat closet built under the front stair. That is one reason why the men like this house.

A long veranda extending across the front and down the side to the outside dining room entrance is a special feature that appeals to certain families who want a side entrance.

This wing end of the veranda is convenient and attractive when arranged as an outdoor sitting room. It may be furnished with appropriate summer furniture without interfering with the front door or main approach to the house. This part of the veranda should look toward the south and it should be screened with heavy, hardy vines like the Dutchman's pipe, Virginia creeper, or trumpet vine. The porch at the rear may be treated in a similar manner and

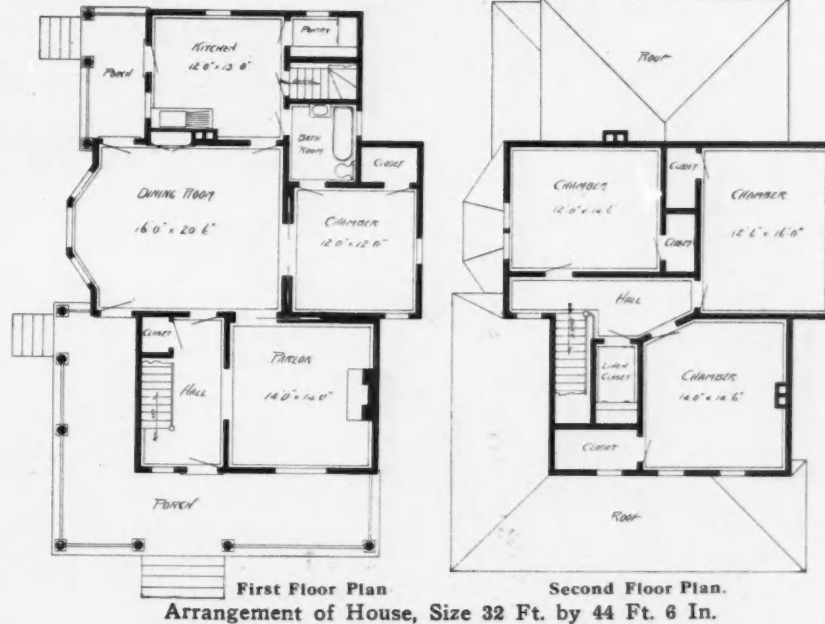
used as a summer work room and kitchen annex.

In this design the space over the front hall is all utilized. Every family needs a good linen closet and this is the proper place to put it in this style of house.

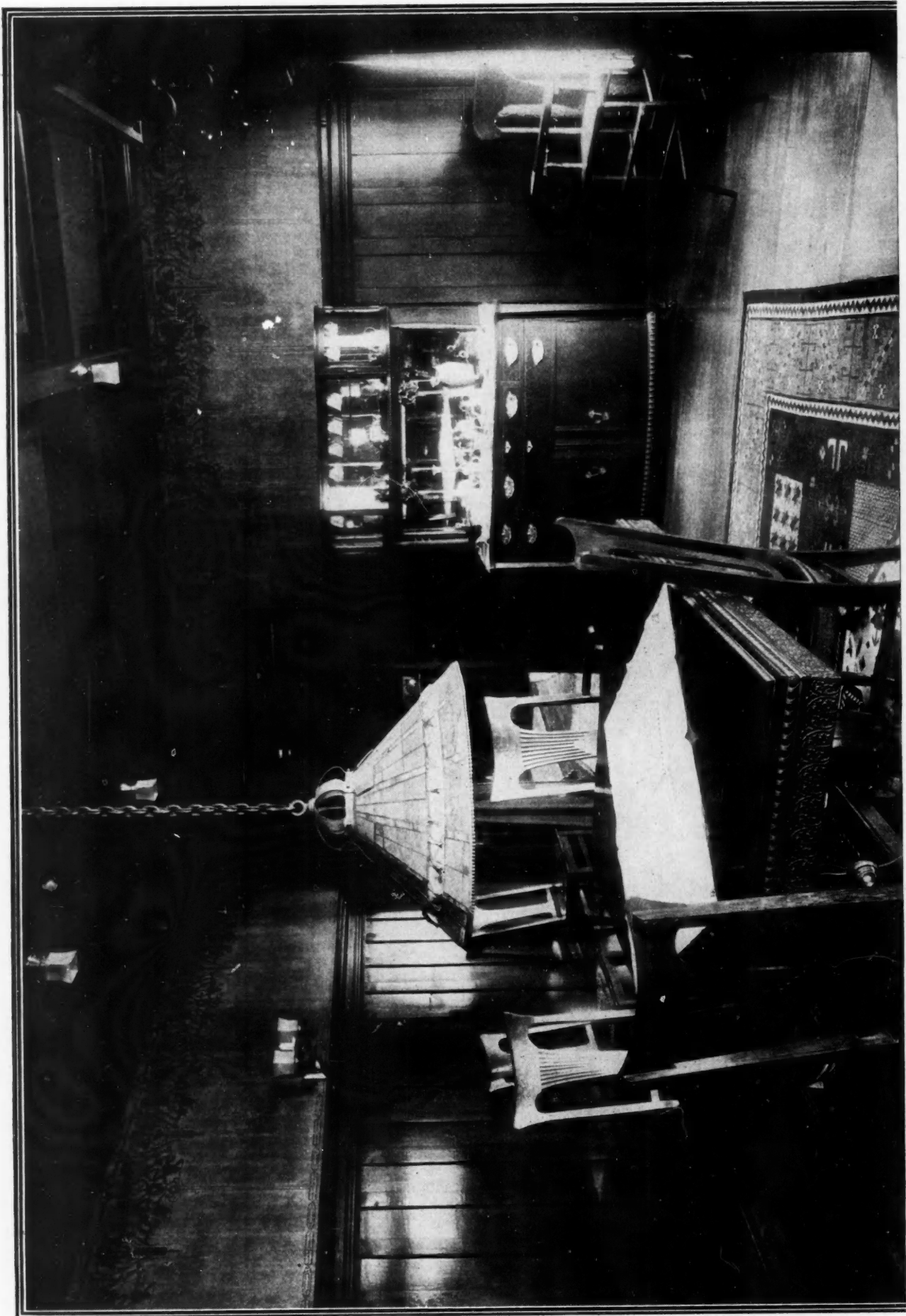
In this plan the dining room is 16 by 20, which is large enough for a modern

living room, with all the appurtenances necessary for genuine comfort.

Doors connecting this splendid room with the side veranda and the back porch suggest summer outings with home comforts. The size of the mosquitoes may be regulated by the quality of the wire screening used to enclose these outdoor rooms.



Medium priced seven-room house with some especial features. It is 32 feet by 44 feet 6 inches on the ground. 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. 6587.



Beautiful, Finished Modern Dining Room with Simple Wood Paneling Up to the Plate Rail, Above Which is Grass Cloth with Ornamental Border Stenciled in Two Colors. The Ceiling is Laid Off Into Rectangular Panels Each One Outlined with Stencil Work. The Ceiling Beams are of Simple Pattern Yet Strong and Entirely Appropriate. Lighting Fixtures are Well Selected and Placed, the Table Dome Being Especially Good!

Cobble Stones in Bungalows and Country Homes

By John S. Edmund

IN the building of bungalows and country homes there seems to be no end to the adaptability of cobble stones when used as a building material, for apparently they can be brought into more or less harmony with every style of architecture that has about it any semblance of ruggedness.

If the immediate neighborhood is still left in its rugged condition it establishes a link between the building in which the stone is used and the surrounding country where it is situated. Where the stone is native to the environment it tends to give the building familiarity with the setting.

The splitting of stones brings into prominence all the interesting markings and variegated colors of red, brown



Fig. 1. Home of A. P. Richardson, Cragmere Park, N. J.—An extra attractive example of Cobblestone work.



Fig. 2. Cobblestone Bungalow at Mahwah, N. J.

grey and blue that are to be found in the rock which are not in evidence on the face, owing to the action of the weather and soil. Owing to the variety of coloring in the new exposed surface these stones will harmonize in practically every case with the most carefully planned woodwork.

Photos are given here of houses and bungalows in which cobble stones are used extensively. Many suggestions may be derived from these pictures.

The cobble stones used for bungalows and houses of these kind are of varying sizes. They should neither be too small nor too large to give the best effect. Stones ranging from about 3 inches to 7 or 8 inches in diameter are found to be the most desirable. Care should be taken in selecting the stone so as to get irregular shapes and sizes, as they give the most pleasing effect. The stone may be variously laid; sometimes the

joints are made to follow the natural formations of the stones and in some cases the stones are clipped to give a better structural appearance. The joints may be raked out so that no mortar is seen or may be made as near flush as possible with the face of the stone.

The first picture is of the home of Mr. A. P. Richardson in a part of the Ramapo mountains of New Jersey, called Cragmere Park. There is a delightful harmony between this house and the surrounding landscape, as can be evidenced by the large boulders and trees showing in the picture. Very large cobbles or small boulders as they may be called, are used more or less at the corners and arches of the windows, which completely relieve the monotony of the walls being made of too near one size cobbles.

The second view is a bungalow at Mahwah, N. J., located on a hillside in



Fig. 3. A Combination of Large Rough Stones and Shingles; Summer Home of Charles V. Bacon, Cragmere, Park, N. J.

a grove of oak and hickory trees. Upon close inspection, both split and whole cobbles may be seen. The porch floor and steps are made of concrete. The roof is covered with shingles left untreated to take on a silver gray color which the weather can give.

Cobble stones have been used in the first story wall, veranda pillars, and chimney as shown in the next picture at the summer home of Charles V. Bacon, Cragmere Park, N. J. The joints are comparatively small in relation to the size of cobbles used and are raked out so that no mortar is seen, the colors of the

stones blending in perfect harmony. At the far end of the veranda in the left of the picture heaps of stones are to be made, forming rockeries for ferns and similar plants whose supply of water will come from the roof of the veranda, which takes care of the water from the main roof.

It is a pity if cobble stones are not used in some parts of the building if it is situated in a rocky portion of the country. Very often in clearing the site stones may be found or secured close at hand for the small trouble of gathering them.

Mrs. R. We are putting a small lavatory and children's coat closet in the back hall—they are to enter from school or play by the back hall door and "clean up" before appearing.

Mrs. S. In my linen room I shall have some cubby-holes like long, shallow drawers, their fronts dropping outward, from catch fastenings, so that I can see their contents quickly.

Mrs. T. I am going to have my kitchen table and sink built at least 35 inches high, instead of the usual height—which for most women necessitates constant bending over the work.

Mrs. U. We are planning sleeping porches, too, and we are warned that we must build the doors wide enough to allow a cot to be pulled through easily, and to have double doors, opening inward.

Mrs. V. The swinging doors between kitchen, pantry and dining-room in our new house are to swing open down the middle—instead of at the side—so that two persons can go through at the same time from opposite directions.

Mrs. W. I dream of a broad, shady porch set at some back corner of the house, vine-covered, and not too far from the kitchen, where we may have meals occasionally in hot weather.

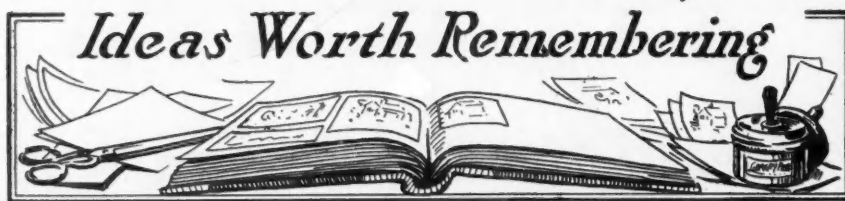
Mrs. X. The ironing board in our laundry will be hinged to the wall, where it may be hooked up out of the way when not needed, and quickly let down on its swinging stand when put into use.

Mrs. Y. My kitchen table will have no waste space to shame me. Every cubic inch, save what is needed for foot room, will be utilized for drawers, bins, and cupboards—and the top will be of zinc.

Mrs. Z. The flour barrel in my kitchen will be set on the inside of the door to the lower part of the cupboard, on a frame of wooden strips, screwed securely, so that it swings into usefulness and out of sight.

Mrs. Etc. My new house will be equipped with a Handy Husband, a Tool Chest, and a Perfect Willingness to spend odd moments putting in the conveniences that the builders—and I—forgot.—ELIZABETH C. MOORE, in *The House Beautiful*.

The Home Builders' Scrapbook



Ideas Worth Remembering

My New House and What It Should Contain for Convenience

Mrs. A. Every closet in the house is to have a small window and an electric light.

Mrs. B. A trash chute from all the floors down to the cellar will be built into our house.

Mrs. C. I want a back opening to my refrigerator so that it can be filled from the back porch.

Mrs. D. Built in under the shelves in my linen closet there will be a cedar chest for storing clothes.

Mrs. E. The switch for the electric light in our cellar will be set at the head of the cellar stairs.

Mrs. F. One end of our cellar will be shut off as a cold room for meat and vegetables in winter.

Mrs. G. We expect to build a clothes chute opening from the bathroom and leading into the cellar laundry bin.

Mrs. H. Our plans call for several upstairs sleeping porches, roofed, screened and curtained, with high railings.

Mrs. I. My kitchen sink is going in a place where there can be two draining boards instead of the inconvenient one.

Mrs. J. As a practical help in an inelegant problem—bury the garbage can underground, with a top lifted by foot pressure.

Mrs. K. I shall have window-slides put in the walls between pantry and kitchen and pantry and dining-room, to save carrying.

Mrs. L. There will be a small closet in our bathroom for soap, towels and such things, its upper part made into a locked medicine cabinet.

Mrs. M. In my kitchen you will see a thousand hooks—more or less—so that everything may be hung up out of the way and yet be within easy reach.

Mrs. N. I hope to dispense with a coal range in my kitchen, using gas or electricity for fuel, and heating the kitchen by a pipe from the basement heater.

Mrs. O. When our new range is put in, there is to be a dump under the fire-box, so that accumulated ashes may be dropped directly into a can in the cellar.

Mrs. P. The lower sash of our bathroom window will be of ground glass and will reach several inches higher than usual, thus doing away with the sash curtains.

Mrs. Q. Practically all my kitchen windows will be set high in the wall—a generous row of them—leaving room for furniture of all shapes and giving plenty of light.



MODERN CONVENIENCES FOR THE HOME



In Favor of Acetylene

By H. J. Blackledge

THE City-ites had come! Said Mrs. City-ite, "ACETYLENE! No electricity? Why, I positively don't see how you can get along without it!"

"Oh, we like it. We investigated the subject and voted in favor of acetylene long before we built our house."

"But no *electricity!* Why, you have to light that gas. It has a most awful odor and—why, you have no electric iron then! nor toaster, nor water boiler—how DO you exist? This IS country life, surely!"

"What a question mark you are! But this is your room. Take off your things and then I will show you all about it. You can see, here, that acetylene is as easy to light as electricity. Pull this little chain just as you would your own electric light." The room filled with a beautiful brilliant light, soft, white, soothing to the eyes. There was no glare nor color to it. The visitor's pale green waist was as pale green by the light of the acetylene as it was at midday.

The Visitor—"Why, I did not know you could light

acetylene that way!"

"Oh, yes; it lights with a spark coil and dry batteries. In the parlor we have a push button on the wall. We use the *ordinary* jets in the store room, attic, and such places."

"But how about cooking? You cannot cook with it. I should think you would suffocate during the hot weather." Cora smiled. "I believe," she said, "that acetylene is the *best gas made* for cooking."

"You don't say so! Is it as hot as coal gas?" They were in the kitchen now. Cora lit one of the burners on her fine gas range. "Hold your hand over that," she said.

The visitor placed her hand about fourteen inches above the burner—and removed it suddenly. Cora laughed happily again, and went on. "It is not only hot but it is *clean*. There is no soot with it and none of that oily dirtiness that so often accompanies city gas. And see, here, I have a chafing dish heater which I use for coffee, toast, chocolate—anything, in fact, that you can make on yours," she added mischievously. Both



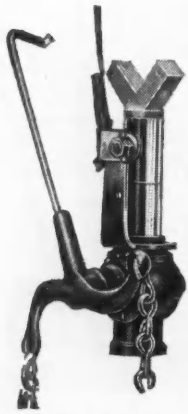
Type of Acetylene Gas Kitchen Range Which Gives the Country Housewife All the Kitchen Conveniences of her City Sister with Regular Gas Range.



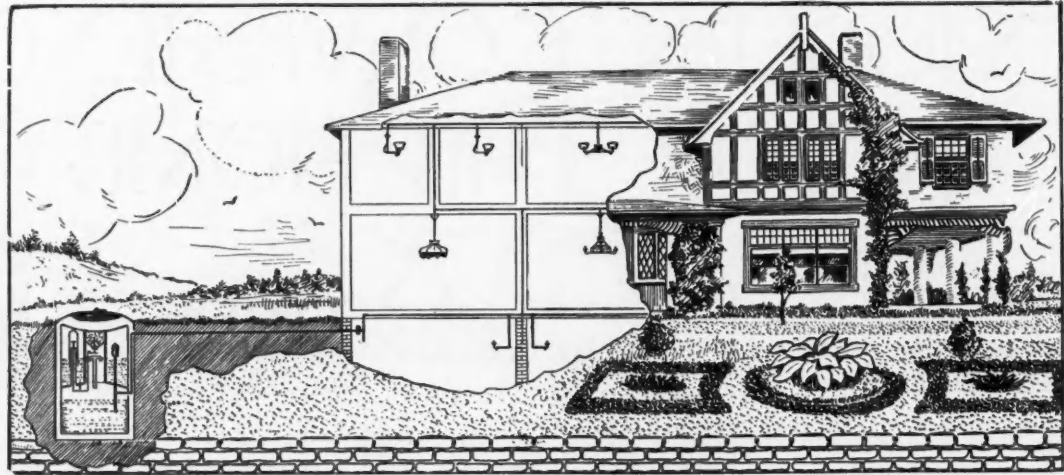
It is a Small Task at Long Intervals to Clean Out the Generator. Photo Shows Operation where "Jenne" Outside Pit Generator is Used.



There are Any Number of Beautiful and Efficient Lighting Fixtures for Acetylene. This is One of the "Davis" Table Lamps.



Detail of Acetylene Burner Showing "Illinois" Electric Igniter. Four Dry Batteries Furnish the Current.



Typical Layout of Outside Pit Generator and Gas Piping to All Rooms. Drawing Prepared by the Jenne Acetylene Gas Machine Co.

laughed.

"But come on and see our fire place in the living room. There! Isn't that handsome?" The visitor gazed in astonishment. "I never knew they had all these lovely fixtures and things to go with acetylene. Why that fireplace is perfectly beautiful. Indeed it is. And those Mission fixtures are simply grand." Cora lit the gas and in a moment the logs were glowing beautifully and throwing out a cheerful genial warmth that made one feel welcome and contented.

Still there were things the Visitor wanted to know. "I should think having your own plant would make insurance high."

"No. The best manufacturers have their machines thoroughly tried and tested by the underwriters. Every machine is inspected before it leaves the factory and when such machines are used your insurance is not raised at all over what it would be if you had ordinary gas and electric lights. You spoke about its odor a few minutes ago. That is one of the best things about it. Its odor is so strong that one part in ten thousand parts of air is strongly apparent, so that any leak will be detected long, long before it is large enough to do any harm. As a matter of fact it will not asphyxiate a person."

"But it must be a lot of work to keep it up and everything in good working order."

Cora's eyes were dancing again. "Yes, it's an awful nuisance! Del spends nearly a half-hour about once a month in charging it. Then of course it has to be cleaned. That must be done at least once or twice a year. It really ought not to go over eight months without cleaning. But Del let it go fifteen months once." The Visitor looked at her hostess and was speechless for several

minutes.

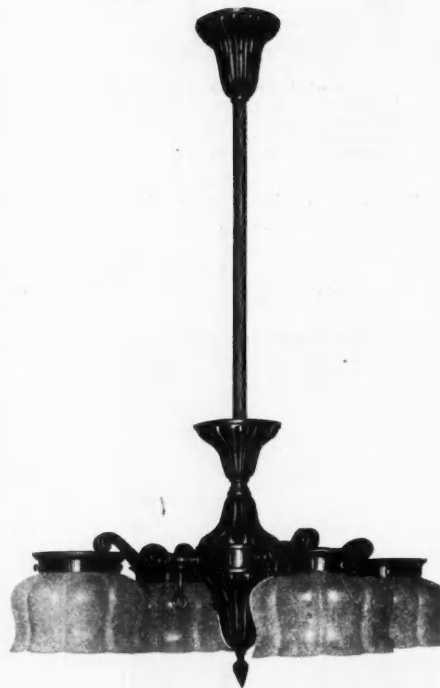
"Cora Trask, do you mean to tell me that is honest truth?" Cora laughed gaily.

"Listen, Ethyl! Before Del and I were married we made a long study of lights and lighting. I think we investigated every system of lighting that was ever invented. And we finally decided in favor of acetylene. It seemed to possess all the advantages of the others and a considerable number of its own. In the first place, it gave us both fuel and light. It needs no mantels, is extremely clean, non-poisonous, does not raise the cost of insurance, it is the most healthful of all lights, and it is cheaper than either city gas or electricity. By having our own plant we never have to worry about a meter. The gas is there, it is ours and we can burn it if we like. It costs less to install because the pipe used is smaller and all the fixtures cost just what they would for any other gas. Of course the plant cost additional. But then when once it is installed that is the end of it. No gas and light bills every month. Nothing but the carbide. For our use that runs close to fifteen dollars a year."

The Visitor was nearly converted. But one question more. "Suppose your lights should suddenly go out in the midst of a party or evening's entertainment that you were having?"

Cora's happy laugh bubbled up once again. "Well, I must admit that such a thing *might* happen.

But it NEVER HAS HAPPENED! And furthermore I don't think it ever WILL happen. And anyway I have known your old electric lights to do that very thing many a time. But listen! Our machine has a gauge on it by which you can tell at a glance just exactly how much carbide it contains. When it gets



Artistic Four Light Acetylene Gas Chandelier—One of the Popular "Davis" Models.

down near the one-fourth mark Del always fills it. He has never yet allowed it to go below one-fourth without filling it. And, honestly, Ethyl, the machine is so simple and easy to understand that a child could attend to it; and I positively do not see how it could go back on us unless the water supply gave out."

The Visitor sat with her chin in her hand for some minutes. At length, "I wonder if an acetylene plant could be connected with the regular piping in a house where city gas had been used?"

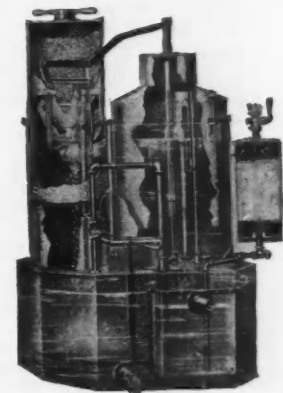
"Of course it could! It would be the simplest kind of a job." Cora was positive about it because she knew of at least one of her friends who had done it.

Said the Visitor, "Cora, while I am at the beach this summer Harry is going to have the house fixed over a little. And now there is going to be another improvement. We are going to have our own lighting plant. And it is going to be acetylene."

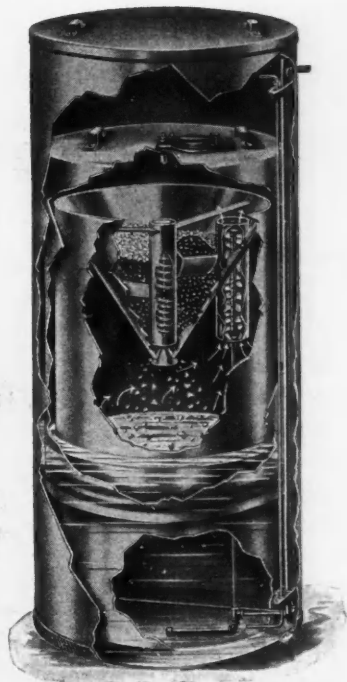
San Rafael, Calif.



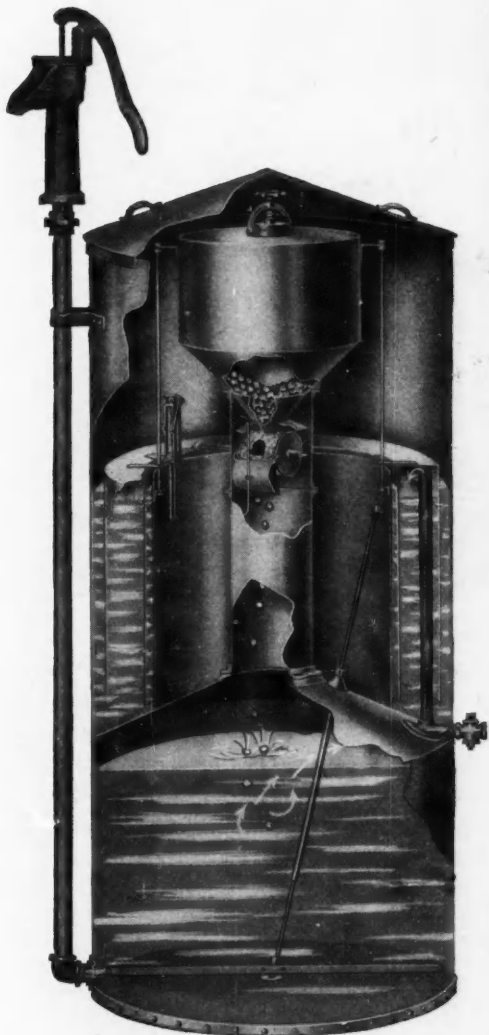
Type of Modern Country Home, Making Use of Acetylene for Lighting and Cooking. Residence of Mr. Fred Huggins, Crawfordsville, Ind. Equipped with "Johnson" System.



The "Illinois" Carbide Feed Generator as Manufactured at Monmouth, Ill.



"Faultless" Pit Generator Successfully Developed by the Gem City Acetylene Generator Co.



"Michigan" Pit Generator Recommended by the Night Commander Light Company.



"American" Acetylene Lighting and Cooking Plant of the Temple Mfg. Co., Showing Generator Removed From Heavy Galvanized Pit Tank.

FOUR TYPES OF ACETYLENE GAS GENERATORS.

Gasoline Power in Contracting Work

By C. E. Bement

THE most important part of the equipment of the modern contractor is his power. With the increased cost of skilled labor and the development of modern concrete construction, no contractor can compete without a well developed power plant. Modern construction also demands that this plant be made up of comparatively small units, preferably working independently of each other, and easily portable from one part of a job to another; consequently, the



Gray Motor Company Engine Mounted on Truck with "Coltrin" Concrete Mixer Ready to Go to Work for Contractor J. W. Blaylock, Morehouse, Mo.

power plant must be as light as possible. For this reason the portable steam boiler and engine has perhaps seen its best days, however efficient it may have been in the past. More and more a contractor is forced to depend upon small units of self contained power.

This has narrowed the problem down to practically two kinds of power, gasoline engines and electricity. Both of these powers have their limitations and their chosen field, but more and more the explosive engine is becoming the recognized means of power for the contractor because it is absolutely self contained and requires no connections with any outside source in order to run it.

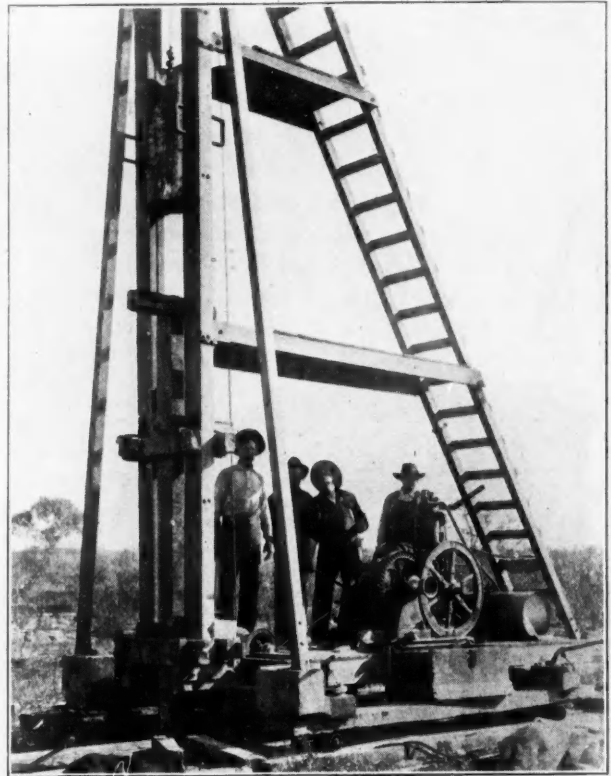
The portable engine and boiler require both fireman and engineer, both of them skilled or semi-skilled



"Sultan" Gasoline Engine and Hoisting Outfit Mounted on a Barge Driving Piles.

labor, and both of them ordinarily requiring license. The steam plant must be located permanently on any job, or as nearly permanent as possible, as it is too heavy to move from place to place. The fuel is bulky, fairly expensive when bought in small quantities, and easily carried off. The power must be on at an expense during the whole working day.

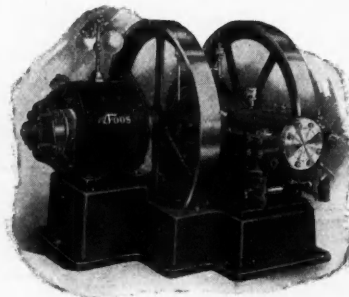
If a contractor is moving his plant from one state to another he does not know that the boiler on his steam plant will pass the inspection of the state to which he is going, as special boilers are required. For instance, for Massachusetts, Ohio, Indiana, Chicago, Detroit, Wisconsin, Alberta and British Columbia. A contractor using a steam plant in New York state



Fairbanks-Morse Gasoline Engine Operating Hoist Pile Driver.

cannot take that outfit 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 more or less migratory these boiler laws are a decided hardship to them and make the use of steam power on contracting work an expensive and risky proposition.

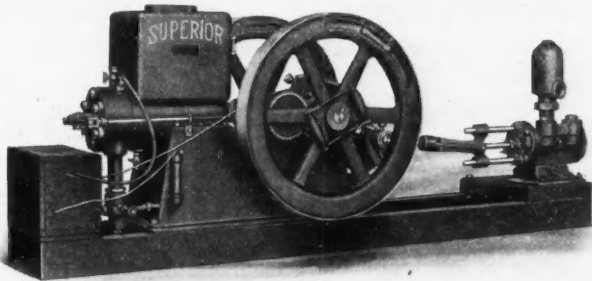
Gasoline power, on the other hand, is absolutely self contained and independent of any outside source, and does not require skilled labor to run it, nor a licensed engineer. In a great many cases



"Foods" Gasoline Engine Direct Connected to Electric Dynamo.

it requires no attendance whatever except to renew the fuel and oil two or three times a day. When a gasoline engine is stopped the expense ceases. For its size and capacity it is easily moved from one part to another of a job, or from one job to another, without the necessity of calling on skilled labor to move it or to set it at work on its new job. Power is very easily applied to any piece of machinery from a gasoline engine as the speed is not excessive, neither is it slow running enough to require gearing up. The fuel can always be obtained at any corner grocery in any quantity that is convenient to carry or buy. It suffers very little from dust of cement or sand and gravel, and ordinarily has no open bearings to be ruined by the floating dust that is always a part of every contracting job.

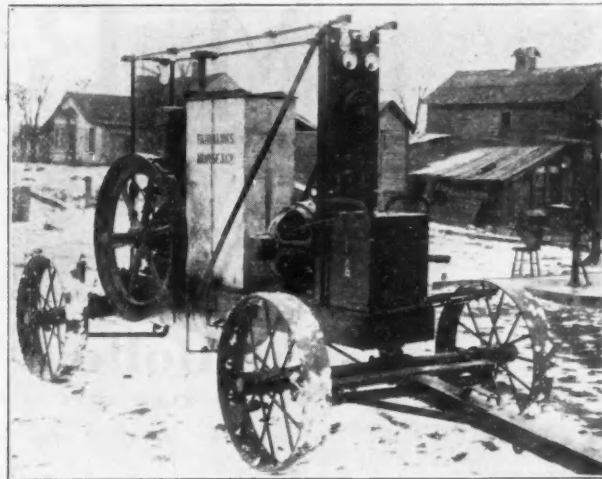
The range of the gasoline engine is being increased



"Superior" Gas Engine Direct Connected to Pumping Outfit.

every day and the automobile is teaching a greater number of people the fact that there is nothing intricate in its management or mechanical construction.

When a 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



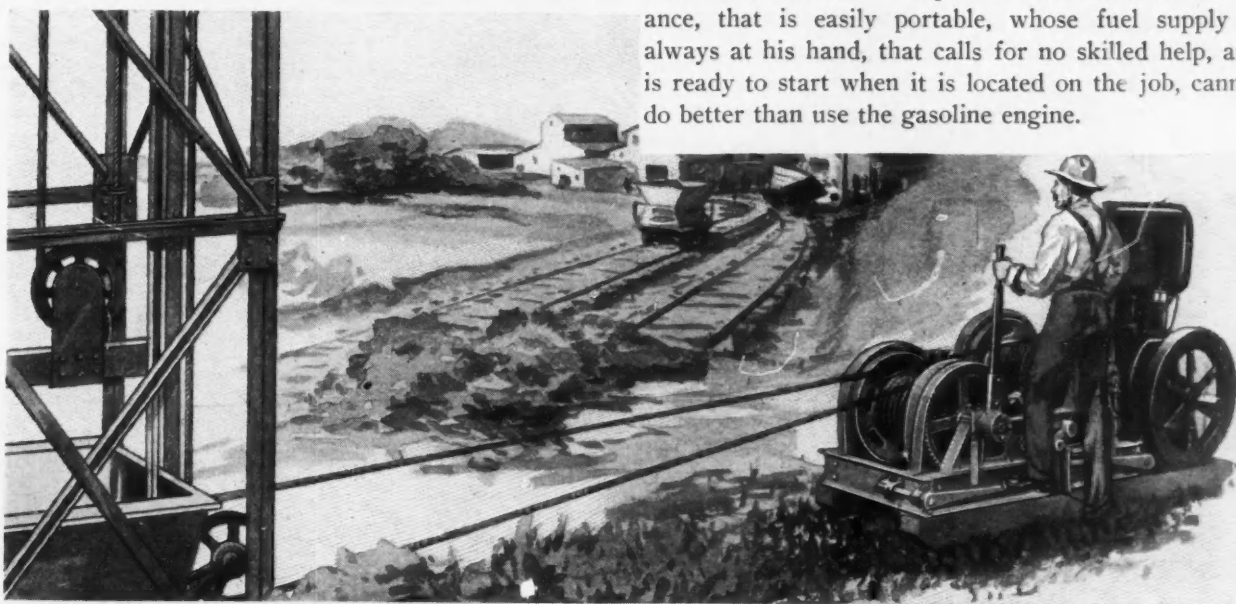
Fairbanks-Morse Portable Electric Light Set, Consisting of Gasoline Engine, Generator, Switchboard, Etc., Mounted on Horse-Drawn Truck. An Outfit for Use in Illuminating Night Construction Work.

their efficiency and durability. So, too, the old type of gasoline engine had to be drained of its cooling water in cold weather to prevent the freezing up and bursting of the cooling water jacket. This has been done away with in the modern tub-cooled engine, in which the water may be allowed to freeze up without danger of bursting the jacket.

The substitution of the spark plug and jump-spark ignition has simplified the gasoline engine to a wonderful degree over the old type 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 fuel consumption of the modern gasoline engine is being reduced so that the cost per horse power is gradually falling and will continue to fall more rapidly in the future.

Altogether a contractor who wishes to have power that will render him independent of all outside assistance, that is easily portable, whose fuel supply is always at his hand, that calls for no skilled help, and is ready to start when it is located on the job, cannot do better than use the gasoline engine.



"Novo" Gasoline Engine and Double Drum Hoist Operating a Material Elevator.



The Hollow Tile Corn Crib

DETAILS OF NEW CLAY TILE STRUCTURE THAT IS BECOMING VERY POPULAR THROUGHOUT THE CORN BELT

FARMERS who do their own building and the contractors and builders who are called upon to construct farm buildings should know the advantages of the hollow clay tile corn crib. This is a comparatively new method of construction and farmers who have adopted it claim that it is far superior to the old style of wooden crib.

Most certainly it would last longer because there is nothing about it which can rot, break or wear out.

The essential thing in a corn crib is to have the crib rainproof and yet provide sufficient ventilation that the corn may be thoroughly dried out. The wooden crib has an open surface equal to only about one-fourth of the total surface. This one with three-fourth open surface provides a constant current of air through the crib, insuring perfect ventilation. Many farmers report that by using this kind of crib they are able to husk two or even three weeks earlier, thus getting the corn in without the discomfort of frost-bitten fingers.

There are a score of advantages claimed for the vitrified tile corn crib. In the first place, it costs no more than a wooden crib would cost under ordinary

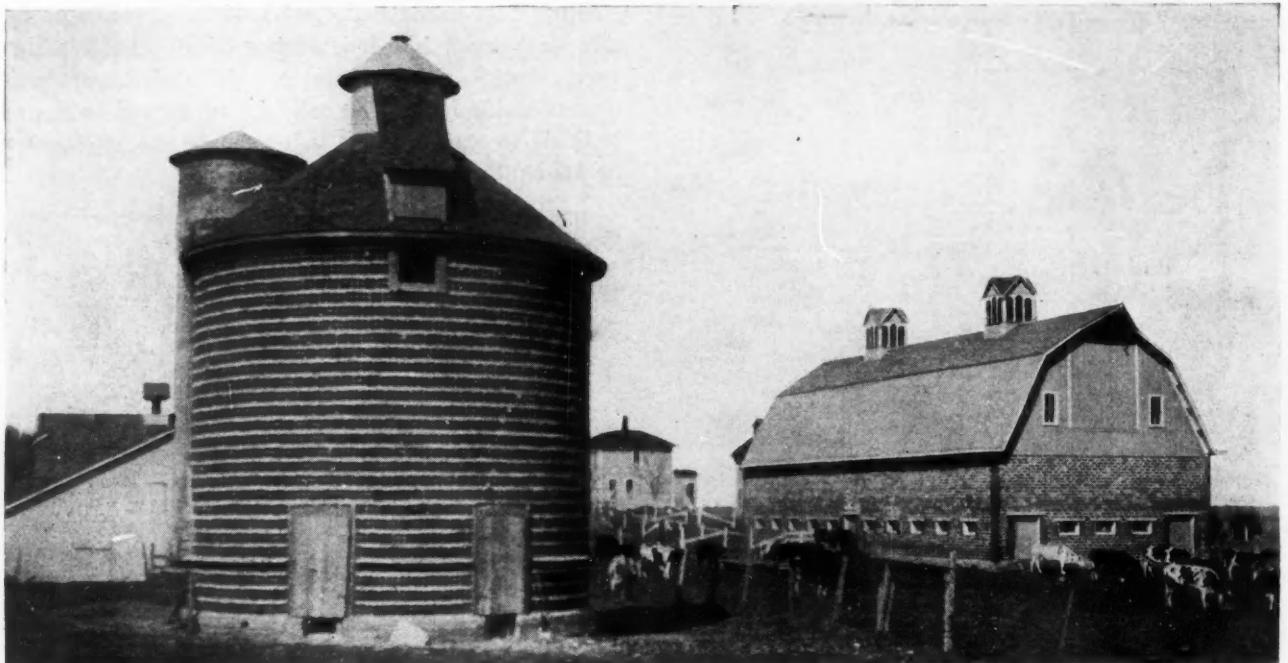
circumstances, and since it is absolutely fireproof there is no expense for insurance. No paint is ever required. This kind of a crib is rat and mouse proof.

