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Wm. L. Hutcheson Succeeds to General Presidency of Carpenters' Union

SUDDEN DEATH OF JAMES KIRBY, LATE PRESIDENT, COMES AS SHOCK TO MEMBERSHIP AND FRIENDS OF UNITED BROTHERHOOD

AFTER an illness of less than two weeks, James Kirby, general president of the United Brotherhood of Carpenters and Joiners of America, died Oct. 8 at Indianapolis.



WM. L. HUTCHESON,
New President United Brotherhood of Carpenters
and Joiners of America.

from appendicitis. Mr. Kirby long had been an active and influential factor in the labor movement in the United States. He was elected president of the Carpenters' Union in 1912 at the convention in Washington, and was re-elected at the Indianapolis convention last year.

He first became identified with the labor movement in Chicago, where he was active in the carpenters' organization. He was known as the leader of the conservative element in the labor movement.

Mr. Kirby was 50 years old. He was the first president of the building trades department of the American Federation of Labor, and held that office until 1910, when the carpenters' organization was suspended as the result of a disagreement over metal trim work. For fourteen years he served as a delegate to the conventions of the carpenters' organization, and also had been a representative of the carpenters' organization at the American Federation of Labor.

Mr. Kirby has been succeeded as head of the carpenters' organization of William Hutcheson, first vice-president. Mr. Hutcheson has been in Vancouver, British Columbia. He was elected first vice-president at the time Mr. Kirby was chosen president and originally came from Saginaw, Mich.



THANKS!

To the Editor:

Peoria, Ill.

From its first number I have been a reader of the "A. C. & B." and observed its useful building information contributed by the editors and readers from time to time. I have often, in my humble way, tried to imitate the Boss Carpenter's noon-hour talks over my mid-day lunch, and when the boys found out that I was only reading what the real Boss said in the "A. C. & B.," well, the laugh was on me, and since "The Man from the Lumber Yard" has got it on me, and I do not have any "Jasburys" nor "Pick-Ups on the Job" handy by, I will just say that if you have trouble with your square tell it to Mr. Woods of Steel-Square fame.

The new department—i. e., Miscellaneous Building Plans—can surely prove nothing less than valuable to at least part of your readers.

Have today received "Mechanical Drawing" book. Thanks.

Wishing you success, I am Yours truly,

JOHN SCHLEGEL,

Supt. of Construction, G. F. Rabehl Bldg. Co., Minneapolis, Minn.

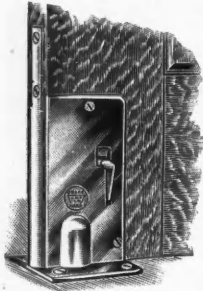
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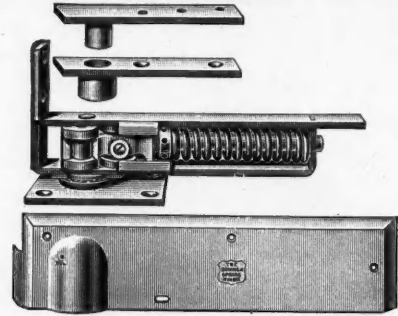


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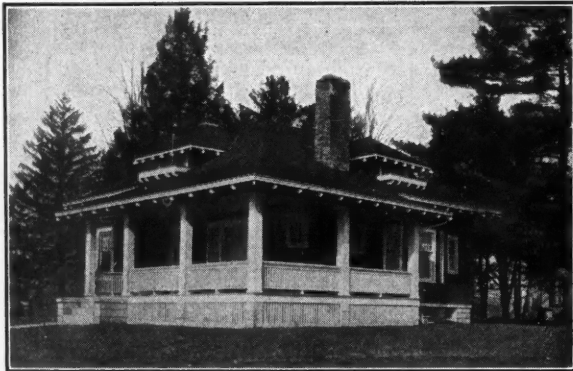
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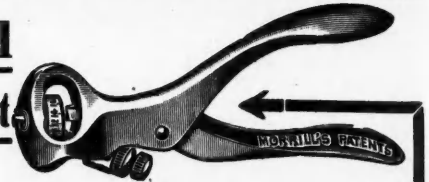
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CHAS. MORRILL

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The
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VOL. XX

NOVEMBER, 1915.

No. 2

Accidents That Could Have Been Prevented

ACCIDENTS are occurring every day in the building industry that have no business to happen. While some hazards are necessary and builders must face them, the majority of accidents result from carelessness.

In "American Industries" for October quite a list of actual accident cases are cited—some in the building and woodworking line, some in other branches of industry. They paint a much too common picture, and point a moral that every one of our readers should grasp and take home to himself.

An employe working in a coal conveyor gallery violated the rule requiring the use of goggles and advanced for his so doing the reason that he had expected to be there but a short time. His reason was not good in this case and did not prevent a piece of flying coal from becoming imbedded in his eye.

It is always best to be careful first.

A fitter after setting a meter failed to make the usual test after turning on the gas, and consequently did not discover a leak that caused a personal injury to the consumer as well as damage to his property when a lighted match was used to search for it.

Forgetfulness has caused many a train wreck, many a catastrophe, so be careful not to forget to perform all of your duty and not only part of it.

A gin pole was left lying in such a position that it protruded into a roadway between two buildings in a works yard with the result that an employe fell over the pole and was injured.

Here happened an accident for which there was no reason except inexcusable carelessness.

An employe while using gasoline struck a match to light a cigarette. An explosion followed, causing severe burns. Comment is unnecessary in this instance.

Meter repairer was soldering a meter and the solder came in contact with some water, causing it to "pop" into his eye.

As moisture is likely to be present in meter seams, goggles are suggested for use while doing this kind of work.

Employe was holding bar while another was striking with sledge. He missed the bar and struck the employe holding the bar over the eye.

Had tongs been used to hold the bar, the accident would not have occurred.

A main ditch was shored properly except at one point. This particular point caved and an employe was carried into the ditch with the earth and injured.

If the trench had been completely shored, this accident would have been avoided.

MORE WINTER BUSINESS



How our Readers keep the Dollars Coming in during the quiet Building Seasons

Here is an Influential Concern that Can be made a Thing of the Past—With

More Winter Building Business,—Is It Possible to Create It?

REASONS FOR AND AGAINST WINTER BUILDING AS BROUGHT OUT BY INVESTIGATION AMONG 6,000 ARCHITECTS

By A. T. Hugg,

Advertising Manager Detroit Steel Products Co.

“**M**ORE Winter Business” and ways and means of procuring it, is a subject of considerable moment to every building material manufacturer, as well as to architects, contractors and in fact to all connected in any way with the building industry. Desiring to get first hand information on building conditions, with a view to the winter marketing of Fenestra solid steel windows, the following circular letter was written over 6000 architects throught the United States:

“Will you give us your opinion?”

“As a thoro student of building conditions, what is your opinion about this:

“Building increases in the summer, but decreases in the winter. Supply people who want to keep their factories running at uniform speed, are trying to secure in the next six months, some of the business, which, ordinarily, would not be released until next spring.

“The question is—if prices, service, delivery, etc., were especially attractive, is there enough business that could be released during the next six months to warrant special effort among supply people in a campaign for ‘More Winter Business’?”

“Your reply will help us determine the correct answer to our problem. May we hear from you in the enclosed stamped envelope? Very truly yours,

Detroit Steel Products Co.”

The letter was mailed on Oct. 1, and replies are still coming in. Hundreds have already been received and they indicate an unexpectedly wide-spread interest in the question of winter building.

A tabulation by States, of those replies already received indicates that “pros” and “cons” are about equally divided. California offers the single exception, members of the building profession there being united in the belief that the lower Pacific coast will not respond to a winter campaign by supply people.

New York City and New York State break almost evenly 50-50. Chicago, in spite of recent building reverses, shows a lively interest with opinion about equally divided.

The “Negative Vote”

An analysis of the negative vote is interesting. Inclement weather is of course advanced by the doubtful ones as the chief reason why a winter building



For CARPENTERS and BUILDERS

Prize winning letters in Our Fourth Annual - Competition



Believes Much of the Winter Dullness Other Manufacturers Join in This Effort?

campaign would fail. Some are skeptical because of the war and others blame bad business to the democratic party. A number say it's the tariff and a few believe "folks always have built in the summer and always will."

These letters of course bring out every conceivable reason why it is bad business to build in the winter and impossible to get the owner to consent to such a course. Here is a partial list of the arguments advanced:

"Owners do not want to build in the winter time and pay the sum necessary to keep a fire going for the builders."

"Builders are not governed by opportunities in the price of any material, but act at such time as suits their purpose."

"The increase in business during the spring and summer months is a physiological factor and cannot be regulated by the adjustment of price."

"The depreciation in the character of the work done in winter is the greatest factor in discouraging starting work at that time of year."

"Changes in drawings are made up to the last minute so that it is hard to place definite orders in advance of letting the general contract."

"Reduced prices in the winter time would operate to compel the same low prices in the summertime."

"An investor rarely plans very far into the future. He waits until the demands are on him and then figures that the tenants must pay rental that will give the proper

return on the investment."

"The margin of saving would be so small that it would be no inducement for clients to build under poor weather conditions."

"It costs twice as much to lay brick in cold weather and carpenter work the same, also when the building is complete results are unsatisfactory."

"It is difficult to get the owners to even start the plans more than a few weeks in advance of the time building operations are to begin."

"Outside of the larger cities and towns contractors are not equipped to carry on work during extremely bad weather."

"Winter building has no advantages because contractors and sub-contractors figure just as high for winter work as for summer work."

"People as a rule are slow to take advantage of low prices when money is tight. Under such conditions they apparently have a fear for the future."

"It is pretty hard to drive a man to the dentist until he gets a toothache."

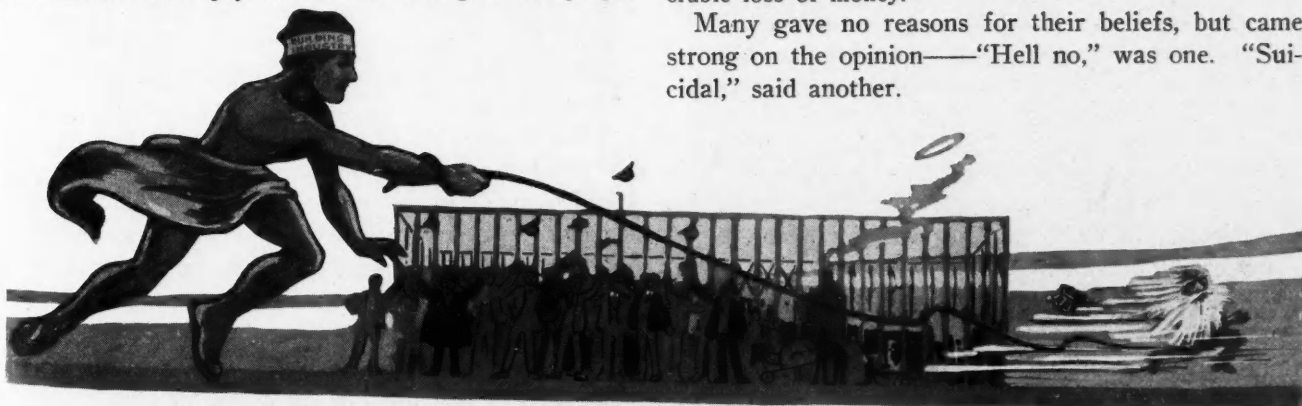
"Manufacturing as related to the building business is entirely a matter of demand and demand is as far as building is concerned not to be artificially stimulated."

"A dull season in my business is a good thing, because it gives time to clean up the loose ends and enables everybody to draw a long breath and get ready for the next drive."

"It costs at least 10 per cent more to carry on construction work during the winter than it does in summer."

"The delay in winter building often occasions considerable loss of money."

Many gave no reasons for their beliefs, but came strong on the opinion—"Hell no," was one. "Suicidal," said another.



The Positive Side of It

On the other hand those who look favorably on the idea are equally specific.

"We are practically in the same position as you are," writes one. "The architect and his force are practically idle during the fall and winter months, and then during the spring and summer months they are forced to work night and day. We are continuously advising our clients to make their preparations for building and order their materials during the winter months, and we believe that it would be a good feature for all parties thruout the building trade to make a concerted action persuading prospective builders to have their plans and specifications prepared in the fall and winter months. We believe your proposition of a campaign for more winter business would be a pay-



Photo of some of the Replies to the 6,000 Letters sent out to Learn the Attitude of the Architects toward Winter Building.

ing one and would give the same our hearty endorsement."

No one will deny the strenuosity of a New England winter, yet a Boston architect writes:

"My experience leads me to believe that building work in winter is practically as well done as work in summer. Of course there are more days lost during the winter, but owing to the fact that labor can be more easily obtained in winter, I believe that this more than offsets the extra cost. I think a strong campaign for more winter business would be a good thing, but you want to convince the prospective builder that he can get as good a job in winter as he can in summer."

Here are some extracts from other letters:

"I think your suggestion is good, in fact I have tried to make owners see the advantage of this proposition myself, and I have quite a bit of work that I think will develop within the next six months."