The downward and outward slope on which the tiles are laid keep the crib proof against rain, while at the same time providing three-fourth open surface for ventilation.

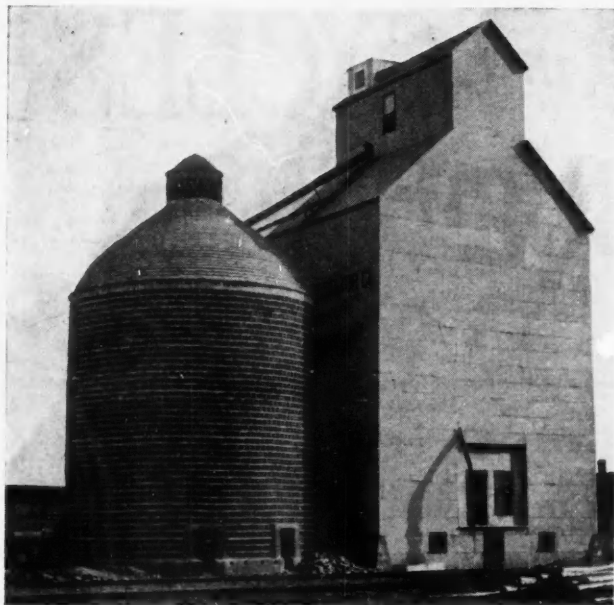
The crib is built round. There is an advantage here. It economizes space, enabling you to get a great deal of grain in a comparatively small area.

The cone spreader is located at the top of the crib and this spreads the corn evenly over the floor instead of piling it up. The corn from a full day's husking will cover only a few inches, so that it all has a chance to dry thoroughly. The husks, shelled corn, silks, and other fine materials are not dropped in one place, as usually, but are spread very uniformly over the entire surface. Where the corn is thrown in through a flexible spout or dropped immediately below the end of the elevator, the fine material always causes some spoiled corn, no matter how dry the corn may have been when it came from the fields.

A crib of this kind lasts indefinitely and saves money



Pocahontas County Farm with Clay Tile Corn Crib of 4,000 Bushels Capacity



Farmers Elevator Co. Corn Crib at Yale, Iowa; Capacity, 10,000 Bushels; Tile Crib Built with Self Supporting Roof.

through its freedom from the necessity for paint and repairs. Not only this, but it actually raises the grade of the corn. Drying and ventilation are a necessary operation and you may be sure these two operations will be secured with the large open surface of a vitrified clay tile crib.

Another advantage is the ease with which corn may be removed from this circular crib. Over half the corn will roll through the windows into a wagon. The



Near View of Tile Crib Showing Four-Hole construction of Each Tile. Holes Slant Upward to Exclude Driving Storms.

windows are placed six feet apart, so that the crib can be emptied with the least possible trouble.

In emptying the crib for shelling, about two-thirds of the shovellers' time is saved by reason of the fact that in the average crib 80 per cent of the corn runs directly into the drag.

The value of a vitrified hollow tile crib is shown by the fact the Iowa Agricultural Department has erected a 4,000 bushel crib of this kind on its experimental farm at Ames.



The Price and the Performance

By J. Crow Taylor

While wandering around a state fair one day where there were a lot of gasoline engines running, I looked at one a while, driving a pump, and then at another nearby driving another pump. As the man in charge came by I pointed to the latter one and told him that I believed I liked it best. He smiled and said, "Yes, I do too, but think of the difference in price. That one would cost you \$115.00 and you can get this other one for \$85.00."

I had not thought of the matter of price at all up to that moment, but immediately I got to thinking about it—about the price and the performance. It was the difference in the performance that struck me first. The cheap engine was making a lot of noise and shaking about considerably, while the other was running almost silently with none of the clacking and shaking that characterized the cheap one.

I had been looking alternately at one and then at the other, trying to find what kind of difference in design or get up there was to make them act so unlike each other without finding it, and now I had the answer—it was the difference in price. And believe me, I would rather pay the \$115.00 for the smooth running one than the smaller price for the other.

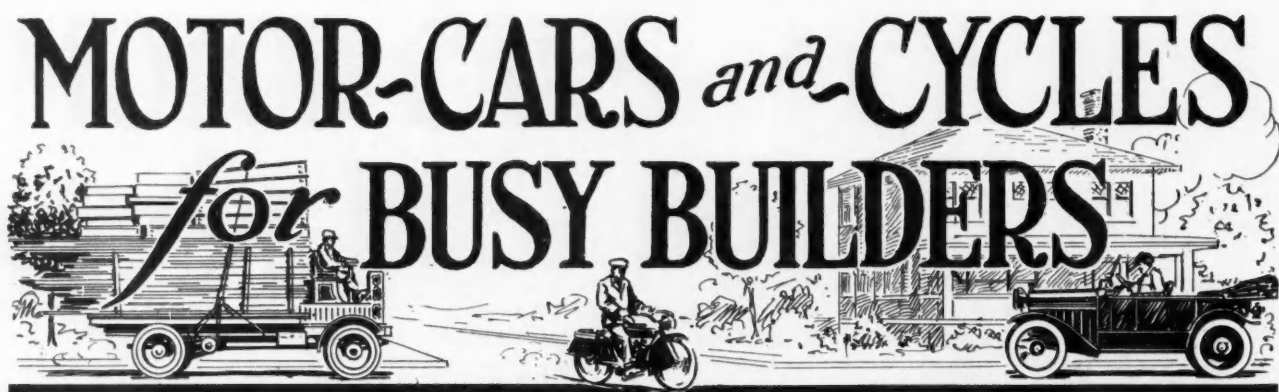
It is evidently a good thing to see the engines perform, the cheap ones alongside the better ones, before making a selection, for with gasoline engines, as with carpenter tools, you can generally get the best bargain by paying more than the lowest price.



BEST HOME MADE PAINT AND VARNISH REMOVER

—It is and has been quite the fashion to poke fun at the various woman's magazines where they give advice about the home and its building and fitting. Here is an item I took from one of the best of the woman's books and I want to pass it on. It is the best and quickest paint and varnish remover I ever tried, irrespective of price or make. To a gallon of plain cooked starch (common or laundry starch) add, while hot, a can of concentrated lye. The lye will slack and boil in the starch, and this mixture applied to a painted surface with a brush or rag will remove paint down to the wood in a few minutes, and upon wiping off the surface with a wet rag, you have an almost entirely new surface without burning

H. C. HANER.



Builder Sees Demonstration of New Style Truck

CONVINCED OF PRACTICAL VALUE FOR CONTRACTORS WHEN HEAVILY LOADED TRUCK EASILY CROSSES SOFT PLOWED GROUND AND SAFELY HURDLES DITCH, R. R. TRACKS, AND OTHER OBSTRUCTIONS

By C. R. W. Edgumbe

EVERYBODY knows that Kenosha is in Wisconsin, and almost everybody knows that Kenosha is the home of the Jeffery Co., who originally made the world-famous "Rambler" bicycle and who in later years produced the "Rambler" automobile and now the "Jeffery."

I was invited to visit their factory a few weeks ago, together with about thirty other representatives of the building and engineering trade press. We were invited to see the new product the Jeffery Co are now putting out—this time not a pleasure car, but a motor truck, known as the "Jeffery Quad." From what we men of the contracting press saw, we all decided unanimously that it was "some truck."

I am not an engineer, but I am a builder—as well as a trade-journal man—and the possibilities of this new Jeffery quadruple drive truck in the building field, impress me as simply enormous. Look at the photographs here and see for yourself just what demands were made on it.

Let me get right down to cases and describe the tests that we actually witnessed. In the first place, we were all loaded onto a "Quad" equipped with seats—the load approximating two tons—and told to hang on tight.

We hung.

Then we did the hurdles. These hurdles were composed of timbers 4 by 12, piled on each other six deep, making a height of 24 inches. Now, mind you, these were piled up straight with a straight, unbroken front; they were not laid up in steps.

We all thought—especially when we bumped down off these hurdles—that if the "Quad" would surmount such obstacles—there were three of these 2-foot lumber piles—that it would go anywhere under any conditions. But our entertainers wanted to pile up still more evidence; so our driver was instructed to ride us over the Northwestern tracks in a spot where there was no crossing. Of course there was a ditch on either side of the track; but ditches are seemingly made expressly for the "Jeffery Quad." After crossing the tracks we found ourselves in a freshly plowed field; and having been convinced that plowed ground was a veritable boulevard for the "Quad" we were then driven over the worst stretch of landscape I have ever seen. This piece of ground was full of boulders, chuck holes, timbers and everything else conceivable; and to get to it we had to navigate a ditch or gully—call it what you will—that was about 4 feet deep and 5 feet across. We did it beautifully, and then



Scarcely an Ideal Road for Heavy Hauling; But This New Style Truck, Having Power Drive on All Four Wheels, Handles it Successfully.

to show us conclusively that the engine wasn't even working yet, we picked up a trailer loaded with two tons or more of pig iron and pulled that out also.

Builders Can Use This Truck

Then the idea came to me that here is a solution of the hauling problem for the builder who has all manner of road conditions to overcome. Here is a machine that goes anywhere and pulls its own load and the load of one or more trailers if necessary, where one or two teams couldn't even move them.

As a builder, I have had to haul gravel from a gravel bed

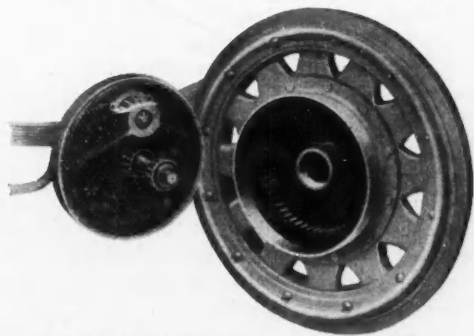


The Author and Party Are "Considerable Shook Up" but the Truck Doesn't Protest, but Climbs Out Cheerfully

and pay big prices. I have had to haul sand from a pit and from the lake shore where the pulling is hard and extra teams had to be employed. A builder owning one of these trucks could save himself a mint of money, inasmuch as they will go wherever traction can be found.

Now a word as to the mechanical construction of the "Quad." The "Quad" drive is to all four wheels, not simply to the rear wheels, as heretofore.

From the motor, power is transmitted through a very simple dry disc clutch which picks up the load without jerk. The drive from the clutch is by means of a propeller shaft



Driving Pinion and Internal Spur Gear

with universal joints to the transmission, which is located in the center of the frame, suspended on two cross girders set high to allow the maximum of clearance—24 inches.

The transmission has four speeds forward and a reverse. Coupled with the transmission are two propeller shafts, with universal joints, which transmit the power to the two differentials, one each located on the front and rear axles. From these differentials power is transmitted by means of shafts to each of the four wheels.

There being a steering knuckle for each wheel, it follows that the final drive shafts have a universal joint. On the extreme end of each shaft is attached a spur pinion and this

spur pinion engages with an internal gear within the body of the wheel, thus applying the power to the wheel nearer to the outside of the rim, thereby gaining the greatest leverage possible that road clearance and other considerations will permit.

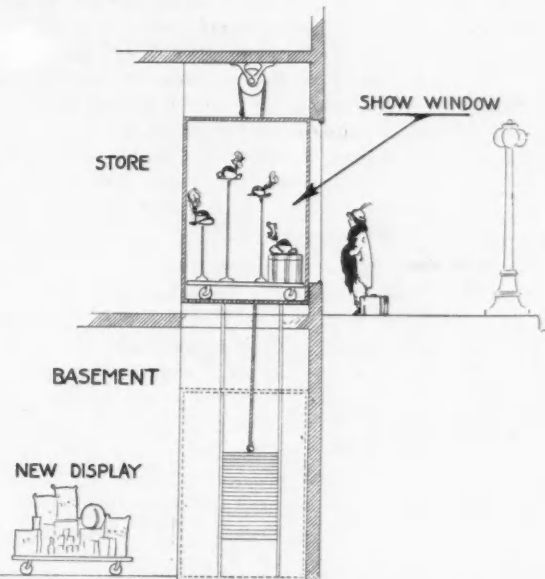
The "Jeffery Quad" was designed primarily for the United States Government. Uncle Sam's specifications called for a motor-driven vehicle that would carry any load of from 1½ to 2 tons anywhere that four mules could pull it. So what the U. S. Government asked for, Jeffery built.

We came back from our day of inspecting this new style motor wagon and the immense plant of its manufacturers, thoroughly convinced that we had witnessed a demonstration of real interest to contractors and builders.



Quick-Change Show Windows

Disappearing show windows, built to drop into the basement whenever the window is to be trimmed anew, have now appeared in New York, says "The Saturday Evening Post." The purpose is to make a quick change possible at any time, and to permit the window trimmers to work at their convenience in the daytime and take all the time necessary to obtain artistic effects.



Our Artist's Idea of Quick-Change Show Window Arrangement

The floor of the show window is double, the upper floor being supported by casters resting on the lower floor. Thus, when the window is dropped into the basement the show affair can be wheeled off and a new one wheeled on immediately. An elevator then raises the floor to the street level, the whole operation taking but a few minutes.



A Customer Heard From

A groceryman received an order that read this way:

Dere Sir: Ples send me 4 pounds of cofe and some te. My wife had a boy last night, also ten pounds of cheese and a rat trap. He wayed 9 pounds and a hatchet and nails.

A Modern Invention

A New Yorker was spending a night at a "hotel" in a Southern town, and, when going to his room for the night, he told the colored porter that he wanted to be called early in the morning. The porter replied:

"Say, boss, I reckon yo' ain't familiar with these heah modern inventions. When yo' wants to be called in de mawnin,' all yo' has to do is jest to press de button at de head of yo' bed. Den we comes up and calls you."—*Youth's Companion*.

CORRESPONDENCE



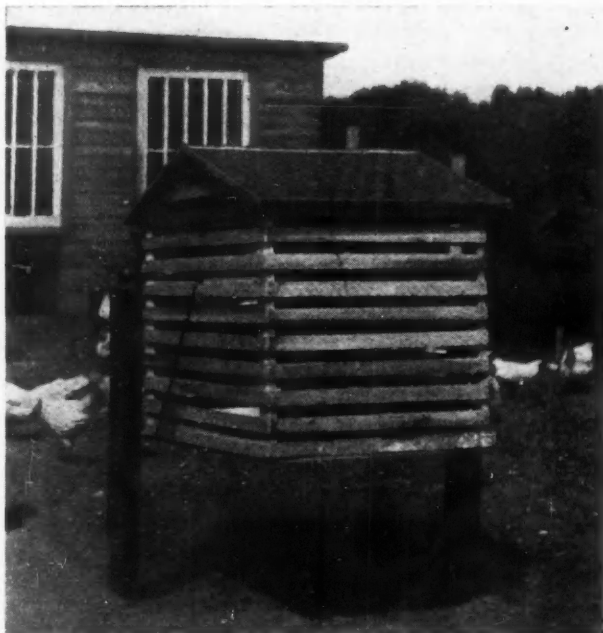
Questions Answered and Ideas Exchanged.

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.

The Swinging Coop Cures Them

To the Editor: Bay Shore, via Keyport, N. J.
After reading over the plans of the poultry house in the July issue, by I. H. Park, of Corse, Mo., I thought I would send you the plan of a swinging coop for broody hens. The enclosed photo and drawing will illustrate a coop design to cure broodiness in hens. It is easily made; all that is required being two 1 by 2-inch pieces 10 feet long, and a bundle of mason lath, also a few 1/2-inch boards taken from a box. The mode of construction is as follows:

Make two end frames, 2 feet square, out of the 1 by 2-inch stuff, and cover with lath, as shown, 1 1/2 inches apart; also nail a 1 by 2 stick 6 inches down from the top of frame. Now bore a 1-inch hole in the center of this 1 by 2-inch strip. Next stand the end frames up 3 feet apart and nail on the lath 1 1/2 inches apart on the sides and bottom. Make two pair of rafters of 1 by 2-inch with a 3 by 12 pitch, and nail to the end frames and cover one-half the roof with 1/2-inch boards and make the other side of the roof into a door which is to be hung at the ridge and fastened with a hook at the bottom. Now, pass a 1/2-inch pipe through the holes in the ends and hang on two posts about 3 feet from the ground. It is impossible for a hen to sit on the slatted bottom. If she tries it, the rocking and tipping of the coop will soon make her give up in disgust. The only steady thing



The Rocking Coop is Guaranteed to Cure "Broody" Hens.

about the coop is the rod passing through the center, and the most persistent broody hen is usually glad to roost on it the first night. When a hen has perched for two nights, she may be considered cured. This coop will accommodate three or four hens without crowding, and ensures quick results.

BENJAMIN R. RUSH,
General Consulting Engineer.



This Will Class as "Bungalow Poetry"

To the Editor: San Rafael, Cal.
"A little fun now and then is relished by the best o' men."
So perhaps the enclosed foolishness will be useful to cause a smile among the A. C. & B. Family.

H. J. BLACKLIDGE.

BUILT IN.

A panel dropped to form the breakfast table,
A built-in sideboard held the dishes,
While food from built-in cookers
Was served for all your wishes.
The pantry had a built-in cooler;
Built-in, too, was the woodbox near the stove.
The built-in ironing board, spice and flavoring chest,
Refrigerator, were all the latest and the best.
The built-in fumigating garbage chute
Was just above the built-in automatic ashes can;
And near the built-in cooling table
Was placed the built-in cabinet file of recipes.
You shaved before a built-in mirror,
Built-in mug below, built-in paper close beside.
The built-in bath tub, couch concealed,
Had built-in case for towels, soap and sponge.
A pretty panel opened
The built-in shower bath revealed.
In the living room a built-in "crib" and checker board
Provided for the fun; besides a built-in cellarette
That hid within the built-in window seat,
Which also held a built-in carpet sweep.
Beneath the built-in phonograph was hid a built-in safe.
Above the built-in baby grand
Was built a built-in music stand.
In father's room, built in, "Big Ben,"
A built-in list of all his clothes,
A built-in shine for shoes, built-in trousers press,
And built-in case for shotgun, rod and dress.
Baby slept in a built-in crib,
Mother slept in a built-in bed,
With a built-in dresser near the head.
And also there,
Were built-in hair receiver, built-in powder space,
A built-in button box and built-in hairpin case.

—H. J. BLACKLIDGE.

Don't Use a Cess Pool

To the Editor: Methuen, Mass.
I have had a great deal of trouble with surface water, and would be very grateful to you if you would offer some way to get rid of it with as little expense as possible.

I have just finished a new house of seven rooms, and it is built on the highest point of the land. The land is not low; in fact, it would be called high land. The house is on a new street and is about 400 feet from the main sewer. I did not want to go to the expense of putting in a sewer pipe for the 400 feet, so I decided to dig a cess-pool. I had dug only 4 ft. when it began to fill with water. This was in front of the house, so I went to the rear and started to dig again, and experienced the same trouble. I would like to have you tell me what is the best way to remedy this trouble. The land on the sides of the house is lower than that on which the house stands.

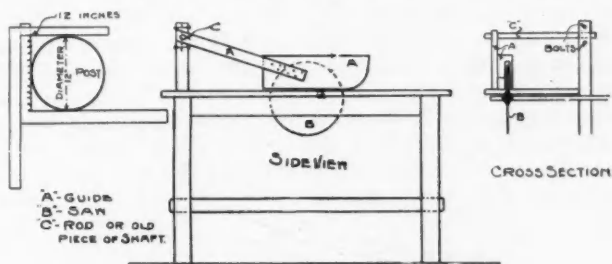
CHAS. B. THOMPSON.

Answer: Since the water table in your locality lies so near the surface, we do not see that there is anything left for you to do but connect with the main sewer referred to in your letter. Any cess-pool which you might dig would have no opportunity for drainage on account of the high level of the water in the ground itself.

EDITOR.

Two Suggestions

To the Editor: Mendota, Wis.
I enclose herewith a sketch of a simple way to find the diameter of a round post when calipers are not at hand. Also show herewith a home-made circular saw guard, which I fixed here over our saw table. These saws are dangerous



Details of Home Made Guard for Circular Saw

when run open, and, as the saying goes, "An ounce of prevention is better than a pound of cure,"—here is where it applies.

FRED G. ROCKWOOD.

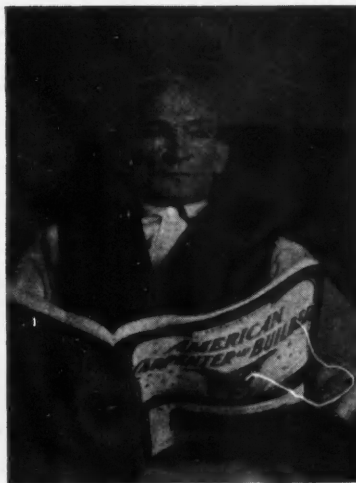
How to Make and Finish a Red Cedar Chest

To the Editor: Aurelia, Iowa.
I would like some pointers on making a red cedar chest and finishing same. Our dealers here do not keep cedar in stock. Where could I order it?

FRANK FREAR.

Answer—There is nothing more interesting to build than a cedar chest. It is a worthwhile project, too, as the demand for cedar chests has been growing of late. As a wedding, birthday, or Christmas gift, there is nothing more appropriate or useful.

There are several kinds of red cedar being used for such work. Fragrant Tennessee red cedar is one of the best. Recently considerable Washington red cedar has been im-



E. A. Bingham of Ft. Atkinson, Wis., an Enterprising Carpenter of 60 Years

ported from the west for this and other uses. All lumber for cedar chests should be carefully selected. Only that having a beautiful grain, good color, sound knots and fragrant odor should be used. Chests should be finished the natural color and rubbed to a beautiful dull finish, without using any stain or varnish of any kind.

While there are any number of designs that can be worked out, all cedar chests run about the same in proportion and size. The popular height is 17 inches, although sometimes they are made 18 and 19 inches. In width, 19 inches makes a good size, though some will run a couple of inches wider. The length depends on where the chest is to be used and may be anywhere from 36 to 48 inches. In construction, the important thing is to build the cover with a dust-tight rabbeted joint. Cedar chests are often strapped with wrought copper with large copper headed studs showing.

These are used in various ways for ornamental purposes and to make the chest stronger.

EDITOR.

Wants Narrow Double House

To the Editor: Hagerstown, Maryland.
I wish someone would send in photograph and plans of a two-story double brick house to go on a 40 foot lot. Each house should contain six rooms and bath and have side front porch and back porch. In this town almost all the houses are two-story double houses. I hope some of the brothers can give me some new ideas for houses of this kind.

ELMER J. FUNK.

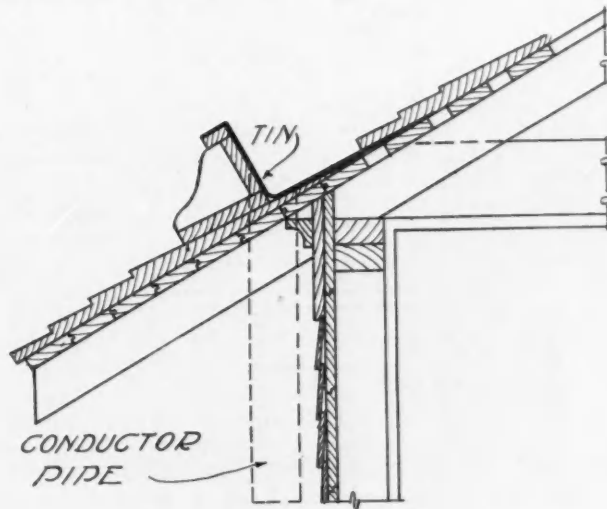
Details of Eaves Trough and Spouting For Bungalow

To the Editor: Coleridge, Nebr.
Will you please publish a detail showing how to put spoutings and eaves trough on roof of a bungalow. The cornice on this building has the rafter ends exposed.

GEO. H. PECK.

Answer—We believe that the illustration shown will give you a clear idea of arrangement of eaves trough and its construction in general. The spouting is shown by dotted lines in the figure. In bungalow illustrations you will notice that the exposed ends of their rafters are never obstructed by any hanging trough at their ends.

EDITOR.



Detail of Eaves Trough of a Bungalow

Haytrack in Round Barn

To the Editor:

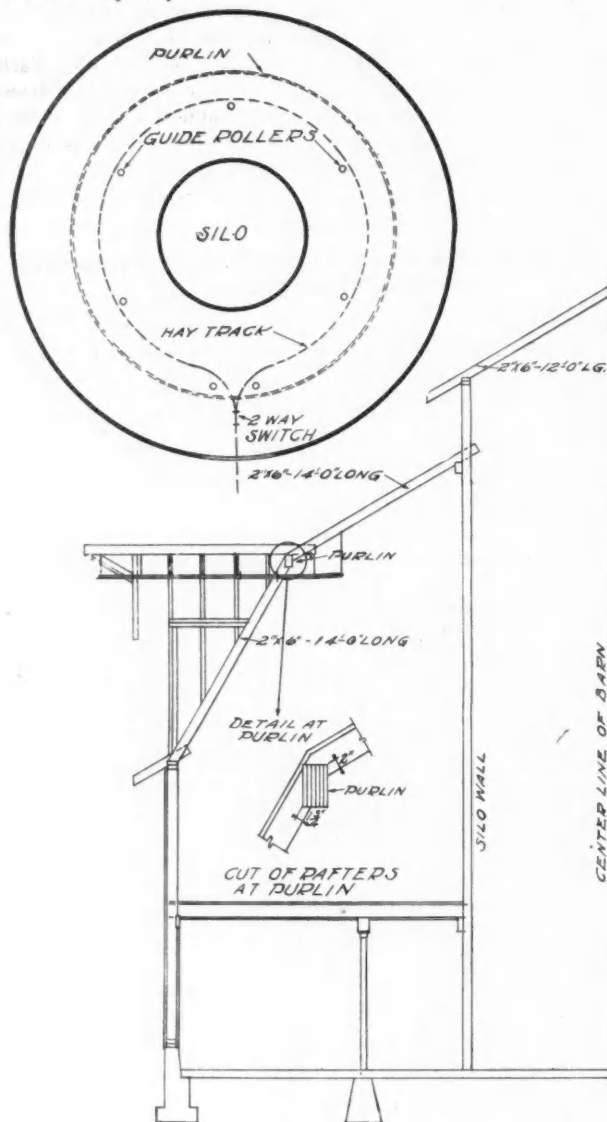
Vergos, Minn.

I am going to build a barn 50 feet in diameter and having a gambrel roof. I am at a loss to know the right way to build the hay fork gable and how to arrange the hay fork. I want to put the gable over the big door with projection enough so that hay fork can drop down on center of load. I wish you would show how to build and brace this gable so as not to weaken the rest of the barn.

NELSON PREMO.

Answer—A roof for a round barn built as illustrated makes a strong roof. The purlin is built up out of 6 thicknesses of $\frac{7}{8}$ " x 10" boards with the joints broken and well nailed together. Lay the circle out on the hay mow floor to the required radius, which in this case is 19 ft. 6 inches. The purlin is to be one continuous plate or timber extended around the silo. Then it is raised up into place and the rafters are cut as shown in the detail. The rafters should be placed 24 inches on centers at the wall plate and also at the purlin plate.

The hay track roof dormer is built the same as the dormer on an ordinary building. The ridge board of the dormer is laid on the top of the purlin, and in this way it does not cut the purlin and weaken the construction of the roof. After the rafters are up, lay on the roof sheathing, leaving an opening in the roof for the dormer, then build the dormer in the ordinary way.



Plan of Round Barn and Vertical Section Thru Hay Door Gable

The hay track is a straight piece of track back to the two-way switch, where a 6 foot curve is used. The track then runs in a circle bent to a 16 foot radius. After the track leaves the two-way switch, it is gradually inclined or raised a little to a high spot directly opposite the door. Arranged thus, the hay carrier will run back of its own weight. Seven guide rollers are placed along the inside of the circular track to carry the hoisting rope.

EDITOR.



Levi Landkamer and His Boss Carpenter Trying "to Look Pleasant" on One of Their New Houses at Alexandria, Nebraska

Cistern Water Filter

To the Editor:

Cut Bank, Mont.

I wish that you would give me some idea of how to build a filter for water which is to run from the roof of a house to a cistern in the basement. I would like something that we could build easily and which could be cleaned without great difficulty.

JAMES W. STACK.

Answer—All that is necessary in a case of this kind is to provide a large trough or box of water-tight construction having a perforated false bottom and an outlet connection in the bottom of the box under this screen or strainer. The top part of the box could be filled with layers of sand, gravel, and charcoal; and the water from the roof led by a pipe so as to discharge onto the top of these layers, thereby making the water sink through the sand and gravel in the filter before it could be drawn off at the bottom. In this type of filter, the sand and gravel may be renewed as frequently as desired and the filter kept clean and in good working order. The size of this trough or box will depend upon the amount of water to be taken care of in any case.

EDITOR.

Height of Windows

To the Editor:

St. Marys City, Md.

What governs the height at which windows are set above floors in a frame building?

MIKE PLUTKO.

Answer—It is common to have the head casings on window frames in line with the head casings over doors.

EDITOR.

Who Will Answer?

To the Editor:

South Norwalk, Conn.

In case the owner and contractor fail to agree in relation to matters of payment for alterations, which are specified only to be made on written order of architect, and architect and owner order same to be done, but claim they are part of contract, how can this be fairly decided?

If the architect has crossed out the clause in the contract which refers all disputes to a board of arbitration, and intends to settle disputes according to his own idea (which is not satisfactory to contractor), will the law give him the right to do this?

H. MARING, JR.,

With Maring Construction Co.

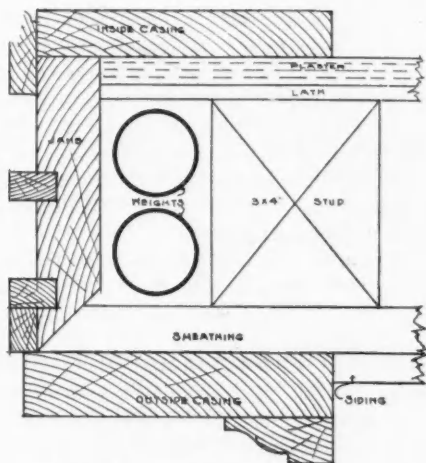
Who Pays For Cutting Wires?

To the Editor: Fontanet, Ind.
 Will you please give me information in regard to cutting telephone and telegraph lines when in the way of houses which are being moved along a public highway?
 In crossing a railroad, who would have to pay for cutting the wires and replacing same?
 Is there any specified height for telephone and telegraph wires when they cross the highway?
 In the city, who has to pay for the cutting of trolley wires, light wires, etc., when in the way of houses which are being moved?
 W. H. HAMBLETT.

Answer: We understand that the owner or contractor who moves the building has to stand the charges referred to above in connection with the cutting of wires. The telephone and telegraph companies send their men to the place where the wires are to be cut, and make a charge which will cover the actual time and labor performed while doing this work. We understand that they do not attempt to make a profit on this work, but do it as a matter of courtesy to the one moving the building, since it has been decided by law that the moving of a building on a public highway is not a proper use of the highway. This same ruling applies where a railroad is crossed and where the wires have to be cut.
 We do not believe that there is any specified height for telephone or telegraph wires which is good in every state, and believe that the height of the wires is determined by the kind of traffic which is to pass over the highway.
 Trolley wires, light wires, etc., in cities, are covered by about the same rules, and the party moving the house is supposed to make arrangements with the various companies for any work done on their wires.
 EDITOR.

Old Time Construction

To the Editor: Bridgeport, Conn.
 Am engaged here in remodelling an old house into stores and flats and am sending a sketch of the section of one of the window frames, which is (to me) something new. The outside members are all put together with white lead and the sheathing is mitred to the jamb as accurately as if it showed on the outside.
 The posts are 4 by 10, the plates 4 by 6, the sills 6 by 6,



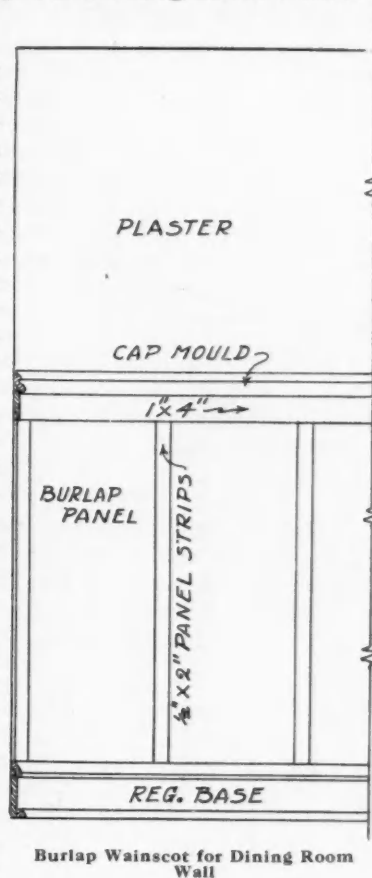
Detail of Old Time Window Framing

the studding is mortised in as are the joist, which are 2 by 6. It has been remodelled since it was built, but the old trim shows good joints and good workmanship throughout. Thought this might interest some of the younger "Chips."
 Have been a subscriber for some time, through a local news dealer, and read it through, ads and all.
 D. W. ELWELL.

Placing Burlap on Dining Room Wall

Detroit, Mich.
 To the Editor:
 I am remodeling my home and would like to know how to put burlap on dining room walls as a wainscoting 5 feet 6 inches high, arranged in panels. I do not care to put up a plate rail, and would like to know how to finish this wall so that it would look right without using a plate rail.
 WALTER H. DENNERT.

Answer: The illustration shows a method of accomplishing this result in an easy and cheap manner. The burlap is placed on the wall and held in position by 1/2 in. by 2 in. panel strips arranged as shown. The bottom rough edge of the burlap is covered by a base mould while the top edge is held in place and covered by a 1 in. by 4 in. strip, finishing at the top with a piece of cap moulding. This makes an attractive finish without the use of a plate rail.
 EDITOR.



Burlap Wainscot for Dining Room Wall

Standard Ottawa Sand

Pasadena, Calif.
 To the Editor:
 Will you kindly tell me in your correspondence columns the meaning of the term "Standard Ottawa Sand" and where this material may be obtained?
 WALTER S. CHASE.
Answer—This sand is a natural sand from Ottawa, Illinois, which is screened to pass a sieve having 20 meshes per lineal inch and retained on a sieve having 30 meshes per lineal inch; the wires to have diameters of 0.0165 and 0.0112 in., respectively, i. e., half the width of the opening in each case. Sand having passed the No. 20 sieve is considered standard when not more than one per cent passes a No. 30 sieve after one minute continuous sifting of a 500 gram sample.
 EDITOR.

Saw-Dust in Walls

Hardy, Neb.
 To the Editor:
 Is it a good plan to use green cotton-wood saw-dust to fill in the walls of a house? The saw-dust was made last winter and has laid in a pile since then. The house is not finished above, nor is the floor laid. This leaves spaces to pour in the saw-dust.
 HARRY C. LOTT.
Answer—We do not consider that this would be practical for several reasons. First, the saw-dust would prove a fine nesting place for rats and mice. Second, unless your exterior and interior wall faces have been constructed with waterproof paper between the sheathing and the saw-dust, there is a likelihood that dampness will collect in the saw-dust and all insulating properties would be destroyed. If dampness did get into saw-dust in a location of this kind, the chances would be that it would rot or mould with the result that unpleasant odors would come from same, and might also be danger of staining the plaster on your interior walls due to this dampness in the saw-dust.
 EDITOR.

Buckled Wall and the Cause

To the Editor:

Johnstown, Pa.

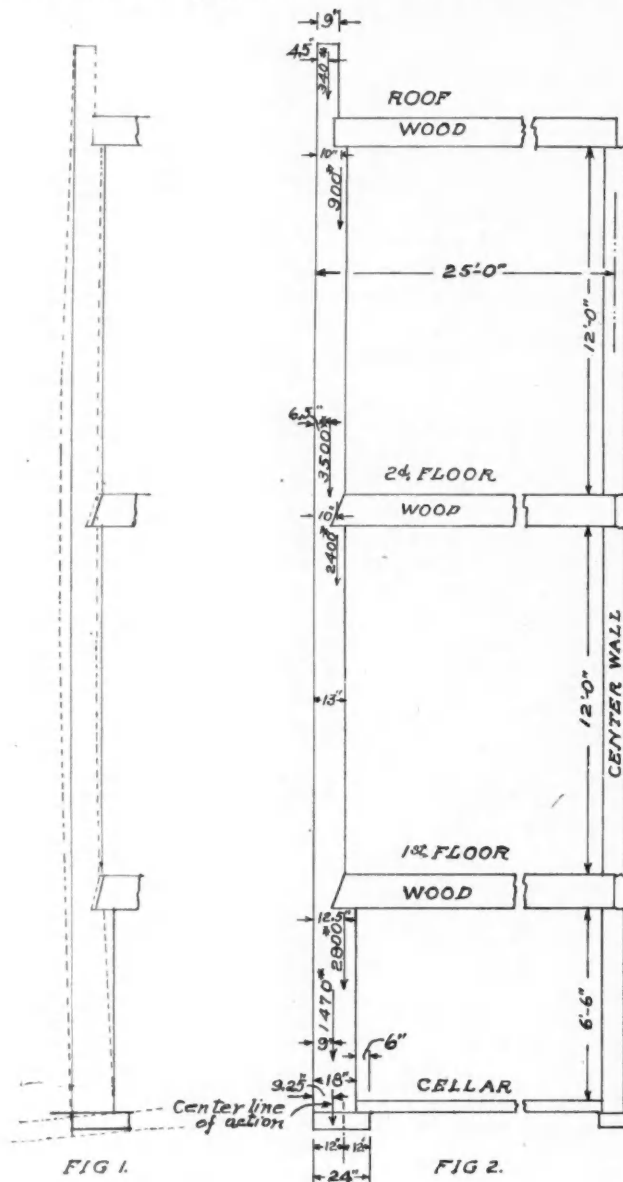
In your August issue A. C. Stiver of Winchester, Ohio, submits a sketch, showing a double storeroom building, where the sides had buckled outward, and asks how to repair the trouble. Herewith, I submit a sketch showing in detail the probable cause of the action of the walls.