"I have found that a good talk on the economy to be effected during winter construction influences many clients and we have been fortunate enough to be kept busy continuously on that account. I believe that such a campaign as you contemplate would be well worth while."

"Publicity towards starting operations on spring building in the fall would certainly be a benefit to the manufacturer and the architect, as there is no argument quite as strong as saving money to the prospective builder. I believe a campaign such as you propose would be very effective."

An Advantage to All

"Winter building will work to the advantage of manufacturers and employees, and to the advantage of mechanics, contractors and architects and especially to the advantage of owners and investors whose work will not be unduly rushed, and who will obtain better workmanship, better material, better prices and better building. Before the bad weather sets in, is the time to emphasize the advantage of winter building. Suggestions to the public will certainly do good. A national campaign along this line should work wonders and manufacturers are the people who are in position to promote it."

"I have tried for years to get people to make up their minds to build in the winter."

"It would seem to me that a well developed effort on the part of many manufacturers working together might be of benefit and obtain good results."

"I strongly advocate such a movement."

A New York City man says:

"There is no reason why business should not be as good in winter as in summer. We can build all the year round if the cost of material is such as to make it attractive to our clients. I should like to see a movement of this kind started and believe much good could be derived from it."

"There is too much rush in summer building. Anything that would tend to equalize and steady the business thruout the entire year would be of benefit to everybody concerned."

A New York City man says:

"We heartily approve of your idea."

From a well known firm in Indianapolis comes this:

"We are wrestling with the same problem that confronts you, that of supplying business the year around for our office at about uniform speed. It seems to us that the only fellow who can release the business and put it into our hands is the owner himself. We do not believe that the architect is any more able to keep the business going than the factory. If some appeal could be made to the owners who wish to build in the spring to get them to have their drawings made in the fall our part of this problem might be nearer a solution. We have often suggested this arrangement with owners, but we have not been successful in convincing them of the advantages of this plan. If you have any suggestions along this line we would appreciate having them."

From Dean Martin of Cornell

The reply from Prof. Clarence A. Martin, Dean of the College of Architecture, Cornell University, is interesting. He writes:

"I am not closely enough in touch with the business end of architecture to warrant my giving an opinion on your question. The principle back of the question, however, is sound, and there ought to be a way of working it out."

A particularly strong advocate of winter building is a well known Cleveland concern. The secretary says:

"We are in receipt of your circular letter of the 30th ult., and carefully note contents of same. We believe that you have struck upon a scheme which will appeal to many architects and engineers. We let contracts on the Crown Building of this city on the 24th of December, 1914, and are positive that we secured figures at least 10 per cent lower than we would have secured had we let contracts three months later. We expect to let contracts on another building about the same time this year. We have advised our clients that

the best time of the year to secure good prices on building materials is in the dead of winter and we are firmly convinced that anything that you or other material men can do to reduce prices will materially help building construction during the cold season."

"We never allow the season of the year to interfere with our construction work," writes an engineering concern in Philadelphia.

One of the oldest and most experienced architects in Chicago says the winter building idea is one of the policies he has advocated for years.

Support Seems Assured

Just how much can be done to foster "More Winter Business" to the advantage of owner, contractor, architect and building supply people, probably can only be determined by actual test and by the strong cooperation of all those concerned. If the supply people and the architects are interested enough to make a concerted effort in this direction, they will undoubtedly receive hearty support from other branches of the building profession.

FIRST PRIZE LETTER: Power Woodworking Shop Makes Contractor Boss of the Situation

Elkhart, Wis.

Winter Work Editor

"A. C. & B.":

I am only twenty-seven years of age, but have been working at my trade for eleven years. I have been contracting for five years, and have been running my power woodworking shop for two years. There are several other contractors in this town; but they seem to stick to the old way of doing their work by hand, and are slowly falling behind, as they can't come up to the quick and accurate work of my machinery. I have

ARTHUR B. KESTELL

Carpenter Contractor

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Grill Work, Store Fixtures, Screens, Combination Doors, Etc.

Elkhart Lake, Wis., _____ 191

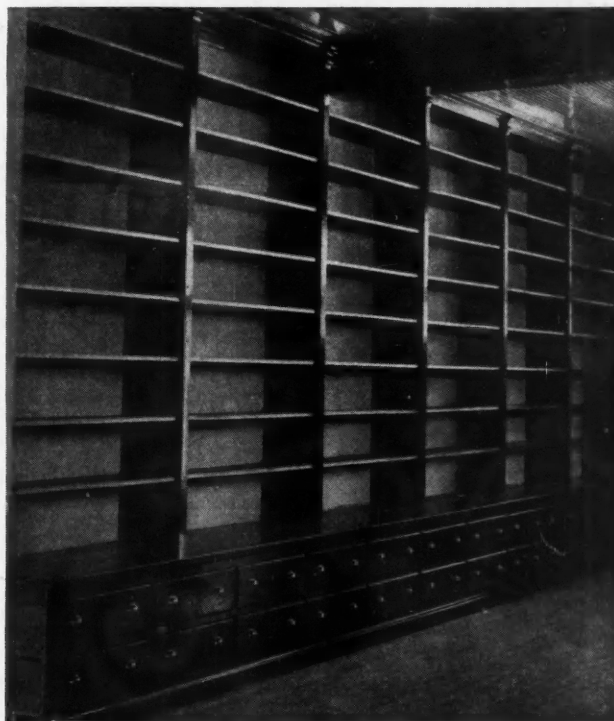
frames, screens, screen doors, porch posts, buffets, colonnades, circular mouldings and odd sash and doors. I have made over \$1,500.00 worth of store fixtures; part of these fixtures you will see on the wagon in front of the shop. When I had the fixtures all



Children's Dining Room Set. Table 18 inches High. The Kestell Shop Turned out 100 Sets at \$4.50 each.

a crew of six men, and have all the work I can handle. I have two men working in the shop, and sometimes have work for more. Since I have built my shop, I have found work the year around.

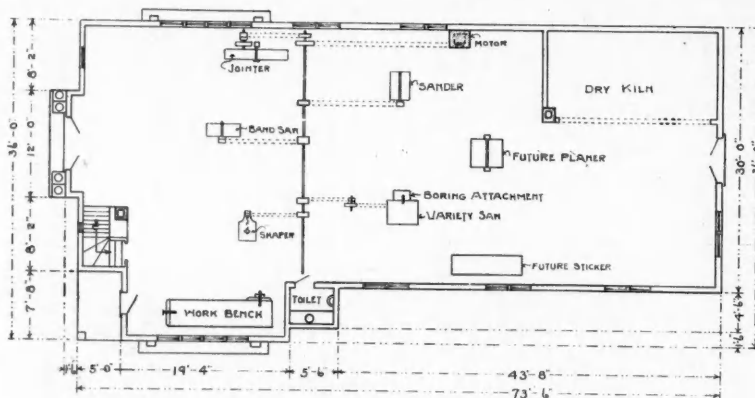
I have been making all of my window frames, door



Shoe Store Shelving Built in the Kestell Shop.



Mr. Kestell Standing in the Doorway of His Shop Seeing off a Load of Store Counters Just Completed. Note Architectural Style of Shop Calculated to Advertise the Business.



Floor Plan of Shop Showing Arrangement of Machines.

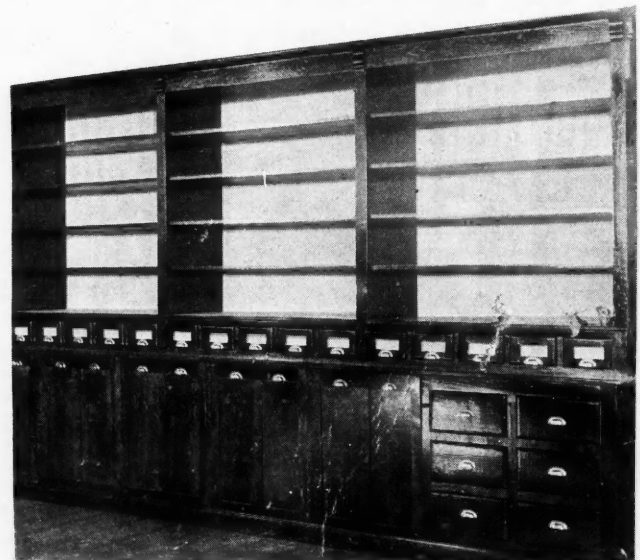
done and the man paid me, he said that he had figured it up and according to prices elsewhere he had saved \$1,000.00. He seemed to be very much pleased indeed. I also got the contract to build a fine residence for this man.

Last winter, along towards Christmas, I thought I would make something for my little daughter, so one evening I went over to my shop and finally decided to make a little table. I got some two-inch lumber, sawed out some legs, nailed up a little square shaft, put on a round top, and I thought it looked fine; the table being 18 in. high and a 20-in. top. After I had the table done, I thought I ought to have some chairs, too. So I got some 1-in. lumber and, after working at it for a while, I glued all the pieces together, and it looked like a chair. I made four of these, stained

and varnished them up nicely, and was about to take them home, when a furniture dealer came up to my shop and saw them. He offered me \$4.00 for the lot. I told him that I wanted \$4.50, and he took them along, and sold them again the same day.

The next day he came up and put in an order for 100 sets for \$450.00, and I had some time to get out an extra set for my little daughter.

I have also made a lot of other furniture; for instance, writing desks, music benches, music cabinets, and a lot of mission fur-



Grocery Store Shelving and Bins made in Kestell Shop.

niture. But I only do this kind of work in the winter time. In the summer time I am always kept busy with the building line, and in this line all a person needs is a power working shop and the AMERICAN CARPENTER AND BUILDER as a guardian.

I draw all my own plans and do my own blue printing.

Now for the last thing, I would like to ask you a few questions; which would be the best way and the cheapest to heat my dry kiln? I thought of walling up some kind of a fireplace with grates in, then put another brick casing around this and put in an electric fan to force the hot air into the kiln. I do not want a steam system, as it would be apt to freeze on me at night.

ART. B. KESTELL,
Carpenter Contractor.



Dry Goods Store Counters and Shelving Made in Kestell Shop.

FIRST PRIZE LETTER: Draws House Plans Full of Latest Ideas for Use in Busy Season



Planning Up-to-Date Houses During Winter Evenings.

WILLIAM H. HUMPHREYS
CONTRACTOR AND BUILDER

NEPERA PARK, N. Y.

Neat Business Letter Head Used by Mr. Humphreys.

Winter Work Editor,
"A. C. & B.":

It certainly is a good thing "to keep the dollars coming in during the winter months." However, the next best thing is to plan so that during the summer months dollars will roll in fast enough to make up for the winter. Then you can spend your winter,

or part of it at least, figuring the best development of plans, the exact amount of lumber, trim and hardware, and all the requisites for home building. Your houses will fairly spring up before your eyes if you do not have all this detail work to do when you could be doing the actual building.

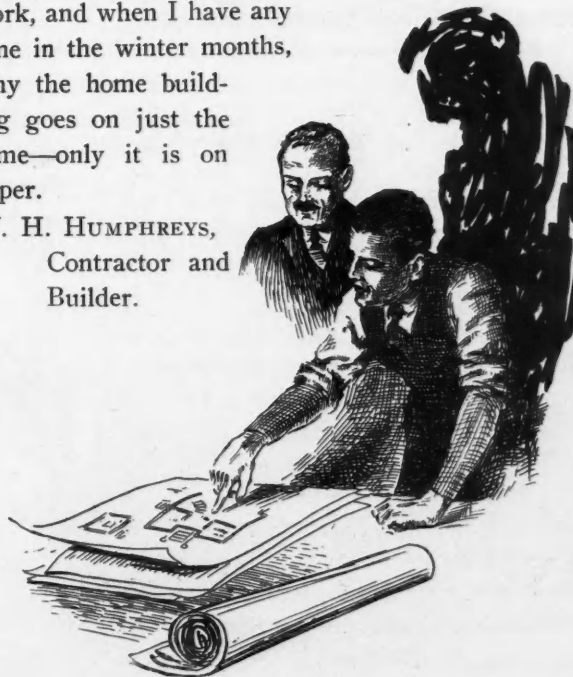
How could you spend a more interesting evening than deciding the best arrangement of this kitchen, or how that space can be used to the best advantage? It is the houses that have been carefully planned that rent and sell the quickest. I always try to have at least one new device that I have not used before in

each house. I always have a dozen or more plans on hand, made ready in winter months, so that when a prospective customer comes to me I can show plans and figures of any kind that may be desired.

One winter when times were very hard I picked up quite a sum of money at caning chairs. There, I heard somebody say, great business for a carpenter; but so long as I need work and can get anything that is honest, I will take it.

Home building is my real work, and when I have any time in the winter months, why the home building goes on just the same—only it is on paper.

W. H. HUMPHREYS,
Contractor and
Builder.



"I Always Have a Dozen or More Plans for Prospective Customers."

FIRST PRIZE LETTER: *Gumption Required for Any Special Work*

SHOWING HOW ONE MAN CAN SUCCEED WHERE OTHERS FAIL

Minot, S. Dak.

Winter Work Editor "A. C. & B.":

You can talk all you want to about winter work; tell about every kind of a job that can be done in the winter, but that won't bring you anything unless you hustle out and drum up the work.



Don't Mope Around with a Grouch.

Don't mope around with a grouch. Nobody is going to hand you a job just to keep you smiling.

If you want to get your share of the good things of this life you will have to work up your own smile, and wear it while you hustle for your share of the business.

Several years ago, I hired out to a contractor who had a small shop just one

ing counters, hog feeders, automobile boxes, gambling tables, boot-black stands, kitchen cabinets, kitchen screens, desks, tables, and repaired all kinds of furniture, even to washing machines and churns.

We didn't always make money on every job, but, by gum, I was there to get the business, and I knew that there was a good profit in it as a whole. I never turned down a job that I could possibly do. Often I worked several hours overtime on a difficult job, and didn't charge for the extra time, but, believe me, I was well paid for it in the end.

Since I left that shop the patronage has gradually dropped off. The shop is used mostly as a place to get out window frames and screens for the outside jobs, and the work is slack in the winter.

Now, what made the difference? I'll tell you. I ran the shop to accommodate the people. See the point? Just what a good business man does in any line. I gave them good service and charged what it was worth. Once in a while a man would kick on the price, but I noticed that they all came back for the same kind of treatment again.

Here is a sample of the way I got business. About the 10th of February, I told my hardware man that I would buy a new heating stove and a new range if he



The Shop Was Used as a Loafing Place.

block from Main street. It was a small place, 16 by 32 ft., but a mighty good place to catch business. The boss didn't care much for small jobs, and none of the boys wanted to work in the shop; so I, being the last man on the job, was elected to run it.

Before I started to work, the shop had been used as a loafing place, and to keep a man or two busy during rainy days. Half of the time it was locked up. But before I was on the job six weeks I had more work than I could do. Inside of two months we had to hire an extra man, and in six months we moved to a bigger place; had a saw rig and planer working, and two men busy in the shop, and one out on small repair jobs all the time.

We were busy all winter making and repairing furniture, putting up shelving, mak-

would sell it to me on the installment plan, and made an agreement to turn over to him all money I got out of any jobs that he turned my way. He sent the stoves right up, charged me \$97.50 for the two; but before the first of June I had paid for them out of the new work he got for me.

Now I do not claim that my methods would suit every man. I simply got results by working my gray matter, and that's the only way you'll get them.

E. B. HARSHBERGER,
Architect & Builder.



PRIZE LETTER: Money in Agency Side Lines

Kansas, Ill.

Winter Work Editor "A. C. & B.":

I want to say a few words about turning spare time to profits. I have been a "wood butcher" for 15 years, and 1914 was the dullest year I ever experienced around here; so I had either to get something to do on the side, or loaf. I never was very strong on the loafing business, so I got busy and wrote to a number of building specialty firms, and secured the agency for their lines, and did some business with almost every proposition I took hold of. I did enough business to keep up my

expenses, and I believe it got me carpenter business that I wouldn't have gotten if I had laid down and waited for something to show up.

I believe it pays to do something, even at less price, and look busy, than to sit down and wait for something to turn up. I am sure this one little experience has proved that.

I have done a good building business this year, and my agency side line of building specialties has netted me a nice little extra profit which I would not have had otherwise. I never receive a copy of your valuable paper but that I learn something in my line, or some new specialty advertised that would be sure to



The Builder Can Boost the Sale (at a Good Commission) of Many Building Specialties.

interest home owners if they were shown its improvement over the old way.

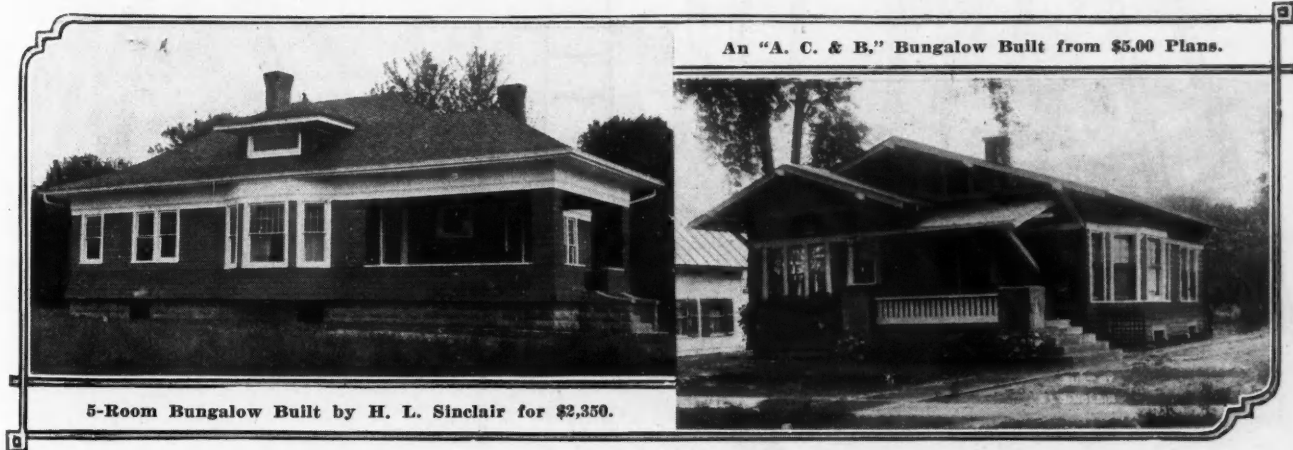
The following are the concerns for whom I have been acting as agent:

- Wheeler Screen Co., Geneva, Ill.
- Elaborated Hardware Co., Terre Haute, Ind.
- Rehm Hardware Co., Chicago, Ill.
- Chas. F. Lorenzen & Co., Chicago, Ill.
- Hornet Mantel Co., St. Louis, Mo.

I have done some business with all of these firms, but have had the best success with the screen and roofing sales. I have made as much as \$50.00 in one week on roofing sales alone, but, of course, that doesn't happen every week.

Enclosed find two bungalow photos. The gable one

A. L. SINCLAIR
The HOME BUILDER
JOB and SHOP WORK
ALL WORK GUARANTEED
Kansas, Illinois



5-Room Bungalow Built by H. L. Sinclair for \$2,350.

An "A. C. & B." Bungalow Built from \$5.00 Plans.

was built last spring, and was taken from the November, 1914, number of the AMERICAN CARPENTER AND BUILDER. It is a duplicate of the plans, only a few minor changes were made in the exterior. This house is strictly modern, and is liked by most every bungalow admirer. It cost about \$3,000.00 complete. The plans and specifications cost me only \$5.00. I was very much surprised to get such up-to-date and complete blue prints at the price. I have worked on plans costing ten times the amount that were not any more complete.

The hipped bungalow was designed and built by me in 1913. It has 5 rooms and bath, hardwood floors thruout except the kitchen and small cellar. This house complete cost about \$2,350.00. All the interior woodwork of these houses is finished with Johnson's Wax, the first house in this vicinity to be finished with wax. It makes a very beautiful finish, and no more expensive than the cheap varnish finish.

There is only one way to be an up-to-date builder, and that is to keep wise by reading your builder's journal. A. L. SINCLAIR, "The Home Builder."

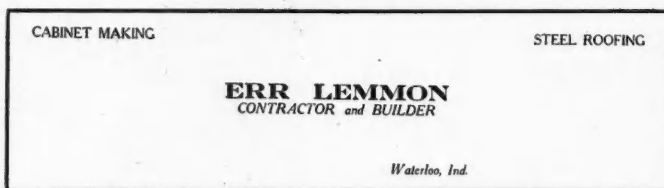
PRIZE LETTER: Busy in Shop Making Screens, Crates and Ladders

Waterloo, Ind.
Winter Work Editor,
"A. C. & B.":

To keep the dollars coming in during the winter months, is easily done if one watches while on jobs during the summer months.

For instance, notice the screening on doors and windows, and in many instances you will find the window screen will be tacked on the window frame. Before leaving the job, try to sell new screens with frames, and you will soon have too much work for bad days in summer, leaving some to be done in winter. Also make a few good screen doors, which you will find will sell at a good profit.

I have a power workshop, where I spend the most of my winter days. I saw and nail up potato and onion crates, as there are many used around here.



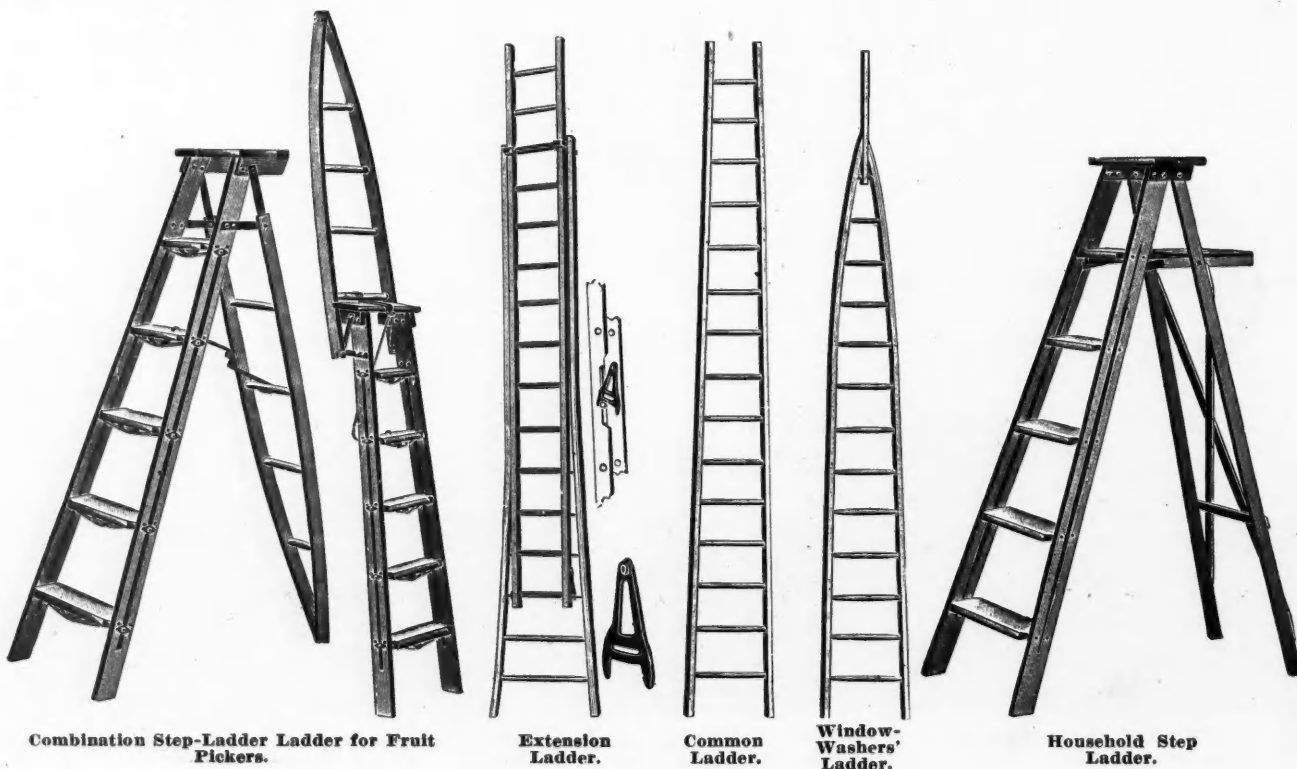
Last winter I built a couple of stepladders for myself for papering in the spring. While at work on these, a couple of my neighbors came in

with some repair work to be done, and there were other ladders to be made; well, it soon looked as if I had a ladder factory.

I have had jobs come to me which did not look good, and would almost turn them down when I would think of what I had read in the AMERICAN CARPENTER AND BUILDER—"Do not let a job slip by because it is small, because this man will have a big job some day."

This is the way I pass the winter days, but there are the long winter nights which mean a good look at the AMERICAN CARPENTER AND BUILDER and a study of Radford's Books.

ERR LEMMON,
Contractor and Builder.



Combination Step-Ladder Ladder for Fruit Pickers.

Extension Ladder.

Common Ladder.

Window-Washers' Ladder.

Household Step Ladder.

FIRST PRIZE LETTER: Ten Hours Each Day as Factory Foreman Not Enough for This Man

**CONTRACTS FOR FIVE BUILDINGS OUTSIDE AND SUPERINTENDS THEM EVENINGS AND SUNDAYS—
HOW A HUSTLER USES HIS SPARE TIME**

Bedford, O.

Winter Work Editor "A. C. & B.":

Having been asked to answer the question of "How can I turn my spare time to profit during the winter season," I will go you one better, and tell you how I make my spare time bring me in a little profit in the busy summer season, and also help all the men who work for me at the same time.

My specialty is being carpenter foreman for a large factory, which keeps me busy ten hours each day at the factory. Besides that, I have a nice workshop at home where I make wood patterns, snap flasks, follow boards, tanks, dip baskets, plating hangers, drawings, blue prints, etc.