Now, while I do not have much of the data surrounding the situation, I must assume some things. We will consider one linear foot of wall. You will note by the sketch, that I have located weights of floors and walls with their distance from the outside building line.

Hence, parapet wall.....	340 x 4.5" =	1530
13" wall	3500 x 6.5" =	22750
18" wall	1470 x 9" =	13230
Reaction of roof	900 x 10" =	9000
Reaction of 2nd floor.....	2400 x 10" =	24000
Reaction of 1st floor.....	2800 x 12.5" =	35000

11410 105510

The total weights transmitted by the wall is equal to 11410 pounds, so that the distance from the outside face of the wall is 105510 divided by 11410 = 9.25 inches. From this the center line of pressure of all the weights may be located,



Loads on Wall Causing it to Buckle Outward.

and about 9 1/4" from the outside face of the wall is the point, just about 1/4" inside of the center of the 18" foundation wall, which is much better than that much outside, for it would have a tendency to buckle outward as A. C. S. says it has.

Next, we will examine the soil under the wall; we have one linear foot of wall under consideration; at the base it is 1.5 foot thick, thus: 1.5' x 1'-0" = 1 1/2 sq. ft., and we have in actual weight 11410 pounds to be carried on 1 1/2 sq. ft. of bearing. If the soil is good for 3 1/2 tons per sq. ft. we could say that it may be safe; but we still have another consideration coming. You will note by examining the footing which is 24" wide instead of 1 1/2 ft. as we considered above; then the center line of pressure is not near its center, it's nearer the outside end, and of course means that the wall settles faster on the outward end, than it does on the inward end; the result is the buckling as shown by A. C. S. You will see by examining my sketch that 6" of the footing project inside of the cellar. Such a thing should not exist under any similar system of loading, and my advice to all persons is not to attempt it, unless it has been gone over by some person familiar with statics of masonry, a thing not heard of by many people.

I suggest to A. C. S. to secure all floor weights from cellar up, either pull or push the wall back, and grout the outside edge of the wall with concrete. Next, cut off the inside end of the footing if it does project inside at all. I see no need of razing any part of this wall whatever.

At figure (1) I show how the action of the weights placed the walls, when constructed in soft earth with a part of the footing projecting inside of the cellar.

W. S. POWELL, Architect.

Construction Engineer and Building Superintendent.



Remedy for Bulging Wall

To the Editor:

Lamoni, Iowa.

Have just been reading Mr. A. C. Stivers' article on sprung wall of a store and wishes the opinion of others in regard thereto. I have experienced in my own work that I have appreciated others' opinions, whether these opinions were in harmony with my own conception of the case in hand or not; hence I venture my opinion in this case for the benefit of Mr. Stivers.

I believe all that is necessary to be done in the wall mentioned, is to run heavy iron rods (say 1 inch, if necessary), through walls at each side of the building and run them between the floor joist on second floor to conceal them, cut threads on the two inside ends which should nearly reach together, allowing enough space for tightening up; put good heavy anchors on outside ends which project out on the outside of wall and a threaded swivel to connect the two inside ends, then tighten up.

If it is not possible to draw the wall into place it will at least prevent further spreading.

S. K. SORENSEN.



Burned Tile or Gypsum Blocks

To the Editor:

New Providence, Iowa.

We are having a large fireproof school house built here of which I am superintendent for the school board. The specifications call for partitions to be built of "No. 1 porous or semi-porous hard burned tile of Mason City manufacture or equal." Now, what I would like to know is whether gypsum blocks are all right in their place, or not.

E. V. MOON.

Answer—We doubt if such a substitution would be allowable. If we interpret the specifications under which you are working, correctly, you are to use Mason City tile or some other brand of a hard burned clay tile of equal value in building construction.

EDITOR.

Sliding Over Old Tin

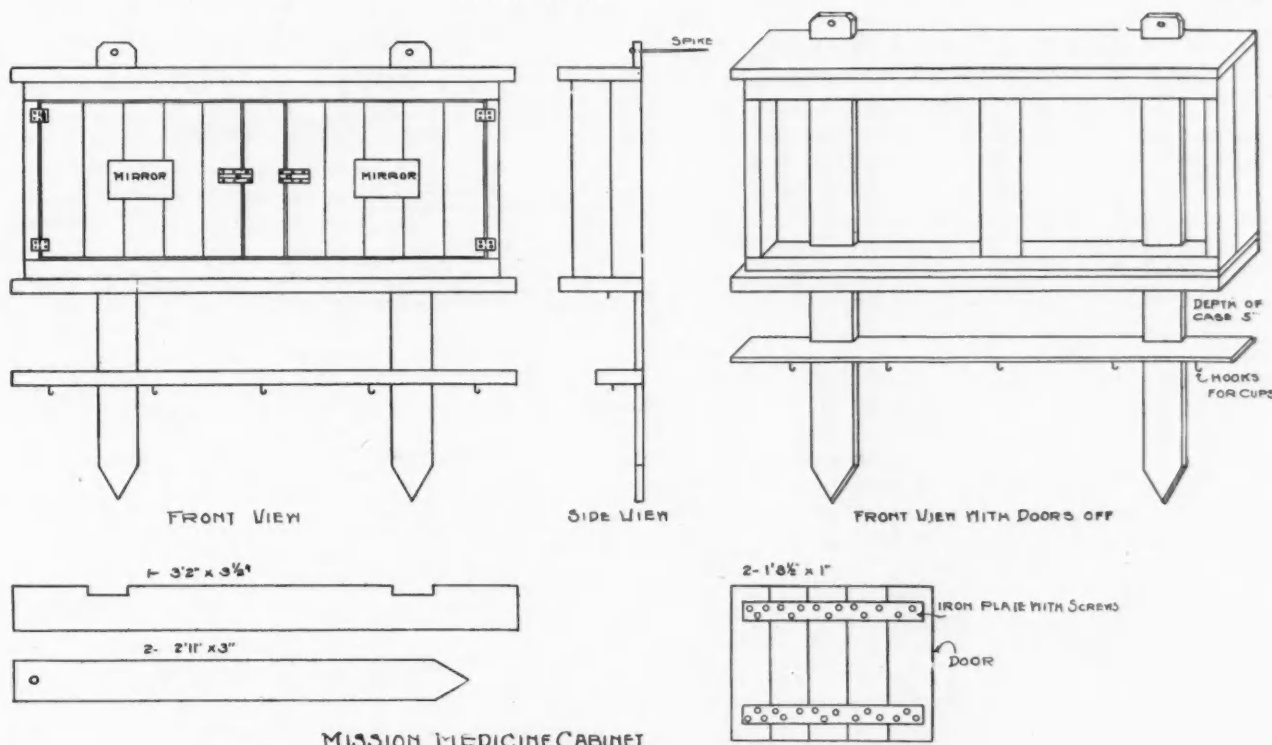
To the Editor: Taunton, Minn.
 Would you advise me to put lap boards or 1½-inch siding over a building that has been sheathed with tin? In some places it has rusted through. I would like to leave the tin on the house.
 A. KUCERA.

Answer—You can put on siding over the tin provided you first furr with nailing strips before putting the siding in place, so as to have an even surface on which to nail the siding.
 EDITOR.



Artcraft Medicine Closet

To the Editor: Duplainville, Wis.
 Here is a sketch for a mission medicine cabinet for the wall; cabinet contains no back, using the wall for same.
 W. M. ALVORD.



MISSION MEDICINE CABINET
 Working Details of Unique Medicine Chest

Contract on a Pay-Roll Percentage

To the Editor: Point Edward, Ont., Can.
 I have been thinking of taking a contract for work to be done on a pay-roll percentage. As this method is new to me, I would like to know what percentage to figure on in taking this work.
 C. C. MCGEE.

Answer—We presume this is similar to the "cost plus percentage" type of contract. In the cost plus percentage type of contract the owner agrees to pay the cost of all of the materials, labor, and also to pay the contractor an amount varying from 10% to 15% of the total as recompense for his services and his profit.

If the owner wishes to furnish all of the material without any expense or trouble on the part of the contractor, thus leaving the pay-roll alone to be borne by the contractor, it would seem to us that the contractor should have at least 15% based on the amount of the pay-roll as his part of the work. This percentage might be subject to variations depending upon the conditions surrounding the contract, and would have to be determined by the contractor himself, who is in the best position to know what he feels is a suitable amount received for his services and his profit.
 EDITOR.

Estimating Plastering

To the Editor: Union City, Tex.
 In measuring up the work which is to be plastered kindly tell me how openings are figured and how large an opening may be omitted.
 H. L. HUBBART.

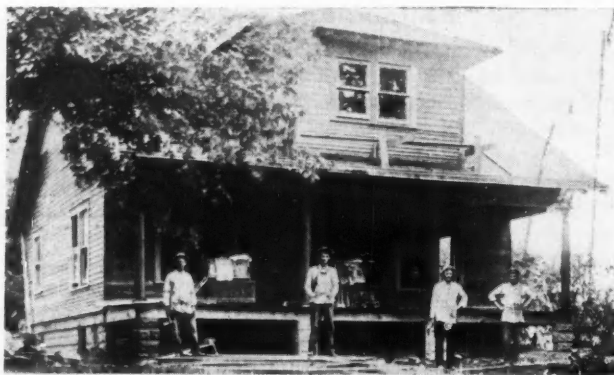
Answer—The standard rules for measuring plastering adopted by the Employing Plasters' Association of Chicago, Ill., state that openings in plastering are to be measured between grounds. No deductions are to be made for opening of 2 feet or less in width. One-half of contents to be deducted for openings 2 feet or more in width. The contents of all store front openings to be deducted and the contractor to be allowed 1 foot 6 inches for each jamb by the height.

Other rules for measurement allow one-half the area of openings for ordinary doors and windows, while some make no allowance for openings of less than 7 square yards.
 EDITOR.

Floor Construction for Dance Hall

To the Editor: Walnut, Iowa.
 I am going to erect a building 29 by 60 feet with 13-inch brick walls. The second floor is to be used as a dance hall and moving picture theatre. We are going to use 2 by 12-inch yellow pine for joists for second floor with a truss beam through the center made of four 2 by 12-inch pieces spiked together. There will also be three rows of bridging. Do you consider that this will make a safe building for that purpose? I do not want to put posts under the floor, as they will be in the way. The truss will be 60 feet long with two 1¼-inch rods with turn buckle in center. What will a floor like this carry with safety?
 F. A. BIGELOW.

Answer—2 by 12-inch yellow pine joists, if they run full size and are spaced only 12 inches on centers, might be used if the other parts of the building are constructed in accordance. We do not believe that the trussed beam spoken of in your letter would be of sufficient strength to hold up a floor of this type. We have no information on trussed beams greater than 30 ft. in length, and doubt if it would be policy for you to attempt to use such a construction in this location.
 EDITOR.



Wm. M. Johnson and F. A. Bayley and Two of Their men at Work on New M. E. Parsonage at Northboro, Iowa



Some Old Tested Methods

To the Editor:

Mt. Pleasant, Mich.

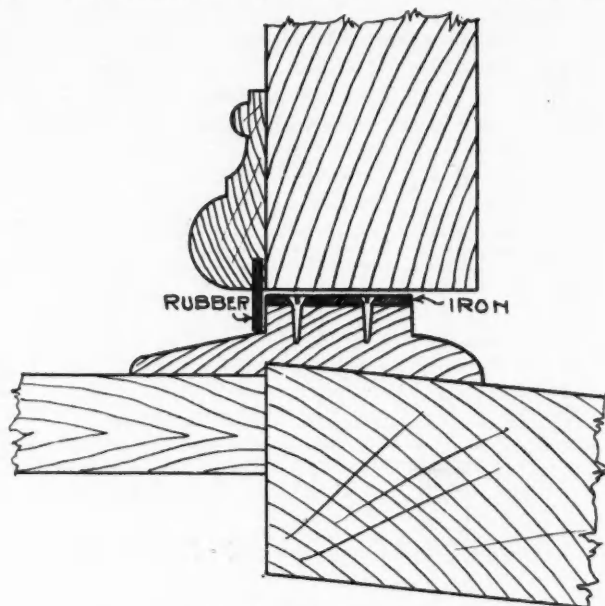
I am a new subscriber to your valuable magazine and want to chip in a few hints in the line of building, which may help out some of the younger men in this line. Now, I am an old carpenter,—in fact, too old; going fast on 76 years of age and of course nearly out of the race; but I have had over 38 years of practice and experience, which I am willing to hand over to those who come after me.

There are just a few kinks, which I will mention, that may interest some of the brother chips.

SLIDING DOOR TRIM—First,—is the hanging and trim of rolling doors. Fit the doors, either double or single, to the opening, leaving room to put a band one inch thick clear around the door, letting it project each side, say $\frac{3}{16}$ of an inch, made preferably of hard wood, but yellow pine will do. Plow groove in the bottom piece before attaching the door. Miter the corners nicely, joint perfectly straight and attach with glue and screw permanently. Then hang the usual way. When the stops are put on, the door will slide between the upper ones and there will be no rubbing and raking the whole length of the door, as is most always the case, for when one room is cold and the other warm, the middle of the door is sure to warp more or less. I have had lots of trouble that way, having to move the back stops, leaving them so open that when the door was shut, there was no fit. The door could be made thinner than usual, with three ply panels, with different kinds of wood on each side with natural finish, which is all the go now.

INSIDE DOOR JAMBS—The next kink is setting of inside door jambs. Rip out and joint strips five inches wide, which can be made of any cheap lumber like sheathing, nailing them in the opening as false jambs. Plumb them edgewise, letting them project $\frac{5}{8}$ of an inch to receive lath and plaster on each side. When the two sides are in, cut in the header, then you have a perfect ground to plaster to. Of course, you leave the opening wide enough to receive the jamb proper, with say $\frac{1}{2}$ inch each side to give chance to plumb the frame. Then when the finish is applied after the plaster is dry, I agree with the Bro. Chip who believed in casing one side of jamb and squaring the frame before setting in place, scribing to floor as all finishers know how to do. I approve of plastering clear down to the floor and see that the mason cuts the plaster away with his trowel along the floor, so there will be no trouble in putting down base. Then I think it is a good plan to mark on the floor where the studding are. Also in nailing the base, drive your bottom row of nails close to lower edge of base, so that when the carpet strip, or quarter round, is put down, it will cover all the nails, which saves the trouble of setting them and also helps out and pleases the varnisher.

NO-LEAK THRESHOLD—Now, if it is not too late, I would like to give you my plan of making no-leak thresholds. It has been pretty thoroughly discussed in the last few numbers of the AMERICAN CARPENTER AND BUILDER, but I am like the rest, I think my way the best. I will make a rough drawing of one, so you can see what I mean. As you see, I rabbet the threshold, say $\frac{1}{4}$ inch deep, letting the door project over $\frac{1}{2}$ inch, then fit a strip of band iron on top of the threshold with screws, nicely counter sunk, then you can fit the door snug to the iron. Then the last kink, but by no means the least, is this; get a piece of wide weather strip



Detail of Tight Threshold

moulding and fasten nicely with round headed screws on the inside of the door, letting the rubber part project below enough to shut tight against the edge of the iron. This method has never failed me yet.

GEORGE OWEN.



Door Jamb Wrinkle

To the Editor:

Sterling, Colo.

In regard to setting door jambs, there is one wrinkle I have not seen presented. When I cut the bottom plate under my partitions in the doorway I cut it the right width, so that the bottom of the door jambs will nail tight against it, then I find it is a small matter to plumb the jambs and block them solid.

NOEL HOGG,

General Contractor.



Deadening a Floor

To the Editor:

Redwing, Colo.

I want to deaden a floor upstairs in a school room. The upper floor is already laid and has been used for a number of years as a hall for dancing, but it did not bother the room below as the hall was only used at night. Now the school is too large for one room, so the Board is going to build a room on the second floor.

Will I have to take the hall floor up to deaden it and lay on another, or can I put another floor on top of the old one with the deadening material between? The school room on the first floor is ceiled so I cannot reach it from there.

WM. ADDINGTON.

Answer—For best effects the new floor should be laid on furring strips nailed to the old floor, with a sheet of deadening felt or deadening material between the cleats and the floor.

EDITOR.

Development of Steel Plates For Smoke Stack

To the Editor:

Rock Island, Ill.

I have a breaching or smoke-stack to make, 2 ft. 8 inches in diameter, extending into a cylindrical stack 5 ft. in diameter. I would like to have you show me how to lay out the plate for this so as to get the proper shape of intersection. Also for a breaching framing in on a 45 degree rise instead of at right angles.

FRANK WALDEN.

Answer: The following diagrams will illustrate the method to be followed in the cases referred to above. The first diagram shows the development of the sheet where the breaching enters the chimney at right angles.

Let A represent the plan of the vertical cylinder and B its elevation. Draw the plan of the horizontal cylinder E and show an elevation of same with D placed in the center of the vertical cylinder or stack. Then draw the section F in the plan view, and divide it into equal parts as shown in from 1 to 3 in both directions from the ends of the vertical diameter. In the same manner draw the section F' in the elevation, and divide this circle into the same number of parts.

Next, from the intersection in E draw the horizontal lines intersecting the circle A at 1', 2' and 3' on both sides of the center horizontal line. From these points draw perpendicular lines until they meet the horizontal lines drawn from the end view F'. These perpendicular lines should be drawn until they meet the line with the same number projecting over from the end view in F'. If the points 3'', 2'', 1'' and 1'', 2'' and 3'' are connected, the result will be the shape of the line of intersection of the small stack with the larger one.

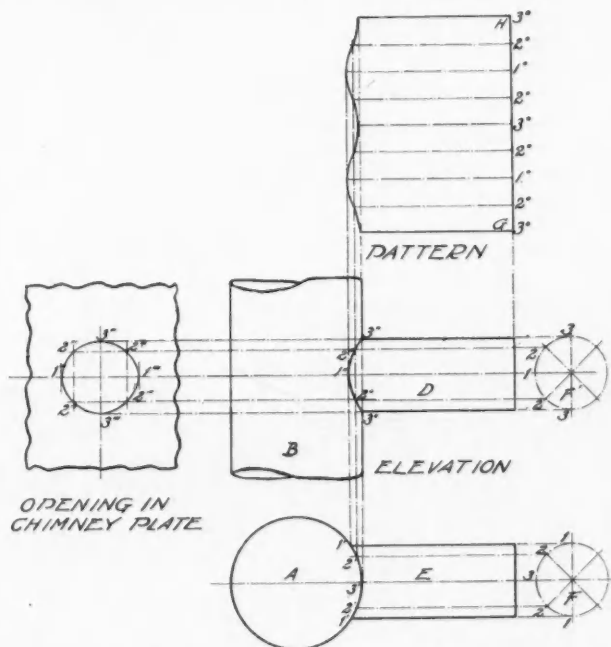


Fig. 1. Development of Plate for Perpendicular Intersection.

To develop the cylinder D so as to show the true shape of curve to be cut at the end where it intersects the larger stack, draw the line GH as shown equal in length to the circumference of the smaller stack. Spaces 3°, 2°, etc., are equal in length to the spaces 3, 2, 1, etc., shown in the end view of F'. From these points 3°, 2°, 1°, etc., draw perpendicular lines shown dotted in the diagram, and extend these dotted lines until they meet the vertical lines from the plan and elevation shown below. Where each dotted line meets the line of the corresponding number from below, a point should be made which forms the true outline which is to be cut from the plate. If each dotted line has been drawn to intersect the line of the same num-

ber from below, connect the points of intersection by a smooth curve, thus giving the exact shape of cut.

In order to find the size of opening which is to be cut into the larger stack B in order to receive the smaller cylindrical stack D, lay out the section of plate to represent one side of the large stack B as shown at the left hand side of diagram. On this diagram lay out that part of the circle A which is included between the numbers 1', 2', 3', 2', 1', spacing the division of the flat diagram just as they are shown on the curved surface at A. This produces the same result as flattening the plate A into the plane of paper. The lines thus produced are those shown extending in a vertical direction on the plate. The horizontal lines shown

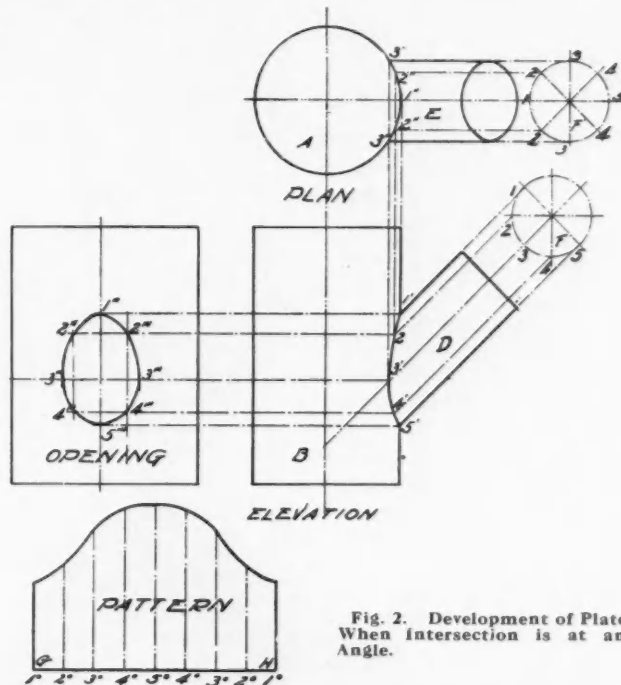


Fig. 2. Development of Plate When Intersection is at an Angle.

would be found by measuring the vertical distances of the points 2 and 3 off from the end view F' and laying them off above and below the middle horizontal line of the figure. Connecting the points 1'', 2'', 3'', etc., in this diagram will show the true shape of the opening in the flattened plate of the large stack.

The scheme to be followed where one of the cylinders meets the other at an angle of 45° is just the same in principle as that described above. Details of this construction are shown in Fig. 2 and may be easily traced out by following the description given for Fig. 1. The true shape of the pattern which forms the joint between the large and small stack is found in a similar manner to that just described, but has been drawn at a different location in Fig. 2 in order to save space in diagram.

EDITOR.



Fastening Screens to Stone Porch

To the Editor:

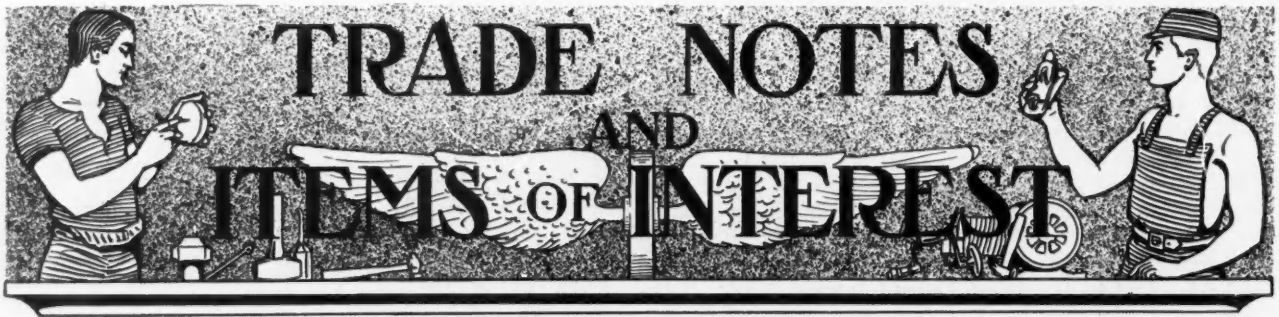
Union Grove, Wis.

I would like some information in regard to screens for porch. I built a brick house, and around the porch I have a stone coping. The screens have to sit on this stone and will have to be fastened in some way. I have thought of screwing a piece of galvanized iron on the under side of the screen and bringing it out on both sides, bending it down enough to hold the screens.

G. ROHDE.

Answer—Your screens may be held in place by the use of expansion bolts set into the stone work, or by wedging the frames in place at the top and bottom of uprights.

EDITOR.



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.

The Efficiency Woodworker

A portable combination machine with reliable motive power is being offered the contractor-builder, concrete constructor and lumber yard men by the Buffalo Woodworker and Machine Co., Inc., 19 Illinois Street, Buffalo, N. Y. These people say that from the moment you own an Efficiency Woodworker, you become independent of the planing mill. When you buy an Efficiency Woodworker, you make the work of your carpenters more efficient, you don't discharge them. You put one man at work on the machine to do all the cross-cutting, ripping, jointing and dadoing that has to be done on any job. To do this class of work by machine, you actually save the wages of four men. The Efficiency Woodworker

in constant operation will turn out enough work to keep from five to ten men busy, and these men will spend all their time in the actual constructing of the building, and not in preparing the material. The machine prepares the material.

Aside from the class of work mentioned above, the Efficiency Woodworker will cut your moulding and do your jig-sawing and boring. You can use the machine in your shop or load it on a wagon for use on the job. Wherever you use it, it will be the means of a constant saving for you in time, labor and material.

These statements are not guess work; but are vouched for by contractors and builders who have actually owned and used the Efficiency Woodworker in their building work. The photo, for instance, shows a view of the big Seneca street home building enterprise handled so successfully during the summer of 1911 by W. H. Fitzpatrick, a well known general contractor of Buffalo, N. Y.

Under date of Nov. 1, 1911, Mr. Fitzpatrick wrote the manufacturers of the Efficiency Woodworker as follows:

"Since last May I have used the Efficiency Woodworker constantly 'On the Job' cut here on Seneca Street, where I



The "Efficiency Woodworker" and Crew at Work on the Last of 40 Houses on Seneca Street, Buffalo. W. H. Fitzpatrick, General Contractor.

Gordon-Van Tine Co., Davenport, Iowa PAGE 9


3-PLY OAK FRONT DOORS

Construction Especially Adapted to Outside Use



CRAFTSMAN "A"

SIZE		No. 8218		No. 8219	
Wd.	Hgt.	Pl. In.	Pl. In.	Pl. In.	Pl. In.
3-0 x 6-8	6-8	0	0	0	0
3-0 x 7-0	6-8	0	0	0	0



CRAFTSMAN "D"

SIZE		No. 8222		No. 8223	
Wd.	Hgt.	Pl. In.	Pl. In.	Pl. In.	Pl. In.
3-0 x 6-8	6-8	0	0	0	0
3-0 x 7-0	6-8	0	0	0	0



MONTE CARLO

SIZE		No. 8214		No. 8215	
Wd.	Hgt.	Pl. In.	Pl. In.	Pl. In.	Pl. In.
3-0 x 6-8	6-8	0	0	0	0
3-0 x 7-0	6-8	0	0	0	0



PARIS

SIZE		No. 8242		No. 8243	
Wd.	Hgt.	Pl. In.	Pl. In.	Pl. In.	Pl. In.
3-0 x 6-8	6-8	0	0	0	0
3-0 x 7-0	6-8	0	0	0	0



QUEBEC

SIZE		No. 8244		No. 8245	
Wd.	Hgt.	Pl. In.	Pl. In.	Pl. In.	Pl. In.
3-0 x 6-8	6-8	0	0	0	0
3-0 x 7-0	6-8	0	0	0	0

Special Hardware for Front Doors Illustrated on this Page

CRAFTSMAN SECTIONAL LOCK SET
 Cost Bronze trim and Cylinder Lock. For full description see hardware pages.
 No. KH 879. Dull Brass Finish on Genuine Bronze. Price complete with screws..... **\$8.22**

CRAFTSMAN DESIGN FRONT DOOR LOCK SET
 Lock 5/8 x 3/4. Complete description given on hardware pages.
 No. KH 178. Dull Brass Finish Steel. Price complete..... **\$1.85**
 No. KH 179. Dull Brass Finish on Genuine Bronze. Price..... **\$2.70**

Why 3 Ply Doors Are Best All Doors shown on this page are made three-ply, and this is without doubt the only safe method of construction for a hardwood door that is exposed to the weather. It really costs from \$1.00 to \$1.50 more than the old style construction. We have not added this cost to the door, but have endeavored to give you a door that will withstand every condition of the weather. If you have had any experience with veneered doors, you know that this is unusual.

Take our word for it that this construction of the veneered door will satisfy you in every way, and if you will consult an architect or a practical carpenter, he will convince you that such construction, while more costly, is easily worth the money. All the doors on this page have wide lock rails, giving plenty of room for your front door lock. The freight on these doors is very low, and we ship our goods anywhere in the world at a saving to the consumer.

Every Carpenter is Asked to Write Us

We want to place our famous catalog of 5000 bargains in the hands of every carpenter and contractor !!

SEND us your name by post card or letter today!! We want to send you our latest catalog of our newest best bargains in *guaranteed quality* building material.

We want you on our mailing list so we can send you bargain price *bulletins* from time to time.

Thousands of the most successful contractors and carpenters keep our great catalog and valuable books on hand to guide them in *buying and estimating*.

Ten thousand contractors and carpenters buy practically *all* their building materials, lumber, hardware, paints and the like of us.

Because they can figure *lower*. They can give better *quality*. The qualities are *always the same*

guaranteed standard. Our *shipping service* is ideal. The freight costs are a *trifle*.

Our stocks are so complete, *always*, that no building job is ever held up because of delay on a few items.

We carry in stock hundreds and hundreds of bargains that can be bought elsewhere only on *special order* at high prices.

The facts are that the Gordon-Van Tine Co., offers contractors and carpenters the *biggest, broadest, finest* stock of quality building material *on earth*.

Quality for quality our *prices* are the *lowest*.

Our *service* is the *quickest*.

Our stocks give the *greatest selection*.

Our *guarantee* covers everything.

Write!! THE GORDON-VAN TINE CO., 721 Federal St., Davenport, Ia.

Xtra!! Special Timely Bargains in Storm Sash! Write

am just finishing the last of forty frame dwellings.

"The Machine has become an absolute necessity in my business. I estimate that it has saved me an average of at least ten dollars a day for the past six months.

"I have found the Engine to be perfectly reliable, well-made, economical and powerful and I am entirely satisfied and well pleased with my purchase."

The frame of the Efficiency Woodworker is 33" high; it is made of angle iron legs supported by cast iron girders securely bolted. It is rigid and not susceptible to vibration. The table top (25" x 43") is made of strips of birch and walnut glued together and reinforced on the ends with iron bands. It is amply large and is raised and lowered by means of hand wheel at the operating end of the machine. The table top remains level at all positions.

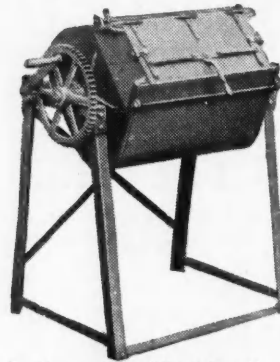
The saw mandril, to which are secured all of the wood-working attachments except the jig saw, is belted direct to the engine. The mandril has generous diameter and extra long bearings. The rip and cross-cut saws, the dado head, moulding knives and emery wheel are attached to the inside end of the saw mandril. The jointer table, sanding disc and boring attachment are secured to the other end of the saw mandril. The jig saw is operated by an eccentric belted to the saw mandril and is held in place by a lug and a hand wheel. The 3" main belt is kept in proper tension at all times by an improved belt tightener which is controlled by a notched lever from the operating end of the machine. Any attachment that is applied at the left end of the mandril may be operated in conjunction with any attachment that secures at the right end of the mandril; for instance, the rip saw and jointer may be used simultaneously or the cut off saw and the boring machine. The net or operating weight of the machine complete, with gasoline engine and any two attachments, is 500 lbs. The shipping weight is 700 lbs.

Address the Buffalo Woodworker and Machine Co., Inc., 19 Illinois St., Buffalo, N. Y., for full details of their interesting proposition to builders.



Carpenters' Hand Batch Mixer

The illustration shows a strong, well-made little machine for handling small batches of concrete, quickly and with a small amount of labor. This is the Northwestern Steel and Iron Works hand batch mixer for carpenters and builders. It handles 3 cubic feet of loose material per batch. It is of strong iron and steel construction and weighs 220 pounds. Perfect mixing is guaranteed with this hand mixer and the saving of labor over shovel mixing is very great.



Carpenters' Hand Batch Mixer

Address the Northwestern Steel and Iron Works 625 Ball St., Eau Clair, Wisconsin, for their complete catalog.



Transportation of Exhibits to the Panama-Pacific International Exposition

The Panama-Pacific International Exposition, through its Traffic Department has issued Rules and Regulations covering the transportation of exhibits to the Exposition, which will be held in San Francisco from February 20th to December 4th, 1915. The information is contained in two pamphlets, one to cover domestic shipments and the other foreign



This Attractive Building Is Trimmed With Midland Stock Terra Cotta

"WRITE FOR A PORTFOLIO"

MIDLAND TERRA COTTA COMPANY

1120 CHAMBER OF COMMERCE :: CHICAGO, ILLINOIS

UNIVERNISH

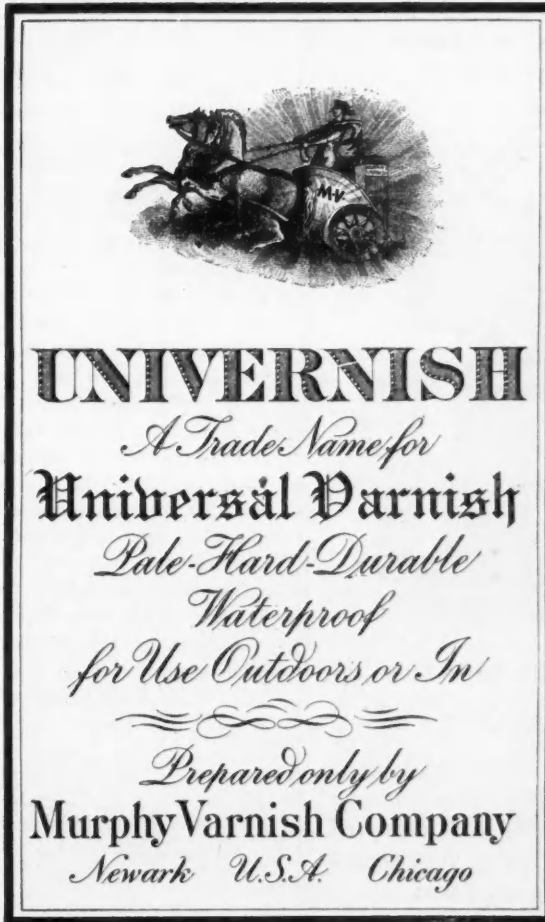
The Universal Varnish

This is the Label

I It was scrubbed with hot suds and was as unharmed as if it had been tiling.

II Boiling water was poured on one spot for five minutes, and did not loosen or whiten it.

III A hot dish was stood on it until the rim melted a ring in it, but the varnish inside the ring was not affected.



IV Pure Alcohol was poured over it, and did not harm it in any way.

V A puddle of Pure Ammonia standing several minutes, did not cut or even blur it.

VI A half-filled can stood two weeks without forming the slightest trace of skin.

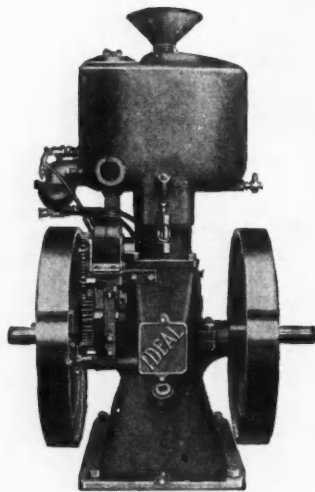
A good old-method varnish put to the same tests, went to pieces under every test.
No skin in 2 weeks is different from a thick, tough skin in 12 hours.

Quality Is Economy

Are You a Crank

for good gasoline power on your equipment or are you willing to accept any old engine because it is **cheap**. It may be cheap to the manufacturer, but awful expensive to you if you figure repair bills and loss of time. If you are a crank you will investigate IDEAL POWER when you buy your next outfit.

*Frost
Dirt
Fool Proof*



The Improved Ideal Engine is built like an automobile motor, with enclosed crank case, large valves, takes warm air through carburetor, has all joints and connections locked and tied up so they cannot wear or jar loose, self oiling boxes and improved lubricator, put this engine on your equipment and you have an engine that can be depended upon to give

Constant Service

We manufacture a complete line of power hoists, mud pumps and water force pumps, our catalog No. 314, tells you all about our line and is yours for the asking.

Original Gas Engine Co.

R. E. OLDS, Chairman

630 Kalamazoo St., E.
LANSING, MICHIGAN

shipments. These pamphlets also contain information as to steamship reductions in freight rates for sea carriage of exhibits as well as the special provisions and reductions made by the rail carriers, which generally speaking, is on the basis of full freight rate to the Exposition and free return to the original point of shipment if exhibits have not changed ownership.

Exhibits and merchandise should be securely packed to insure safe handling and transportation. Where boxes and crates are used in packing, it is suggested that screws be used instead of nails, as it will then be easier to re-assemble at the close of the Exposition in December of next year.

Arrangements have been made for the consolidation of less than carload shipments at New York, Chicago and other points into car-load lots. By means of this arrangement exhibitors may ship their goods to the nearest consolidated point and obtain the benefit of the carload rate, plus a charge for the consolidation service from that point to San Francisco.

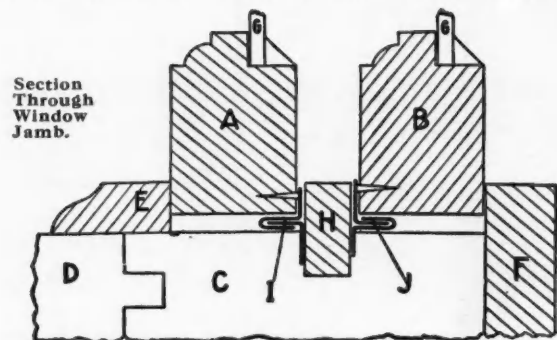


Profits in Weather Strip Work

A great many carpenters and builders are making a good thing on weather strips. It's easy to keep one man busy all the time. In fact, a great many carpenters are going into weather strip work on their own account, with the idea of keeping busy at good wages and enjoying in addition the agent's profit on the materials used. Also a good many large contractors are coming to make quite a specialty of weather stripping and find it a very desirable addition to their regular line of work.

The season is now here for taking up the weather strip business. By the time you get the details of your agency proposition straightened out and ready for business, the weather strip season will be on you in full force and people clambering on all sides for better protection from the cold blasts of the fall winds. The carpenter is the man invariably selected for this work, which means a good thing for all of our readers who can secure the agency for desirable weather strip material.

The Michigan Engine Valve Co., 115-117 W. Columbia St., Detroit, Mich., are looking for one live builder in every locality to handle and install "Golden's Metal Weather Strip." They state that millions of feet are now in use in some of the largest and finest office buildings, schools, hospitals, residences, etc., in this country. "Golden's Metal Weather Strips" are



easily applied and are weather, wind, soot and dust proof. They allow for shrinkage, swelling and warping of sash without binding. They are invisible and prevent windows from rattling. It is claimed that these weather strips save from twenty-five to forty percent annually on fuel bills.

The Golden Metal Weather Strip system makes use of zinc for all sliding window strips, except those at the meeting rail. This is made from tempered spring bronze. Spring bronze is also used for all strips around doors and casement windows. Both of these metals, zinc and bronze, are indestructible and will last a life time.



He Cut His Coal Bill From \$80 to \$40 With An Underfeed

And This Letter Proves It!

Freeport, Ill., Jan. 31, 1914.
Gentlemen: I am using one of your Underfeed Furnaces the third winter. The last year I burned hard coal, my fuel bill was \$80.25, and I now heat the same house for just about \$40.00 and the house is a great deal warmer than when we burned hard coal, as this coal we use now is cheap and we make no pretense of saving it. I would not have it taken out for three times what it cost me and go to burning hard coal again.
W. I. MOTTER.

Why Pay Double Coal Bills?

It is entirely unnecessary. A saving of one-half to two-thirds of your coal bills is the positive result with the Underfeed.
We'll send 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.



Cut Coal Bills 1/2 to 2/3

With the Underfeed, coal is fed from below. All the fire is on the top. Smoke and gases are burned up, making more heat. You can use cheap slack soft coal or pea and buckwheat sizes of hard coal and secure same heat as highest priced coal with no smoke, smell and dirt. Any kind or size of coal may be used. No other furnace or boiler made can do this. Underfeed heaters slash coal bills one-half to two-thirds in 25,000 homes, stores, churches and other buildings. Soon pays for itself. Adds to renting and selling value of any building. Adapted to warm air, steam and hot water.

50% Saving Guaranteed

To prove to you that our claims for the Underfeed really mean something, we absolutely guarantee a saving of 50 per cent in coal bills when the Underfeed is properly installed and operated.

This guarantee is backed by a \$1,000,000 twenty-five-year-old corporation. So you take no chances. The burden of proof is on the Underfeed and us.



Every Home Builder Needs This

Between the covers of our latest volume "From Overfed to Underfeed" is packed the "net" of what a score of heating experts have learned in twenty-five years' experience. Every individual interested in designing or building or who owns any building—large or small—warm air, steam or hot water heated—needs this book. The coupon brings it, together with a host of other heating facts.

The Williamson Heater Co.
Formerly The Peck-Williamson Co.
403 W. Fifth St., Cincinnati, O.

What Underfeed Users Say

Coal bill \$16.22 for seven rooms.—Mrs. Carrie See, Trenton, Ill.

\$5.40 to heat four rooms.—Simon Kocher, Breeze, Ill.

Reduced coal bill from \$109 to \$53.—Geo. J. Pfeiler, 6322 S. Halsted St., Chicago, Ill.

Heat two flats for \$30 per year.—M. Tinnes, 3848 Robey St., Chicago, Ill.

Heat ten-room house for \$25.—I. A. Ruess, Grand Rapids, Mich.

Saved \$122 a season.—Howard Weiss, Siegfried, Pa.

It saves me one-half to two-thirds of coal bills.—J. J. Hopkins, La Salle, N. Y.

Has never needed one cent of repairs.—W. J. Kirk, Follansbee, W. Va.

Heated 10 large rooms for \$42.—A. P. Breitenbach, 199 Gratiot Ave., Detroit, Mich.

I save 50 per cent.—C. W. Boughn, Walthill, Neb.

We are more than pleased.—H. J. Phelps, Flemingville, N. Y.

A great fuel saver.—J. B. Du Four, Freeport, Ill.

It is a poor man's heater.—Mrs. M. Humphrey, Canton, Ohio.

Heats ten rooms for \$50.—E. E. Smalley, Detroit, Mich.

We Have Thousands More



Underfeed Boiler

Underfeed Furnace

to the owner, the architect the builder and the contractor, we ask I-N-V-E-S-T-I-G-A-T-E the Underfeed.

Mail This Coupon For The Facts

THE WILLIAMSON HEATER CO. (40)
403 W. Fifth St., Cincinnati, O.

I would like to know how to cut my coal bills from one-half to two-thirds with an Underfeed.

Warm Air.....Steam or Hot Water.....
(Mark an X after system interested in)

Name

Address

My Dealer's Name is.....

My Business is.....

As only one agency will be established in any one locality, the company urges prompt action for all who desire to take up this Golden Metal Weather Strip business. As this system of weather stripping has been on the market for over twelve years, it is thoroughly tested and approved—no chance for dissatisfaction. The manufacturers, Michigan Engine Valve Co, 115-117 West Columbia St., Detroit, Mich., will send samples and complete information on request. All who are interested in a money making proposition should write at once.



W. J. Ladd of Sargent & Co. Dies

Hardware men have learned with keen regret of the death of William J. Ladd of Sargent & Co. His death occurred at his home in Upper Montclair, N. J., on Aug. 2, and was due to dilatation of the heart. Mr. Ladd had been in poor health since a severe illness a year ago. William J. Ladd was born in New York City, Feb. 21, 1843, and entered the employ of Sargent & Co., New York, in 1856. He has been a director of Sargent & Co. since its incorporation. He was always an active, energetic and hard worker.

Mr. Ladd was the youngest of a quartet, the other members of which were George Henry Sargent, Thomas J. Atkins and George Munson, who worked together for about fifty years for the upbuilding of the Sargent business.

For nearly fifty years he was in charge of the compilation and publication of the Sargent catalog, which in that time has grown from a small volume to the great book of today.

The crowning work of his life, which he leaves as a monument, is Ladd's Discount book, so familiar to all in the hardware and allied trades. This book was first issued in 1887, and its use gradually increased, extending to all branches of industry using discounts. At the time of his death Mr. Ladd had just completed the third Revised Edition.

Special Prices on Dumb Waiters

The Acme Dumb Waiter Works, 78 Broadway, Brooklyn, N. Y., are at this time making some exceptionally low prices on their automatic dumb waiters. Their machines are furnished complete, and are claimed to be the most durable waiters on the market, both in material and construction. The company is also looking for agents, to whom exclusive rights will be given. Prices and full particulars can be obtained by writing the Acme Dumb Waiter Co., 78 Broadway, Brooklyn, N. Y.



Asphalt Shingles from Three Points of View

Let us view the different type of men as to their attitude toward asphalt shingles.

Take, for instance, the man who is using them successfully:

He is using them not because of price, but because he finds them attractive, durable, water-proof, fire-resisting and easily applied. He feels that a good asphalt shingle roof increases the selling and renting value of his buildings.

In the first place, he uses first grade shingles (not seconds). Lays his roof boards close together, at least not more than one inch apart (not two and three inches). Exposes his shingles four inches to the weather (not 4¼ to 5 inches). Nails the shingles 4½ inches from the bottom (not 6 or 7 inches). The secret of the whole proposition is *he uses good judgment.*

Take the man who is kicking against asphalt shingles.

He claims the shingles are blowing up—the roof leaking—the stone surfacing coming off, and goodness knows what else. Why? There are several reasons. Invariably he has done just the opposite to what the first man had done.

Perhaps the roof boards were two or three inches apart,

VULCAN-TILE

The New
Vulcanite Roofing

Here is a high grade, fire-resisting durable asphalt roofing, combined with the beautiful patterns and soft natural colorings of slate and tile at a cost of roll roofing.

MAKES HOMES BEAUTIFUL

Every roll of Vulcantile is made to meet all sorts of adverse and extreme conditions, whether it be Fire-Cold-Hail or tempests. This is accomplished by using only the best Vulcanite Asphalt to saturate the all-wool felt which forms the base of Vulcantile. The figures and patterns are part of the crushed granite rock surface and are as enduring as the roof itself. Pattern illustrated is Style "P." Vulcantile comes in one square rolls, five soft rich colorings, including red and green.

Send for our samples and catalogues, telling how we assist, by advertising helps, such as individual letters, general publicity, etc. Address

Patent Vulcanite Roofing Co.

Birmingham, Ala. Cincinnati, Ohio San Francisco, Cal.
Kansas City, Mo. New York City, N. Y.

CHICAGO, ILLINOIS

Durable • Ornamental

A Great Business Devoted Exclusively to the Making of Fine Hammers and Hatchets

FIFTY-SEVEN years we have been hand-forging the finest hammers and hatchets in America. Most of them are still in service. A Master Builder tool, barring accidents, will last a great many years even in every day use.

The series of tests through which a Master Builder hammer or hatchet must pass before we consider it worthy of the trademark cover a usage infinitely more severe and exacting than any kind of work would ever demand.

Each Master Builder Hammer or Hatchet is an all-steel tool, the finest obtainable, individually tempered throughout and hand-wrought in that shape best fitted for its particular service.

Sold by all good dealers. Also sent by parcel post direct from our shop.



**Germantown
Tool Works
PHILADELPHIA**

Branch: 62 East Lake Street - - - - - Chicago

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN CARPENTER AND BUILDER



Famous Master-Builder Hammer, ideal hardness, oval-faced head and a claw that grips. Handle of second growth hickory, natural finish, octagon shape to prevent slipping. Perfect in hang and balance. Made in three sizes, No. 745, 11-oz., No. 746, 16-oz., and No. 747, 20-oz. Each **\$1**

Famous Master-Builder Hatchet. Thin bit, splendid balance, perfect cutting edge. Handle of second growth hickory, octagon-shaped and swell-ended to prevent slipping. Drives nails like a hammer. No. 319, Size 1, and No. 320, Size 2. **\$1.50** Each **\$1**

Famous Master-Builder Broad-Hatchet. Swelled bit throws chips and prevents wedging; rounded blade cuts at moment of contact. Octagon handle prevents slipping. No. 761, Size 1, and No. 762, Size 2. **\$1.25** Each **\$1**
No. 763, Size 3, and No. 764, Size 4. Each . . . **\$1**

FREE--- With each Master Builder Hatchet, metal guard to protect cutting edge.

making it necessary to place some of the nails 6 or 7 inches from the bottom. This allows the shingles to flutter. 4½ inches from the bottom is where the nails belong.

Furthermore, in warm weather the tops of the shingles drop in the spaces between the roof boards, increasing the possibility of leaks in a beating rain should the shingles flutter.

Another cause for complaint might be that seconds were used. Complete satisfaction cannot be expected in using second grade materials, regardless of what they may be.

If this man would be as particular with his roof in every respect as he is with the foundation of his building, he would have no cause to complain when using asphalt shingles.

Take the man that doesn't want asphalt shingles, but doesn't know why.

His story goes on something like this: Oh, I have been using wood shingles all my life and don't like to change. Yes, I know asphalt shingles are being used on a large scale; they look good; I think they are all right and I know you guarantee them, but I don't like to change from wood shingles.

This same man, no doubt, would insist on crossing the ocean in a sail boat because they did so fifty years ago. What if all men were like that? What would this world of ours be?

We would be without electric and steam railway service—without telephones—without U. S. mail service and a thousand and one other important things.

In substance of all we have said, if the roof boards are laid not more than one inch apart, the most serious cause of any complaint on asphalt shingles will be eliminated. There is only one right way of doing things. You can trace down most any complaint to the roof boards.



Beautiful Chicago Residence Appropriately Roofed with Asphalt Shingles Made by the International Roofing and Mfg. Co., 5305 So. Western Ave., Chicago.

So enthused are we over the asphalt shingle proposition—their attractive appearance—their water and weather-proof qualities—their fire-resisting qualities and their economy, that we cheerfully recommend all our readers to investigate them when in search of a roof covering of merit.

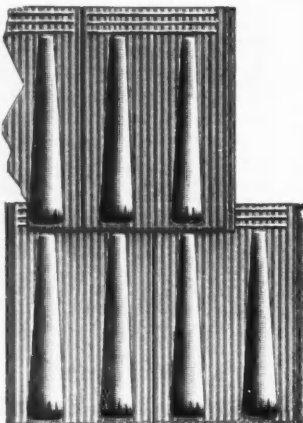
GUARANTEED METAL ROOFING

Montross Metal Shingles are guaranteed from 10 to 30 years according to Quality

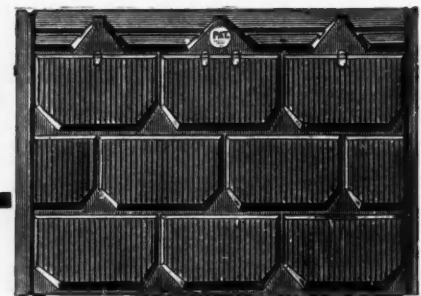
BEST BY TEST in 34 years Service

Many years of service have proven that Montross Metal Shingles are far superior to any other form of roofing material on the market. Made of Open Hearth Copper-Bearing, Terne Roofing Tin. They are practically immune to all forms of corrosion.

On account of their size, expansion and contraction is practically eliminated; consequently there are no gaping seams to leak and start decay. All Montross Shingles have a telescope joint which automatically adjusts itself to all changes of temperature making a joint that will positively not leak. Each shingle is nailed down individually and the nail heads covered by adjoining shingles, preventing leaks and corrosion.



Victor Shingle. Size 10"x 14"



Eastlake Shingle Size 20"x 28"

"The roof of my dwelling house, put on with **Montross Metal Shingles** 25 years ago, has never shown a leak or break." J. HOP WOODS,
(Attorney-at-Law).
Phillippi, W. Va.

Here are a few points to bear in mind about Montross Metal Shingles:

Absolutely Fireproof—Rust and Corrosion Proof—Durable—Lightning-proof—Artistically Beautiful—Non-rattling

MONTROSS METAL SHINGLES are very easily applied and can be put on by carpenters
Strongly Embossed—GUARANTEED

Write for full information—prices and Free Samples

MONTROSS METAL ROOFING CO., 110 Erie St., Camden, N. J.



August Pasbrig Saved \$200. on this barn

Dwight, N. D., April 27, 1914

Hewitt-Lea-Funck Company, Seattle, Wash.

With pleasure I will let you know how I am pleased with the lumber. My barn is finished now, labor costing me \$290.00. The lumber is some of the best that money can buy, and I am certainly satisfied. I saved about \$200 by sending to you for it.

AUGUST C. PASBRIG

Read
his
letter

Barn
Design No. 1011
Width 37 ft.
Length 61 ft.
Price \$689.47



\$300.
Saved
by E.E. Baldwin
Hope N.D.

Barn
Design No. 1006
Width 30 ft. Length
60 ft. Price
\$565.44



\$200.
Saved
by K. Peterson
Mitchell SD.

Barn Design No. 1005
Width 37 ft. Length 71 ft.
Price
\$1052.22



\$200
Saved
by Christ Goette
Alberta Minn.

Barn Design
No. 1013
Width
31 ft. 4 ins.
Length
51 ft. 4 ins.
Price
\$682.50

Good crops mean new barns GET AFTER the barn contracts in your neighborhood

Never before have you had so fine a chance to clean up big money on barns. If ever farmers had the money for building barns—it's right now.

To help you get contracts, we have just put out a New Barn Plan Book, containing what farmers tell us is the most practical collection of barn plans and ideas that they have ever seen. Get this book—

Send 4c today for "Barn Builder's Guide"

It gives pictures, plans and guaranteed costs in detail of each barn. Among the features in the book are: Ready framed barns, description of famous Hewitt-Lea-Funck truss for gambrel roofs, doing away with posts and tie rods. One of the best features ever put into any barn book is 17 barn facts by our chief architect, Harry Burton Bryce.

Plans for any barn in book, \$2

Plans for any barn in the book, will be sent you for \$2, together with material lists, specifications and freight-paid prices. No extras guaranteed.

Using Hewitt-Lea-Funck lumber—means better lumber—doubled profits

Build of Hewitt-Lea-Funck Douglas (yellow) fir and you'll get straight, clean stock, that will work easy and go together easy. Railroads use this fir for bridges. It's the strongest and longest lasting of lumber.

We sell direct from forest to you. Through our officers we own the forests producing the lumber we sell. We operate our own logging crews, saw mills, and planing mills. No middlemen. Just one profit to pay. Send the coupon today.

Hewitt-Lea-Funck Company, 139 Crary Building
Seattle, Wash.

Get this Guide to Big Barn Profits - Write Now

Hewitt-Lea-Funck Company,
139 Crary Building, Seattle, Wash.
(Write your name plainly, please)

Please send the following:

- New Barn Builder's Guide (four cents enclosed)
- Delivered, freight-paid price on enclosed list of lumber, millwork and other materials (no charge for quotation)
- Lumber Price List and Millwork Catalog (free)
- Prize Plan Book (ten cents enclosed)
- Silo Folder (free) and Special Silo Proposition

Name _____

Street No. or R. F. D. _____

Post Office _____ State _____

Business _____





Con-ser-tex solves all roofing problems

What is Con-ser-tex? It is a canvas roofing, chemically treated to preserve the fibre from the mildew and the detrimental action of the oil in paint.

What Are Its Uses? It is used for Porch and House roofs, piazza floors, sleeping balconies, bathroom walls and floors, kitchen floors and all other places where a serviceable fabric is required.

Does It Do the Work? It never rots or stretches. It hugs the porch or roof surface tightly. Neat and artistic in appearance. It deadens sound, is water proof and weather proof. Defies treading, coal gas, or any other wearing influence.

Does It Cost Much? Con-ser-tex is very inexpensive. Cheaper than most other roofing materials. It is easy to put on—thus saving time and eliminating trouble for the carpenter.

Anything Else? Yes, we will send you a sample of this wonderful fabric. A moment's investigation will show you its superiority over Cotton Duck and other roofing fabrics. We will also send you descriptive folder and price list.

Wm. L. Barrell Company
8 Thomas Street New York City

Chicago Distributor: Geo. B. Carpenter & Co., 430-40 Wells St.

California Distributors:

Waterhouse & Price Co.,
Los Angeles

The Pacific Building Material Co.,
San Francisco

Johns-Manville Lighting Division

Owing to the rapid growth of the H. W. Johns-Manville Company's lighting fixture business, a new division of the company's electrical department has been established, which will be known as the Lighting Division.

The new division will have charge of the company's business in the well known Frink and J-M Linolite systems of lighting, and will enlarge the scope of the company's business and service in lighting fixtures in general, by the addition of many new lines.

This development now enables the Johns-Manville Co. to handle lighting propositions of every size and character.

Sales will be under the direction of Mr. Edward L. Cox, manager. Mr. Cox is well known in the trade through his long connection with the Enos & Watkins Co. (formerly the Enos Co.)

Mr. G. Eugene Villaret, who has had wide experience abroad and in this country, will have charge of designs. He



Edward L. Cox.



G. Eugene Villaret.

is widely known through the many beautiful and important installations for which he has been responsible during the last quarter century.

The new division will be prepared to furnish from stock, designs in brackets, pendants, hangers, ceiling fixtures, glass-ware, etc., to meet practically all requirements. Where special fixtures are desired, the company's long experience and extensive manufacturing facilities, coupled with the service of Mr. Villaret in designing, places the Johns-Manville Co. in an exceptionally strong position to serve its customers. The Lighting Division will be prepared to execute orders for fixtures of all types in all materials including glass, composition, brass, bronze, etc.



Wire Stripping Plier

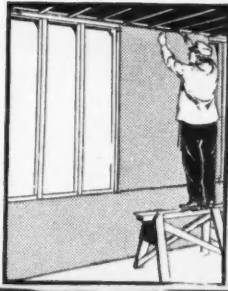
Of considerable interest to electricians, is the new wire stripping plier that has been added to the extensive Red Devil family. This is for use on cloth or silk covered wires of fine gauge, such as No. 18, 20 and 22.

As can be seen from the illustration, the new stripping plier is modeled along the lines of the popular electrician's diagonal plier and the stripping feature has been placed in the cutting edges in such a position as not to interfere with wire cutting.

The new tool has hand honed cutting and stripping edges and is packed with the regular two years insurance bond that accompanies all Red Devil "bonded" tools.

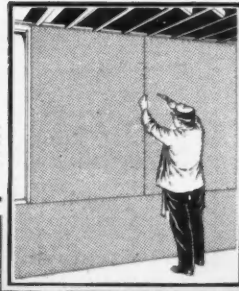
The new tool is known as No. 1742, and the manufacturers, Smith & Hemenway Co., Inc., 150-152 Chambers St., New York City, will be pleased to furnish further information and prices to all interested.



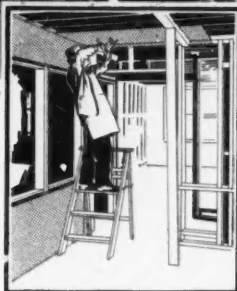


First nail top center to hold in place. Continue as in next picture.

Always nail to intermediate studding before nailing edges. Use fine wire brads.

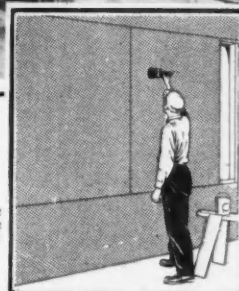


Use a fine, panel saw, as for any fine lumber, pebbled side of panel up.



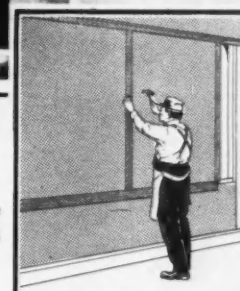
Note support at right to hold loose end of panel in place.

Painting should be done before strips are put over edges of panels.



Beautiful BEAVER BOARD room in home of Mrs. C. A. Adams, Belmont, Mass.

Decorative strips are stained (or primed) before they are nailed over edges.



Put it up Right and Get Results Like This



The carpenter who understands BEAVER BOARD construction is in position to take advantage of the steadily growing demand for this most satisfactory material for walls and ceilings.

With BEAVER BOARD you build the whole wall or ceiling yourself, and get credit for the beauty of the finished interior. It not only looks better than plaster, but gives lasting satisfaction because it doesn't crack, fall or have to be repaired.

But to get the finest results with BEAVER BOARD you must know how

to put it up. It can't be simply slapped on the joists and studding. The man who is willing to follow our suggestions and let us co-operate with him has a big advantage.

Our Builders' Service Department will keep you posted on every phase of BEAVER BOARD construction and show you how to get the best results. Let us put your name on our mailing list. The literature we will send you may open a new field of profit for you in the construction of walls and ceilings that are a credit to you and their owner.

The Beaver Board Companies

United States: 334 Beaver Road, Buffalo, N. Y.
 Canada: 534 Wall St., Beaverdale, Ottawa.
 Great Britain: 4 Southampton Row, London, W.C.

BEAVER BOARD

Walls & Ceilings



Yours for the asking—A Copy of Our

1914 Suggestion Book

Featuring Morgan Hardwood Doors, showing complete Layouts and Glass Sizes for all Hardwood Doors of Stock Design, also a double-spread color chart showing actual reproduction from finished Wood Panels treated in accordance with our Specifications.

Morgan Doors are Architecturally Correct and we are so proud of our product that we stamp our name "MORGAN" on the top-rail of every Hardwood Door we manufacture.

Architects are respectfully referred to Sweet's Index, Pages 972 and 973.

Morgan Sash & Door Company :: Dept. C28 :: Chicago

National Sales Convention at Sterling Ill.

The annual sales convention of roadmen and department managers of the National Manufacturing Company occurred early in August at the home office and factory at Sterling, Ill. A very enthusiastic meeting is reported with everyone in attendance and everyone loaded to the guards with good ideas for "National" hardware business.

The National line of builders' hardware is becoming more extensive every year with "ornamental hinges" and "Big 4" door hangers still the leaders.

All of the roadmen went back to their territories with a new supply of enthusiasm and sales pointers and a full line of samples to give National hardware a big boost in their locality.



Myers Company Hold Annual Convention

Twenty salesmen of F. E. Myers and Bro. met the last week in July at the factory, Ashland, Ohio, for the annual sales convention of this company.

Mr. F. E. Myers in opening the meeting told of the splendid increase in business during the past year and expressed himself as confident of the future. The firm is making from 800 to 1,000 pumps each day, besides all of the other items of their very extensive line. Throughout his talk Mr. Myers emphasized the dependence of the business for its success upon the alertness, squareness and ability of its salesmen.

Other features of the week were talks by Messrs. Guy and Ed Myers on the factory and shop; by Superintendents G. D. Myers and Dilman Leiter on territorial divisions and salesmanship; by John C. Myers on advertising; by B. F. Kellogg on credits; by F. W. Ganyard on the entering and billing of orders. Mr. F. E. Harris was in charge of the demonstrating of the construction of the various tools comprising the Myers line and ably pointed out their talking points for the benefit of the road salesmen.

The annual conventions of F. E. Myers and Bro. are a regular feature and have done much toward bringing this concern to its present position.



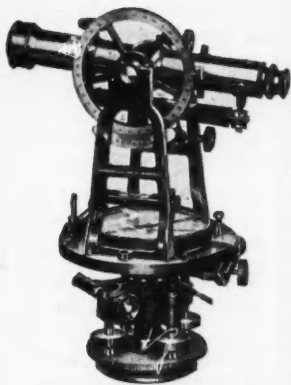
"Reconnaissance Transit for Builders"

Lightness, compactness, accuracy and durability are the four prime requisites which generally characterize a transit that pleases the practical, up-to-the-minute builder nowadays. The progressive architect is always favorably impressed when he observes the busy builder checking up his levels, lining up girders and walls with a transit as described above, because he is absolutely certain that the building is being erected without any errors in alignment.

It might appear to the uninitiated that to operate a transit of this kind, a thorough knowledge of engineering and high mathematics is necessary. Such, however is not the case for this instrument is simplicity itself and can be used successfully without any special training.

The David White Co., 519 E. Water St., Milwaukee, Wis., have recently placed on the market such a transit, which their new third edition catalog illustrates and describes in detail, as well as other new and

improved instruments designed especially for the use of the architect, contractor and builder and may be had free of charge together with discounts, merely for the asking.



White Co. Transit

Style 125

All Sizes



SCIENTIFIC VENTILATION

We are Pioneers in the Ventilation field. Twenty-three years of Study, Experimenting, Observation and Experience, has resulted in the production of a ventilator that will solve any ventilation problem. Willis ventilators are so constructed as to suck out all impure foul air, gases, smoke, steam or odors, keeps any building fresh and vitalized. Are Storm-proof and Bird-Proof

WILLIS VENTILATORS

can be depended on to ventilate efficiently any building built for man or beast.

For the Barn:

Every barn should be thoroughly ventilated. Cattle thrive, and are less liable to disease in a well ventilated barn. Take a tip from the large dairy farm owners, Specify Willis Ventilators on that new barn.

For the Factory:

Fresh air means healthy active workman, which in turn means increased production—result—Bigger Profits. Specify Willis Ventilators on that new factory or see the factory owners in your vicinity, show them the advantages of Willis Ventilators, and there'll be a job for you.

For the School or Church:

Or any place where people congregate, Ventilation is essential and you can furnish the Ventilators that are guaranteed to Ventilate. Specify a Willis.

OUR VENTILATORS

are very moderate in price. Only the highest quality sheet metal being used, combined with honest workmanship makes our appeal to the Contractor and Builder who appreciates real honest value. We always keep a large stock on hand and delivery is prompt and sure. We're proud of our service.

Headquarters For Sheet Metal Goods

We can supply your needs in all kinds of sheet metal goods at the lowest prices. Our line includes—Ventilators, Ornaments, Fireproof Windows and Doors, Skylights, Crestings, Store Fronts, Metal Roofing of all kinds, Metal Ceilings, Tower Finials, Cornices, Gable Ornaments, Sheet Metal Canopies and Marquise, etc.

Send for our large illustrated Catalog No. 6, it illustrates fully all our lines and gives prices, Contains 180 pages.

WILLIS MFG.CO.
Galesburg, Illinois



Willis Louvred Ventilator and Cupola

Expert Planning Required

A great number of people have gained from some source the idea that a septic tank alone purifies sewage. This was never true, affirms Burton J. Ashley, consulting engineer for the Ashley House-Sewage Disposal Company, Morgan Park, Chicago. In an interesting statement recently issued, he maintains that a so-called septic tank will clarify and prepare sewage so the outflow from the tank will look as clear as water, but that this clear sewage tank water is almost as impure as the original sewage itself.

Sanitary Engineer Ashley then goes on to explain that sewage disposal plants—that is to say, real septic tanks—must be carefully designed and built by those having a thorough understanding of the principles of decay and nitrification. It seems that sewage treatment and disposal is something that cannot be guessed at with the expectation that safe results will follow.

The Ashley system of sewage disposal was perfected nine years ago. Since that time nearly 2,000 plants have been installed and are in successful operation. Mr. Ashley offers to make, free of charge, preliminary studies of all sewage treatment and disposal cases our readers care to submit to him. Write him for illustrated literature, including Question Blank, on which to describe your case.



Ralph Wilder in the Chicago Record-Herald, Friday, September 27th.

Fresh Air Idea Means Extra Profits

"Fresh Air First" and "Safety First" are almost synonymous. Ralph Wilder, the well-known cartoonist of the Chicago Herald, expressed the necessity for plenty of fresh air

INTERNATIONAL Asphalt Shingles

Durable—Rich in Color—Economical—Fire-resisting

A practical roofing material that will make a satisfactory roof for the Mansion—Residence—Bungalow. Wherever you want a real roof that will stand up under all sorts of adverse weather conditions.

Easy to Lay—once laid will not leak, curl or warp. Add Tone and Dignity. Harmonize with the architecture and above all please the owner.



SEVEN STYLES

Costs Less than Wood Shingles

Made of the Best materials obtainable by a special process. Will resist Heat, Cold and are absolutely Waterproof. Made in standard size, 8"x 12 1/2", packed in cartons. Because of their fire-resisting qualities, they go a long way in lessening fire insurance premiums.

We want all builders to have our complete line of samples and prices. Write Now.

INTERNATIONAL ROOFING & MFG. CO.

5305 to 21 So. Western Ave.

CHICAGO

Fiberlic Wall board



FIBERLIC WALL BOARD used as decorative panel in dining room—the effect is bright and cheerful.



The charm of this country house is largely due to the delightful walls and ceilings of FIBERLIC

The Wall Board for Exacting Builders

FIBERLIC Wall Board has been produced to meet any building requirement—to replace lath and plaster construction—and to do it better than any other wall board.

It was found that the pulp of roots produced a stronger, firmer, more rigid board under all conditions than did the ordinary wood pulp.

Fiberlic is made from roots of wire-like strength. From root to wall board every operation takes place in our own plant—think what that means where quality counts.

We want every one interested in the building business to see and know more about Fiberlic, the newest, and we believe, the best wall board on the market.

Write for booklet and samples today

Read the special article on wall board in this issue.



"QUALITY" WALL BOARD

Manufactured and Guaranteed by

McAndrews & Forbes Company

Builders Department, Desk A

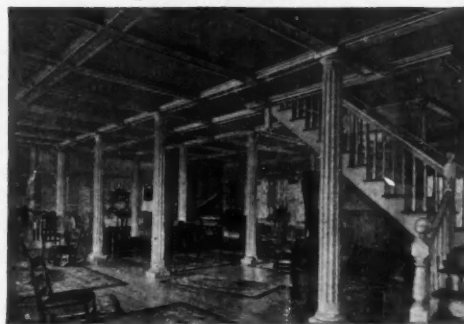
CAMDEN, - - - NEW JERSEY

Architects, Contractors and Carpenters

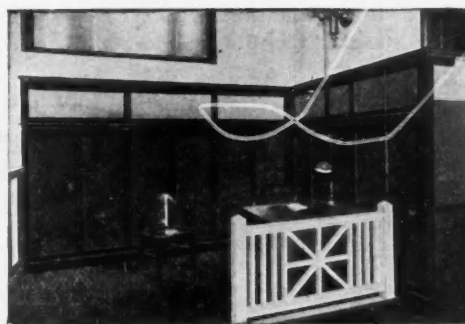
You should realize the present important bearing the wall board business has on yours.

With Fiberlic wall board produced in eighth, quarter and half inch thicknesses, there is no use to which it cannot be put with absolute success.

That is a statement well worth your attention



The use of FIBERLIC wall board is not restricted to small buildings—this hotel illustrates the fact.



An attractive and inexpensive panel arrangement of FIBERLIC for an office reception room.



Small shops gain individuality through proper use of FIBERLIC wall board—for walls, ceilings, partitions.

The Job That Brings Other Jobs

A well-laid Rex-tile roof is a long-lasting advertisement for the carpenter who did the work.

For appearance and durability it is unequalled.

Rex-tile Shingles are wind and rain proof, because fastened at the butt-end and lapped back over the nails; impossible for them to flap, warp or curl.

Rex-tile

TRADE MARK

"The Scientific Shingle"

is the easiest roofing to handle—lighter by a third than most prepared shingles, smooth and always clean, even in the hottest weather.

The carpenter and builder who lays Rex-tile roofs is safe from price-cutting competition. There is only one Rex-tile Shingle, because the turn-under fold for nailing—at bottom—no flapping or warping—nails perfectly covered—is patented, therefore sold at one price—a strictly exclusive material. Will you write today for samples of these shingles, prices, and directions for laying?

Flintkote Manufacturing Co.

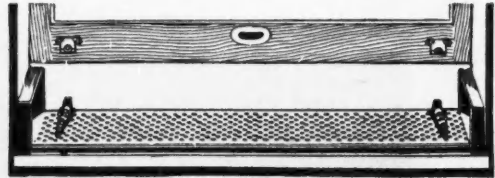
90 Pearl St., Boston, Mass.
659 Peoples' Gas Bldg., Chicago, Ill.



Also manufacturers of Paradux—a waterproof canvas covering for all surfaces on which walking will be done—such as sleeping porches, plaza roofs, roof gardens, balcony roofs, boat decks, etc. Easier to lay than tin or metal—far more durable—requires no special preparation of the surface to be covered. Can be painted any color desired.

in the accompanying sketch, which appeared in the Record-Herald under date of September 27, 1912.

The Berry Window Ventilator seems to meet every requirement of the perfect window Ventilator, and it has been approved by the National Board of Fire Underwriters, as it is

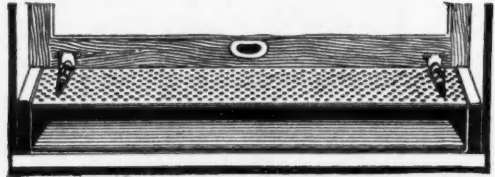


Showing Window Open With Ventilator Closed and Not in Use.

an all-metal device. The Berry Window Ventilator is burglar-proof and indestructible. The window of the home or office can be left open with absolute confidence that valuables will not be stolen or that furnishings will not suffer damage by the elements.

It can be easily adjusted to fit another window, which makes it convenient in moving from one place to another.

The Berry Window Ventilator Company, 14 W. Randolph St., Chicago, Illinois, are desirous of having contractor agents in every town in the United States, and here is a splendid



Showing Window Open With Ventilator in Use.

opportunity for some of you wide-a-wake men to get an agency for an article that is going to be in universal demand and one that will keep the dollars coming in during the winter months, in two ways: First, a profit on the sales you make, and, second, your time in installing them. A great many of our readers are today acting as local representatives of many concerns and are well repaid and here is a splendid proposition. Look into it.

Gale Barn Ventilator

The Galesburg Sheet Metal Works, Galesburg, Ill., are featuring a heavy galvanized iron cupola ventilator for barns and granaries. It is inexpensive, though strongly built and well proportioned. It is screened inside so as to be bird and insect proof.

Builders find this ventilator very desirable for use on all buildings as it comes completely assembled. All the builder has to do is to place the ventilator on the roof and nail it fast. It is built storm proof and with it perfect ventilation is guaranteed. A full range of sizes is offered. Write for illustrated circular and complete prices.



The "Eureka" Spiral Screwdriver

A very ingeniously contrived screwdriver, built on the spiral principle, is being manufactured and sold by the Decatur Coffin Company, Decatur, Ill. It is known as the "Eureka." It is a moderate priced screwdriver, in fact, it is claimed to be the cheapest spiral screwdriver on the market. It is made in two sizes; number one, 9 inches long, and number two, 12 inches long. Those who have used it pronounce it a very satisfactory tool, strong and dependable.

Announcing

Our New Facilities for Manufacturing

UTILITY

—the only 5-ply wall board

We are now making UTILITY Wall Board in our new plant under greatly improved manufacturing conditions. All wood construction has been replaced with reinforced concrete and much room added.

We are now able to take care of far more business than ever before.

By cutting production costs to a minimum, our increased mechanical facilities insure a wall board of even better quality than 5-ply UTILITY has been.

We extend a cordial invitation to you to visit this new UTILITY Wall Board plant whenever convenient.

THE HEPPE'S CO.

*Manufacturers also of Flex-a-Tile
Asphalt Shingles, Asphalt Paint
and Asphalt Roofing in Any Finish*

4503 Fillmore St., Chicago, Ill.



The rapidly increasing use of cement for garages, barns, corncribs, stables and other buildings has created a big demand for

WAGNER Studding Sockets for Cement Floors

—the easiest-to-use, most durable and best all around way of anchoring studding in cement floors.

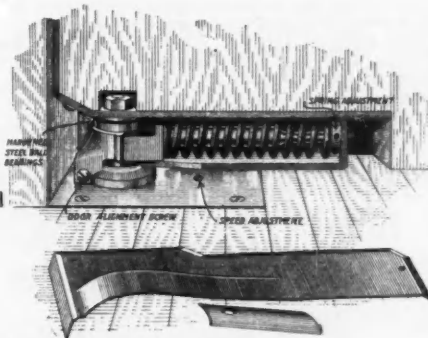
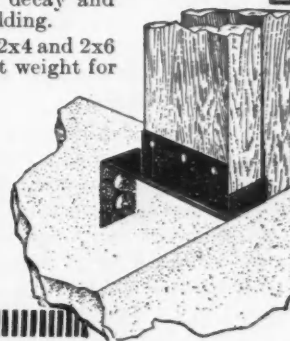
Set into the cement while fresh, they are tightly secured and hold with a grip of steel. Protect ends of studding against decay and insure long life to the building.

Made in two sizes—for 2x4 and 2x6 or 2x8 studding; also light weight for partitions.

**Your Dealer Can
Supply You**

We fill orders direct where we have no dealers. Write today for descriptive folder.

Wagner Mfg. Co.
Dept. F CEDAR FALLS, IA.



Stops the Flop

No more flopping, slam-banging, wig-wagging doors when the **Standard Floor Hinge** is used. It controls the door at all times, closing it slowly and stopping it at dead center without jar or noise.

Standard Floor Hinge

Double Acting Self-Checking

with the 1914 improvements, is easy to install. The weight of the door rests on hardened steel ball bearings insuring easy action. The door can swing either way and the back flop is prevented by the checking mechanism. It combines the features of the spring hinge and the door check and differs from all other makes of swinging door hinges.

The Standard is the safest and most noiseless hinge you can use. It will give great satisfaction in your buildings. Specify and use it. Price is reasonable.

Ask for Information on the 1914 Model

STANDARD MANUFACTURING CO.
SHELBY, OHIO

Have You Seen the Neponset Doll House?

We don't mean in the Saturday Evening Post or in the AMERICAN CARPENTER AND BUILDER—but set up on some living room floor, filled with doll furniture, and presided over by one or more little Miss Tuffets with girlish charm and girlish gossip? If you have, you know what a lot of playhouse this is for a two-dollar bill. We doubt very much if that sum ever brought more joy to children's hearts than this splendid doll house.