I also do contracting any time of the year. At this writing I am building a stucco house which is just about half finished. In the last sixteen months I have built four homes, and remodeled my own, and have not lost any time at the factory during working hours. You probably would like to know how I do it.

Well, I always try and keep my men busy as much as possible, and they appreciate it very much, and do all they can for me on the jobs to which I send them. I only visit the outside jobs once in a while; either an evening, or I may look them over on a Sunday. I draw my own plans for all my work during spare time.

I always try and get my men inside work for the winter; or I look up something for them to do for others by the day, just to keep them going, even if it doesn't bring me anything; because I know that when I have plenty of work they will make a little money for me. I have some work already engaged for the winter months, to be done in my shop in the rear of my home. I will send you a photograph of my home before and after remodeling, and also of one or two other homes.

I always manage to get some building work for my

men to do when we are slack at the factory, so I don't have to lay them off. Now, don't think that I work day and night, because I don't. I find time for pleasure just like other people do who only do a day's work, and sit around evenings.



Mill Shop Foreman Manages Outside Construction Gangs.

I think the AMERICAN CARPENTER AND BUILDER is a great educator, inasmuch as the man who must work all day and never has had the chance to go to a manual training school can get all he needs from it to make him a good carpenter, and get good pay, by just studying the sketches carefully which appear in the magazine every month.

A. J. WALTERS,

Proprietor Bedford Pattern & Mfg. Co.



A. J. Walter's Residence, Bedford, Ohio, Before and After Remodeling.

FIRST PRIZE LETTER: Contractor Builds up Big Success by Having Fully Equipped Power Shop

Winter Work Editor,
"A. C. & B":

Enclosed find my third annual letter on progress attained from year to year, and also a photo of my new factory. The building covers 70 by 85 feet, is two stories high, and fireproof as near as possible. The ground is 100 by 145 ft. I also have a side track to my new building, so that I can get car-load lots without any expense for drayage. The increase of shop work forced me to seek larger quarters, with more improved machinery.

I am also enclosing a photo of the interior of an old building remodeled, which shows you the line of shop work we are doing. *Wood Specialties* is our motto. There is hardly a day but that there is something special for us to do—odd sizes in doors, sashes, screens, counters, show cases, kitchen cabinets, and colonnades. We also get out material for boats, ripping and planing.

I built several special grocery and bakery counters

WINDOW SCREENS — AND — SCREEN DOORS — IN STOCK —	W. C. MARSH CONTRACTOR and BUILDER AND MANUFACTURER OF WOOD SPECIALTIES Fort Madison, Iowa	WINDOW FRAMES DOOR FRAMES — AND — STORM SASH MADE ON ORDERS
<small>OFFICE AND FACTORY, 102-110 One Block West Bell Phone 30-7. Residence Bell 45</small>		

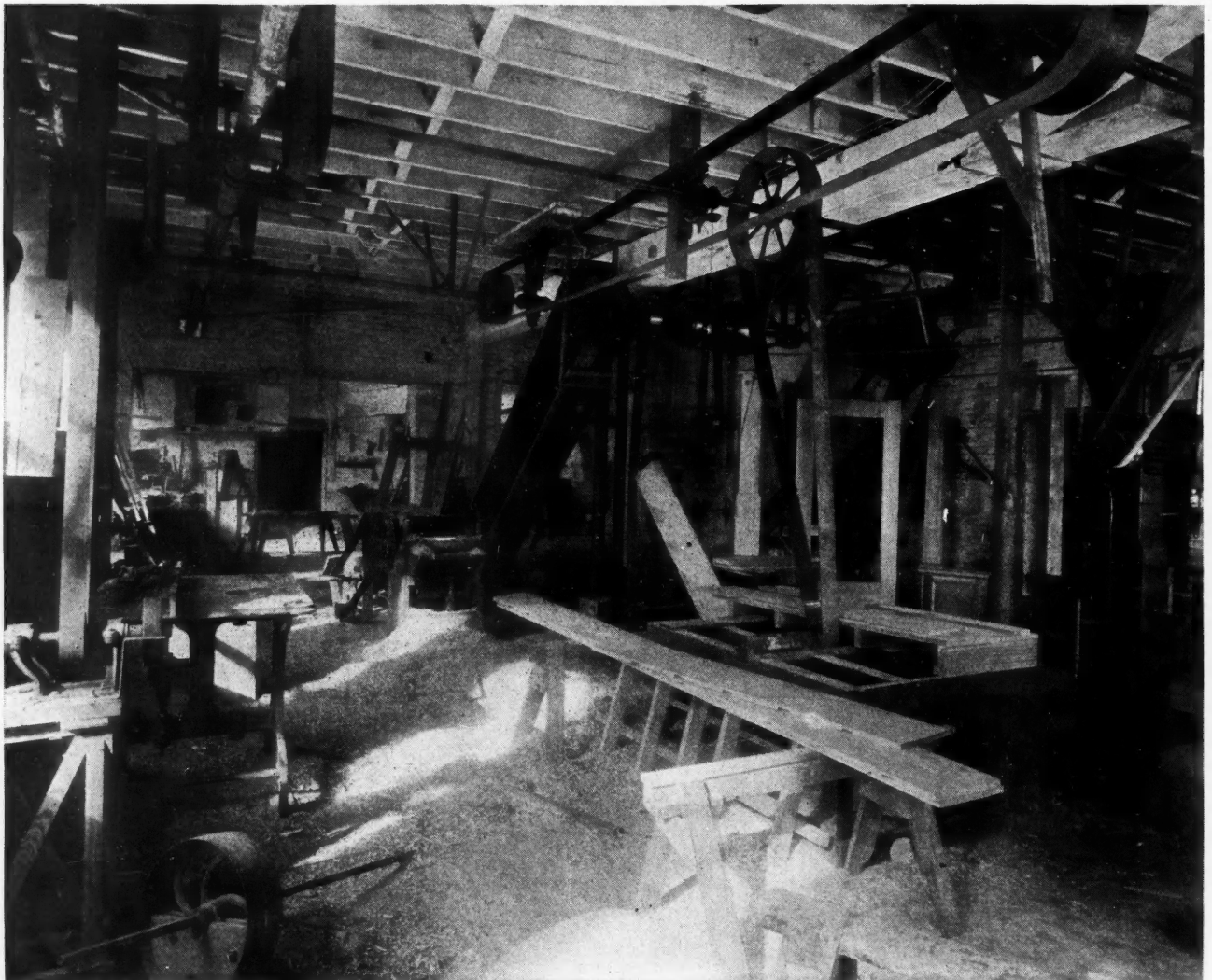
last winter; received \$125.00 for a 16-foot counter, and have another ordered for this winter.

Brother Carpenters:

Words cannot convey to you how urgently I recommend to you to get in line with this class of work, and fill in the missing link. You can do just as well as I have done, while others are looking for something to do. You can have a force of shop men busy; busy with no end or layoff.

I have found from experience a line of work which, if studied, will give you precedence over all your competitors. Specialize on the remodeling of old dwellings; change them to modern, up-to-date. There is not a week but that I am called on to put in new staircases, porches, raise a roof, dormers, or some other such work.

I will give you an idea of my workings. My shop is like a beehive, probably ten will be at work at one



Interior View of the Marsh Contracting Shop, Fort Madison, Iowa. Where All Special Millwork and Cabinet Work is Turned Out and the Seasonableness Taken Out of the Building Business.



The Marsh Shop is Two Stories, Size 70 by 85 ft. Used as Headquarters for His Various Special Contracting Crews, that Handle Anything and Everything in the Building Line.

time, while others are on different jobs of outside work. One crew with my cement mixer will be putting in a foundation, others installing a furnace, another painting, and still another wiring a dwelling. The phone rings; "Is this Marsh's Shop?" Yes. "Can you send a man up to do this or that?" Yes. This is

the way it goes on, in and out every day doing any and everything in the building line.

My son and I each have a car in order to get material and change men from one place to another without delays.

W. C. MARSH, Contractor and Builder.



Millwork Produced in Marsh Shop, Used to Remodel Old House—Could You Ask Anything Better?

A Thousand and One Winter Income Helpers

Methods Used Successfully by Other Builders

Let Every Contractor Build One Winter House for Sale

THEN THERE WILL BE WORK FOR ALL

Winter Work Editor "A. C. & B.": Syracuse, N. Y.

I have always found it very profitable to buy a lot and build a house. In this way, a contractor has work for himself, and can hire other carpenters. If more contractors would do this they could keep the building business up to normal during the winter. If a man has enough to buy a lot and build his cellar, he can get a loan so as to finish the building, and when spring comes around he has a house to sell to the many home seekers.

For a man who has not the money to do this, but is a good carpenter and has a little ability as a salesman, it is possible to go out and get orders, and build window screens. These are becoming more in demand each year.

Your magazine has been a great help to me the short time I have taken it.

Wish you success in your efforts to help others.

C. MOREL,

Contractor and Builder.



Chance to Fix Up Own Home

Winter Work Editor "A. C. & B.": Findlay, O.

To keep busy in the winter, I have been going South, but last winter I made frames and inside trimmings for a house I intended to build for myself in the spring. I sold this house at a nice profit before it was completed, and intend to start another this week, so will have work this winter, when other work is cleaned up.

The other boys in town are selling weather strips, and going to fix up their own homes, put down hardwood floors, and make furniture. The building trade is sure a trade in which one that wins is the one that beats the other fellow at his own game. No lazy man's game, but a game that wants men who can do and make things, and who use their heads for something besides a place to put their hat.

J. L. DETWILER.



Never Troubled by Lack of Work

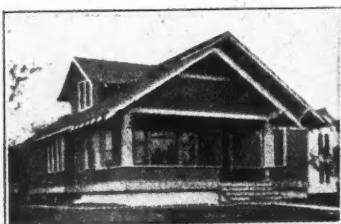
PERHAPS HIS LETTER HEAD HOLDS THE SECRET

Winter Work Editor "A. C. & B.": College Place, Wash.

Enclosed please find order for another year's subscription to your building magazine. I find the paper a great help in my work, but I am so busy that I don't find time to read it as much as I would like to. The question, "How Can I Turn My Spare Time to Profit During the Winter Months?" does not bother me, "But How Can I Get Done What I Have to Do During the Short Days of Winter?"

It is a *rush* with me the year around. All I know about dull times is what other people tell me.

C. C. RULFORD.



PHONE 3304 R5

CECIL C. RULAFORD & CO.

GENERAL CONTRACTORS AND BUILDERS

COLLEGE PLACE, WASH.

Made \$300 Worth of Shop Products

Winter Work Editor "A. C. & B.": Conde, S. D.

I bought a lot and put up a shop 14 by 24 feet, and installed a Parks ball-bearing machine and a 2-H. P. Economy gasoline engine. Last year I turned out over \$300.00 worth of work in the shop, and I made over 130 screens.

You must do any kind of work that comes to you, and I



The Van Ornum Shop, Size 14 by 24 ft.

have found that it pays to do your work well, and not be too high in price, and be friends with everyone.

I have a number of samples of screen wire to show my customers, and I always keep my shop looking nice, which brings me plenty of work.

W. G. VAN ORNUM.



Have Something New to Offer

BUILT-IN FURNITURE GOOD LEADER

Tonawanda, N. Y.

Winter Work Editor "A. C. & B.":

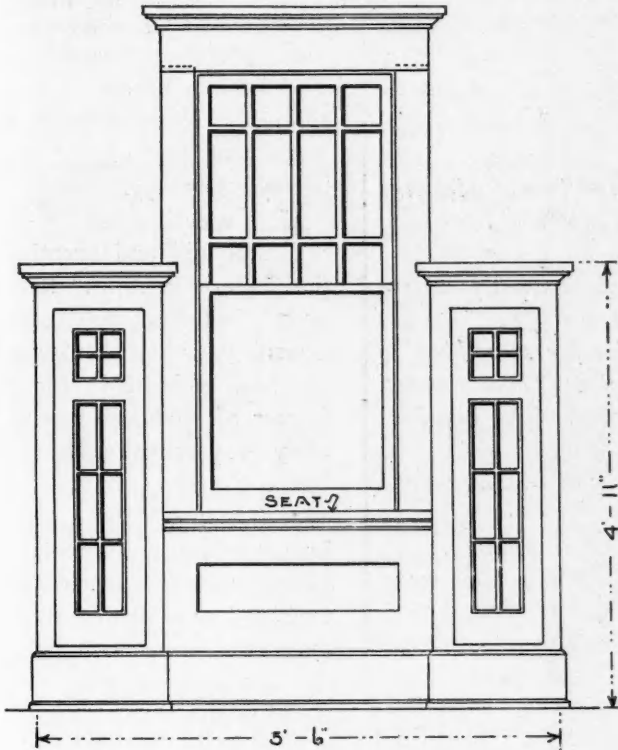
Mr. Contractor, what are you figuring on to keep you busy during the coming dull months of winter? No doubt, you are thinking of doing this thing and that, to help you during the dull spell. Have you anything new to offer to your customers which would be an incentive toward their giving you a job during the dull season? You will, in the majority of instances, admit that you have not as yet decided upon any particular plan in this regard. Very well, then, I will proceed with my story.