Coming from the very heart of New England—Massachusetts—one could hardly expect its architecture to be anything but New England Colonial. From chimney cap to ground floor it is pure Colonial in style. Red Colonial chimney; the blinds green Colonial.

Why this doll house? It was conceived by Bird & Son of East Walpole, Mass., as the best way to show how the famous line of Neponset products actually looks. This could not adequately be done by samples. Hence, the idea of a complete play house built with Neponset products.

One who has seen this house cannot help but carry a lasting eye-impression of the two newest Neponset products—wall board and floor covering. The sides and roof are made of the former—while stripes of the latter are laid on some of the floors. Even the roof is greyed slate color to represent Neponset shingles.

To see this doll house is to get a lasting impression of Neponset quality—that which more than any other one thing has made the Neponset industry grow from a tiny beginning in 1795, through four generations of the same family, to a capacity output of 5 large factories.

The "man about to build" who has seen this (2 feet 6 inches by 1 foot 3 inches by 1 foot 7 inches) Neponset doll house certainly knows not what he hopes to find, but what he actually will find in the entire standardized line of

Neponset building products; Paroid for low pitch roofs; shingles for a fire-resisting, ornamental roofing; red roof and Proslate roofing; Neponset flashing; waterproof building papers; Florian sound deadening felt for floor; wall board which takes the place of lath and plaster; floor covering and paints.

For a souvenir of a business and a giver of amusement we have never seen a happier combination than this. Has it "caught on?" Over four thousand houses already delivered prove that the right combination of fun and salesmanship is still an efficient factor in merchandising.

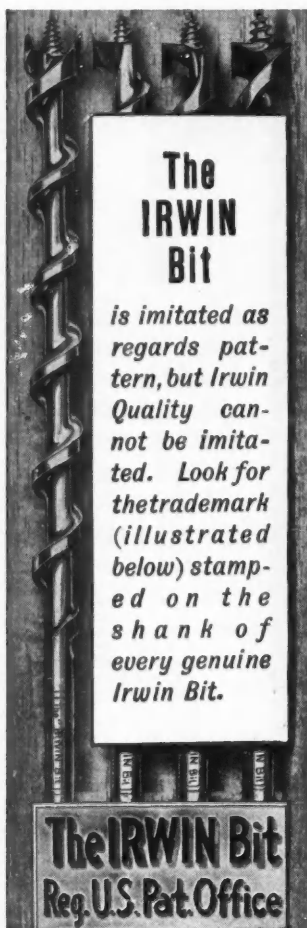


"Speidel's Elevators and Hoisting Machinery"

The above is the title of a new catalog just received from J. G. Speidel, Reading, Penn. It is known as their Catalog B. It is a very well printed and illustrated book of 64 pages and covers fully the Speidel line of dumb waiters, chain hoists, cranes, trolleys and cellar hoists, also hand, belt power and electric elevators.

With a few exceptions, all of these hoisting machines have been on the market for quite a number of years and have been thoroughly tried and tested. Improvements are constantly made in practically all lines, and so from year to year, Mr. Speidel has reconstructed and improved his machines wherever possible, so that today for quality of material, workmanship and efficiency they are unexcelled. He invites inquiries from AMERICAN CARPENTER AND BUILDER readers and assures us that your communications will have at all times his prompt attention.

All builders will find this new catalog well worth while, and we suggest you write for a copy today, addressing J. G. Speidel, Reading, Penn.



IRWIN Stamped on a Bit means QUALITY

You users of tools must have tools of sterling quality. Your work demands it. That's why Irwin Bits should be included in your tool outfit.

For the jobs that must be just right, for boring in the hard, knotty woods, the Irwin is the one best bit. And it's the quickest boring bit made.

You've known many a bit to break where the twist joins the shank. This is impossible with the solid-centre Irwin Bit. It is trip-hammer forged out of one solid piece of Irwin Crucible Steel and tempered to just the right degree.

But be sure you get the genuine Irwin—look for the trademark.

The Irwin Auger Bit Co.
Wilmington Ohio

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN CARPENTER AND BUILDER

We Want Live Carpenters to Handle the Golden Metal Weather Strip

The season is now on for taking up the agency of the Weather Strip business. By the time you get the minor details straightened out and get nicely lined up you will find the Weather Strip season on you in full force and people clamoring on all sides for better protection from the cold blasts of the fall winds, and the Carpenter is the man invariably selected for this work.

There are millions of feet of Golden Metal Weather Strip now in use in some of the largest and finest office buildings, schools, hospitals, residences, etc., in the country.

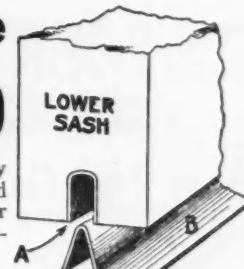
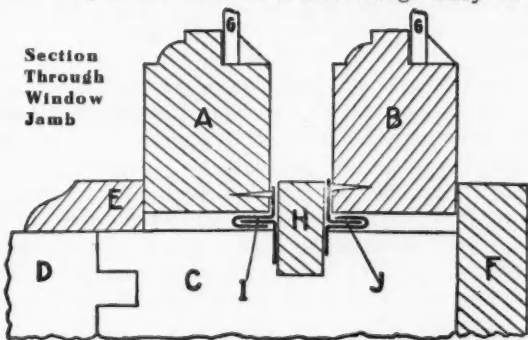
The standard metal for sliding windows excepting the meeting rails is made from zinc. The Meeting Rail strip, Casement Window strip and all strips used for Doors are made from tempered Spring Bronze. These two metals are indestructible and will last a lifetime.

Golden Metal Weather Strips are easily applied, are weather, wind, soot and dust proof. They allow for shrinkage, swelling and warping of sash without binding, are invisible and prevent windows from rattling. They save from 25 to 40% annually on fuel bills.

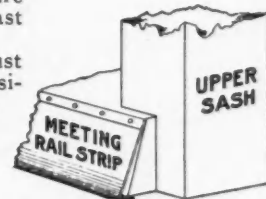
Only one agency will be established in any one section, so write at once or your competitor may get in ahead of you and secure the agency for one of the oldest and most reliable Metal Weather Strips on the market, one that has stood the test of time for over 12 years. This is one of the best money getters and money savers in the field today and we feel you cannot afford to let this opportunity get away from you.

Write for samples or further information

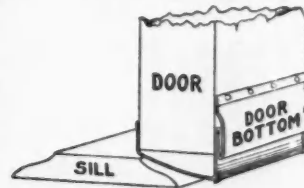
Section Through Window Jamb



Golden's Sill Strip



Meeting Rail Strip



Door Bottom

MICHIGAN ENGINE VALVE CO., 115-117 W. Columbia, DETROIT, MICH.

Dependability

That's what you get when you buy
PLASTERGON



That's why it is invariably selected for the most difficult work by particular contractors. They know it will stand up under a greater number of adverse conditions than other boards.

PLASTERGON
TREATED WOOD FIBRE
WALL-BOARD

"THE STANDARD BY WHICH OTHERS ARE JUDGED"

If you have not used Plastergon, do so on your next job. It will set an entirely new standard that no other board will reach

IT COSTS NO MORE THAN OTHERS

You should have our samples and literature for your own use and to distribute to your trade.

Send today, they're free

The Plastergon Wall Board Co., Dept. A, Tonawanda, N. Y.

R ROYAL VENTILATORS R

ROYAL VENTILATORS

exert a direct upward draft. They positively remove all bad air and foul odors from the building.

All Styles



All Sizes

Royal Ventilators are suitable for Dairies, Cattle Barns, Granaries, Factories, Schools, Churches, Halls, Residences and Theatres. The Double Cone principle gives the greatest possible air circulation. Made in all sizes with glass or metal tops. The Price—very moderate.

Write for Catalog
Let us quote prices on your requirements

ROYAL VENTILATOR CO.

417 Locust St.

PHILADELPHIA - PENNA.

R R

There's Going to Be Lots of WEATHER STRIPPING Done in and Around Your Section Are You Going to Do It?

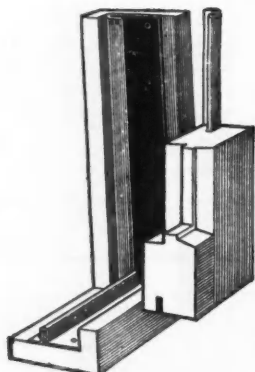
Mr. Contractor and Mr. Carpenter, you should get an agency for the *DIAMOND FLEXIBLE ALL METAL WEATHER STRIP*.

It's the best on the market at the lowest price.

It's easy to sell because it has more good, practical selling points that appeal to the interested parties than any strip on the market.

The thousands of satisfied home owners throughout the country testify to it being all we claim for it.

*We make a full line of Weather Stripping
for all kinds of Doors and Windows*



Section Showing Removal of Sash and "Flexible" Strip at the same time.

"The Diamond Way" of Practical Weather Stripping

*Meets all requirements
of Modern Construction*

**Made of zinc or highest
grade spring bronze—
never rusts—can be put in
old as well as new buildings**

GUARANTEED 10 YEARS

They make all openings air-tight—hence, wind, dust, moisture or noise cannot enter. The fuel saving in buildings where the Flexible Metal Weather Strips are used has averaged from 20% to 40%. Flexible Metal Weather Strips are beyond comparison for their adaptability to houses, hospitals, schools, churches, etc. Their great advantage over all other weather strips, together with their moderate cost, make it a simple matter to specify them or to sell them.

Send for Catalog of Details

**Diamond Flexible All Metal Weather Strip
lasts for years and gives efficiency all the time.
Mechanically correct and endorsed by all first
class architects.**

**WRITE, TODAY, NOW
For Full Particular**

Our Agents Keep Busy the Year Around

The Diamond Metal Stamping Co.
626 Kerr Street :: COLUMBUS, OHIO

Hercules Concrete Block Machines



In the past eight or nine years we have seen many machines come onto the market with a big hurrah boys, and then gradually fade away. They have petered out for various reasons, but most frequently because they were not really practical and suited to the requirements of builders.

In view of this, it has been a pleasure to observe the steady progress and growing popularity of the Hercules concrete block machines. This machine, manufactured by the Century Cement Machine Company, 220 Mill St., Rochester, N. Y., was one of the pioneers in concrete block business. This machine today has thousands of friends and users in every part of the country.

Hercules machines are simple in construction, easy to operate and do not require skilled labor. One of the nice things about this machine is that you can install it with small equipment and add to it from time to time, according to your needs. Some enthusiastic users of the Hercules claim that one of these machines will turn out as many perfect blocks a day as two to four machines of other makes. The blocks themselves are strong, durable and non-absorbent. They are made with a coarse wet mixture.

Almost every builder has occasion to use some concrete blocks these days. If you are doing without concrete blocks when you should be using them, or if you are buying them already made at the supply yard, you should investigate the cost of turning out your own blocks. The Century Cement Machine Company, 220 Mill St., Rochester, N. Y., have a very interesting illustrated catalog that shows their equipment, and this company, with its long experience in the field, can give some very sound ideas in regard to cement block making. They will be glad to hear from any of our readers who are interested.

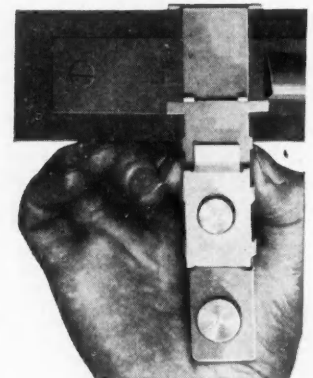


Standard Lock Striker Gauge and Holder

The attention of carpenters, builders and cabinet makers is called to a new tool that is being sold direct from the manufacturers to the users; it is a Lock-Striker Gauge and Holder.

It is well known to those who have had experience in putting locks in doors, that the most difficult part of the operation is to place the striker in the right position on the frame, and to hold it firmly in place while marking around it. By the use of the gauge and holder those difficulties are easily overcome. No measuring by rule is necessary. By simply placing the holder across the edge of the door and moving a slide forward until it touches the face of the latch, the correct position for the striker is found, the striker is then placed in the holder and held firmly in place by tightening a thumb screw, it is then ready to be placed on the frame for marking. The whole operation can be performed in 15 seconds, mistakes impossible.

This tool is fitted as a common scratch gauge and also serves all the purposes of a butt gauge. It is made of machine steel, nickel plated. Write W. B. Carpenter & Co., 112 Mathewson St., Providence, R. I., for special agency proposition.



If YOU Were Building For YOURSELF?



An Oklahoma contractor who is planning to build a home of his own wants **Arkansas Soft Pine** for framing. He has used it and knows what it is and what he can do with it. For that reason he *wants it in his own home.*

If you were building for yourself wouldn't you want the best within reach of your pocket book?

Wouldn't your first care be the selection of materials based on your knowledge of them?

The contractor's home should be a living advertisement of his knowledge of building material values and his skill and ability in assembling them.

Contractors familiar with the merits, beauties and economies of **Arkansas Soft Pine** use it when they build for themselves.

Discuss the question of supply with your local dealer. He can furnish you **Arkansas Soft Pine** for framing, for outside trim, for siding, ceiling, flooring and you can secure from the dealer or the local planing mill your interior trim and woodwork.

Arkansas Soft Pine Bureau

1738 Transportation Building
Chicago, Ill.

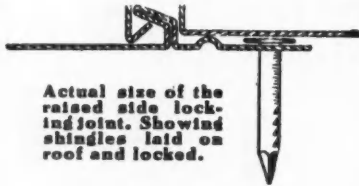
Now on the Press; ready for distribution in a few days: "Uses of Arkansas Soft Pine for Building." Write TODAY for your copy.

Buckeye Metal Shingle

A good metal shingle has much to recommend it. In fact, there are those who see metal shingles as the most satisfactory roofing material of the present time. Certain it is that a heavily embossed metal shingle makes an attractive roof, besides being fire resisting, water-tight, light weight and good for many years of service when properly looked after.



A "Buckeye" Metal Shingle Pattern



Actual size of the raised side locking joint. Showing shingles laid on roof and locked.

"Buckeye" metal shingles, made and sold by the Thomas & Armstrong Co., London, Ohio, are coming to be one of the most popular brands. These shingles have the patented Buckeye Raised Side-Locking Joints, which are formed entirely above the surface of the shingle, so preventing rusting and leaking. These shingles come in three different patterns, all of them beautifully embossed; they are made of heavy gauge metal.

You will find "Buckeye" metal shingles reasonable in price; in fact, the Thomas & Armstrong Co. are now making a special proposition to carpenters and builders. Concerning this, you should address Dept. A, The Thomas & Armstrong Co., London, Ohio.

"Chief" Cupolas and Skylights

Something entirely new for hog houses has been developed out in Iowa. Farmers have found that they can't raise winter pigs without sunlight. The saw-tooth roof winter hog houses are all right, but cost too much money. Most farmers prefer an ordinary gable roof, but how to get the sunlight through it has been a problem.

Schrauger & Johnson, of Atlantic, Ia., have come to the rescue with their "Chief" Sunshine Window or Skylight, as illustrated. These windows extend 1¾ inches above the shingles and are made of best galvanized iron. They are made for two 10 by 28-inch panes of glass with 4-inch flashing all around. You simply lay the window over the opening and shingle over the flashing, and your window is solid and water-tight. No putty is used, but by their special construction, the manufacturers guarantee that these windows cannot leak. The whole window is covered over with heavy ½-inch mesh galvanized wire netting, to protect it from hail or other damage.



View of "Chief" Sunshine Skylight.

Hog houses and all other farm buildings require ventilation, and farmers find there is nothing better than "Chief" cupolas for ventilating.

Schrauger & Johnson make a special line of barn builders' hardware, ridge roll, formed valley, metal corner boards, metal corners, metal door track covering, gutters and cornices of all kinds, besides their skylights and ventilators. They can handle orders for anything in sheet metal. Write this company at Atlantic, Ia., for illustrated circulars and prices.

CERESIT

A Constantly Growing Demand Is One Excellent Sign of Success

The sales of Ceresit during the first six months of 1914 exceeded the sales during the same period of 1913 by 23%. To those confronted by problems of waterproofing this is very significant.



The Dependable Waterproofer for Cement

Ceresit has been on the market for many years. It has survived the years of doubt caused by the many ill-considered waterproofings which swamped the market and failed to waterproof. The sales of Ceresit have grown steadily, and as the unvarying reports of successful application come in, they grow faster and faster.

You can depend on Ceresit doing thoroughly the things we claim for it in our "Book of Evidence."

Write for your copy.

CERESIT WATERPROOFING CO., 910 Westminster Bldg., CHICAGO, ILL.

FACTORIES

Chicago Una, Germany Paris London Vienna Warsaw

THE ROUND-MAJESTIC

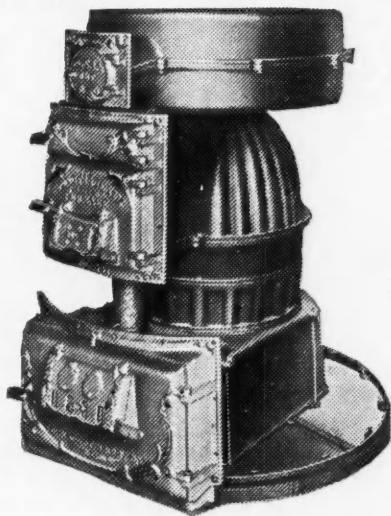
The Heater With Gas and Smoke-Proof Joints

Covered Joints

Cement Cannot Work Out

Easy To Set Up

Heavy Castings



All Cast Iron

13x15 Feed Door

Slotted Fire Bowl

Drop Grates

Large Ash Pit

Let Our Engineering Department Make Your Heating Plans

FREE

Write for Booklet

THE MAJESTIC COMPANY

HUNTINGTON IND., 1001 ERIE ST.



Ornamental and Enduring

Mullins Metal Tile Roofing

is ornamental, as well as weather-defying. With proper care, it is everlasting. Its first cost is almost its last cost. It is the one Metal Tile Roofing that is faultless, as all drawbacks from expansion and contraction have been eliminated. It is simple in construction, and when put on according to directions is guaranteed for years.

We also manufacture stock and special designs in Cornices, Building Fronts, Garlands, Modillions, Enriched Moldings, Capitals, Finials, Tympanum Panels, Faces, Fireproof Windows, and Sheet Metal Statuary. Also Ornamental Metal Stampings for Cornices. Special discounts to the Trade.

Write for catalog

THE W. H. MULLINS CO.

214 Franklin Street Salem, Ohio, U. S. A.

One fair sized job pays its entire cost



An example of Novo Efficiency—three men at work on Novo Saw Rig No. 4; Boring, Planing and Ripping at the same time.

Before you put any saw rig on a job in your shop, be sure it's going to prove a sound investment. Make sure it's going to save money *right along*—not merely when the rig is new. Novo Saw Rigs are just as dependable as Novo power. That's why builders and contractors specify either Novo No. 3 or No. 4 Saw Rigs. It will surely surprise you how much these rigs cut labor cost. And how accurate their work is. Remember this: For reliability you can't beat

THE NOVO ENGINE

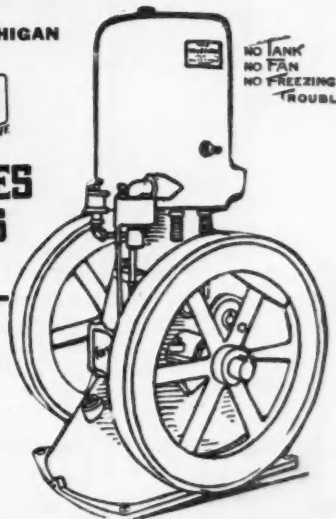
Novo power is tireless. It delivers power *when you want it* and this is what counts. Novo power and *usable* power are one and the same thing. Novo will work under any conditions. Do you wonder that nine out of ten contractors and builders demand Novo—do you wonder why they put Novos on their pay rolls? Don't forget this, the Novo is as near trouble-proof as it is possible to build an engine. Will you write for our convincing booklet, "Reliable Power"?

NOVO ENGINE CO.

Clarence E. Bement, Sec'y. & Mgr.

441 Willow Street LANSING, MICHIGAN

NOVO
REG. U.S. PAT. OFF.
ENGINES
AND OUTFITS



Novo Engines can be furnished for operating on

**GASOLINE
KEROSENE
ALCOHOL
DISTILLATE**

Good Profits Are Easy with Kalamazoo Furnaces

**Please your customers more
—and save them money, too**

YOU deal direct with the manufacturers—you get a complete heating plant at a low price—you can make a good profit for yourself and still save your customer a good sum of money.

Kalamazoo Furnaces and heating systems are preferred everywhere. They are designed right—and are made of the right materials. You could not supply better.

**Let our heating experts work with you
—get plans and blue prints free**

You can guarantee every furnace job to be thoroughly satisfactory. The Kalamazoo Heating and Ventilating experts will guide you. They draw up heating plans and submit blue prints showing you the position for every pipe and register—the best position for the furnace—they show you every move. You can not make mistakes. You simply send us a sketch of the floor plans—mentioning prevailing winds, etc., and our experts work out the blue prints.

Write for the Kalamazoo Furnace Book and learn how you can do it easily. We make an absolute guarantee of quality and satisfaction with every Kalamazoo furnace. We back it with a year's approval test and a \$100,000 Bank Bond. We make liberal terms, too. **Write today for our Furnace Book.**



Ask for Catalog 947
Kalamazoo Stove Company
Manufacturers
KALAMAZOO, MICHIGAN

We make a full line of Ranges, Stoves, Furnaces, Metal Kitchen Cabinets and Gas Stoves. Mention which catalog is wanted.

"A Kalamazoo
Trade Mark
Registered **Direct to You"**

Builder's Convertible Level on Easy Terms

The A. S. Aloe Company, 513 Olive Street, St. Louis, Mo., are making a rather unusual offer on their architect's and builder's convertible level. They say: "Rent this level ten months—then it's yours." In other words, the instrument is sold on easy monthly payments, which are practically the same as the rent usually charged for such an instrument.

This convertible level is a new improved model with all accessories included. It permits a much larger range of work than can be done with the ordinary architect's level. The construction is such that sights above and below the horizontal can be taken.

For taking vertical sights, the instrument is provided with standards which can be rigidly attached to the cross-bar with a large screw. The telescope, which is fitted with a permanent axis, rests on the top of the standards, and owing to its special construction, the instrument can be used for leveling while in this position, if desired.

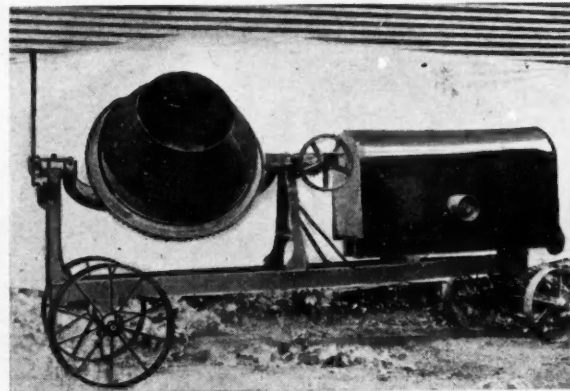
The A. S. Aloe Company have been makers of high-grade surveying and engineering instruments since 1860. They back this architect's and builder's level with an iron-clad guarantee, offering to give the use of it for ten days and then refund the money paid down, if for any reason the purchaser is not satisfied.

These people issue a very interesting little folder, telling all about how to use an architect's and builder's level. This is worth while writing for and it will be sent free.



New Batch Mixer

The Oskaloosa Batch Mixer has recently been placed on the market by the Western Mfg. Co., of Oskaloosa, Iowa. Its capacity is 5 to 6 cu. ft. per batch, giving a daily output capacity up to about 50 cu. yds. The operating power is furnished by a 2½-H. P. gasoline engine; and the entire




Oskaloosa Batch Mixer

machine—trucks and all—is built of high-grade steel, insuring its power to "stand the racket" of the most exacting work. As a time-, labor-, and money-saving machine in all kinds of concrete work, it is well worth while investigating.

Compared with any hand-mixing method, it gives a saving of fully 50 cents per cubic yard, in addition to the producing of a much superior mix and with far less labor. Where the building contractor finds the larger size machine too costly for his general use, and yet finds hand-mixing expensive owing to the time and labor involved, the Oskaloosa Batch Concrete Mixer is the happy medium whereby he can do his work to the best advantage and with the greatest possible profit.

Consequently, as may be supposed, there is a steadily increasing demand being made for this valuable machine. Our suggestion is that those interested to learn full particulars, address the Western Mfg. Co., Oskaloosa, Iowa.

The Opening Door



Will swing softly on
STANLEY'S
BALL BEARING HINGES
 with Non-Rising Pins

Write for Booklet "Properly Hung Doors"

To Department "A"
THE STANLEY WORKS
 New Britain, Conn.
 New York Chicago

S.W. S.W.



Hatchet KHI
 Price \$0.95

Get this Tiptop Hatchet

This certainly is a bully hatchet for your kit—for the hatchet-jobs that you meet every day. Reasons: the quality of the living steel head, the fine edge it will hold and the stay-put handle that can't fly off, because it's fast with the Simmons patent wedge.

KEEN KUTTER

tools are all the same in quality, in endurance, in performing power. They're sold and guaranteed with the understanding that you'll get satisfaction out of them or the dealer is authorized to return the money.

"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 Company
 St. Louis New York Philadelphia Toledo
 Minneapolis Sioux City Wichita



Quality

The Distinguishing Trade Mark

DICKELMAN EXTRA Metal Tile and Shingles



It means an end to ROOFING EXPENSE, ROOFING DANGER and ROOFING TROUBLES.

When you put it on your buildings you are putting on INSURANCE. Every sheet means "MORE PROTECTION."

Fire, Lightning, Storm, Rain and Wind Proof.

Cheaper than wood Shingles or Slate and 100 per cent better.

Consist of 99.9% pure, open hearth iron. This combined with perfect galvanizing, enables us to give you a roof that will last! Over a quarter century experience is back of all our products, which include corrugated, V-crimped and roll Roofing besides shingles and other metal specialties.

DEFIES THE DESTRUCTIVENESS OF TIME

Here is an investment that pays unusually large dividends to

Carpenters and Builders

Galvanized Shingles can be laid by a Carpenter or Roofer quicker than any other material. No soldering required, just nails; the lock and flange take care of the rest. Under no condition can any of our DICKELMAN EXTRA Metal Shingles or Tile ever blow off.

No little bills to pay for Soldering and Painting on account of Leaking. Once on, on for a life time.

Reduce the cost of insurance, being both fire and lightning proof. Lightning was never known to strike or injure a building covered with a metal roof.

Can be successfully laid by any workman who will read and follow our printed instructions. No solder is used; only a pair of snips and a hammer are needed.

Write for FREE CATALOG.

Offers many valuable roofing suggestions. Explains "Dickelman Quality" and guarantee.

THE MOST BEAUTIFUL ROOF IN THE WORLD.—Ornamental and Lasting.

Many different designs in painted tin, galvanized or copper. Easy to lay, economical, beautiful.

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.

The Dickelman Manufacturing Co., Department "C" Forest, Ohio

What you want to Know about Paint



Carter Standard House Painting Specifications

"When asking for an estimate or making a painting contract, it is necessary only to specify the number of coats, and the colors to be used for Body, Trim, Sash, Roof and Porch Floors, and add "Work to be done according to Carter Standard House Painting Specifications."

Paint is to be applied only when the surface is thoroughly dry, and never when rain or snow is falling.

Knots, pitchy and sappy places to be coated with pure orange shellac and after the priming coat is dry, all nail holes, cracks and other defects in the lumber to be filled with putty made of pure linseed oil and equal parts of white lead and whiting.

All loose paint, blisters, dirt and dust to be removed and the surface sandpapered smooth. If old paint is cracked and scaled, all of it is to be removed down to the wood by burning and scraping or with a liquid paint remover.

All porous places in the lumber, and all flat spots which show in the priming coat to be touched up with a thin coat of Carter pure White Lead and pure linseed oil.

Priming coat to be Carter pure White Lead, pure well-settled linseed oil and turpentine mixed in proper proportions to suit the requirements of the surface.*

Second and third coats on new work and both coats on old work to be Carter pure White Lead, pure, well-settled linseed oil, pure turpentine and drier, colored as directed with first quality tinting colors and mixed to the proper consistency. Paint to be well brushed out and sufficient time allowed between coats to insure perfect drying.

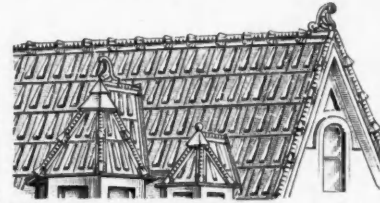
Porch floors and steps to be painted with Carter White Lead and linseed oil paint, to which has been added litharge or outside varnish.*

*See Carter Paint Calculator.

The Paint Information Bureau
Carter White Lead Co.
 Chicago, Ill.

"Victor Shingles" for Ornamental Effects

A Montross metal shingle, which is said to be the most ornamental roofing on the market and designed for the best class of residences, churches and public buildings, is their "Victor" pattern. This shingle is deeply embossed and presents a bold and attractive appearance on the roof. It costs but a little more than the ordinary metal shingle.



Roof Covered with Montross Victor Metal Shingles.

"Victor Shingles" have the regular Montross telescope side-locks, which provide for expansion and contraction, and at the same time make a perfectly weather-tight joint.

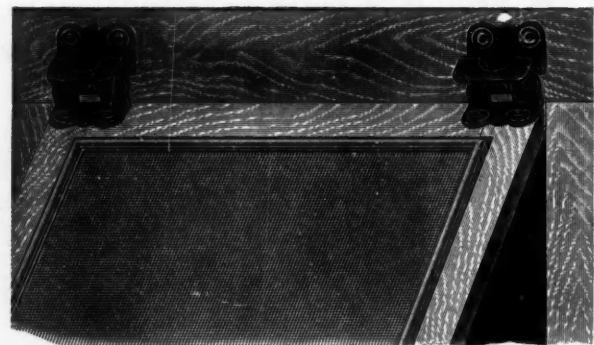
The roofing tin used in the manufacture of Montross shingles is of such a prime quality that it is claimed to last as long as number 22 gauge black steel.

The "Victor" is only one of the several attractive and durable metal shingles produced by the Montross Metal Roofing Company. They have a 40-page catalog illustrated in two colors featuring their line, which all of our readers should have. It gives important directions for painting metal roofs, forming valleys, gables, etc., and for making a building lightning proof. Copies of this catalog will be mailed free on request by the Montross Metal Roofing Company, 2nd and Erie Sts., Camden, N. J.



Storm Sash Hanger With Barbed Nails

The Watrous-Acme Mfg. Co., Des Moines, Ia., have had the convenience of the carpenter and builder in mind in designing their special builders' hardware. For example, their No. 18 Hanger for storm sash or screen windows is put up with barbed nails, instead of screws. This means a most decided saving in the time of the carpenter who is



No. 18 Safety Screen or Storm Sash Hanger.

doing the work. At the same time these nails have splendid holding qualities and give excellent satisfaction.

On their No. 17 hanger, which may be used either at the side or top of the sash, only four screws are required for a set, instead of twelve, the number usually needed. The sharp points on the hanger itself, when driven into the wood, take the place of extra screws, and add greatly to the strength of the hanger. Both the hangers mentioned are equipped with gauges, which show how they should be set to give the best results—another saving of the carpenter's time. Many of their goods are packed with full instructions for use in each set. The line includes butts, hinges, screen door catches, storm door latches, etc. Any hardware dealer can supply your wants without trouble, and we think it is to your interest to investigate.

The "Worry-Proof" Roof



Victoria Shingle

That means proof against rain, snow or wind-storms and fire. Such a roof is made by Cortright Metal Shingles.



Oriental Shingle

Besides, they meet every building and insurance requirement, and if occasionally painted will last as long as the building, without repairs.

CORTRIGHT Metal Shingles



Imperial Shingle

With the national educational work being conducted at the present time, emphasizing the danger of inflammable roofing material, there has never been such a demand from property owners for such a roofing as Cortright.



Metal Slate

It is the Contractor and Builder who is taking advantage of this wave of feeling who is out-stripping his competitors and building up a lifetime of good will from satisfied customers. Ask us to tell you how other contractors and builders are using Cortright. Write us today.

Cortright Metal Roofing Co.
PHILADELPHIA AND CHICAGO



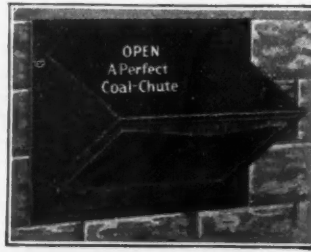
Cortright Metal Roofing Co.,
50 N. 23rd St.,
Philadelphia, Pa.

Gentlemen: Please send me full contractor's information. This does not obligate me in the least.

Name

Address

A.C.B. 9-13.



If You Build Buy Own

Be up to date and have the world's best

The Window Chute

for your coal bin.

Thousands in Use

The Very Best

Write for Booklet C.



Holland Furnace Company
Holland, Mich.

World's Largest Direct Installers of Furnaces.

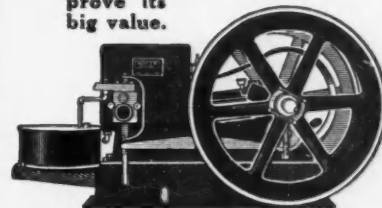


Get My Latest Engine Offer

Let a WITTE earn its cost while you pay for it. Take full 60 days' Free Trial to prove its big value.

Five-Year Guaranty

I unqualifiedly guarantee every WITTE engine for five years against defects, and consequent faulty operation. I carry the risk, as I have done for my thousands of customers during 27 years.
Ed. H. Witte.



WITTE Engines

Kerosene, Gasoline, Gas, Distillate

All styles, 2 to 22 H. P. 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.

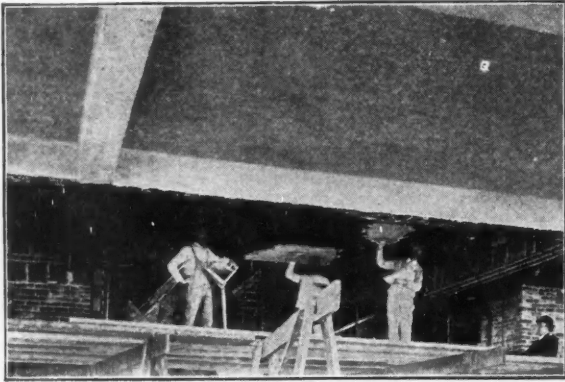
Look at These Prices!

4 H. P.,	\$ 69.75
6 H. P.,	99.35
8 H. P.,	139.65
12 H. P.,	219.90

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.

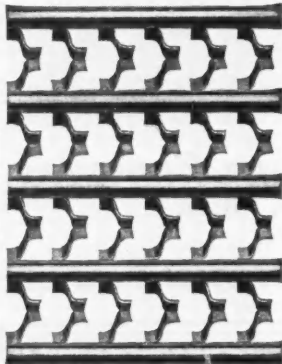
Ed. H. Witte, Witte Iron Works Co.
1779 OAKLAND AVE., KANSAS CITY, MO.

On account of war conditions prices subject to change without notice.



Hy-Rib Ceiling, Hotel Tuller, Detroit, Mich.

Fewer Supports and One Less Plaster Coat with Rib Lath



The exceptional stiffness of Rib Lath, due to its parallel ribs, permits wider spacing of supports. Its extreme rigidity makes two coats of plaster equal in results to the ordinary three. The clinch and key are positive. Rib Lath is furnished in four types and twelve weights. Write for Rib Lath Catalogue and estimates.



HY-RIB ELIMINATES FORMS



Hy-Rib steel sheathing combines in itself reinforcement, forms, lath and studs. Eliminates forms in concrete roofs and sidings, eliminates channels in partitions, ceilings, furring, etc. Also used in culverts, tanks, silos, etc.

Write for Hy-Rib Handbook and estimates for your work.



Trussed Concrete Steel Co.

Dept. H-44 YOUNGSTOWN, OHIO

Representatives in principal cities.

Interesting Opportunity for Builders

All those that have not already done so will be interested to look into the proposition now being made by the York Automatic Dumb Waiter Works, 639 West Market St., York, Penn. They make a sanitary automatic dumb waiter, a very ingenious little labor saver for the house wife that should find a place in every kitchen. Carpenters and builders are wanted to act as sales agents for this specialty, recommending it to their clients and customers wherever possible in connection with their regular work.

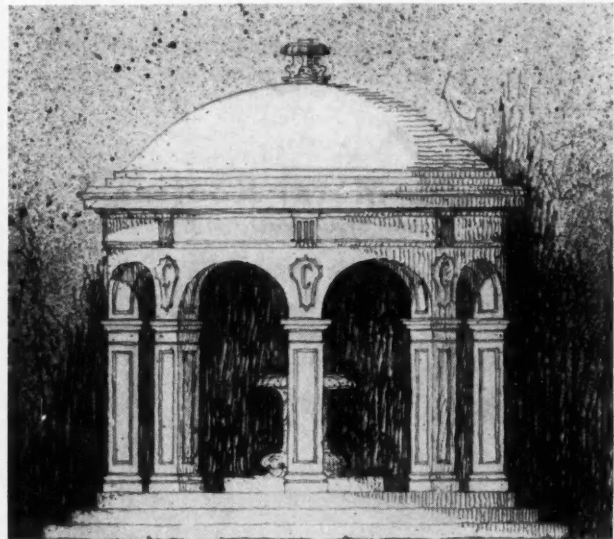
A nicely illustrated catalog showing just how this automatic dumb waiter is constructed and installed may be had for the asking.



Ceresit Exhibit at Pan.-Pac. Exposition

If any new demonstration of the waterproofing qualities of Ceresit were needed other than that of the innumerable examples of its satisfactory use in the past, here and abroad, it would surely be found in the exhibit which the Ceresit Waterproofing Co. (920 Westminster Bldg., Chicago, Ill.) proposes to install in the Palace of Machinery at the Panama-Pacific International Exposition in San Francisco, Cal. This exhibit will take the form of a beautiful Temple of the Water-God, Aquarius.

Until quite recently, the belief was widespread that it was impossible to make cement waterproof; but the Ceresit Waterproofing Co. now claims to have developed a mixture of cement which is absolutely proof against water penetration,



Temple of the Water-God, Aquarius. Proposed Exhibit of the Ceresit Waterproofing Co. in Palace of Machinery at the San Francisco Fair.

and the purpose of the exhibit which will be made at the San Francisco Fair will be to demonstrate the efficiency of the company's material.

As shown in the accompanying designs of the Temple, the structure will be surmounted by a spraying fountain; and the water-jets will cover the dome and fall into a hidden gutter along the base of the top, and then down the hollow supporting columns. These are faced with glass on four sides so that the water passing down the cement tubes may be plainly seen.

The structure is composed entirely of the Ceresit mixture, and the company claims that it will be able to prove to the many thousands of Exposition visitors that the cement is absolutely waterproof.

You Take No Chances When You Put on Guaranteed Queen Cupolas

They are made right from heavy galvanized steel. Put together by experts. They look right because they are thoroughly finished. They give service and satisfaction. Last a lifetime without painting or repairs.

Don't Experiment—Get the Cupola That Has a Reputation Back of It

On the market 15 years. Thousands now in use. That's the kind for you to use. To prove that the Queen is the best we will ship you one for examination and 30 days' trial.

WRITE FOR CATALOG AND PRICES
Find out what we have and you will not be satisfied with ordinary kind. Address
QUEEN CUPOLA CO., 405 Peck St., Cresco, Ia.



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DRAFTSMAN'S WORKING OUTFIT

Complete Draftsman's Working Outfit—just like I use myself, that you couldn't duplicate for less than \$15.00, given to you absolutely FREE as soon as you enroll. Handsome set of imported instruments. T-square, French curve, triangle, etc., all given away absolutely Free to my students. This offer is limited. Write today.



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That's the ordinary salary for a draftsman. Thousands of positions open. Be the man who gets the fat pay envelope. I will teach you drafting in your own home—during your spare time. I will give you practical instruction—the kind that the men must have who make the big money. I am Chief Draftsman of a large and well known company. Let me help you. Write to me today.

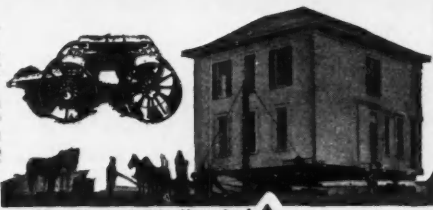
WRITE FOR FREE BOOK. Your name and address on a postal is enough. I will send you free and prepaid my big new book "Successful Draftsmanship." No obligation. Find out about your opportunity in the drafting profession. Send me your name and address—today—now.

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M. H. Ireland,
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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.



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

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 Eastlark Court
Cedar Rapids, Iowa

Bookcase Colonnade



Bookcase Colonnade,
Only \$25.00
In Yellow Pine

Oak.....\$27.00

The pedestals are 4 feet high, 10-inch face and 18 inches extension from jambs, adjustable shelves, panel back and leaded glass doors. 6-inch square columns, beveled edge taper. Casings and cap trim not included.

This is positively the best bookcase colonnade for the price in the market today. Take advantage of this special offer. Quality, satisfaction and safe delivery guaranteed. Order today. State height of opening and what kind of wood.

Catalog No. 35 contains many new designs in Grilles and Colonnades. The book is free. Write for it.

BERTELSEN ADJUSTABLE GRILLE CO.

611-613 So. Clinton St.

Chicago, Illinois



Least Expensive—Most Durable

HUDSON ASPHALT SHINGLES

Rich and beautiful for roofing or siding.
Provide fire protection at the least cost.

Surfaced with Red and Green Crushed Slate. Fast colors. Require no painting or staining. Rust-proof. Easy to lay.

Send for Samples.

ASPHALT READY ROOFING CO.
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HIPPED TURRET SKYLIGHT



with swinging sash. Sides 24" high; all windows on each side made to open at the same time. Operating device securely locks them open or closed.

The Skylight is of guaranteed quality. You can use it on any of your buildings with the assurance that it will stand the wear. Watertight. Can be set up in a moment by an inexperienced man.

Write for our Skylight Catalog and Prices

Galesburg Sheet Metal Works

Galesburg, Ill.



How to Get Lumber at Mill Prices

We ship direct from our Yellow Pine Mills, at Mill Prices to you. We carry in stock over 25 million feet of dry, bright lumber and the capacity of our mills is over 75 million feet annually.

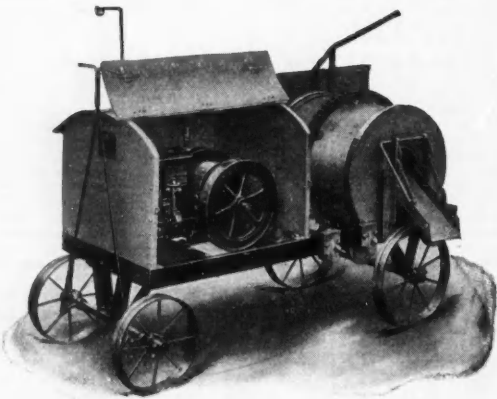
Contractors Home Builders We can furnish promptly, lumber for building of every character. We can cut and dress timber up to 24 x 30 in. 40 feet long. Can ship quickly form lumber for all kinds of concrete structures. Contractors and home builders write us for delivered prices.

Send No Money

We guarantee the quality of our lumber and ship subject to inspection and approval to all responsible parties.

Home Lumber & Supply Co. 343 S. Dearborn St., Chicago, Ill. Dept. 6081

THE Atlas MIXER



CAPACITY—5-ft. batch, easily fifty cubic yards per day.

Contractors everywhere are enthusiastic in endorsing its wonderful adaptability to any size job and any kind of work.

They tell us that two 5-foot **Low Charging Atlas Mixers** do considerably more work than one 10-foot machine and the cost is no greater.

Atlas Mixers

Portable Durable
Simple Dependable

Sold at a price you can afford to pay

How the Atlas is built

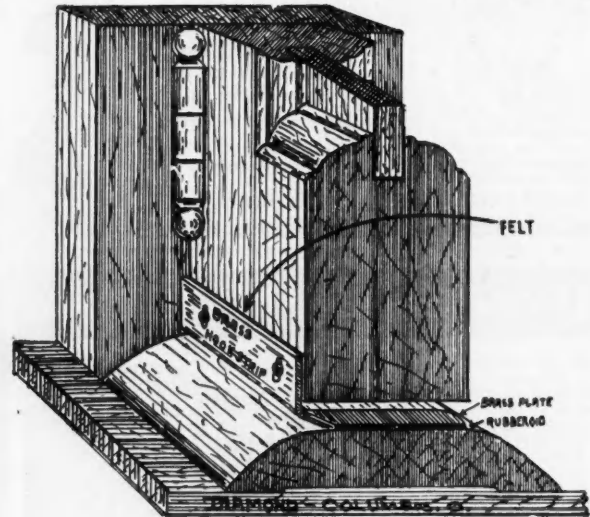
Channel iron frame—heavy boiler plate drum—splendid lubricating system—expanding ring clutch—very low charging hopper and, last but not least, an exceptionally sturdy, powerful engine—the kind used on machines that sell at much higher prices.

Every contractor and every dealer will find the Atlas Mixer Book interesting. Just ask for it.

Atlas Engineering Company
789 Thirtieth St. MILWAUKEE, WIS.

Storm Tight Doors and Windows!

Here are shown two very effective methods of closing the crack at the bottom of doors. The Diamond brass sill plate shows a brass bar under which is a thin strip of rubberoid. This bar is screwed to the threshold. The under inside edge is beveled so as to allow the brass hook strip attached to inside of door to pass under when door is closed, making a



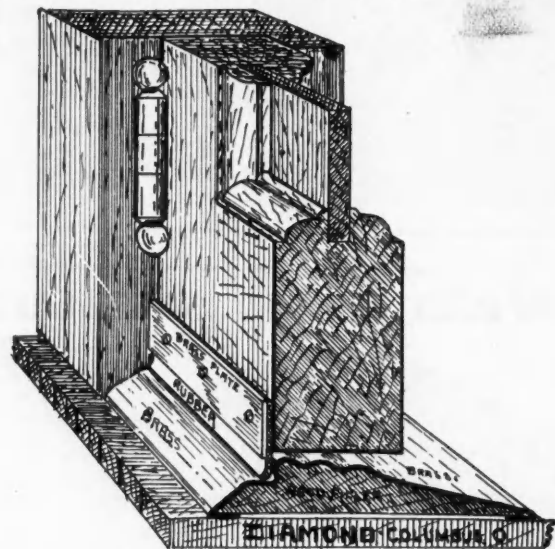
Diamond Brass Sill Plate.

practical interlock and one that meets with approval of builders and architects.

The Diamond brass covered threshold illustrates a wood threshold brass covered and so formed that it allows the rubber strip fastened on door bottom to extend down below the surface of threshold. This makes a positive and effective means of excluding dust, dirt, storm and noise.

Either of the above when used in connection with the bronze seamed edge door strip around sides and top makes a door practically air tight.

These goods are furnished by The Diamond Metal Stamping Co., 626 Kerr St., Columbus, Ohio, who are exclusive makers of Diamond Metal Weather Strip. They have just issued a handsome 40-page booklet illustrating and describ-



Diamond Brass Covered Threshold.

ing their weather strips. Every carpenter and contractor should keep one on hand for reference. They are also offering some valuable territory to contractors and carpenters as agencies and would like to hear from business getters.

REO

Motor Trucks



\$1650

Model J Two-Ton Truck,
Including Chassis with
Driver's Cab. Body Extra

149 Different Lines of Business Find This the Ideal Motor Truck

Contractors and builders cut down their hauling expense with this truck, and speed up their building operations. No more idle workmen waiting for delayed materials.

Do you know how much your present wasteful method of hauling is costing you? Probably not, or you would have bought the Reo Motor Truck to your business long ago. Let us figure it out together:

The first cost is your first saving, for the Reo Model J Two-Ton Truck, selling for \$1,650, is less than the cost of two good teams and wagons—yet it does the work of three or more teams.

Only one driver's salary to pay, instead of three or more for horse equipment.

You save in cost of operation. The Reo Motor Truck "eats" only when it labors and finishes the day as fresh and strong as it started out in the morning.

But the saving in time is the big item. Reo Motor Trucks will speed up every department of your business. As you deliver faster, you can build, sell, ship, assemble faster. Your whole business feels the spurt of this new form of energy.

Features That Mean Unbroken Service

The Reo Motor Truck is carefully designed to keep going day after day for years. It has exclusive features, found in no other motor trucks, that make this constant service possible.

A radiator built of 24 independent, interchangeable units. One or several units could be injured, instantly repaired or replaced, and the run continued.

Much more power than you will

ever need is supplied by the Reo unit power plant, cushioned on a sub-frame away from road shocks or vibration.

Reo hydraulic governor keeps the truck to a safe speed. An irresponsible driver cannot "race" the motor.

Reo right hand center control and left side drive give the driver quick and easy access to and from the seat. No expert driver needed.

Reo impregnable armored frame, built to withstand hard service—even collisions.

Your choice of two lengths of wheel base, 130 or 146 inches.

Set Your Truck to Work

If you are paying for a Reo Truck now, in wasted time and money, you should set it to work at once.

Look the facts in the face. Figure your present hauling costs, and write us about them. We will reduce our case to cold figures. Then we will ask you to decide on no other basis than your own profit.

1,155 Reo dealers, scattered from coast to coast, are ready to tell you about Reo Motor Trucks and Reo service.

A Motor Truck Catalog Sent on Request.



Reo Motor Truck Co.
Lansing, Mich.



NOW

is
the time

to sell and install weather strip. We want to give you exclusive territory for

PULLMAN METAL WEATHER STRIP

We want a live carpenter or builder in every locality to sell and install our metal weather strip. The profits are large and there is always a demand. Every customer is a booster.

SECURE YOUR TERRITORY.
Write now for information.

PULLMAN METAL WEATHER STRIP CO.
22 York Ave., York, Penna.

Straight Talks on Durametal Weatherstrips

¶ 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.

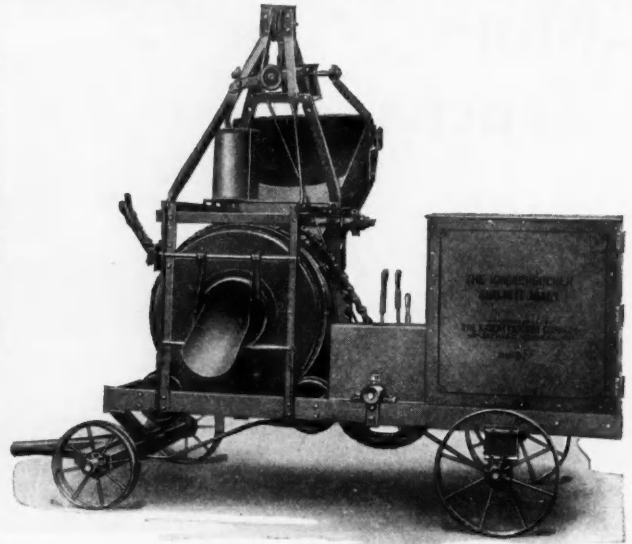
¶ Made of best heavy zinc, and fully guaranteed. Write for samples and prices now before you turn another page. There's money in this for YOU.

A few agencies open to responsible, live, local contractors and carpenters.

Durametal Weatherstrip Co.
10 E. Austin Ave. CHICAGO, ILL.

New Knickerbocker Batch Mixer

The Knickerbocker Company of Jackson, Michigan, who are very well known to the trade as the manufacturers of the "Coltrin" Continuous-Batch Concrete Mixer, have added a regular type batch machine to their line. Their ten years' experience in building the Coltrin has led to the construction of a batch mixer that for strength and durability cannot be excelled. The machine is heavy in comparison with most others of similar size; but The Knickerbocker Co. appreciate



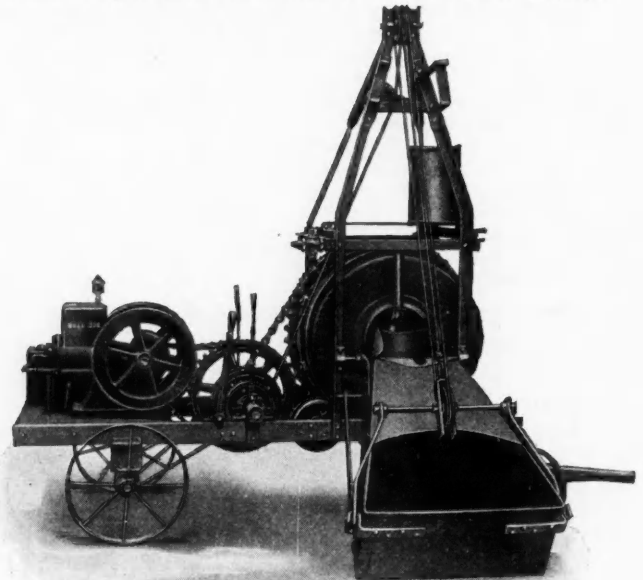
No. 5 Knickerbocker Complete With Loading Skip and Housing.

the fact that you cannot obtain durability and dependability in a concrete mixer unless you put the materials into it. In designing this batch machine, their greatest desire was to produce a long lived machine.

The illustrations are of the No. 5 "Knickerbocker," which is constructed entirely of steel. The machine is furnished with or without load skip and hoisting shive at option of purchaser.

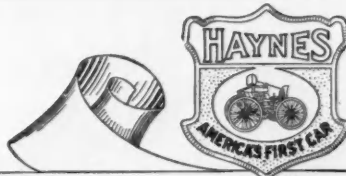
The frame is made up of 4-inch channels 8 feet 2 inches long and 2 feet 11 inches wide, mounted on wheels of 16-inch and 22-inch diameter with axles built up from 3-inch channels.

The mixing drum is constructed of No. 6 and No. 10 gauge

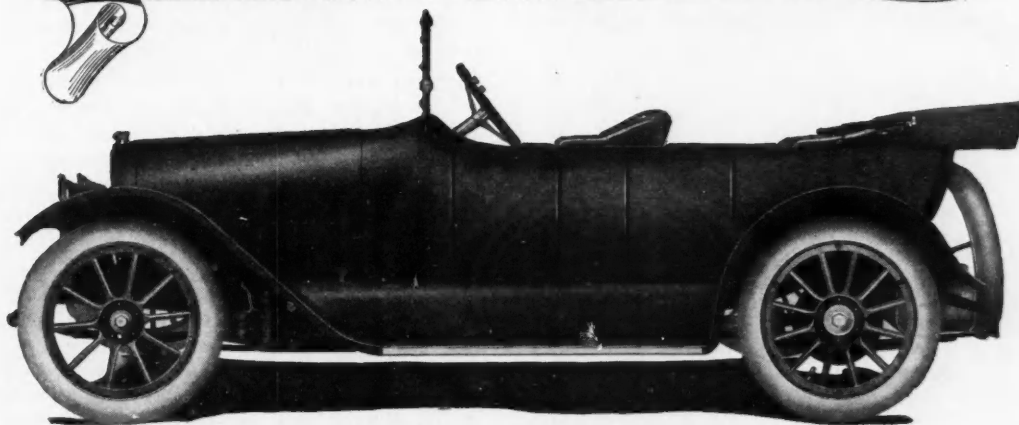


No. 5 Knickerbocker With Loading Skip Housing Removed to Show Drive.

*The result of
22 years' successful
experience in
building motor cars*



America's Greatest "Light Six" \$1485



A "Light Six" That's Different

- that has been carefully, painstakingly designed on sound engineering principles.
- that is complete in every respect, having every feature of the highest priced cars.
- that has over one horsepower to every 55 pounds of weight.
- that will throttle down to one mile an hour on high gear.
- that has speed enough to touch the mile-a-minute mark.
- that will travel from 22 to 25 miles on one gallon of gasoline.
- that will maintain the reputation of its predecessors.
- such is

THE HAYNES

America's Greatest "Light Six"

Among other unusual features are the following:

Unit power plant, 3 point suspension, 3½x5" en-bloc motor, developing 55 actual horsepower.

Leece-Neville separate unit starting and lighting system.

Vacuum gasoline system; gas tank at rear of chassis; Economical Rayfield Carburetor; splash and force feed lubrication; forced water circulation.

Haynes full floating axle; exclusive arch frame construction.

Firestone Demountable Rims; Stewart-Warner Speedometer; Motor Driven Tire Air Pump; Improved One-man Top; Collins Curtains.

THE HAYNES AUTOMOBILE COMPANY

14 South Main Street
KOKOMO, INDIANA

*This coupon will bring
additional information
concerning
this unusual
car.
USE IT.*

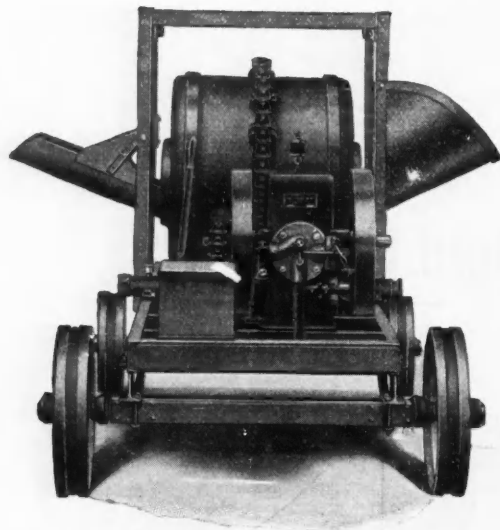
THE HAYNES
AUTOMOBILE CO.,
14 South Main Street,
Kokomo, Ind.

Please send me your 1915
catalog with full particulars in
regard to America's Greatest "Light
Six."

Name.....

Address.....

I expect to buy a car about.....



No. 5 Knickerbocker Without Loading Skip.
Housing Removed to Show Drive.

tank steel with a band of cold drawn steel, $\frac{3}{4}$ -inch by 2-inch, shrunken on each end and joints butt welded to form tracks revolving on supporting rolls. The drum makes eighteen revolutions per minute and has a capacity of five cubic feet dry material per batch. In the interior of the drum four blades and four cups are so arranged as to insure a very thorough and rapid mixture. The discharge spout is $25\frac{1}{2}$ inches from the ground, giving ample space for wheelbarrows.

The rolls upon which the mixing drum revolves are remarkably large for a five foot machine, being machined to 10 inches diameter with a $2\frac{1}{2}$ -inch face and are supported by $1\frac{1}{8}$ -inch C. R. shafts.

The counter shaft is of $1\frac{1}{8}$ -inch C. R. Steel and is equipped with a large sprocket having an expansion ring friction clutch for throwing the machine in and out of motion while the engine is running and a small sprocket which connects with the drum. This shaft is so finished that a shive for operating either a loading skip or an independent hoist may be readily installed at any time on any machine. A suitable guard plate covers sprocket wheel and friction clutch.

Power is supplied by a 3 H. P. Bates & Edmonds hopper cooled engine at 430 RPM., and is transmitted to countershaft by a steel bushed malleable chain with a breaking strain of 7,000 pounds. From the counter shaft a malleable link chain with 5,000 pounds breaking strain operates the drum. The driving sprocket on the drum is divided into four heavy segments which may be replaced independently of each other.

The regular equipment, which includes engine housing, weighs 2,000 pounds, with stationary batch loader 2,100 pounds, and with loading skip, 2,400 pounds.

The engine housing is ample size and thoroughly well built. The sides, doors and top are made up of galvanized sheet metal with 1-inch by 1-inch by $\frac{3}{16}$ -inch angles and all riveted on 6-inch centers.

From the above brief description it is apparent that the "Knickerbocker Batch" is of remarkably strong construction, insuring a maximum life with a minimum of repairs.

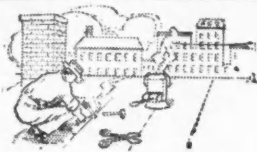
Quality first has governed the construction throughout: How good, not how cheap.



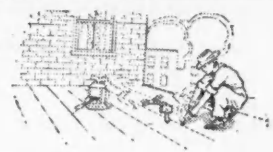
Contrariwise

Mrs. Beat—Tell the gentleman I'm not receiving today, Nora.

New Maid—But he ain't deliverin', mum; he's collectin'!—Puck.



Your Building is No Better Than Its Roof—



and there is no better roofing material obtainable than

Copper Bearing Open Hearth ROOFING TIN

This material has long passed the experimental stage—and has been proved by time and weather to be the most durable for roofing purposes. The tin roof of quality and service is secured as follows:

BASE PLATE—Copper Bearing Open Hearth Steel.

BRAND—"C. B. Open Hearth" in addition to trade-mark.

COATING—20 to 40 pounds, 30 and heavier recommended.

WORKMANSHIP—An honest and experienced tinner.

PAINTING—Red oxide and linseed oil properly applied.

RESULTS—Good protection, lasting service, satisfaction and economy.

Write for full information on our Copper Bearing Ternes, and for booklet "Copper—Its Effect Upon Steel for Roofing Tin." We also manufacture Apollo Best Bloom Galvanized Sheets, Black Sheets, Formed Products, Etc.

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



The sight of the "Yankee" Tool brings to memory many a difficult job easily and quickly performed. Perhaps he is wondering how he ever got along without "Yankee" Tools. Perhaps he is wondering how he could ever keep up with the boys and keep his job without them.

Every "Yankee" Tool adds to your efficiency as a mechanic. There are now over one hundred different styles and sizes. Your dealer can supply you.

Let us send you a "Yankee" Tool Book. A postal brings it.

NORTH BROS. MFG. CO., Dept. A, Philadelphia, Pa.

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



Trade Mark Registered U. S. Patent Office, No. 94745

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.
- lining summer cottages (it will help keep them cool).
- 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.

Big Savings For Contractors and Builders—

Buy Direct From Us at Wholesale Prices



GET your building material, lumber and millwork at less than wholesale prices! All goods guaranteed to be absolutely as represented, with safe delivery and satisfaction. Send today for our brand new 250-page catalog of Millwork and Building Material. It contains 3,000 superb illustrations and 8,000 bargains for you to save money on. Get our magnificent Book of Modern House Plans also. We ship you lumber, flooring, doors, windows, mouldings, porchwork, building paper, hardware, tinwork and roofing. Note the few bargains listed below.

H. W. Mung President.

Porch Post
Clear Fir
4x4, 8 Feet
55c

100 feet of Quarter Round, Dealer's Price, \$1.00—our price, only **30c**

Glazed Windows of all kinds, ready for quick shipment.

2-Light, 68c up
4-Light, 77c up
12-Light, 83c up

8000 PRICE SAVING BARGAINS
Get Our Two Free Books Today

STORM SASH
72c and up

2 Light Storm Sash Glazed

22x28	\$1.09
22x30	1.16
24x28	1.16
24x30	1.22
24x32	1.32

Other sizes priced in the same proportion.

1-Light Stall Sash **34c**
4-Light Barn Sash **47c**

Porch Spindles
1/2c

Hardware

Wearwell Paint
Perfect guaranteed house paint—

\$1.20
per gal. in 5-gal. kit. We have all kinds of paint at wholesale prices.

All kinds of building hardware. You can't beat our goods or our wholesale prices.



Estimates Made Free—We Furnish Everything for Building Your House—We Sell at Wholesale—We Guarantee Everything to be Bright, Brand New Material. We Guarantee Safe Delivery. Don't Plan a Building without Our Aid!

For \$838 We will furnish complete all lumber, millwork, hardware, spouting, paint—everything except masonry and labor to build 7-room house. Plans free. 113.

250-Page Catalog and Book of Plans mailed you FREE. Write today for these books. You need them—whether you build now or not. Both books free. Fill in this coupon right now—mail at once.

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MILLWORK SUPPLY CO.

CHICAGO MILLWORK SUPPLY CO.
1422 W. 37th Street
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Please send your free Catalog. (If Plan Book is wanted also, place check mark in below)

Plan book.

Name.....

Address.....

“Univernish”—The Universal Varnish

The Murphy Varnish Company, Newark, New Jersey, have recently placed on the market a new general purpose varnish which they claim will do the work of all the various special purpose varnishes heretofore offered. This, of course, means one finishing varnish on the job instead of two or three, and so does away with the extra cans and extra cleaning of brushes. It also avoids mistakes and accidents. A saving of finishing cost of fully 20% is claimed for this varnish.

The Murphy Varnish Company have named this new varnish “Univernish.” Its qualities are briefly as follows: Color: very pale. Dries to handle over night; to recoat in 36 to 48 hours; to rub in 48 to 60 hours; to polish in one week. It rubs a little hard because it is tough.

It will not thicken in the can or clog brushes, but brushes freely and flows out smooth. This varnish is elastic enough for outside work; hard enough for inside. It is excellent for boats, not being effected by either salt or fresh water. It is claimed to have all the desirable qualities for floors, as it will stand washing and the rolling of furniture. A dent in the wood will not break the varnish.

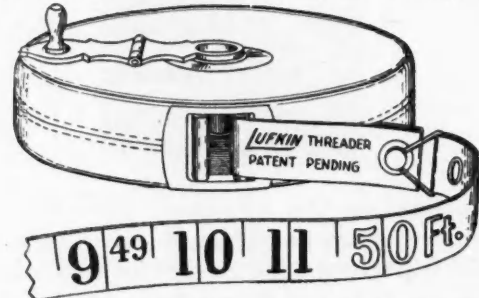
The company recommend this new varnish for high grade furniture and table tops, as it will stand hot dishes, alcohol, ammonia and other liquids. For the interior trim of houses, a great many things are claimed for this “Univernish,” because it will stand not only ordinary use but an uncommon amount of abuse. It makes a very fine varnish for the dull, rubbed effect; will hold its dull finish a long time and not show a polished effect after repeated dusting. Lastly, it is durable and will not turn white.

It is evident that “Univernish” will prove very popular with carpenters and builders. Further information concerning it may be had by addressing the Murphy Varnish Company, Newark, New Jersey.

Metallic Tape “Threader”

The Lufkin Rule Company (factories at Saginaw, Mich.) have just put out a patented measuring tape attachment known as a “Threader” which will hereafter be furnished with their “metallic” woven tapes without extra charge.

The “Threader” is a loop and stud arrangement, by means of which the tape, though securely fastened to the winding drum of the case when in use, can yet be readily detached



“Threader” Now Furnished With Lufkin Tapes.

from it and a new tape as readily attached, no manipulation of the case, case screw or drum being required to do this.

Woven tapes are sometimes torn by accident or through long use often become soiled and worn in such a way that they must be replaced while the case is yet in very fair condition. The case not receiving the same hard use as the tape line usually outwears it, and representing approximately half the value of the outfit it is of considerable importance that it be a simple matter for anyone to insert a new tape in the old case as often as necessary and thus get the fullest measure of use out of the case as well as the tape. Metallic tapes without cases are quite generally stocked by hardware houses, etc., and can always be easily obtained. The attaching is perfectly and easily accomplished by means of the “Threader.”



Be the Man Who GIVES Orders

A Square Deal

is all you want. Just a chance to show what stuff you are made of. But, remember—there is one thing that counts—TRAINING.

Get the RIGHT training right. If you’ve never had the advantage of a first-class knowledge of building, plans, specifications, estimating, contracting, etc., then here’s your chance. Our “Chicago Tech.” Day and Evening Schools have hundreds of carpenters, builders and men of the building trades who are studying under the expert teaching of Chicago’s leading architects, estimators and contractors. If you cannot attend these Day and Evening Classes, you can study the same work at home by the “Chicago Tech.” method. Our new, quick, easy plan to qualify you in a short time by home study.



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Mark “X” opposite work in which you are interested. Without obligation on you we will send full information free.

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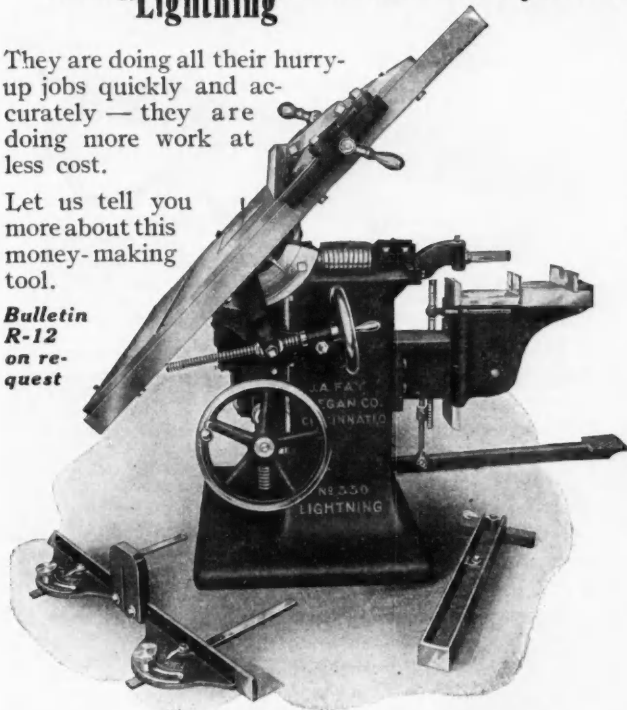
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To Contractors Who Build Dairy Barns

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Here's a 126 page pocket size book bound in durable Keratol leather—packed from cover to cover with information that's bound to save you time and money. The "How Book" for Contractors is yours free of all cost if you'll write for it and give us the names of folks in your neighborhood who are going to build new barns—remodel old ones or put in concrete floors.

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The "How Book" for Contractors tells how to figure life, strength and quantities on all kinds of building materials. Safe loads—bending stresses, crushing strength—timberweights—waste—shrinkage—roof pitches—labor costs in roofing, carpentry and masonry work, etc.—tells how to figure them all. It's a ready reckoner too—compiled from authoritative sources. A wealth of practical, usable, every-day information that you as a contractor can't afford to be without. And it's free to you. Write for it.

Our drafting department is at the service of our contractor friends. We furnish special blue prints for your customers at no cost to you.

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Write today—sending us the names of folks in your neighborhood who are going to build new barns—remodel old ones or put in concrete floors and we'll send you a copy of the "How Book for Contractors" bound in keratol leather and details of our Free Blue Print Service.

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Business Insurance for Carpenters

It's not the business you have today, it's what you will have tomorrow and thereafter that makes your business profitable. Homebuilders are discriminating. One satisfied customer brings you two or more prospects. Aladdin Read-Cut Houses make satisfied customers and are the best form of business insurance. Your customers want Aladdin Read-Cut Houses—they cost less, have better lumber and are more artistic. Get the Aladdin catalog and visit an Aladdin owner.



ALADDIN Read-Cut Houses Save 18% Waste

The old method of construction wastes 18% of the material—18% burned up for kindling wood. Aladdin Read-Cut Houses eliminate waste—all material cut-to-fit, saving a third of the labor. Aladdin Read-Cut Houses come direct to you from the forest; you save four profits—no middlemen, Aladdin material is higher in grade than that found in most houses.

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A complete 5-Room year round, Aladdin Read-Cut House for \$298. Price includes all material necessary for completion. Aladdin Read-Cut Houses pass successfully the strictest regulations of the large cities, which means they are built according to the most approved building laws.



Price Includes Everything

The price includes all framing lumber cut to fit, siding cut to fit, flooring cut to fit, all inside finish, windows, frames, casings, stairways, glass, hardware, locks, nails, paint and varnish for the outside and inside, shingles, plaster board for all rooms or lath and plaster, complete instructions and illustrations for erection—a complete house. Send for catalog 790.

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KEYSTONE FOLDING SAW CLAMP

Made of malleable iron. Weight 3 lbs. Operates on roller bearing which reduces friction and wear. Jaws drop to position by their own weight allowing free use of both hands for adjusting saw. Takes up very little space when folded. Jaws are 14" long and have 1/2" opening for quick and easy working. Jaw faces covered with felt to protect saw and deaden noise. By far the neatest, handiest and strongest clamp made.

Special \$1.00 Offer

For a limited time we will send a Keystone Saw Clamp at this special low price. It is a big bargain. If you don't like the clamp after 60 days trial, we will refund your money.

Send \$1.00 today and get one of these clamps by return parcel post.

KEYSTONE GRINDER & MFG. CO.
106 Wood St. Pittsburgh, Pa.

Cross Section View of Mechanism

Kahn Curb Bars

The Kahn curb bar which is now being offered by the Trussed Concrete Steel Co., Youngstown, Ohio, is scientifically designed to meet most efficiently every practical requirement for the perfect protection of concrete edges. It is manufactured from a special steel section which is punched



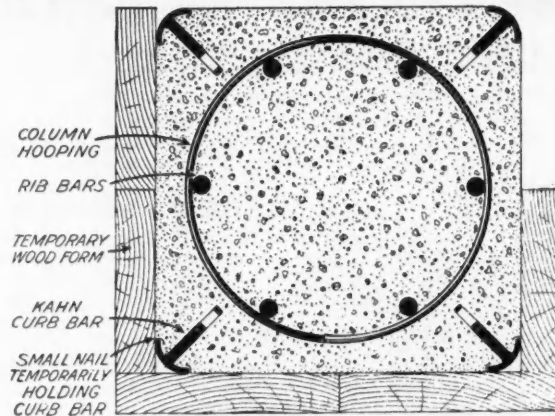
and expanded by powerful special machinery. The distinctive features of the Kahn curb bar are:

1. Substantial steel protection. A steel plate of ample size to take up all shocks and distribute them throughout the mass of the concrete.
2. Positive anchorage. The anchors formed from the same section as the plate extend well into the concrete. The positive shoulder affords absolute anchorage, independent of the adhesion of the concrete.
3. No splitting of the concrete. The open anchorage does not separate the concrete and eliminates any tendency to split at the corners.
4. Integral construction. The plate and the anchorage are a single section of steel, insuring the absolute distribution of shocks and preventing separation of the plate from the concrete.
5. Simple installation. The rigidity and convenient size of the Kahn curb bar makes it easy to handle and install, without special tools or equipment.

Kahn curb bars are manufactured from the highest grade open hearth steel, the best steel for the purpose. All bars are heavily galvanized after forming.

Standard lengths: 8, 10 and 12 feet.

In factories, warehouses, shipping rooms, freight stations and in all exposed locations, Kahn curb bars are used to prevent the chipping off of the corners of concrete columns. These substantial, galvanized steel plates thoroughly protect the corners and are rigidly anchored into the concrete so that all blows coming upon them are distributed throughout the mass of the columns. The illustration and detail show the simple manner in which the Kahn curb bars are applied.



Cross Section of 18-inch Concrete Column Protected with Kahn Curb Bars.

The curb bars are used with equal success on interior and exterior columns of any shape—square, hexagonal or octagonal.

For further information address Dept. H. 44, Trussed Concrete Steel Co., Youngstown, Ohio.



Quality folks don't want shoddy clothes Neither should they accept shoddy paint.

Dutch Boy White Lead

and Dutch Boy Linseed Oil, strictly pure, make paint that is high grade in every sense. It will take the most delicate tint-gradations, any color for outside or inside painting.

Ask our nearest branch for Folder "A." It shows 30 color combinations and gives formulas and mixing directions.

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THE ONLY ROOF THAT STAYS THE ONLY ROOF THAT PAYS

THE ONLY ROOF YOU CAN AFFORD TO CONSIDER

for pleasing results and endless freedom from roof troubles and costly repair bills is

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The use of any artificial substitute means endless expense and dissatisfaction. Our booklet "The Reason Why," tells every reason why SHELDON'S SLATES ON YOUR ROOF WILL PUT DOLLARS IN YOUR POCKET. Post a postal and get posted.

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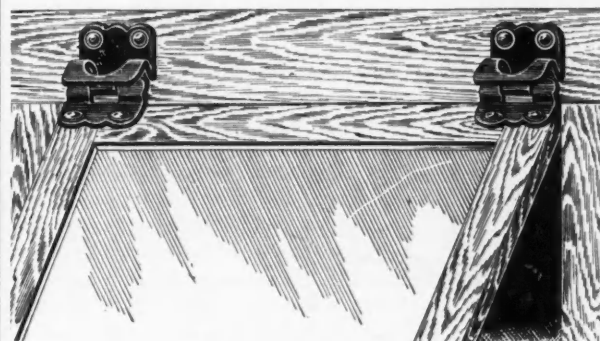


Foster Metal Ceilings

When you need metal ceilings, remember us. Our prices are so reasonable that it is worth while to buy from us. Our metal ceilings are right up to date in design and workmanship. The patterns are deep stamped and clear; the metal of excellent quality and primed ready for painting. Foster Ceilings are easily placed and very neat.

Give us a chance to quote prices on your next job. We can save you money, and that's important to you. Write us.

Foster Sheet Metal Works
530 North Tenth St. SPRINGFIELD, ILL.

No. 18 Safety Screen or Storm Sash Hanger

Cuts your costs, Mr. Carpenter. For it's much easier to drive barbed car nails than to set screws!

**Safe, Strong and Satisfactory—
No Better Hanger Made**

Samples Free on Application

Watrous-Acme Mfg. Co.
Des Moines, Iowa
Chicago Sales Office
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Meets Every Test

For every use where positive waterproofness and almost everlasting wear is demanded—Bayonne is chosen in preference to tin, tar and other prepared coverings.

In addition to being preferred for porch roofs and decks, it is now extensively used for bath-house floors and sleeping porches.

Can be laid over dry boards and is therefore very easy and cheap to apply—makes the neatest possible job.

Include Bayonne in your next specifications.

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112-114 Duane Street — 70-72 Reade Street, NEW YORK CITY
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Write for Sample Book "N" with prices and laying instructions



This is the **Standard Take Down Square.**

It makes good with the user.

Send and know more about it.