Mr. Carpenter Contractor, have you ever given any consideration to the amount of people in your own town who would like to have a so-called built-out or extended window

MANUFACTURERS OF
BEE HIVES AND SUPPLIES
SCREEN DOORS AND WINDOWS
ALL KINDS OF WOOD WORK

MISSION FURNITURE

in their homes? There may be reasons, either financially or otherwise, that may prevent some from allowing you to do work of this kind during your dull time. But would your chances not be much brighter if you had some new idea to offer your clients? Say, for instance, a combination book case, window seat and enough room in chest under seat for shoes, or which may also be used as a shirt waist box, or for other miscellaneous purposes; besides this, it would really give all the conveniences of an extended window without



Combination Window Seat and Book Cases—A Good "Talking Point" for Home Builders.

really extending the same. Do you not think you would be able to rake in many more of Uncle Samuel's shekels with a proposition of this kind than otherwise?

Just try it and see. Make one of these combinations up for yourself, place it in your own home and invite some of your would-be customers to have a look at the same, and you will be surprised at the number of jobs of this nature that you will land.

The book cases on each side of the window stand 4 feet 11 inches high, each case having three shelves for books, and are 12 inches wide and 12 inches deep. The seat for the window and the size of the general utility box is determined by the size of the window to which it is built. In the majority of cases, the size of the box ranges from 20 to 26 inches in depth, and from 3 feet to 3 feet 10 inches in width.

This makes a nice piece of so-called built-in furniture for the most up-to-date place, and it should not be hard to drum up some trade in this the coming dull time.

Let us hear what success you make of this.

R. O. NEWBECKER.

Finds Wall Board Remodeling Popular

Winter Work Editor "A. C. & B.": Vestaburg, Mich.

I am agent for a well-known make of wallboard, ad of which appears in the AMERICAN CARPENTER AND BUILDER. I make a list of the people whose old houses need interior remodeling, or new houses which are not yet finished. First, I mail them a sample of wallboard and literature; then I go and call on them, usually making a sale. As a rule, one job well done brings another. This offers a nice chance for a hustling man to earn a great amount of money.

Next, I do interior painting, which helps along.

Third, and best of all, I have a large, well equipped shop. The equipments are as follows: Gas engine, 2½ H. P., saw, and small mill.

I do all kinds of repair work, anything from Grandma's old rocker to a pair of sleighs. I get a great amount of kitchen-cabinets, cupboards, and other things to make. Last of all, I

General Contracting and Building Plans and Estimates Furnished. Dealer in Roofing Wall Board, Paint, Mill Work, Etc.	R. J. SCHLONEGER CONTRACTOR AND BUILDER
	VESTABURG, MICH.

must give the AMERICAN CARPENTER AND BUILDER a great deal of credit for my success, because it is always on the spot with timely suggestions.

R. J. SCHLONEGER,

Agent for Burglar Proof Lock

New York City.

Winter Work Editor "A. C. & B.":

How to keep busy in the winter months, and accumulate enough "ready money" to tide over the dull period has been worrying me. Two years ago I ran across a real help.

There had been a great many burglaries committed in my neighborhood, and I had two requests to secure and install a burglar-proof lock. I called on the manufacturer of such a lock and he made me an attractive price. I was able to buy this lock at the same price they were being sold to the hardware dealers.

The lock is recommended by all burglary insurance companies as jimmy-proof. It looks very pretty, can be placed on any door, and it is very easy to install. I made a profit of \$1.00 on the lock itself, and charged 75 cents for installing it. I got in touch with the police captain at the station house, and was advised of all the burglaries that were committed in my vicinity.

Do you know that there are 108 burglaries each day in New York City? Well, as soon as I heard of a burglary, I called on the victim, and it is a very easy matter to sell one of these locks.

I made a profit of \$1.75 on each lock, and at the same time, I advertised myself to people who can always use the services of a carpenter.

The lock being out of the ordinary, it will surprise you how often the sale of one lock recommends another one. The average sales are 12 locks a week; and since I have used my winter time to go after this business I have found that my other business has greatly increased.

C. LEVIS,
113 W. 76th St.

**More Winter Work Letters
Next Month!**

We are holding over Seven Prize Winning Letters and several others just as good for this Department in December issue. This gives the late ones still another chance.

How goes the Winter Work Problem with YOU! What do you think of these solutions? and what have you to offer? Write to us now; the discussion in the December American Carpenter and Builder will be lively.—Editor.

"The Fellow that waits for something to turn up generally turns down poverty street."

THE MAN FROM THE LUMBER YARD

We do not like the way in which some of our success secrets are exposed, but if only one of our readers is helped thereby, we are more than willing.

EDITOR.

I HAVE always admired the people I work for, and before I worked for the "A. C. & B." could never understand why any one interested even indirectly in the building line should not read it carefully.

They always succeeded in featuring the thing that would be of prime interest to their readers at that time. I learned of their secret when their schedule of subjects for six months in advance was placed in my hands.

Their secret is SYSTEM, a system that lives,—that has a reality and being,—many months in advance of its readers. When your almanac reads Thanksgiving day, the calendar of the big man in the editorial chair of the A. C. & B. is already pointing to May day, and he has arrived there in thought.

It so happened that while you, Sir Reader, were busy with your summer work, we were thinking and planning how we could serve some who would be idle in December. You note I say, some. It may be that our suggestion will directly fit only a small portion of our readers. But if it should be that your individual location, temperament, ability, or resources will not permit your utilizing our specific suggestion, or make it undesirable to carry out, you can be benefited by the SYSTEM. You have found comfort in riding over good roads and have remarked thereon. Just so, there is more ease and less of jolts when your work is laid out with system.

There are today, thousands of farmers who wish they had had a silo, or more silo-space, in order to have saved food-stuff that went to waste in October.

If you live in a section where the silo has been understood and appreciated, you will find that the amount of ensilage put up every year will increase by at least 50 per cent. If the farmers in your section have not been awake to this means of economy and efficiency, you have a wonderful field.

Many bankers, knowing that a prosperous

"Sawdust"

Activity is not productivity.

Try to produce maximum results with minimum action.

Don't attempt to talk a new building or silo to a prospect until you can see (imagine) it yourself.

You prospect must see in his mind the building before he will contract.

Don't mistake motion for deeds.

Your customer must want what you have before you can sell to him.

The fellow that waits for something to turn up generally turns down poverty street.

Calk up the little leaks. The big ones will compel attention.

Never do any work you can hire done at half your worth.

It is easy to be busy doing nothing.

Know one thing well, rather than many things unwell.

Your own success depends upon how strict a boss you are with yourself.

farming community adds to their prosperity, advance money without interest to their people to build silos. The banker knows that the silo will produce more on the investment than can be made in any other way.

Why a Silo?

A silo will add greatly to the value of a farm. It is a good business proposition. Consult your local banker and see how easy it is for the farmer of moderate responsibility, to secure a loan for building a silo, and how gilt edge he must be to secure a loan to buy an automobile. Consider the fact that the material fed as ensilage will produce three times the butter fat that the same material would if fed in the regular way. A

silo will store more food in the form of silage than can be placed in the same space, in the form of fodder or hay. An acre of corn can be placed in the silo at less cost than the same acre can be husked and shredded.

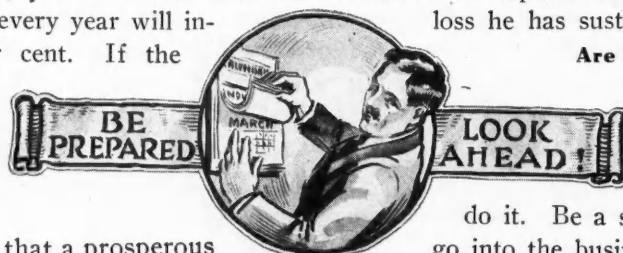
Crops can be put in the silo during weather that could not be utilized in curing fodder or making hay. Silage is the cheapest and best form of providing a succulent food for winter, and for supplementing pasture in the summer. The farmer who feeds his cows direct from the silo, and has a bunch of hogs to be fed second hand, with a flock of chickens getting their sustenance from the leavings, is approximating 100 per cent of efficiency.

Are You the Man?

"But," you ask, "what has that to do with me?" You are the man that should be selling and erecting these silos. WHEN? Right now, when you have less to do, and the farmer has more time to consider, and to realize its especial value because of the immediate loss he has sustained.

Are You a Self-Starter?

Simply because you have never sold or erected silos is no reason you should not or could not do it. Be a self-starter. If you decide to go into the business, our information depart-



ment will have data as to tools and material placed in your hands. You must be equipped to solicit the business.

If in doubt as to how to go about it, write the "A. C. & B." Whatever you undertake, know it thoroly, make it a part of yourself. Don't undertake a proposition that you yourself do not have full confidence in.

Having a good proposition, have your customer feel you are doing him good; never that you are trying to take his money away from him.

Be able to arrange the financial end of the matter for your customer thru your bank. Don't overlook the fact that there is not a month in the year that a silo cannot be built.

If a silo will produce a profit, the sooner a farmer gets one to working for him, the sooner it will pay for itself and the more profit it will pile up for him.

If you feature a wooden silo you must be prepared to show your customers how to care for shrinkage, and expansion of the staves, also how to keep the woodpeckers from working on it. Otherwise he will not appreciate the lower price.

If you are selling a cement silo, you must know how to erect it solidly, and to glaze the inside to keep it from chalking. If you have a customer that hesitates because of having to buy an ensilage-cutter it will be up to you to have him club with others, or arrange so he can rent a cutter.

Costs 10 cents per Day

When you consider that it costs a farmer less than ten cents per day (in interest) to own a silo that will pay for itself in a few months, you can appreciate your leverage in soliciting this work.

Be prepared to show some original feature in ornamenting the silo.

Many of the most progressive farmers have named their places. This name or the owner's name can be worked out in tile or metal letters for your customer.



Never Mind the Hundred Hindrances that Hang to Your Coat Tails.



Make the Farmer See Your Idea.

We can get you in touch with makers of metal images which can be worked into the body of the silo or used as weather vanes on the roof. We recommend any of these images, even the golden calf, the worship of which got certain people into trouble some thousands of years since.

Before you attain the top of Success Hill, in this or any other endeavor, you will burn with rebuffs, and chill with doubt.

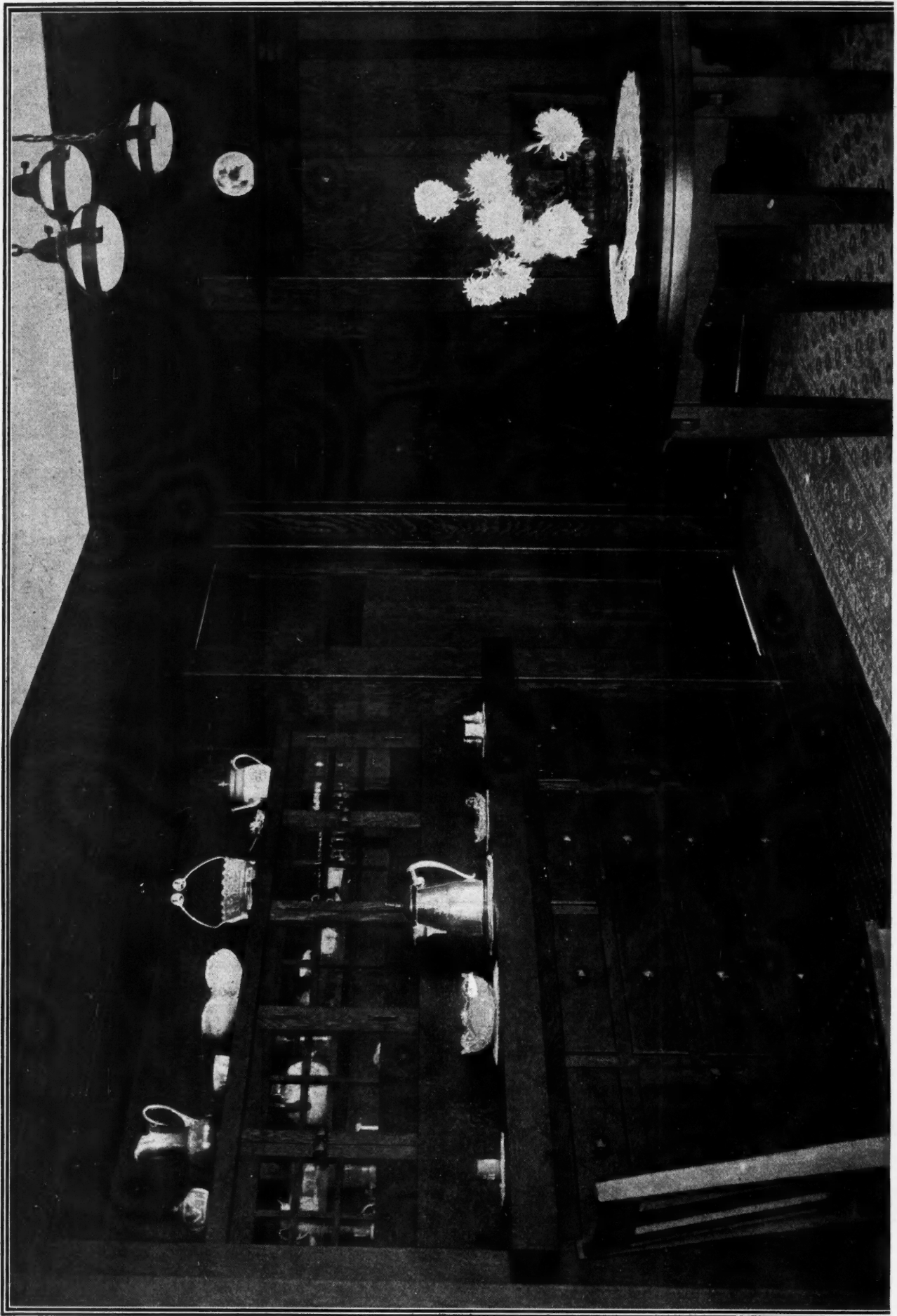
You will find that a hundred hindrances will hang on to your coat-tails. You will be threatened by a hundred wasting details and assailed by a hundred overlapping interests. But hang on.