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A HOT AIR FURNACE

For Less Than \$50 Complete

For 5 and 8 Room Dwellings

An Unheard of Price and a most Remarkable and Indestructible Furnace.

No Pipes No Lost Heat

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NORTHVILLE MICH.

Now is the time to get ready for a big fall business. It will be big, not because we all "psychologically" hope it will be, but because no man can stop it.

We are making the line of NEPONSET Waterproof Building Products better and better every day.

The NEPONSET Shingle is our greatest and latest roofing development—have you seen a roof yet?

We have just put a *better* finish on NEPONSET Paroid.

NEPONSET Wall Board is now being made in a brand new finish—QUARTERED OAK. This is the greatest imitation you ever saw.

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Waterproof Papers	Paint
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BIRD & SON, Walpole, Mass.

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NEW YORK-CHICAGO-WASHINGTON-SAN FRANCISCO

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Please send me, free, a sample of the new quartered oak NEPONSET Wall Board.

Also information in regard to

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"Utility" for Varnish Drying Rooms

Utility, "the only 5-ply" Wall Board, is rendering efficient service for large industrial concerns as well as in homes, stores and offices. In automobile factories, particularly, has the usefulness of Utility Wall Board been put to severe tests.

The Packard Motor Car Company as well as the Cadillac Motor Car Company, both operating immense factories in Detroit, Michigan, have found that Utility Wall Board makes the most satisfactory lining for their drying rooms. These drying rooms, where the newly-varnished cars are placed, are almost constantly maintained at an abnormally high temperature. Plaster or any ordinary kind of wall lining cannot stand up under this intense heat—experience shows that it tends to fall off with the consequent damage that contact with the fresh varnish means. The engineers of both these concerns after thorough test found that Utility Wall Board because of its unique five-ply construction is practically heat proof—the four layers of high-melt asphalt, with which the five layers of fiber board are joined, not only resist the heat but they make Utility Wall Board stiffer, heavier and much more moisture-proof than ever. Both the Packard and the Cadillac factories have recently placed large orders for Utility.

Samples of 5-ply Utility Wall Board can be obtained by writing the Heppes Company, 4503 Fillmore Street, Chicago, who also manufacture asphalt paint and Flex-A-Tile asphalt shingles. The new roofing and wall board plants of the Heppes Company, just completed, are said to be the finest in the country.



Handy Size Pearson Nailer



This picture shows how the Pearson shingle nailer might be carried in the coat pocket. We need not go into details about the usefulness of this little machine. The repeat orders and the many testimonials and good words prove that the Pearson Mfg. Co. "hit the nail on the head" in getting these machines down to a size and weight so as to be handy. The shape is always practical for any pitch roof, or level surface where a 3d wire nail is used.

We have found that in these times of conservation the Pearson nailer is also used to great advantage in re-nailing old shingle roofs; by putting in a new shingle here and there the old roof may last for many years more.

The company also make tackers in which can be used 4, 6 and 8-ounce wire tacks. These machines are made on the same principle as the nailers and used for tags, screens, canvas, sheet iron, etc., proving a very handy little machine for these purposes. For further information address the Pearson Mfg. Co., Robbinsdale, Minn.

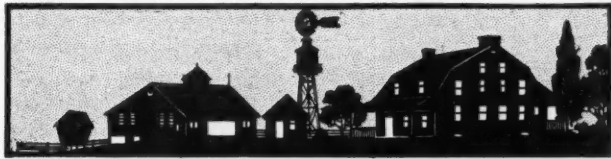
Pearson Nailer is Easily Carried in Pocket.



Satisfactory Covering for Porch Roofs and Piazza Floors

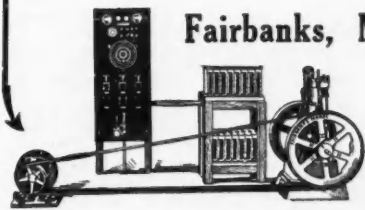
Home builders in every part of the United States are relying more and more upon local builders and building contractors to supply plans and specifications and recommend materials to be used in the actual construction of their homes.

It is a difficult thing to choose the best material for cov-



Recommend a Private Electric Light Plant

to the suburban home builder when the question of illumination *first* comes up. Remind him that it is much easier to provide for a plant in the plans than to include it later. Permanent, satisfactory provision for every lighting and small power need is made with a Fairbanks-Morse Electric Light Plant. Engine runs on kerosene or gasoline and is especially designed to give correct regulation necessary to produce non-flickering light. Current can be taken direct from fifty-light dynamo if desired or at any time from the storage battery. A completely equipped switchboard makes it easy to control the current.



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TO OFFER your customers the "last word" in sanitary products is to make them realize that you are up-to-date—fully abreast of the times. The "last word" in closet seats is the

JM SANITOR SEAT

This *perfectly* sanitary *one-piece* seat is made of specially treated indurated fibre moulded under heavy pressure. Not a joint, bolt, screw or particle of glue or cement in its construction.

It gives the longest and most satisfactory service, yet costs no more than high-grade wooden seats.

In mahogany, oak and white enamel finishes.

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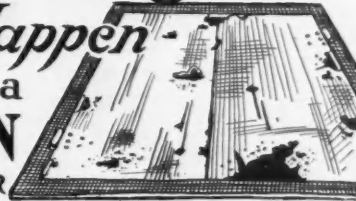
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Can't Happen -
With a
CANTON
SIDEWALK DOOR

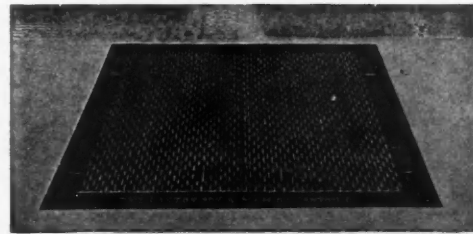


Because our sidewalk doors are solidly made of the best iron and steel.

The cheap type of sheet iron doors will never do for you. Too little wearing quality and too much danger from buckling and sagging. Poor sidewalk doors will never give the service your clients expect.

Specify **Canton Sidewalk Doors**—the firm, neat, well-made kind. Checkered, "anti-slip" surface; stay rods and chains to protect the opening; close-fitting joints; superior locking device; no protruding hinges. The **Canton** at its moderate price will suit you.

ASK FOR CATALOG B-1. Do it today.



CANTON FOUNDRY & MACHINE CO., Canton, O.



Be the First Man in Your Town

to get into the vault business and increase your income. Here is a wide-open opportunity to step into a profitable business without investing a lot of money. Takes little time;—no experience and payment is generous and sure.

MAKE THE BIG PROFIT

Automatic Sealing Vaults are made from cement in steel molds. Takes little material. The adult size costs about \$6.00, and sells for \$30. Nets you \$24 solid profit.

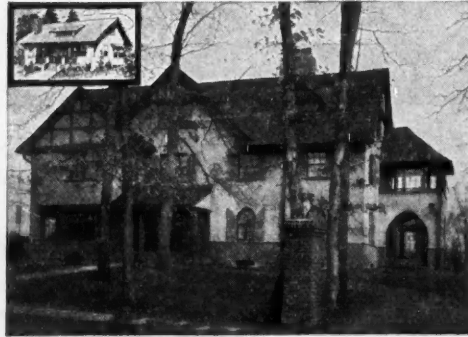
Easy Work—Good Money

All you do is make the vaults. They sell themselves. Demanded in every locality because they are water-tight, moisture-proof, neat and strong. People buy Automatic Sealing Vaults because they protect the remains of a loved one from every element of the earth.

We sell the molds for making these vaults. You make the vaults and keep all the profits. No blue sky for sale. The molds are sold outright. A legitimate business for any man. Write us for particulars and let us show you how much money you can make.

AUTOMATIC SEALING VAULT CO.
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Three Modern Residences on Which Wm. L. Barrell Canvas Roofing Is Used

ering porch floors and porch roofs unless you are thoroughly posted on the relative advantages and dis-advantages of shingles, slate, tar felts, cotton ducks, etc.

The porch roof is exposed to every twist, strain, and savage tug of the elements—is heated and frozen, battered and pounded, wrenched and strained, and subjected to the continual wear of wind, sun, rain, and ice. Often lightly framed, particularly in its upper part, the porch roof is distorted to a considerable degree by these strains and unless the roofing surface used possess unusual qualities it will surely be broken down in a short time. A leaky roof is the result and not the least of the cares that the house owner is called upon to endure.

Cotton Canvas in untreated form when exposed to mist, dew, rain, snow, and even general dampness cannot withstand the action of the elements and is bound to mildew even if painted. It has been found, however, that one of the most satisfactory piazza floor and roof covering is one of

possible. This treatment has also been designed to fill and prime the duck on one side and improve its adhesive qualities on the other so that the laying of the roofing on a fresh white lead or paint film is greatly facilitated and the outer subsequent painting rendered economical and easy. It is so simple and easy to properly lay this canvas roofing material and it costs so little that it is being used in every section of the country for bungalows, porch floors and roofs, sleeping balconies, garage roofs, etc.

The canvas roofing material that is furnished by The William L. Barrell Company, 8 Thomas Street, New York, is a satisfactory material for porch roofing and porch floors. It is chemically treated so that it will not rot. Complete information and liberal samples of this material can be secured upon request. It is exceptionally durable, easy to lay, neat in appearance, and can be secured at such a cost that a liberal margin of profit can be made on jobs where it is used.

Your problems are being met by KisselKar Trucks

KisselKar Trucks are not only good trucks in a general mechanical sense, but are the right trucks for **you—in your business.** This can be proven by asking us who **in your line** are owners, and following the information by asking these owners. They will tell you that they not only received a well built, serviceable vehicle, but one which particularly suited their individual requirements.

KISSELKAR TRUCKS

It is the KisselKar policy to sell only trucks that will pay—trucks adaptable in size to the needs of the buyer. We study **your** haulage problems and give you just the truck you should have to keep your trucking on an economical as well as a highly efficient basis—hence the range of sizes.

Standard sizes—1500 lbs., 1, 1½, 2½, 3½ and 6 tons.
Bodies to order.


The KisselKar Truck portfolio with 350 illustrations is indispensable to you if you are considering the truck question. Write for it.

KISSEL MOTOR CAR CO.
546 Kissel Ave., Hartford, Wis.

New York Chicago Philadelphia Boston St. Louis Kansas City
Milwaukee Minneapolis St. Paul San Francisco Los Angeles Dallas
and 300 other leading American and Canadian points



KisselKar Truck in Service of Sheboygan Lime Works



**PUMPING, HOISTING AND
ELECTRIC LIGHT ENGINES**
1½ to 400 H. P.



**THE FOOS
GAS ENG. CO.**
704 Linden Ave.,
SPRINGFIELD,
OHIO.

FRESH AIR AND PROTECTION!

The Ives Window Ventilating Lock



A Safeguard for Ventilating Rooms, allowing windows to be left open at the top, the bottom, or both top and bottom, with entire security against intrusion.

Descriptive circular mailed on application.

THE H. B. IVES CO.

SOLE MANUFACTURERS

NEW HAVEN - - CONNECTICUT

ELLIS ENGINES

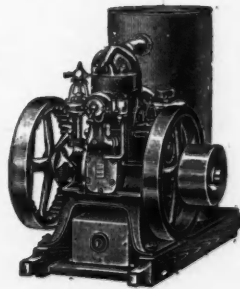
Carpenters, Contractors and Builders are making far bigger profits on their jobs by installing a portable, wood-working plant equipped with an Ellis Engine. It is the most economical, most efficient engine they can buy. More power at half the cost is the Ellis way of doing the work. Ellis Engines are

Portable—Easy to Move

from job to job. Another strong point in favor of Ellis Engines, is their low up-keep cost. They develop more power on Kerosene than some engines on Gasoline. They also operate successfully on distillate, petrol, alcohol or gasoline. Ellis Engines

Save 50% on Fuel

Easy to operate—only three working parts. Ellis Engines have patent throttle, giving three engines in one. Force-feed oiler, automobile muffler, speed-changing governor and many other exclusive features. Run either way—reversible while running—this feature of construction is of particular importance to contractors. Buy direct from factory and save money. **We pay freight 10-year guarantee, 30 days free trial.** Write for new catalog showing 1914 Models with special prices



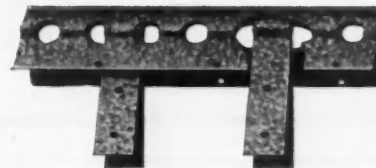
ELLIS ENGINE CO.
72 Mullett St., DETROIT, MICH.

“Bostwick Truss-Loop”

Metal Lath

and

“Bostwick” Metal Corner Bead



**Insure a Finished Job of Which Any
American Builder May be Proud.**

Bostwick materials not only excel in quality, they are valuable as cost reducers. Send us a list of your present requirements, we will tell you how much money we can save you.

The Bostwick Steel Lath Co.
Niles, O.



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



We are prepared to furnish composition capitals of standard design.

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Composition Capitals



Roman Corinthian



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"Just as Good"

There is no roof as good as Slate. Compare Slate with any other form of roofing, Composition or otherwise.

If you want a roof that is absolutely fireproof, leakproof, requiring no painting and having no upkeep or maintenance expense specify and use

West Bangor Slate

West Bangor Slate is moderate in cost, the first cost is the only cost and it possesses unlimited durability and beauty. Years of service make no impression on a West Bangor roof and when the building is crumbling, the roof will still be intact. A monument to a wise builder.

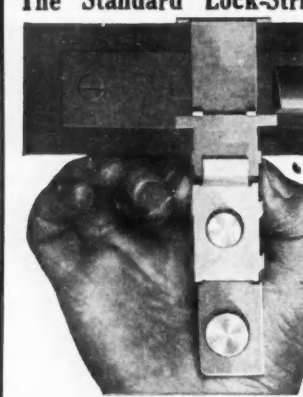
Slate is the ideal roofing for Residences, Churches, Schools, Factories, Garages and Store Buildings. Easily applied and permanent satisfaction guaranteed.

Write us for FREE SAMPLES AND PRICES. Send us your specifications and roofing problems, let us figure on them for you—address

BANGOR SLATE MINING CO.

Trust Building, Bangor, Pa.

The Standard Lock-Striker and Gauge Holder




The most difficult part of putting locks in doors is to place the striker in right position on frame, and to hold it firmly in place while marking around it. This gauge and holder overcomes these difficulties easily. No measuring necessary. Place holder across edge of door; move slide forward until it touches face of latch; correct position for striker is found. Striker is then placed in holder and held firmly by thumb screw. It is then placed on frame for marking. Whole operation performed in 15 seconds; mistakes impossible.

Tool is fitted as scratch gauge; also serves all purposes of a butt gauge.

Made of Machine Steel. Nickel Plated.

Sent on receipt of \$1.00. Big discount to agents. Write for terms.

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112 Mathewson St., Providence, R. I.



CARPENTERS and CONTRACTORS

Here is a scaffold bracket that can be removed without a ladder—one man can erect. Guaranteed perfectly safe and strong, will carry any weight usually placed on scaffolding.

Will pay for themselves in first season's use. When folded can readily be stored or moved from one job to another. Send for sample; money refunded if not satisfactory. Try them and save money.

Write for prices.

Rockford Bolt Co., Rockford, Ill.

Blue Vally Slate

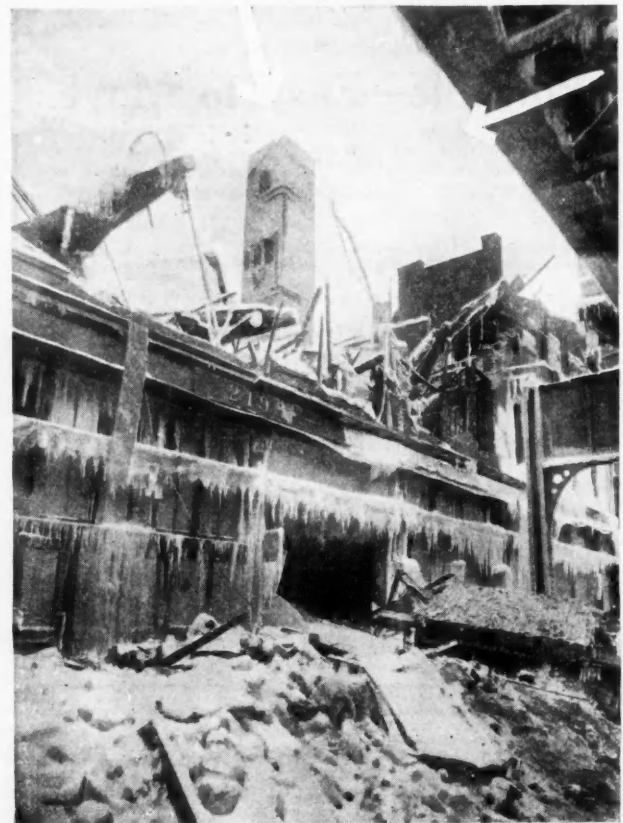
Anyone of our readers can obtain prices and free samples of roofing slate of the quality that was awarded the "World's Fair Premium" by writing the Blue Valley Slate Manufacturing Company, Box 472, Slatington, Pa.

Bostwick Truss-Loop Metal Lath

That metal lath and plaster is an efficient fire retardent is a fact so well proven as to need no mention; but the illustration shown, where an elevator enclosure of this construction stands as a monument to its efficiency will not be out of place; especially as in this case it was subjected to the stress of water pressure during a severe fire and also safely carried the added weight of its ice-encrusted surface after the fire had been subdued.

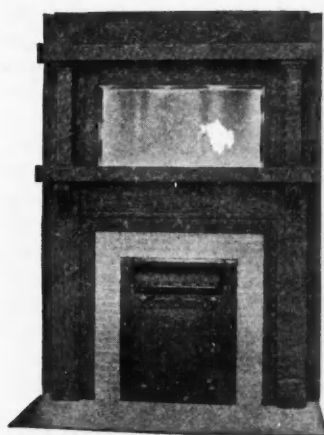
To a great many people, metal lath is just metal lath. Little if any attention is paid to its weight, construction or efficiency still less to the fact that owing to the constant and continued demand by the owner and builder for a lower price, the weight and consequently the strength has been so seriously reduced, since the Bostwick Company made the first metal lath twenty-three years ago, as to have become, in the minds of many people, a question for serious consideration.

It will be recognized that Bostwick Metal Lath, being the material used in the first construction of this character, has been developed to overcome the difficulties encountered in



Remarkable Proof of Fire Resistance of Metal Lath and Cement Plaster; the Elevator Enclosure was all That Stood of a Boston Factory Building.

pioneer days and has been from time to time improved as the possibilities of increasing its efficiency have become apparent. From its inception, the old Bostwick flat lath proved efficient in plaster-holding power and general construction—but it was found that its weight carrying capacity and rigidity could be very largely increased by a change in formation. Experiments were therefore made and concentrated toward a development along these lines. The result is Bostwick "Truss-loop" Metal Lath.



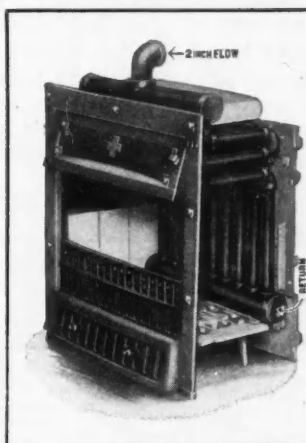
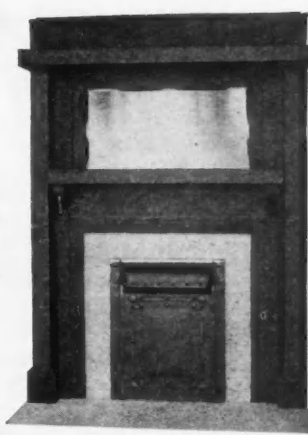
\$22.50 \$25.00

FOR THESE ELEGANT, MASSIVE, SELECTED OAK OR BIRCH, MAHOGANY FINISHED MANTELS. BEVELED MIRRORS, 18 X 36

Prices include our "Queen" Coal Grate with best quality enameled tile for facing and hearth. Mantels 82 inches high, 5 feet wide. Furnished with round or square columns, as shown in cuts.

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

HORNET MANTEL CO., 1147 Market St., St. Louis, Mo.

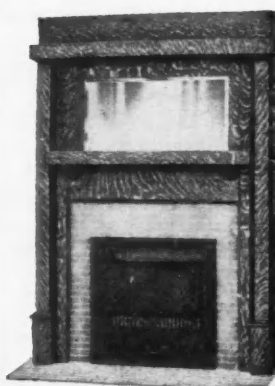


Hot Water Heating From the Fireplace

Illustration shows section of our Heating Coil which if placed in the old style fireplace will easily heat six times the amount of space without additional cost of fuel and affords the same healthful ventilation. Will suit any fireplace or mantel.

Write for descriptive circular.

Heitland Grate & Mantel Co.
No. 126½ N. Fifth St., Quincy, Ill.



Mantel No. 1240.

\$16.25

Only One of

the 82 Handsome Mantels illustrated in our new Art Catalogue of Mantels for the Home. All material in our mantels is of the highest grade, combined with perfect workmanship and finish, with the result that you have a mantel that will be a credit to any home.

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We want all Carpenters and Builders to have a copy of our Mantel Book. Take it around to your clients and friends, sell them our mantels and install them. You get the mantels from us wholesale and make a profit on both the mantel and the job.

This Mantel Book is very complete, showing large illustrations of all our mantels and fireplaces. Show it to your customers—a sale will surely result

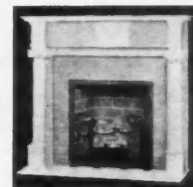
Put Huber Mantels in Your New Buildings

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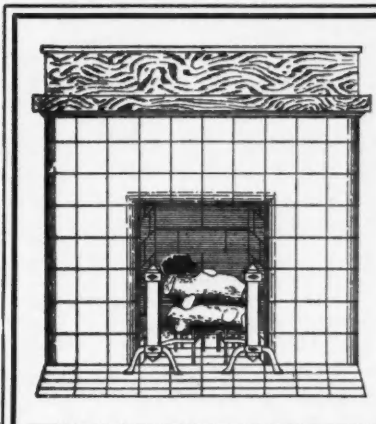
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for Porch, Interior and Pergola use the **NICKERSON Patent DOUBLE LOCK JOINT** THEY CANNOT COME APART

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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.
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IF You Want the Best Wood or Tile Mantels at the LOWEST PRICES

write for our 50-page illustrated catalogue, mailed free on application.

Special prices to contractors and builders.

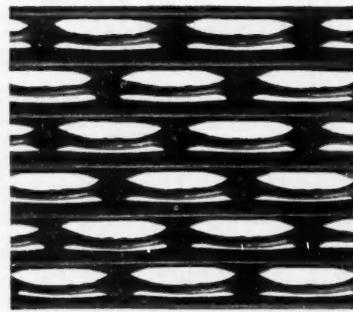
MOORMANN & OTTEN, 615-617 Main Street CINCINNATI, OHIO

A casual glance at the illustration will show how closely the designers have followed the lines of truss construction and impress the mind with a comprehension of the weight carrying capacity secured. This development has been made without sacrificing any of the metal, the weight of the finished lath and that of the original sheet being identical and the plaster-holding power so noticeable in the old lath has been increased.

Bostwick "Truss-loop" Metal Lath Standard painted weighs 5 pounds per square yard. The inherent strength given by this weight makes it possible to reduce the cost of framing by placing studding sixteen to twenty inches O. C. instead of the usual twelve inches and yet be absolutely safe. This saving in the earlier stages of the building may be made to go a long way towards paying the slightly increased cost of the side walls, ceilings and partitions of Bostwick "Truss-loop" Metal Lath and plaster.

While the designers were working for greater efficiency, more weight carrying capacity, the interests of the men who handle the material were not lost sight of. The erection of Bostwick "Truss-loop" is a question of picking up a sheet of self-supporting material to fill a given space, placing it in position and fastening. The next sheet fits exactly on the last rib of the previous sheet and is automatically reinforced to double strength at the joint. When the plasterer takes his trowel he finds a true, firm foundation—no giving under his tool with consequent back work to fill up inequalities of surface—and he is able to apply his scratch and brown coats without removing the scaffold.

The time has passed when the use of metal lath was con-



Bostwick "Truss-Loop" Lath.

finied to the fire districts of the large cities. The country resident knows that he can have fire-proof barns and corn cribs, rat-proof chicken houses—fireproof silos; that he can overcoat his frame house with stucco; cover his side walls, ceilings and partitions with metal lath and plaster and actually feel, every minute he lives, the assurance of safety from fire that in years past has been the privilege only of those located in city districts or preferred residence locations.

The automobile and the motor boat can be housed in fire-proof structures that cost but little more than buildings which in case of accident would be a menace to all adjacent property.

A word as to the organization of The Bostwick Steel Lath Company, Niles, Ohio,—the developers and sole makers of Bostwick Truss-loop Metal Lath. With them metal lath is not a side issue or an added department to a business already developed along other lines.

They are specialists in metal lath; light reinforcement; corner bead; wall plugs and wall ties. They will welcome very heartily inquiries from any reader of THE AMERICAN CARPENTER AND BUILDER who desires information as to the best practice in the use of their products.

"OTTOMATIC" COAL CHUTE

Fireproof Burglar-Proof Fool-Proof

Only One Operation Required

One operation opens the window, places a guard over the glass, and pulls the Chute out more than a foot. It will prevent marring your building, it will prevent coal falling on the ground, and can be placed in the wall before or after the building is completed.

The "OTTOMATIC" Coal Chute comes in two sizes. Size No. 1 measuring outside of the frame 17x24 inches. Size No. 2 measuring 22x33 inches outside the frame.

Write for Complete Description and Prices.

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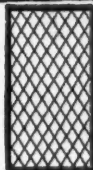
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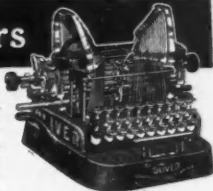
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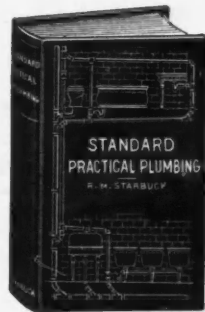
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The point they are bringing out in this campaign is the fact that Sykes expanded cup lath is self furring—that mortar gets a perfect clinch when lath is fastened direct to sheathing boards or where passing over wood studs or other obstructions—making a saving in this class of construction of from 4 to 5 cents per square yard over metal lath that require furring strips.

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This metal lath also has the advantage of being heavier per square yard, when cut from same gauge of iron, than most metal laths on the market.

In connection with this campaign, the Sykes Metal Lath & Roofing Company are furnishing, upon request, free of charge, complete specifications for stucco on metal lath, which we think should be of interest to any contractor doing stucco work. Address them at Niles, Ohio.

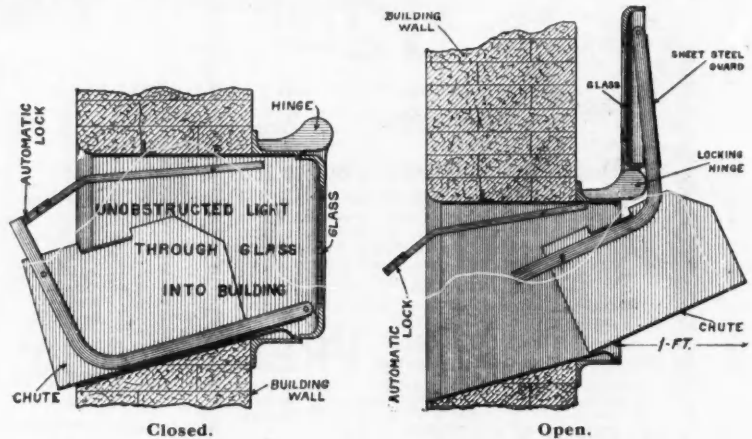


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Every building that is erected—almost without exception—should be equipped with an adequate coal chute. Considering their slight additional cost to the price of a building, they quickly pay for themselves in many ways.

The "Ottomatic" Coal Chute possesses many distinct advantages that will appeal to the owner of a building, as well as the contractor himself who installs it. In the first place it protects the building from the ravages of the coal man, who is usually more or less careless. Then when closed it affords unobstructed light to the basement in which it is installed and even when open the window which admits the light is thoroughly protected.

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taken into consideration when buying a coal chute of any kind. The "Ottomatic" is built right in every particular and merits consideration.

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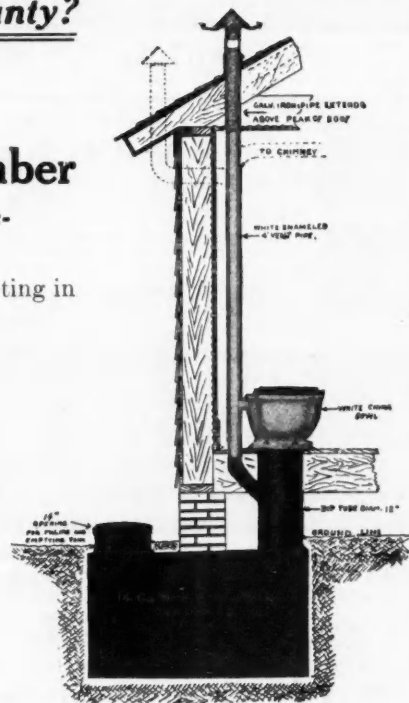
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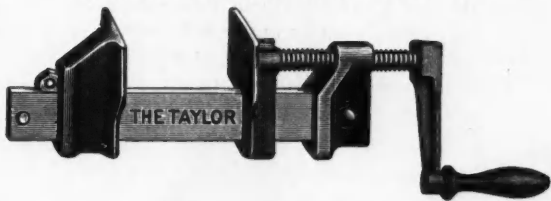
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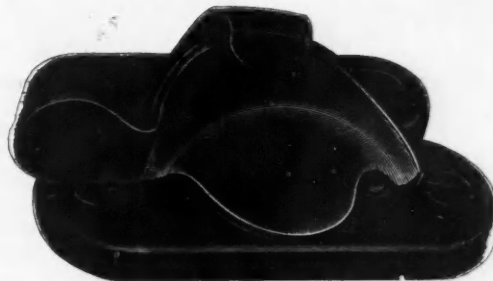
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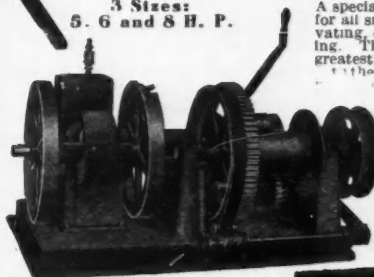
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a builders special hoist equipped with a Bull Dog Engine

3 Sizes:
5, 6 and 8 H. P.

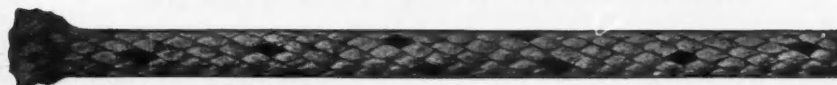


A specially strong piece of equipment for all single or double platform elevating, direct hoisting and pile driving. This Hoist can be used for the greatest variety of work. Equipped with the Bull Dog Engine which is simple to understand. Every engine guaranteed to develop ample power at all times. The Bull Dog Engine assures complete freedom from engine trouble.

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Structural Eng.	Mechanical Eng.	Advertising Man
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WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN CARPENTER AND BUILDER

H. N. Phillips Now Mgr. Worcester Co.

Mr. H. N. Phillips has recently been made manager of the Worcester Mfg. Co., Worcester, Mass., manufacturers of the Worcester Blount door checks. Mr. Phillips is well qualified for this work, as he was connected with the Russell & Erwin Mfg. Co., for the past 15 years in the manufacturing and executive departments. Mr. R. J. Murphy has retired from the active management of Worcester Mfg. Co., but is still president of the company.

The Worcester Blount door check is guaranteed in every way, and has the following claims of superiority:

Shaft ground at packing nut, absolutely round. Crank and connecting rod fastened by improved method. Ball valve pinned in piston—no screw to work loose. No long slot in main arm to weaken it. Ratchet engaged by round steel pin giving it greater strength. Steel ball stud used in end of main arm instead of weak casting. U. S. S. threads on all screws and nuts.

If your hardware dealer does not have this door check in stock, write direct to the Worcester Mfg. Co. for prices and literature.



The Drillhammer

Here is a tool that is really indispensable to every reader of THE AMERICAN CARPENTER AND BUILDER; in fact, to all mechanics who have occasion to use a cold chisel and hammer.

The Drillhammer of Orr & Lockett Hardware Co., Chicago, does the work in one minute that takes ten times as long by cruder methods. Strikes 1,000 powerful hammer blows

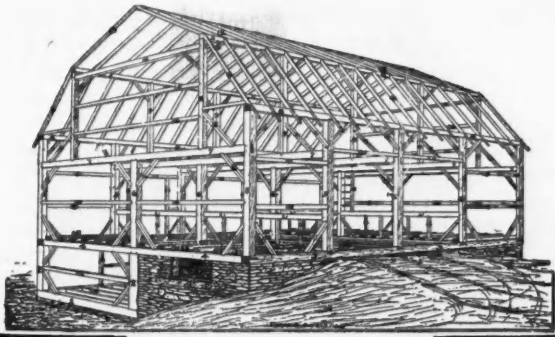


The Drillhammer and How It Is Used.

per minute. The operator simply turns the crank. Centrifugal force does the work. Hardened tool steel hammer elements revolving at high speed strike the blows.

This tool is exceedingly simple in construction. Has no springs to weaken or wear out. Makes an immense saving in the cost of drilling concrete, brick, stone, tile, conduit, walls, floors, ceilings, etc.

It is made in two sizes and accommodates drills from 1/4 in. to 1 1/4 in. Can be carried in regular tool kit. Sold at a price that will enable every mechanic to have one. Write for circular 132 and prices, addressing the Orr & Lockett Hardware Co., 14-16 W. Randolph St., Chicago.



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?

No contractor or builder can afford to go without this book. A copy will be sent Free, postage paid, to anyone sending us their renewal or a new subscription. Regular subscription \$2.00 per year.

AMERICAN CARPENTER AND BUILDER
1827 to 1833 Prairie Avenue
CHICAGO, ILL.

**Houses, Flats
and Apartments**

Buy a Plan Book of Flat Buildings and plan an income in

your old age. Our book gives you ideas from two-family flats to twelve families, and our prices are reasonable.

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H. O. Cook & Company

722 Ashton Building Grand Rapids, Mich.

C. E. JENNINGS & CO'S

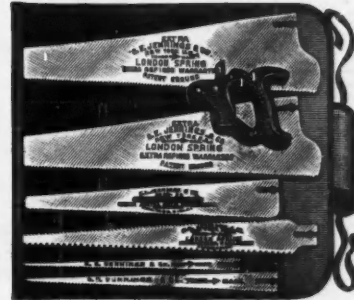
71-73 MURRAY ST., N. Y., U. S. A



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.

For Service



For Price

**GENUINE FRANKLIN TUNNEL
ROOFING SLATE**

During its life, you will probably roof a building four or five times. The expense is great. Use G. F. T. Slate and only one roof is necessary. The cost? Practically the same as any good shingle. Cleaner and more artistic, too; also fire-proof.

Send for the FREE BOOK that gives real facts about G. F. T. Roofing Slate. Samples and Prices, too.



SLATINGTON SLATE CO.

Slatington, 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 ventilator on roof and nail fast.

Write for Illustrated Circular with Complete Prices.

Galesburg Sheet Metal Works,
Galesburg, Illinois



**HOLMES
SAW FILING & SETTING MACHINE**

(Patented 1914)

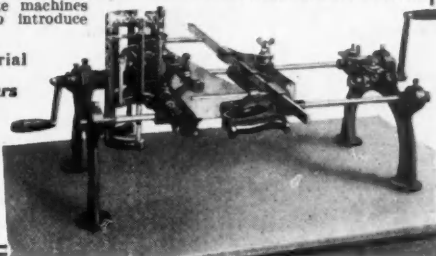
Our Machines are guaranteed to accurately file and set, all fine saws such as Hand, Circular, Band, Gig Saws and Butcher Saws, either for Cross-Cutting or Ripping. This Handy, time-saving device is made especially for Carpenters and Builders, and should be in every shop. I am making a special price of \$50.00 for the two complete machines and attachments, to introduce the same.

Ten Days FREE Trial

Write for Circulars and Details

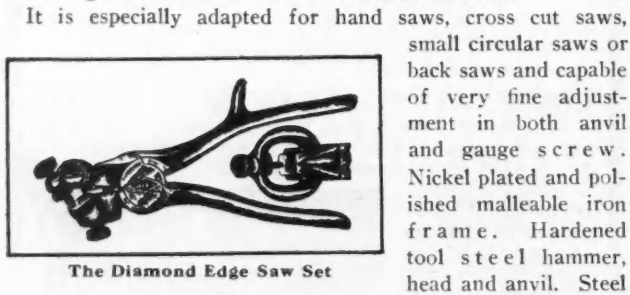
W. J. HOLMES

679 Michigan St.
BUFFALO
N. Y.



Diamond Edge Saw Set

The Shapleigh Hardware Company, of St. Louis, are introducing to the trade their No. DE100 saw set.



The Diamond Edge Saw Set

gauge screw for setting hand saws.

The adjustment is quick and easy to accomplish, as both hammer and anvil are the same length. Work is in full view at all times and insures perfect uniformity.



Want Country Builders as Agents

That acetylene offers an ideal light for all buildings which are beyond the reach of electric light from a central station, has long been admitted. The light is white like sunlight, and its soft rays are very easy on the eyes. It is less expensive than any other light, not forgetting the time honored kerosene lamp. It is manufactured as needed in such simple devices that no one need hesitate about installing or running a plant for his home. The fact that acetylene also offers gas for cooking makes its case the more convincing.

With all these advantages, acetylene plants would have been more common than they are today had it not been for the fear of having the gas generator in the basement of the home. The possibilities of acetylene when the element of danger is removed, are almost unlimited. A generator has

been developed by the Jenne Acetylene Gas Company of Indianapolis, which they state is absolutely safe. The generator is designed to be installed as a cistern out-of-doors, but many other elements have been considered in the design which result in making the generator not only safe but most economical and efficient.

This company was one of the first to manufacture a pit generator and has had to solve a number of unexpected problems. They report, however, that in their latest generator, the Model B, they seem to have eliminated all possibility of trouble. In fact, after more than a year's experience with this generator in the field, they have not had one complaint of any description against it.

The generator is made of reinforced concrete and heavy galvanized steel. The smallest size is 100 pound capacity, thus providing light for months at a time without attention. In addition to the main charge of carbide there is an ingenious device which dumps ten pounds of additional carbide into the hopper when required, so that the user is never without light. Their bulletin No. 2004 describes this very interesting machine.

The Company is also glad to give information with regard to its selling plan. They have such confidence in their generator that they give an iron-clad 15 year guaranty, and accept orders direct from the user, paying their local agent a commission on each outfit sold.