No matter if you may be losing needed profit, if other work is crowding, as you value your present and your future, don't skimp your work. DO IT RIGHT.

Don't be swayed by every passing breeze, but fix your destination, then spurn every irrelevant obstruction. Select the right system, and put it over.

Yours for the Silo Business,

THE MAN FROM THE LUMBER YARD.



Dining Room Finished with Fancied Dado and Featuring Large Built-in Side Board.



Shingle-Sided Bungalow of Five Rooms

One of the features of the bungalow, shown here as Design No. 6743, is the method used in handling the roof. The projecting gables toward the front and the side are decidedly unusual and are made more attractive by placing a window in each gable.

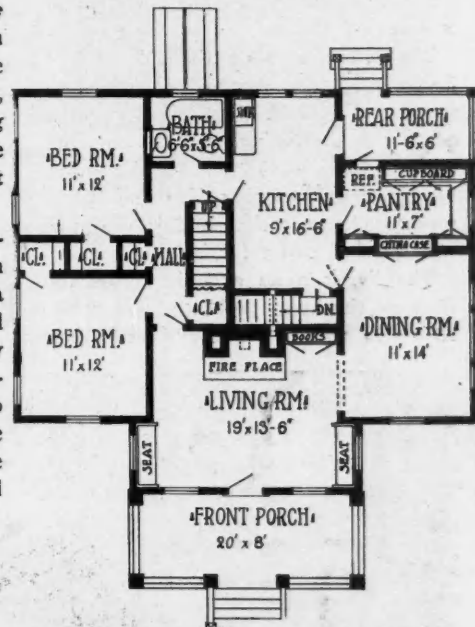
The awnings on the porch are desirable in the summer and serve to make a little summer parlor of the porch, which is cozy and pleasant.

The floor plan is rather out of the ordinary. The living room is placed in the front part of the house and is entered directly from the front porch. On either side of the entrance are seats that are placed under the windows in that part of the room which projects

out from the rest of the house. In the back part of the room, facing the entrance, is a big fireplace. On one side of the fireplace is a bookcase and on the other is the door leading to the dining room. On the right, as you enter, is a cased opening leading to the dining room. The feature of the dining room is the built-in china cabinet in the back part.

The pantry shown here is exceptionally complete. A pantry such as this in connection with the kitchen makes it a place of pleasure instead of trouble and inconvenience. One side of the pantry is occupied by an outside-iced refrigerator and a wide cupboard with two double doors. The central part of the other side is filled by the china case which opens into the dining room and

on each side of this are narrow cupboards that open into the pantry.



Cozy little bungalow of five rooms. Size, 40 feet by 34 feet 6 inches. We can furnish complete set of blueprinted working plans and typewritten specifications for only \$6.00 per set. Blueprints consist of basement plan; roof plan; main 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. 6743.

Stucco Chalet of Six Rooms

The house shown in the accompanying illustration presents a most unusual and attractive appearance. It is a good example of how a house exterior can be handled so as to set it off from the average run of houses and still not sacrifice the beauty of the design. All the features of the exterior harmonize so as to form a very artistic house and one that the owner will be proud of.

This design might almost be called a two-story bungalow, as the roof and the balconies are distinctly of the bungalow type. An unusual construction feature is the special bracket that is used in holding up the projecting eaves in the front of the house. The walls of the first floor are finished in stucco up to the second floor and above that shakes are used. The combination is very attractive.

The entrance is on the side and is thru a cozy little porch that opens into the reception hall. The reception hall opens into the dining room on one side thru double doors and on the other thru a cased opening into the living room. The reception hall is equipped with a small closet for holding coats.

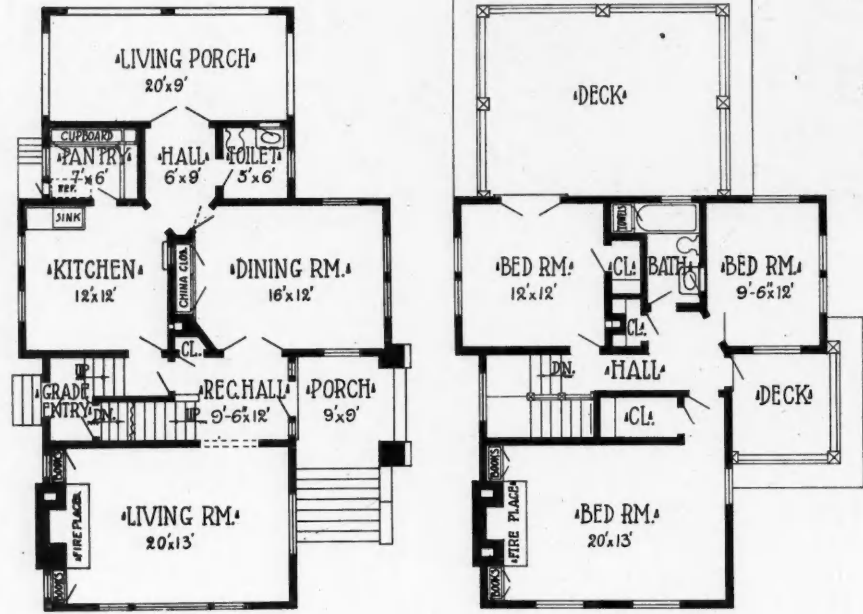
The living room extends across the front of the house and is a large room, 20 by 13 feet. In one end of it is a

brick fireplace flanked with two windows which have book cases placed under them. This room is well lighted by the two windows mentioned and by a broad triple window in front.

In the back part of the house is a large living porch that will be especially useful in the summer. It can be covered with

screen in the summer and with glass in the winter so that it can be used all the year round.

On the second floor there are three bedrooms and a bath. There are also two decks; one on the side and one in back. These could be easily fixed to make very serviceable sleeping porches.



First Floor. Second Floor. Arrangement of House. Size, 31 by 40 Ft. 6 In.



Six-room two-story bungalow or chalet. Size, 31 feet by 40 feet 6 inches. We can furnish complete set of blueprinted working plans and typewritten specifications for only \$10.00 per set. Blueprints consist of basement plan; roof plan; first and second 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. 6739.



Family home with six rooms. Size, 30 feet 6 inches by 40 feet. We can furnish complete set of blueprinted working plans and typewritten specifications for only \$6.00 per set. Blueprints consist of basement plan; roof plan; main 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. 6740.

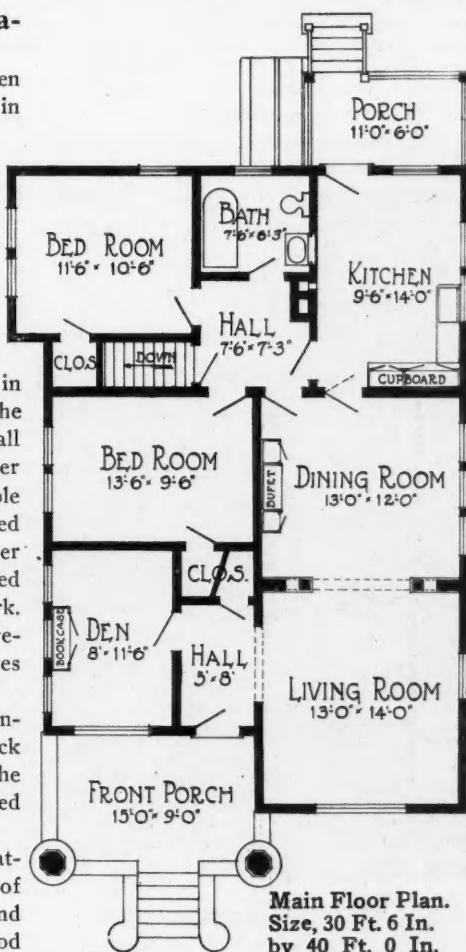
Six Room House with Decorative Gable

The appearance of a house can often be controlled by the method used in handling various little details that of themselves are not important in the actual construction of the building. A little time spent in thinking of some artistic way to finish off some of the various details of a building is time well spent.

Notice in the design shown here the attractive and unusual appearance that is created by the method used in decorating the front gable facing of the house. The design used is not at all complicated, but is artistic and rather different from most gables. The gable is finished in stucco, which is paneled with wood stained dark. In the center is a window with a diamond-shaped panel underneath of light wood on dark. The whole arrangement has been carefully considered so that it harmonizes with the rest of the house.

The porch pillars and railing are finished in rough-faced concrete brick and concrete slabs. The walls of the house are shingled with dark stained shingles.

The little den is perhaps the most attractive room in the house. It is sort of cut off from the rest of the house and presents a fine place to read a good



Main Floor Plan. Size, 30 Ft. 6 In. by 40 Ft. 0 In.

book without being disturbed, or to carry on business if it is necessary to take same home at night. The only door opens into the reception hall. In case the house is crowded the den can be pressed into service as a bedroom. It is a small room, but there is plenty of room for a desk, a couch, and some bookcases. It is made cheery and bright during the day by a wide window in front and three along the side.

Across the hall from the den is the living room, which is large and almost square, with plenty of room for some furniture that agrees with the general plan of decoration that is chosen. It is connected to the hall by a cased opening.

Directly back of the living room, and connected to it by a colonnade, is the dining room. This is of the same general shape as the living room and has a buffet built along the inner wall. Opening into the dining room is a hall that connects up the back part of the house. The two bedrooms, the bathroom, the kitchen, and the dining room can all be reached thru this door. The two bedrooms occupy the opposite side of the house from the kitchen and dining room. The bedrooms are of good size and are well equipped with closets. The bathroom is in the back central part of the house next to the bedroom and directly back of the hall.



Attractive family house of eight rooms. Size, 29 feet 6 inches by 35 feet 6 inches. We can furnish complete set of blueprinted working plans and typewritten specifications for only \$10.00 per set. Blueprints 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. 6717.

Square House with Eight Beautiful Rooms

One of the best rooms you can have in a house is a play room for the children where they can have their fun during the colder weather and where they will not be in everybody's way. Such an arrangement is shown in this house. In the sunny corner of the house on the second floor is a room which can be used entirely by the children. It is plenty big enough for them to work any kind of toys. A space twenty by ten feet will give father plenty of opportunity to break up all the mechanical toys showing the children how easy they are to run.

In addition to this room there are also two bedrooms, a sleeping porch and a bathroom on this floor. There are also two balconies one over the front porch and one over the back.

The first floor of this house is also mighty attractively handled. The dining room and the living room are connected by a wide cased opening and are finished in the same style. There is no better way of making a room look cozy and home-like than to have beamed ceilings. Both the dining room and the living room are finished in this style

though the arrangement of beams in the two rooms is different.

Back of the dining room is a handsome little breakfast room. It is well lighted with five windows four of which are placed in a curved bay with a seat in front of them.

The exterior of this design is in keeping with the cozy interior. The placing of the windows is a pleasant feature. The walls from the foundation up to the belt course are covered with clapboards and above that they are shingled.



Arrangement of House. Size, 29 Ft. 6 In. by 35 Ft. 6 In.

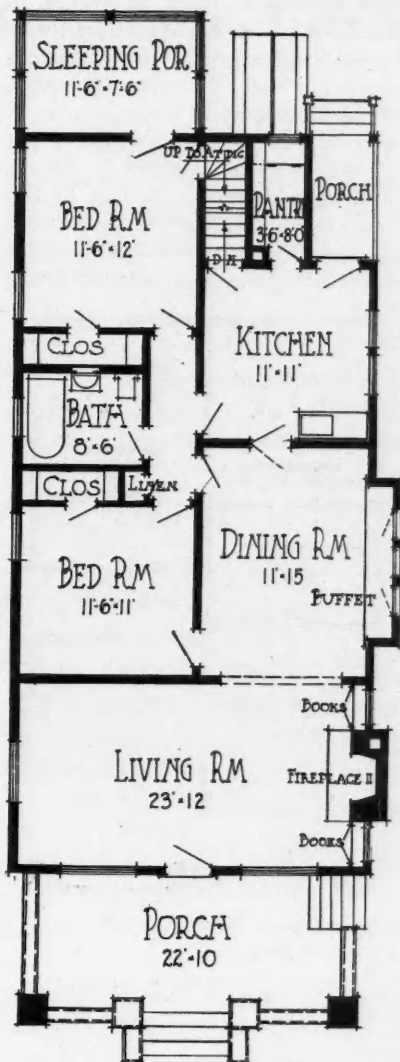
Bungalow with Distinctive Porch

A porch such as is shown here is a mighty desirable feature to have in a house. The impression created by a house as you approach it is determined largely by the construction of the porch and the front of the house. If we were selling a house, we would think that one that is finished in a distinctive manner, such as this one, would be mighty easy to sell. This porch seems to invite you in to enjoy its coziness.

The porch is built back under the main roof so that it gives the built-in effect. The pillars and the foundation of the porch are made of cement bricks finished with a rough face. The railing is made of concrete slabs along the top and has the pillars supporting it made of smooth-faced bricks. The chimney is also made of an ingenious arrangement of smooth and rough-faced brick and adds to the artistic effect. The gable decorations over the porch are in keeping with the rest of the front decorations. The unusual railing around the window in the gable is a sample of doing things a little different from the ordinary way. Anybody that can get past this house, without noticing it, is blind.

In the back part of the house there is another porch—a sleeping porch equipped with screens and sash, which is an added attraction for this house as sleeping porches are being demanded more and more.

The living room occupies the entire



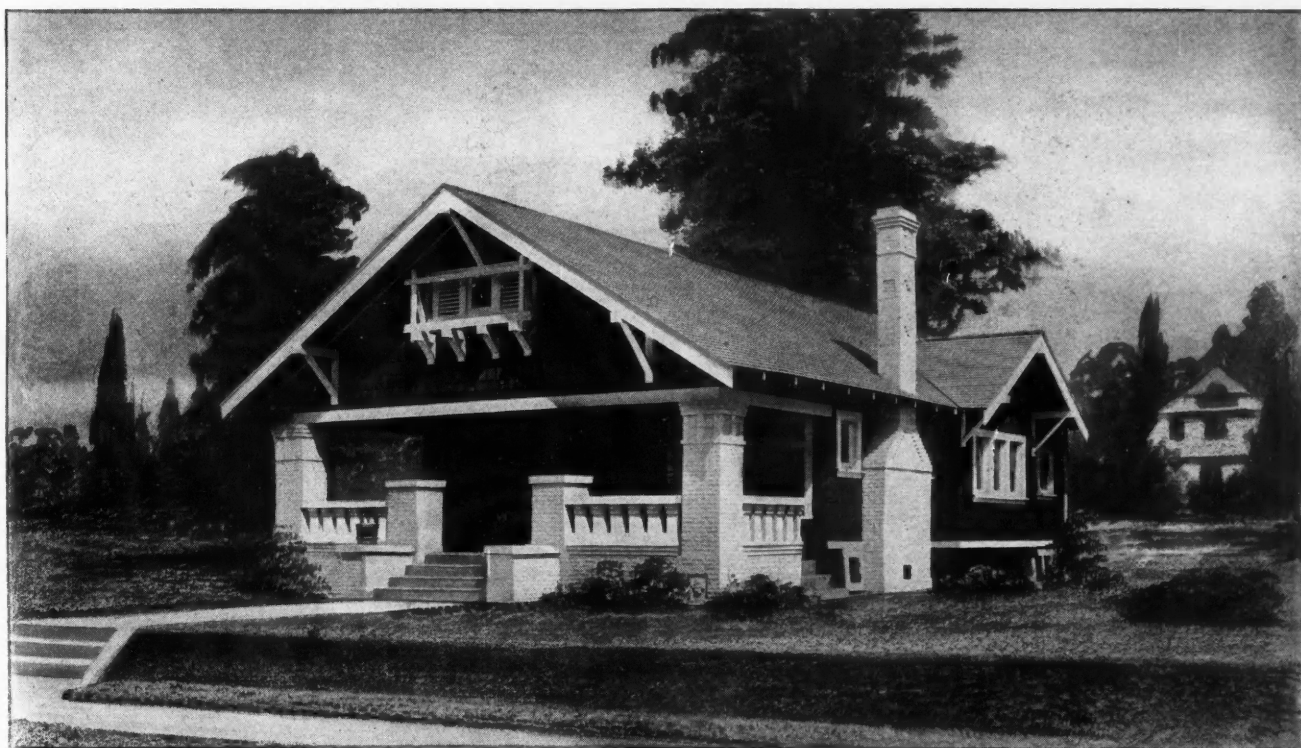
front part of the house and is a cheerful, well lighted room. There are two wide windows facing out onto the porch and also smaller ones in each end of the room. The fireplace is placed in one end of the room with two small windows, one on each side, and also two book cases underneath each of the windows. The room is large enough so that there is plenty of wall space which can be artistically filled with some well chosen furniture. A wide cased opening in the wall near the fireplace leads to the dining room.

The dining room has a buffet built into the square bay on the side. The bay has three windows in it. The center window is fixed, but the two on each side are casements.

The house is built high enough from the ground so that there is plenty of room in the basement to install a heating plant. There will also be plenty of room for a work shop and a cold storage room where fruit and vegetables can be kept. The outside entrance that is provided will make the work shop handy to get at from the outside.

The inside entrance to the basement opens into the kitchen, which is compact and presents a very good arrangement.

The opposite side of the house from the kitchen and dining room is taken up by two bedrooms with a bathroom between. Connected with the back bedroom is the sleeping porch that has already been mentioned.



Five-room bungalow with cement brick porch. Size, 24 feet by 48 feet 6 inches. We can furnish complete set of blueprinted working plans and typewritten specifications for only \$7.00 per set. Blueprints consist of basement plan; roof plan; main 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. 6744.

Cement Stucco Bungalow with Colonial Features

There is a certain fascination about a house that is finished with the white pillars and the projecting porches, such as the Colonial houses had,—a comfortable, home-like character that is hard to find in most other houses.

The design shown here has some of the features that characterize Colonial designs on a small scale. The white columns and the little projecting side porch and also the heavy massive chimney all combine to give this impression. The whole arrangement gives a dignified touch without being cold or formal. All the trim is white to harmonize with the columns and the walls are finished in cement stucco of a light gray color.

The front porch is set back under the main roof and the entrance to the house is on the side of the porch and goes directly into the large living room. On each side of the porch are double pillars supporting the roof.

The living room is of good size and is well arranged. It has a broad window of three frames facing the front of the house and another wide window on the side. Next to this side window is a large fireplace that can be built of a material that will harmonize with the method of finishing the interior. Each person has his own idea of decorating

interiors and the owner is the one to be satisfied, so we cannot tell just how to finish the fireplace. Next to the fireplace in the back corner is a little nook that can be utilized in various ways. A seat could be built in here or the corner could be used to hold two bookcases, one along each wall. The use of this corner is also a matter of personal choice which each person has to decide for himself. It could also be used very

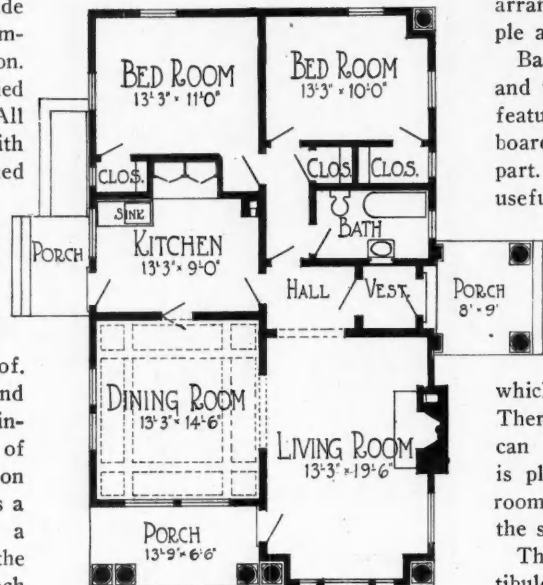
well for holding a couch. In the back of this room is a cased opening leading to the back hall which connects to the side porch by means of a vestibule. There is also another opening from the living room to the dining room.

The dining room is directly back of the front porch and has a wide double window opening on to the porch. The ceiling of this room is finished in an attractive panel design with beams. This arrangement of the beams is very simple and makes a fine appearance.

Back of the dining room is a compact and well arranged kitchen. One of the features of this room is the little cupboard built into the recess in the back part. The porch is handy and is very useful in the summer as an accessory to the kitchen. The sink is placed along the wall near the window so that it will have plenty of light.

The back part of the house is taken up with two bedrooms, which are well supplied with closets. There is also a closet in the hall that can be used for linen. The bathroom is placed in front of one of the bedrooms and back of the entrance from the side porch.

The side porch opens into a little vestibule and from there into the convenient back hall.



Floor Plan. Size, 28 by 46 Ft.



Stucco bungalow of five rooms. Size, 28 by 46 feet. We can furnish complete set of blueprinted working plans and typewritten specifications for only \$7.00 per set. Blueprints consist of basement plan; roof plan; main 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. 6731.

Chemical Closets—Their Introduction and Sale

INDOOR CLOSET PROBLEM SOLVED FOR RURAL COMMUNITIES AND SUBURBAN DISTRICTS

HERE is probably no phase of the contractor's or builder's work that has given him more cause for thought and study in satisfying his customers than that of providing an indoor closet for buildings where sewers are not available. This problem especially confronts the contractor or builder in village or country homes. During the past few years, water systems with septic tanks or cess pools have been installed in many homes outside the city. However, this water equipment usually involves an expense of from two to four hundred dollars, and is therefore prohibitive on account of the expense.

In some instances, water systems have been installed in homes, no provision being provided for taking care of the sewage other than a cess pool or pit dug in the ground. Health authorities now agree that this is the most dangerous of all methods of disposing of night soil. This method, in fact, is more dangerous than the common privy. It provides absolutely no way of destroying the bacteria, but simply gives a leaching pit from which the immense volume of water washes the filth and bacteria in every direction, and because of the large volume of water which is constantly being flushed into the pit, the danger is far greater than that of the ordinary outside closet where no water is used.

During the past few years an entirely new principle has been developed of disposing of sewage. This is known as the chemical closet, which is in principle quite different from anything else that has ever been used heretofore. No water is used with this system except that required in dissolving the chemical. The bowl used is of special shape so that it does not become easily soiled, with a large opening at the bottom to which is attached a large pipe, in most instances approximately 13 to 14 inches in diameter, which leads directly into a steel vault, or receptacle, placed in the basement, or under the floor, or within the base of the closet itself. The excretions go directly into this vault, into which has been placed a charge of chemical. This chemical is much stronger than carbolic acid and has the property of absolutely liquifying the entire contents of the tank.

As the sewage is absolutely sterilized, and being in a liquid form, it can be drained off in any tile drain with perfect safety, or where the drain is not available, a pit is dug and the contents of the tank or receptacle emptied into this pit.

Health officials endorse this method of sewage disposal as being more sanitary, and safer than any method used up to this time as the sewage is absolutely sterilized and is perfectly safe; no matter how it may be disposed of.

There are two types of chemical closet in general use—the permanently installed, more elaborate equipment, and the simple temporary or movable outfit. The first is perhaps most commonly used in private homes,

public buildings, schools, churches, etc. The commode type is more specially intended for summer resorts, cottages or more temporary structures. It is also very practical for large contractors, who can use them in building, until the regular sewage connections are installed. No water supply being required with these chemical closets, the cost, of course, is much lower than with septic tanks and water systems. In fact, the cost of the outfit for home use is such as to place it within the reach of every home builder. In many instances, even where water pressure is available, this chemical closet can be installed at less cost than a water closet with septic tank.

This method of sewage disposal is based on positive scientific principles, which leaves no doubt as to the certainty of the results. It is evident from the satisfaction that these closets are giving, that the chemical closets are to play a very important part in solving the sanitary problems in the rural communities, and at the same time affording the modern conveniences of the city to every one, no matter where they reside.

Chemical Closet Solves Winter Work Problem

The movement toward providing winter work for carpenters has in the past few years worked a noticeable change in the building trades. The business of the builder has ceased to be seasonable—the live builder is making himself busy 12 months a year, making a profit every day instead of living all winter on his summer earnings and starting out in the spring no further ahead than the year before.

One danger seems to be in embracing outside work that is foreign to the regular building line. Extra work in winter that has to do with the building business in some way is always desirable. The builder remains in his own element, working in a familiar line, with his same old customers as patrons.

One of the best opportunities offered is linked with the modern trend of public opinion toward sanitation. The action of boards of health in condemning the outdoor privy and the cess pool as unhealthful nuisances has brought onto the market the chemical closet. These are being installed in nearly every state in the union by builders, who find they can sell them at a handsome profit and give the owner a more sanitary, comfortable, convenient closet, at a lower price than by building for him a wooden privy.