Grand Mixers for Paving Work

The adaptability of the Grand concrete mixers for all kinds of work, even for big paving jobs, is well demonstrated by the experience of the St. Croix Stone Sidewalks Works, Stillwater, Minnesota, of which Mr. Albert Erlitz is the proprietor. He has been using three different sizes of Grand mixers on the levee paving contract along the St. Croix

Here's the Big, Quick Profit Chance You've Waited For!

OPPORTUNITY is pounding on your door with sledge-hammer blows through this advertisement. In response to our strong advertising in the leading magazines, thousands of people everywhere are demanding Edwards' Metal Ceilings, Tiles and Walls. Our business is growing so rapidly that we must have

a good, live agent in every community. *One* carpenter or builder is wanted for each territory to demonstrate, take orders and apply Edwards' Metal Ceilings and Walls. Will *you* be the *one* man to reap the harvest of quick, easy profits? It's squarely up to you. But you must hurry. This opportunity won't linger.

Edwards' Metal Ceilings and Walls

Here is a chance to build up an independent, profitable business for yourself right at home. Many carpenters and builders are now devoting their entire time to selling our metal ceilings and walls. Others have made big profits simply devoting part of their time to selling and applying our Metal Ceilings and Walls. No matter how you handle the proposition, the profit is in it, because the demand has already been created.

You Must Act Quick

Write us about your territory **at once**. This doesn't mean next month, or next week, or even tomorrow, but **right now!** One hour's delay may mean that someone else may be given your territory. Send the coupon. It brings our special agent's proposition and large illustrated Ceiling catalog of attractive sales-making designs.

THE EDWARDS MANUFACTURING COMPANY
"THE SHEET METAL FOLKS"
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Send me details of your agency plan and a copy of your ceiling catalog.

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Containing 219 (8 x 11 inch) pages illustrated by over 300 designs and details of brick house construction, beside perspective views and floor plans of 32 brick houses with estimates of cost construction and miscellaneous data about the use of brick from its manufacture to its placing in the building, including ornamental brick and tile work, sewer construction, fireplaces, brick veneer construction, arches, cements and mortars, how to estimate the cost of brick construction, etc., etc. A valuable book for the home-builder as well as to the builder and brick-layer.

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American Carpenter and Builder

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CHICAGO, ILLINOIS

AGENTS \$45 TO \$80 A WEEK



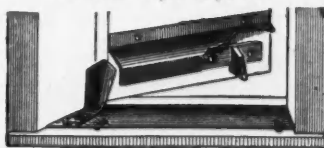
Thousands of dollars paid to agents already in the field. Smith, Ohio, got 18 orders first week; Meyers, Wis., \$250 profit first month; Newton, California, \$60 in three days. You should do as well. **2 SALES A DAY MEANS \$300 A MONTH.** The work is very easy, pleasant, permanent, fascinating. It means a business of your own. We want good agents in every

county in the United States, Canada and Mexico.

NEW INVENTION Just out. Nothing like it. **FOLDING BATH TUB.** Gives to every home a complete bath room in any part of the house—without expense. Biggest, quickest, surest money maker of the century for agents. Territory being rapidly assigned. Send your application today. **100% PROFIT** We back you with our capital and experience. We give you complete instructions, assistance and co-operation. No charge for territory. Don't delay. Send your name at once. Write plainly and give name of your county. Complete particulars FREE. Write today.

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Over 1,000,000



In Daily Use

Here's What People Want **The Axtell**

A perfectly tight All-Metal Weather Strip for bottom of doors and swinging windows. Saves sill from wearing and can be put on any door in 5 minutes at 200% profit. Sells at sight wherever shown. Our prices will interest you. Write us.

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The SANDOW Stationary Engine runs on kerosene or gasoline. Starts without cranking—throttle governed—hopper cooled—speed controlled while running—no cams—no valves—no gears—no sprockets—only three moving parts—portable—light weight—great power—15-day money-back trial. Sizes 2 to 20 H. P. Send postal for free catalog.

DETROIT MOTOR CAR SUPPLY CO.,
196 Canton Ave., Detroit, Mich.



The success of stucco work or over-coating on remodeled buildings depends on the lath back of the plaster. If the lath reinforces the plaster and contracts or expands the same as cement, success in stucco work is certain.

SYKES Expanded Cup Lath

is stiffer, stronger, and a better foundation than wood lath. The "cup" feature prevents the plaster from hanging on a sharp edge and does away with the need of furring strips. The keying principle is so perfect that the plaster completely surrounds the strands. The result is a *reinforced concrete wall*.

There is no waste of material as Sykes Expanded Cup Lath is *self-furring* and the amount of plaster necessary to make a perfect bond is less than is required by other makes of metal lath.

Expansion and contraction are the same as in cement or concrete. There are no cracked walls where Sykes Expanded Cup Lath is used. It does not buckle or sag.

The United States Government has approved the use of Sykes Expanded Cup Lath on Government Buildings. It will pay you to use it on any of your buildings that are being stuccoed or overcoated.

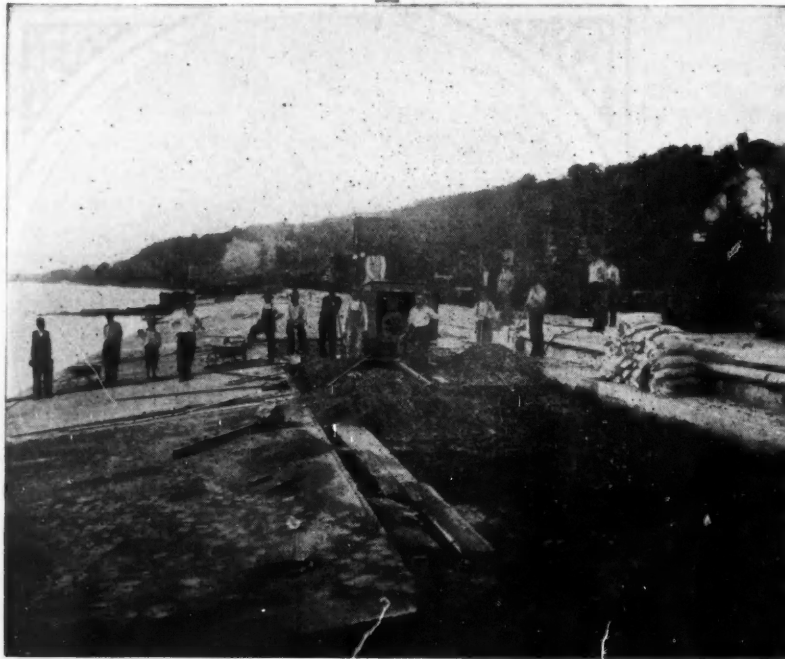
Made in uniform sheets, 18 by 96 in., with Anti-Rust (Oil) Coating Painted Black or Galvanized. Packed 20 sq. yds. to the bundle. The price is very moderate.

Free samples of Sykes Expanded Cup Lath, Sykes Trough Sheet Lath, Sykes Galvanized Wall Ties, Together with a copy of Sykes Complete Specifications for Stucco on Metal Lath will be sent to any carpenter or builder who asks for them. Ask today and let us explain economy in building.

Sykes Metal Lath & Roofing Co.

506 Walnut Street

NILES, OHIO



No. 3 Grand Mixer and Crew at work on Levee Paving Contract near Stillwater, Minn.

River through Lowell Park. This work was very rigorously inspected at all times by the city engineer and park superintendent and all were entirely satisfied with the concrete mixing. The photograph sent by Mr. Erlitz shows his No. 3 Grand mixer, and part of his crew at work on this levee paving contract.

In addition to this No. 3 Grand, he also has a No. 1 and

a Baby Grand. The first machine of his equipment was a No. 1 Grand, which handled a \$10,000 concreting contract for the new Minnesota State Prison so satisfactorily that the next year the company decided to place an order for the largest size Grand mixer. This No. 3 is a six horse power machine weighing complete on trucks with gasoline power 3,800 pounds.

It is a satisfaction to note the consistent performance of these large sized continuous concrete mixers on important contracts. The smaller sized machines have so fully proved their worth on the average run of builders' work that many contractors are now using them where large volumes of concrete have to be handled and where accurate proportioning and thorough mixing is essential.

Grand mixers are manufactured and sold by the Hall-Holmes Mfg. Co., 436 Oak St., Jackson, Michigan. They have a new illustrated catalog featuring their complete line of Grand and Hartwick concrete and mortar mixers, which they will gladly send to all our readers who are interested.



Holmes Saw Filing and Setting Machine

A businesslike little machine has been perfected which accomplishes, successfully and rapidly, the filing and setting of most every kind of saw made. It has also been thoroughly tried out to set any saw teeth up to 3/64 of an inch in thickness. The above saws include circular, band saws, jig saws, butchers', and all kinds of carpenters' saws, which are done



We Send A Man Ahead

Remember the trouble you used to have nailing ceiling plates? Remember how the nailing button was found on top, and to nail through it was about as easy as driving a nail in a metal ball?

Wouldn't it have made your work 100% easier if a man had gone ahead of you and have driven a nail in the top of each button until a deep cup was formed for you to use as a self-centering nailing point?

Well this is just what we have done for you—we sent the man ahead—not with a hammer and nail but with a powerful machine which forced a deep cup in the top of every nailing button in the ceiling plate.

All you need to do is place the point of the nail in one of these cups and one blow of the hammer does the work. No more worry about the nail flying from your grasp—no more danger to your eyes—you can now do the same work in much less time with safety.

Another big feature—the extra long half-oval bead—permits a tight and apparently seamless job. Better for your customer and quicker for you. Eliminates calking in the majority of cases.

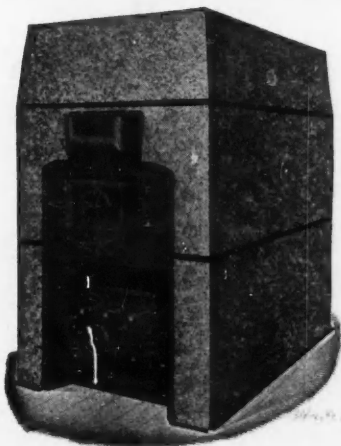
These two features save almost 40% of the time formerly required for erection—place 40% of what formerly was erection costs down deep in your pocket as profit.

Do you want it? Are you interested? Then drop us a line to-day and we'll tell you all about it.

The Berger Mfg. Co., Canton, Ohio

New York Philadelphia Boston St. Louis Minneapolis San Francisco
 For the Best Service Address Nearest Branch
 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 Department, 11th Ave. and 22nd St., New York, N. Y.

The Hess Furnace is a Health Furnace



It is admitted that any heating method which moves and circulates the air rapidly brings about a more healthful condition in the home atmosphere than a method in which the air remains stagnant. **All furnaces** move the air more rapidly than hot water and steam radiator systems, but many furnaces fail in other essentials.

The Hess Furnace is peculiarly a *health furnace*, because, with every seam welded, it is impossible for gas or dust to escape, and thus vitiate the air.

Again, the very large expanse of radiating surface, moderately heated, in the Hess Furnace, is more desirable from a health standpoint than the small surfaces, intensely heated, of the ordinary cast iron furnaces.

Humidity, or moisture in the air, has a most decided influence on health, and the Hess furnace covers this point exactly, by a method of evaporating moisture which we have not seen in other furnaces, and which results in moisture distribution equal to all health requirements, and which cannot be obtained by the ordinary water pan as it is placed in other furnaces.

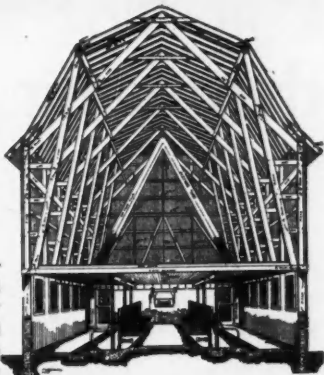
Our 48 page booklet on Modern Furnace Heating describes these and other features at length. It will interest any man who cares for home sanitation, and it is yours, free for the asking.

A rough sketch of your house, sent with your inquiry, will bring to you a plan for heating it and an estimate of cost, without expense or obligation on your part. Why not send us the sketch?

Hess Warming and Ventilating Co., 1220 Tacoma Bldg., Chicago

We make special rates to contractors. If you are a contractor, be sure to mention it when you write.

Helpful Ideas on Dairy Barn Building FREE!



If you learn more about the newest, best, most economical and most sanitary methods of Dairy Barn Construction—you will make more money. Our free book "Helpful Hints to Dairy Barn Builders" tells about proved principles that it will pay you to know about. It tells facts about plank frames, King system of ventilation; proper width and arrangement; lighting; stable floors; site; size; appearance; design; drainage; and sanitary barn equipment with floor plans.



Special Blue Print Offer

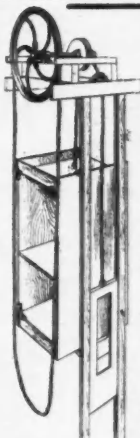
We have complete blue prints, specifications, floor plans and lumber bills for several different types and sizes of modern dairy barns. Ask about them. Also ask how to get the free help of our Architectural Department.

James Mfg. Co.

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FT. ATKINSON - WIS.

This valuable, interesting book will be mailed to you free if you tell us these facts. "For whom do you expect to build or remodel Dairy Barns? (Give names and addresses). When? For how many cows? Address."



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, Guide Ropes, Timbers and Hardware. Ropes joined by coupling. No splicing. Will fit any ordinary opening up to 24" x 30".

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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

without removing the handle for ripping or cross-cutting.

The general motion of this machine, as illustrated, is as follows:

The file is in actual contact with the saw the entire length of the down stroke. As soon as the up stroke is started the file gradually leaves the saw until half the up stroke is made, and travels the remaining half without any further lift. When the file is at the extreme top, it enters the next space to be filed, but does not come in contact with the saw until the down stroke is started. This is regulated by a small banking screw on the bottom casting, which prevents the file or saw being damaged.

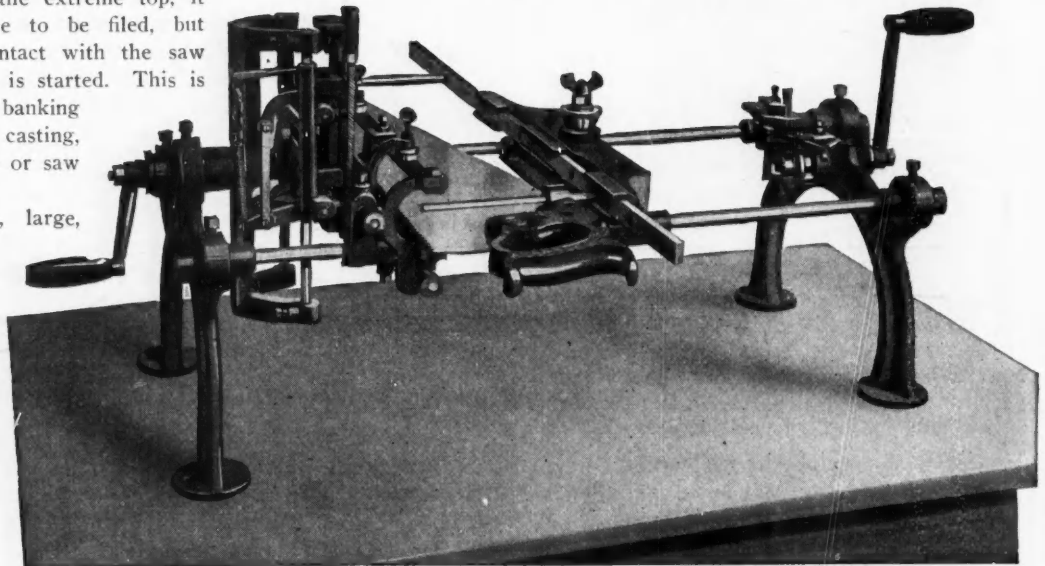
With this machine, large, small or broken teeth in saws are easily taken care of.

After jointing your saw, see if any teeth are larger than the others. If so, you must make them even before putting through the machine. A good way to do this is to grind one side of a three-cornered file smooth and file them down, using the smooth part where you do not wish the file to cut.

Small teeth should be marked, and when putting through machine, pull saw past them, so as to miss them, and at the

next filing they may be big enough. The machine generally goes right along and starts a new tooth when one is broken, but we would advise careful watching at such places. Get your saw true and the machine will keep it so.

The setting attachment is very simple, setting one tooth on the down stroke of the plunger and the next on the up. Address Wm. J. Holmes, 679 Michigan St., Buffalo, N. Y.,



The New Holmes Saw Filing and Setting Machine

for full particulars about this machine. He is making a ten-day free trial offer, as he wants all carpenters and small-shop men to have and try this labor-saving machine.



This is Not an Advertising Booklet

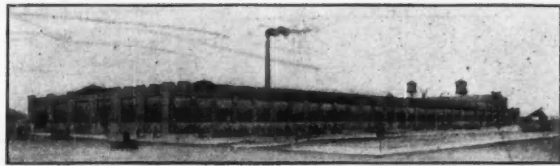
"Standard Metal Lath Specifications" contains the correct method for building walls and ceilings on *any kind of metal lath* as a base for *any kind of plaster or stucco*. It contains no trade marks, firm names or selling talk of any kind. The specifications were compiled from data obtained from experts and successful workmen. That's why we can assure you that they are standard and correct.

These specifications tell you just the proper size for supports and how to space them, both on suspended ceilings and for ornamental work, just how best to attach supports to roof and floor construction; just how to put on the metal lath and just what weight of lath to order to get a stiff material to plaster on.

Profuse illustrations show the methods of construction recommended in detail. You need this book in your work *every day*. It is yours for the asking. Simply write the

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Makers of "KNO-BURN"—the Metal Lath that MAKES the plaster stick.



BUILDERS WANTED To REPRESENT US

In the sale of the **AMERICAN Acetylene PIT Generator**. It is **Absolutely Safe**—being buried in the ground outside and away from the building. It is the only outside generator which does not freeze up in winter. It is used by the United States Government in Indian Schools. Wherever it is introduced it commands all the business.

No artificial light is comparable to the **AMERICAN** light for rural homes. It is cheaper than kerosene, electric or gasoline lighting—and, not dangerous. Twenty four hospitals in the city of New York are using acetylene in preference to electric light

You Builders Can Make Big Money Representing Us

Write—NOW—for Proposition

TEMPLE MANUFACTURING CO.
22nd St. & 54th Ave., : CICERO, ILLINOIS



Contractor Agents Make Big Money!

Every country home, church, school and store, old as well as new, needs a **JENNE Lighting Plant**. Oil lamps, with their soot and smoke and smell, their trouble, inconvenience and danger, no longer satisfy intelligent people. Lighting plants installed inside the house are always dangerous and seldom efficient. This is why our contractor agents are coining money selling the



Installed **outside** the house in the ground with pipe connections to every room, this system is **absolutely safe**. Its construction of steel and reinforced concrete (patented) appeals to everyone, for it makes the plant practically everlasting. The careful design, liberal dimensions, and the simplicity of the **JENNE** make it most economical and dependable.

It is easy to install. *It is guaranteed for 15 years.*

The modern **JENNE** System has **NONE** of the trouble, inconvenience and danger of other lighting systems, be they acetylene, electric, gasoline or kerosene, and it has all their advantages. There are no "come backs" when you install a **JENNE**. Thousands in use and every **JENNE** user is a booster.

Passed by the National Board of Fire Underwriters.

Will you act as our salesman? We sell a complete, guaranteed lighting system; we carry the account; we offer terms that will suit your customers; we pay you a liberal commission.

Write for our Contractor Agent Proposition at once

The Jenne Acetylene Gas Machine Co.

313 N. PENNA ST., . . . INDIANAPOLIS, INDIANA



FAULTLESS PIT GENERATOR

The safest known system for lighting with acetylene gas. Generator installed in a pit out in the grounds. Carbide is fed into the water a few lumps at a time. Absolutely no danger of explosion.

CARPENTER AGENTS WANTED!

to take orders for this safest of all Acetylene Lighting Systems. Our Sales Literature makes the sale. You take the order and make the big commission. No money needed; no experience. Before you decide, get our offer and make sure for yourself that it is a good one. Send us your name and we'll explain the whole thing from start to finish.

GEM CITY ACETYLENE GENERATOR CO., Dept. B., Dayton, Ohio

Make 2 Profits

on

The Homes You Build

When you build a home for the farmer and his wife why are you satisfied with the profit you make on the building alone. With your help and at your suggestion he will be very glad to install a **Davis Acetylene Lighting System**. This will mean a nice sum for you besides the building profit. The **Davis System** differs from all others, feeding lump carbide, which means greater economy in cost of gas. 15 years on the market with a record of proven satisfaction.

Contractors and Builders

find it very profitable to handle **Davis Lighting Systems**, under our new plan which requires no investment.

DAVIS ACETYLENE COMPANY

90 Crawford St. - - - ELKHART, IND.

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This new idea **Adel Vitrified Clay Block Corn Crib** is an opportunity for builders. It means big profits and easy sales.

It's practical. Fireproof. Lasts forever without upkeep. Dries corn properly; eliminates waste from rats.

Pays farmers big dividends; pays you well for building.

Agents Wanted

We want good responsible masons and contractors to act as our representatives. Write for details; let us show how easy they are to build; how easy it is to make big profits. Address

Adel Clay Products Co.
260 Main Street, Adel, Iowa

Carpenters, Builders, Attention!

You owe it to yourself, as well as to the property owner for whom you are working, to see that his buildings are adequately equipped with proper protection from loss by lightning.

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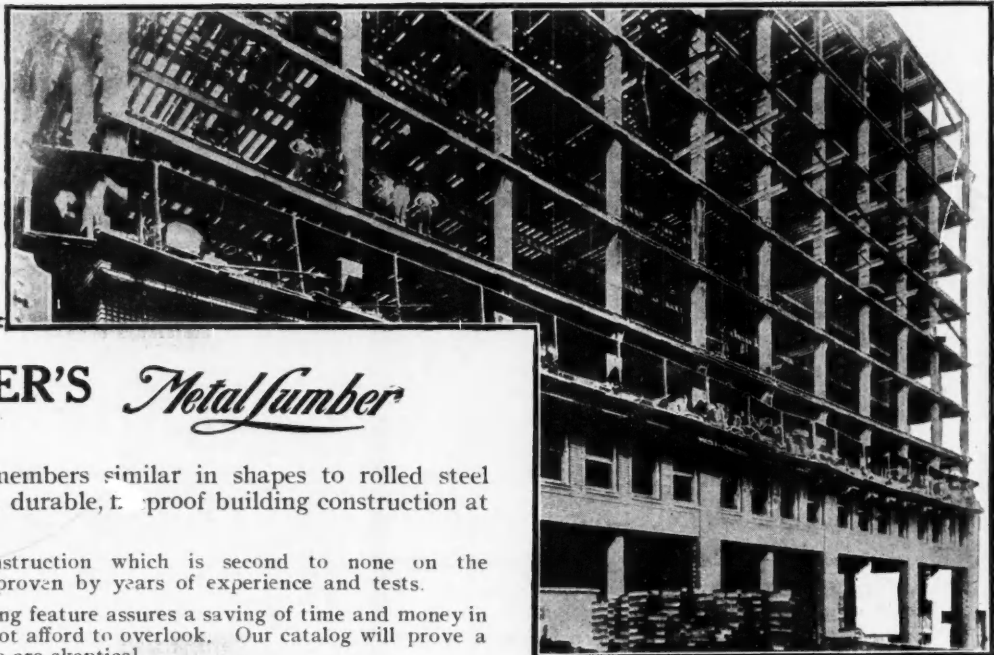
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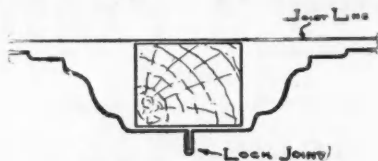
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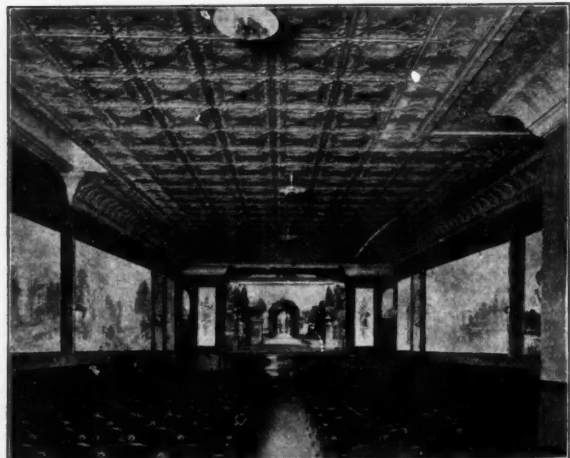
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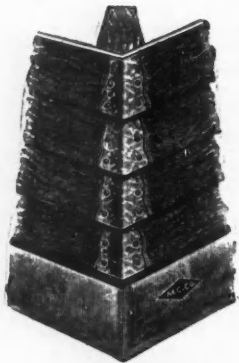
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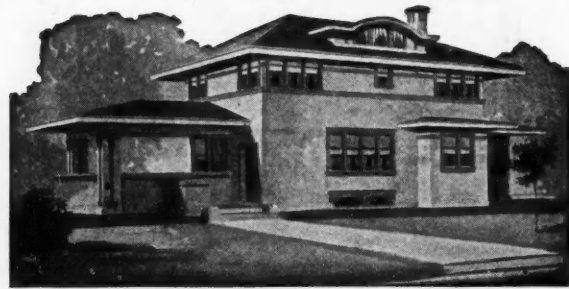
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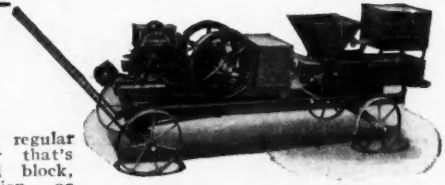
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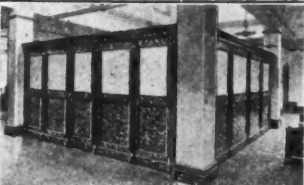
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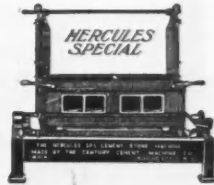
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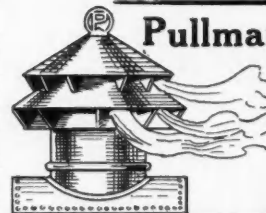
EVERY CARPENTER can make Roof-framing with the Universal Pitch Gauge. Yet it marks more framing in less time than any other tool or method. More pitches—dozens. More cuts, etc., for each pitch—22. Any pitch in five minutes. Irregular and octagon hips. Much other framing. Stair Gauge. Description Free. \$1.00 delivered. Money back if returned. **John Parkhill, Rochester, Minn.**

FREE—\$1.00 Certificate and 4-inch rule. See Ad Page 143. **GAGE TOOL CO., Vineland, N. J.**

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Miscellaneous

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Special System for Moving Picture Theatres.
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Mfg. Co., 21 York St., York, Pa.**

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Use a Van Guilder Hollow Wall Concrete Machine

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EVERYBODY WANTS BETTER LIGHT. HERE IT IS




This new 100 to 700 candle power light turns up and down like gas. One-third cost of electricity, gas or kerosene. For home, church or store. Anyone can operate. Perfection guaranteed or money back. Write for catalog (A. C. B.) Dept. 20. Agents Wanted. **BRILLIANT GAS LAMP COMPANY**
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HOISTING ENGINES

Specially Designed for Builders

Write for Catalogue No. 20

The John F. Byers Machine Co. Ravenna, O.



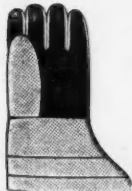
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Buy a Standard Typewriter. Your choice of late style Visibles, etc. Prices lower than other cash prices. Perfect machines only. Guaranteed for one year. 5 days Free Trial. Do not buy a machine until you have my bargain prices and terms. *Write Today*

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UNBREAKABLE—INVESTIGATE
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 Let us prove this.
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One dozen pairs like illustration only \$2.60. Post paid anywhere in U. S. Sample pair 25 cents silver. Every pair guaranteed to wear or your money back if you want it.

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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.

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S. CHENEY & SON, MANLIUS, N. Y.



Bottom View Showing Center Bearing



The Eau Claire Chalk Line Reel

Always ready; holds chalk and line together; uses solid chalk, no powder. We furnish no line. Sent to any address prepaid, 75c. We handle Eau Claire chalk. Agents wanted.

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Sit at This Table and Earn \$200 a Month

Learn to be a Draftsman



We will show you how you can do it. Write us and we will send you full particulars. No enrollment. No first payment. Your own ability is what counts. No \$10 down, \$10 a month game. Just write and find out. Catalog C. B. free.

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 30-32 CLINTON ST., NEWARK, N. J.

ONLY SELF-SETTING PLANE

Sent on trial as per circular

Our \$1.00 certificate if you mention this paper.

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Vineland, N. J.



A UNIQUE TIME SAVER.
 The Jackson Aluminum Line Level is a mighty small device; it brings about a tremendous saving of both time and labor. It takes the place of the old-fashioned sixteen foot straight edge, yet it can be carried in your vest pocket.

No contractor, builder, carpenter, mason, bricklayer, architect or plasterer, etc. can afford to be without one. Just stretch your line and hang the level on it—It's positively accurate. The complete outfit is put up in a neat leatherette case and consists of the level with a 40-ft. line also a spring clamp for attaching the level to a steel square or pocket rule, thereby serving as a plumb rule or bench level. Ask your hardware dealer or send \$1.00 for the Level outfit complete post paid. Send for our Catalogue of Tools.

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WITH POSITIVE GAUGE
CARPENTERS and BUILDERS
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 Best workmanship and material used. Every door check guaranteed to give satisfaction. Ask your hardware dealer for the Worcester Blount. If he doesn't have it, write us.
WORCESTER MFG. CO., Worcester, Mass.

EVERYTHING in Guaranteed Plumbing and Heating Supplies at wholesale. Our \$200,000 establishment behind our guarantee. Send for complete CATALOG #1.
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OF QUALITY
MINERS The AULD & CONGER CO. MANUFACTURERS
 ESTABLISHED DEPT. B. CLEVELAND, OHIO. 1870

SLATE WE HAVE WHAT YOU WANT
In Roofing Slate, Slate Blackboards
Structural and Plumbers' Slate
SATISFACTION GUARANTEED IN QUALITY AND PRICE
ASK FOR DELIVERED PRICES
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Send us two or more names of persons who are interested in or want to buy Hot Water Heating Plants and we will send you this scale. Back inches are divided into 6, 10, 12, 20, and 40 parts. Also free catalog on request. Mention this paper.

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Announcing

*the completion of our
new factory for making*

FLEX-A-TILE

Asphalt Shingles

FLEX-A-TILE Asphalt Shingles--both "Giant" and standard--are now being made in the largest and finest roofing factory in America.

The building itself is of reinforced concrete construction, replacing not only those burned but all old construction of wood.

It is equipped throughout with every modern facility known to roofing manufacture.

The *giant* machinery insures *giant* production far greater in volume than ever before; it means better quality shingles, too, because of the greater manufacturing economies that now are possible.

We will gladly show you through this entire new roofing plant, whenever you visit here.

THE HEPPE'S CO.

*Manufacturers also of Asphalt Paint, Asphalt Roofing in
Any Finish and Utility --- the Only 5-Ply Wall Board*

1010 S. Kilbourne Ave., CHICAGO, ILL.

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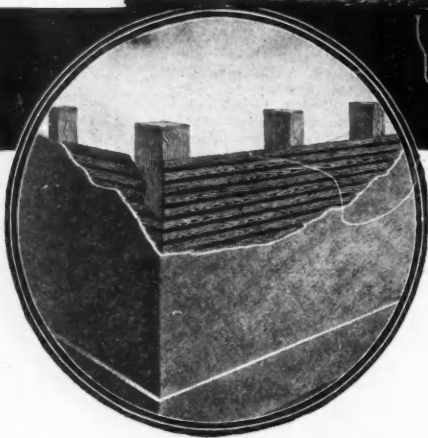
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Randall Co.
Real Estate
and Builders,
Freeport,
L. I.,
New York



Bishopric
Stucco
or Plaster
Board
Used on this
Building

Durability is the Keynote of All Good Building



Bishopric Stucco or Plaster Board Nailed to Studding and Stucco Applied to Stucco Board

Then investigate Bishopric Stucco or Plaster Board. It's simple, economical, practical and makes walls that can't crack, crumble or disintegrate;

—because Bishopric Stucco or Plaster Board is built on time-Tried and Time-Tested building principles and building materials.

—because hundreds of builders and architects have given it every test that they knew and it has always stood the test.

—because it has gone into the construction of hundreds of buildings in the last five years and has won friends everywhere. It will win you, once you investigate and know its superiority over other backgrounds.

Read This Testimonial—One of One Hundred in Our Files

TEWS LIME & CEMENT CO. Freeport, N. Y., March 11, 1914
Mr. Frank Piphorn, 895 Buffum Street, Milwaukee, Wis.
Dear Sir: We have used Bishopric Stucco Board on two houses which we have built during the past fall and winter. We are very well satisfied with the board, and think that it is superior to any metal-lath which can be used. The house which is completed has stood during the winter and shows no effects whatever from either heat or cold. There are no cracks nor any signs of dampness.
Yours very truly,
JOHN J. RANDALL COMPANY,
By E. S. Randall, Treasurer

Do You Want Permanent Plaster and Cement Walls at $\frac{1}{3}$ to $\frac{1}{2}$ the Cost?



"Dampness Can't Penetrate"

Note carefully the application of Stucco on Bishopric Stucco or Plaster Board in circular illustration; then study the diagram below and you will easily see that our claims for Bishopric Stucco or Plaster Board are true.

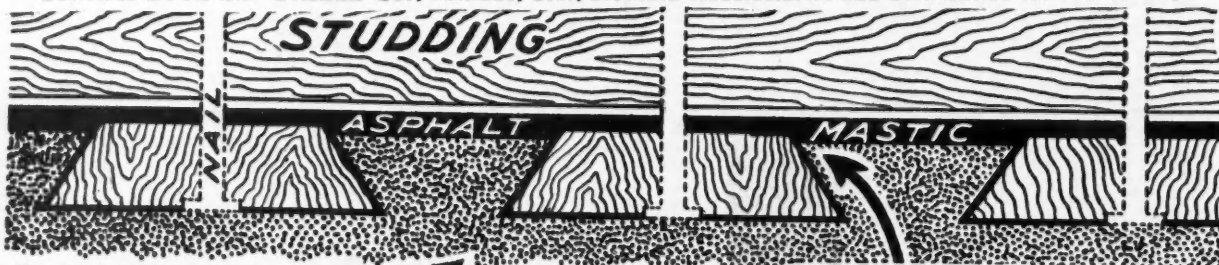
It's a money saver and reputation builder.

We absolutely guarantee Bishopric Stucco or

Plaster Board to be as represented, and to give perfect satisfaction.

FREE samples and handsome illustrated book "Durable Homes by the Bishopric System" contains latest scientific information on stucco work of great value to every Builder. Write for your free sample and copy now.

THE MASTIC WALL BOARD AND ROOFING COMPANY, 601 Este Ave., Cincinnati, Ohio
CENTRAL DOOR AND LUMBER CO., Portland, Ore., Licensed Manufacturers and Distributors for Pacific Slope



STUCCO FINISH ↗

NOTE THE UNDER-CUT- THIS IS THE KEY THAT MAKES STUCCO STICK

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN CARPENTER AND BUILDER

Make Two Profits Instead of One and give your Client a Better Job!



When you take a contract for building or remodeling you consider yourself fortunate to get a living profit from the labor without making a cent on the materials. This is especially true of the item of plastering which involves the employment of a sub-contractor with mechanics belonging to another trade, demanding very high wages and complicating your problem in every way.

Eliminate this item. Keep your own men on the job from start to finish; make a profit on the material as well as the labor and give your client a better job, a more durable, economical, handsome and sanitary house, one that you can guarantee for a lifetime, by using only

ROBERDS *Ideal* WALL BOARD

Our method of co-operating with our contractor agents, furnishing them this splendid material at dealers' prices, and assisting them to get business at business-like prices, is helping many builders to increase their trade and their profits. We always protect our agents, refusing to sell direct to consumers in territory where we have representation. We refer all inquiries from our national advertising to these agents and we furnish them

with sales-making literature and advertising matter.

Think what this service would mean to you. It will enable you not only to furnish the best wall board in the world at a price that will get the business away from all competition, but it will also make you two profits on every job, multiply the volume of your business and put you on the map as the most progressive contractor in your locality.

Our advertising campaign for the fall and winter is now commencing. Inquiries for Roberds Ideal Wall Board will pour in all winter long. If you want to get the benefit of this advertising in your locality write today for our proposition. No obligation involved.

Roberds Manufacturing Co.

J. W. Roberds, President

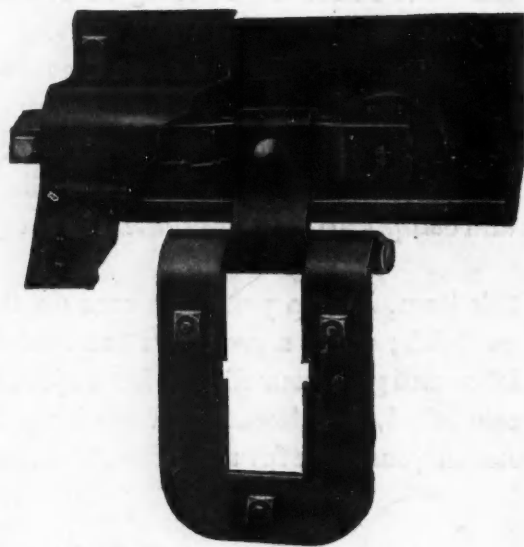
100 Railroad Street

Marion, Indiana

COUPON
Roberds Manufacturing Co.,
100 Railroad Street, Marion, Ind.
You may send me your Contractors' Propo-
sition.
Name.....
P. O.....
State.....

Tyrell

IMPROVED STORM-PROOF HANGERS AND RAIL



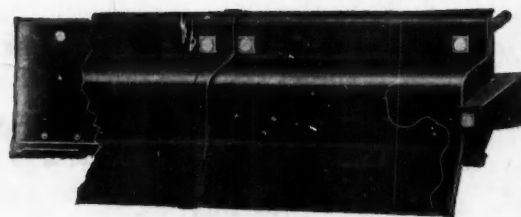
No. 77. FLEXIBLE

During the past few months, we have made a number of important changes in the construction of Storm-Proof Hangers and Rail. These changes are shown in the accompanying illustrations.

The drop-strap in the hanger has been shortened, bringing the door up closer to the rail. The following changes have been made on the rail:

The cover has been lengthened to cover top of door and makes a more weather-proof job. The cover-splices have been eliminated, and a new construction is used for the end. The same method of packing is still used.

With these changes and improvements, you cannot afford to use any other combination of hangers and rail



STORM PROOF RAIL

*Send for illustrated circular and
give dealer's name.*

NATIONAL MFG. COMPANY

STERLING, ILLINOIS

John