Here seems to be a big chance for profitable winter work. These closets may be installed anywhere in the house. The builder can set them up or he can leave that to the owner. The builder is the logical man to handle the closet. In any building that hasn't sewer connection, the chemical closet is a boon. The builder who sells it has behind him the local health officer and the whole influence of modern thought on sanitation.



Noon Hour Talks by the Boss Carpenter

Talk No. 40. Mill Constructed Floors—Construction Series No. 4

THE BOSS TELLS ABOUT MILL CONSTRUCTION OR SLOW BURNING TYPE OF FLOORS AND SHOWS CALCULATIONS

WHEN the men had finished their lunch and were ready for their noon-hour discussion, one of them asked the Boss what the term "mill construction" meant and how to use this form of construction in floor design.

"Mill construction," said the Boss, "is the name given to a type of building construction similar to the one shown in Fig. 64. In this type of building, the

use of incombustible partitions or shafts. This is to prevent fire from passing from floor to floor through openings.

"Ceilings in locations exposed to danger from fire are protected by a fire-retardant material such as plaster placed on expanded metal or wire lath, without spaces between the plaster and the wood.

"Mill constructed buildings should also be provided

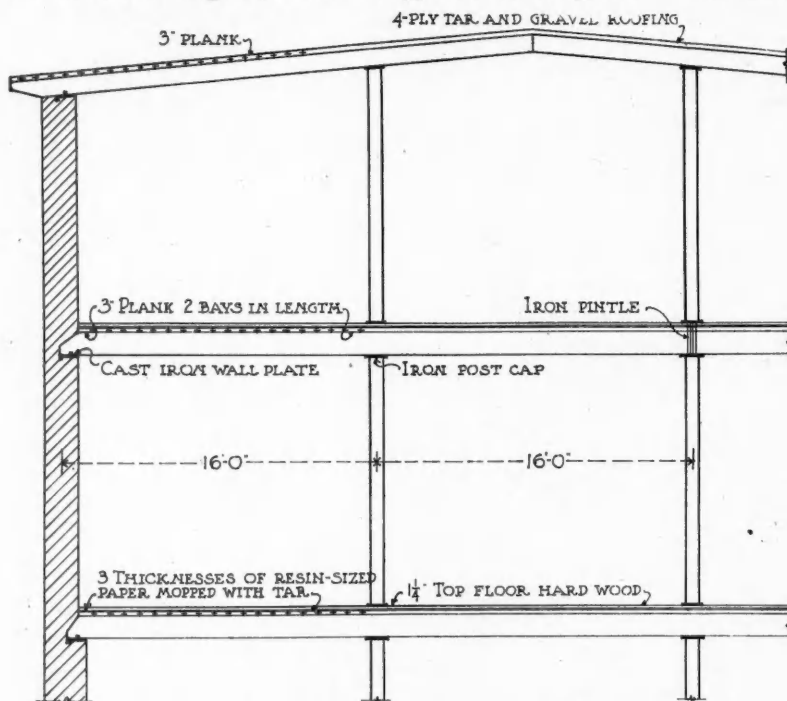


Fig. 64. Cross Section of Mill Constructed Building.

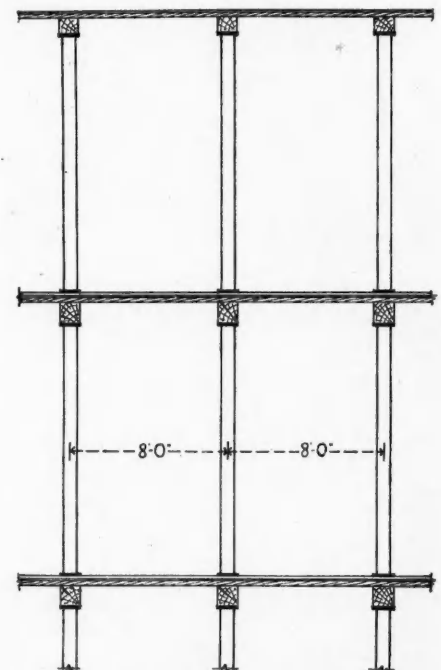


Fig. 65. Section thru Lengthwise Dimension of Same Building.

timber and plank are distributed in heavy solid masses. The object is to expose the least number of corners or projections to fire, and to arrange these timbers in such a way that when fire occurs in the building it may be reached readily by water from sprinklers or hose.

"In a building of the mill constructed type, each floor is separated from all other floors by doors which close automatically, and by enclosing stairways thru

with proper sprinkler systems so as to protect the wood from fire due to burning contents of the building, and with a type of window which will guard the structure from communicated fires.

"Figures 64 and 65 show the general arrangement of the posts, main girders and floor planking in a mill constructed building, while Figs. 66 to 70 show typical details.

The floors may be made of plank 3 inches or over

in thickness, laid flat and keyed together by $\frac{3}{4}$ -inch by $1\frac{1}{2}$ -inch hardwood splines driven into a slot which is made in the edge of each plank. This main floor is supported by heavy girders not less than 6 inches thick, and having an area of cross-section of at least 72 square inches. The girders are supported by the walls and by posts or columns arranged in rows down the length of the building.

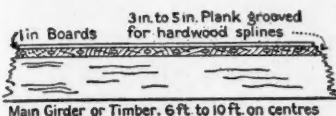


Fig. 66. Heavy Floor for Mill Construction Type of Building.

The ends of the girders which rest upon the walls of the building are cut as shown in Figs. 67 and 68, and supported upon iron plates or in wall boxes, as shown. The slanting end of the girder will allow the timbers to fall out of the space left in the wall without overturning the wall. This is an important consideration in case of fire or accident. The size of the box or space in the wall should be sufficient to allow a free circulation of air around the end of the girder at all times. This prevents dry rot in the end of the timber.

The end of the girder which rests on the post should be supported by a heavy wood bolster or iron post cap similar to that shown in Fig. 70. The posts should be constructed so that those of each upper floor will rest on those of the floor below. The girders should fit close to the posts at each floor and be fastened to the post caps in such a way that they will not be dislodged easily.

A space of about $\frac{1}{2}$ inch should be left between

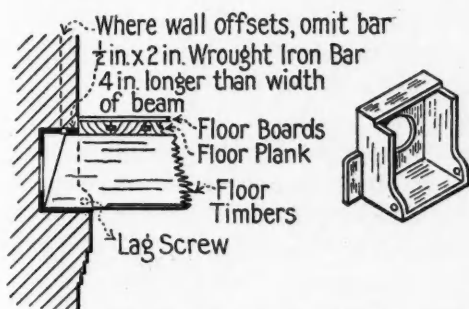


Fig. 67. Iron Wall Box for Supporting Floor Girders.

the edges of the plank floor and the walls of the building. This space should be covered by battens both above and below. The planks of the main floor should extend across two bays at least and should be laid so as to break joints every 4 feet.

The main floor is generally protected from wear by laying a yellow pine or hardwood floor on top of the plank floor. Two or three layers of tar paper, each layer mopped with pitch or a similar coating, should be placed between the two floors. The top floor may consist of $\frac{7}{8}$ -inch to $1\frac{1}{4}$ -inch material, depending upon the degree of wear. For general use, $\frac{7}{8}$ -inch flooring is sufficient. Square edge boards are preferred instead of the tongue-and-groove type, so that a board may be removed easily in case of extreme wear. The top floor should be laid so that the length of the boards extends in the direction of greatest travel, and across the length of the boards of the

main floor. Often it is advisable to lay the main floor diagonally so as to provide greater stiffness in the building.

The procedure followed in determining the sizes of main floor timbers and main girders is best shown by the actual solution of a problem. The principles explained in Talk No. 38 will be used as a basis of the design.

We will take for an example a mill construction type of floor which is to be used in a small manufacturing plant, or a storage warehouse, where the floor loads are estimated to be not over 150 pounds per square foot of floor space in addition to the weight of the floor itself. Assume that the width of the building is 48 feet and that the distance between posts along the length of the building is 8 feet. The width will allow the use of two lines of posts 16 feet apart on centers across the building, and extending down the length of the building, so as to make the bays, or panels of floor, 16 feet by 8 feet in size.

Assume that the main floor is to be of heavy plank 8 inches wide covered with tarred paper as recommended above and finished with a 1-inch hardwood floor for a wearing surface. This laminated floor is supported by main girders 12 inches wide. The girders are held in place by post caps at the tops of the supporting posts.

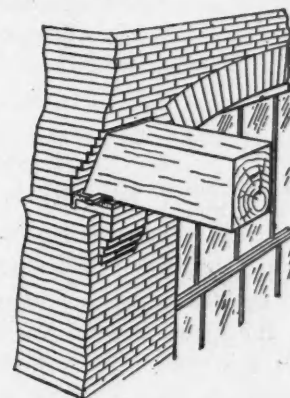


Fig. 68. Iron Wall Plate Resting on Wall.

We are to find the thickness of the plank in the main floor, and the depth of the main girders.

The thickness of the plank will be found by taking a section of floor 1 foot wide and 8 feet long between girders, treating this piece of floor as a beam freely supported at the ends and bearing a uniformly distributed load equal to the amount carried by that area of floor. After we have found the thickness of floor for the live load, or 150 pounds per square foot, we will add in the weight of the floor and check back to see if our calculated thickness is sufficient for both the live load and the dead load due to the weight of the floor itself. The weight of wood will be taken as 3 pounds per board foot.

The formula to be used in the calculations is Formula (A) of Talk No. 38.

$$\frac{X \times b \times d \times d}{6} = \frac{W \times l}{8}$$

This formula was explained in detail in the Talk referred to. Yellow pine will be used as in our previous problem, and 1000 pounds per square inch will be taken as the value of X.

A strip of floor 1 foot wide and 8 feet long, loaded

with 150 pounds per square foot, will have a total load of 1200 pounds. The length of the strip will be 96 inches. Filling in Formula (A), we will have

$$\frac{1000 \times 12 \times d \times d}{6} = \frac{1200 \times 96}{8}$$

$$d \times d = 7.2$$

$$d = 3 \text{ inches (approx.)}$$

"This is the thickness of the plank before we have considered the weight of the floor itself. Adding the weight of a 3-inch main floor with a 1-inch top floor to the 1,200 pounds used above, we would

$$\frac{4'' \times 12''}{12} \times 8' =$$

32 board feet of floor strip, each board foot weighing 3 pounds, or 96 pounds, to be added to this 1200. Putting 1296 in the place of 1200 in the calculations above and solving, we find that the new value of $d \times d$ is 7.8. This evidently does not affect the value 3 inches which we used.

"To find the size of the main girders which support this floor, we will first find the amount of load carried by one girder and then use Formula (A) as above. As explained in Talk No. 38, each girder holds up an area of floor 8 feet by 16 feet in this case. The total load on the girder will be made up of the weight on the floor, the weight of the floor, and the weight of the girder itself. We know the first two weights, but the third cannot be figured until the size of the girder is known. The weight on the area of floor supported by one girder will be $8 \times 16 \times 150 = 19,200$ pounds. The weight of the floor carried by one girder is found as follows: The floor supported contains 128 square feet of top surface area and is 4 inches (3 + 1) thick. This equals 512 board feet of lumber. At 3 pounds per board foot, the weight

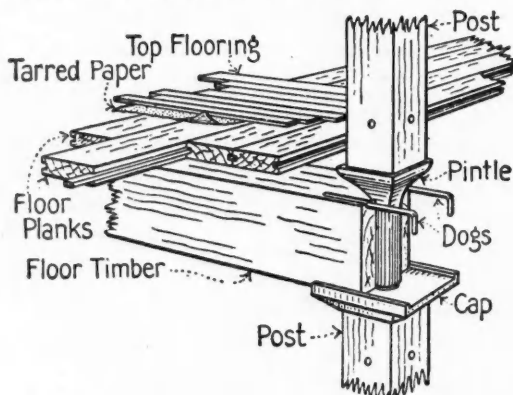


Fig. 70. Post Cap and Pintle for Support of Girders and Columns.

of the floor will be 1536 pounds. Add this to the weight on the floor to get the uniformly distributed load to use for W in the formula. Since the girder is 12 inches wide by assumption, this will be the value of b to use.

"Filling in Formula (A), we have

$$\frac{1000 \times 12 \times d \times d}{6} = \frac{1}{8} \times 20,736 \times 16 \times 12$$

$$d \times d = 249$$

$$d = 16 \text{ (nearly)}$$

This indicates that the girder should be a 12-inch by 16-inch timber.

"Checking back to include the weight of this timber, we will add the weight of a timber 12 × 16 inches and 16 feet long to the 20,736 used above, and solve again to see if the value of d has been changed much. A 12 × 16-inch timber 16 feet long contains 256 board feet of material weighing 3 pounds per board foot. This makes the weight of the girder 768 pounds. Putting 21,504 in the place of the 20,736 used above and solving, we find that $d \times d$ is 258, or d is still practically 16.

"These girders can be used thruout the entire floor of the building, and should be supported at the walls and at the posts as described above.

"Next time," said the Boss, "we will figure the size of the posts or columns needed in this building."



Details of Open Stairway in Living Room WORK OF RALPH W. ERMELING, ARCHITECT

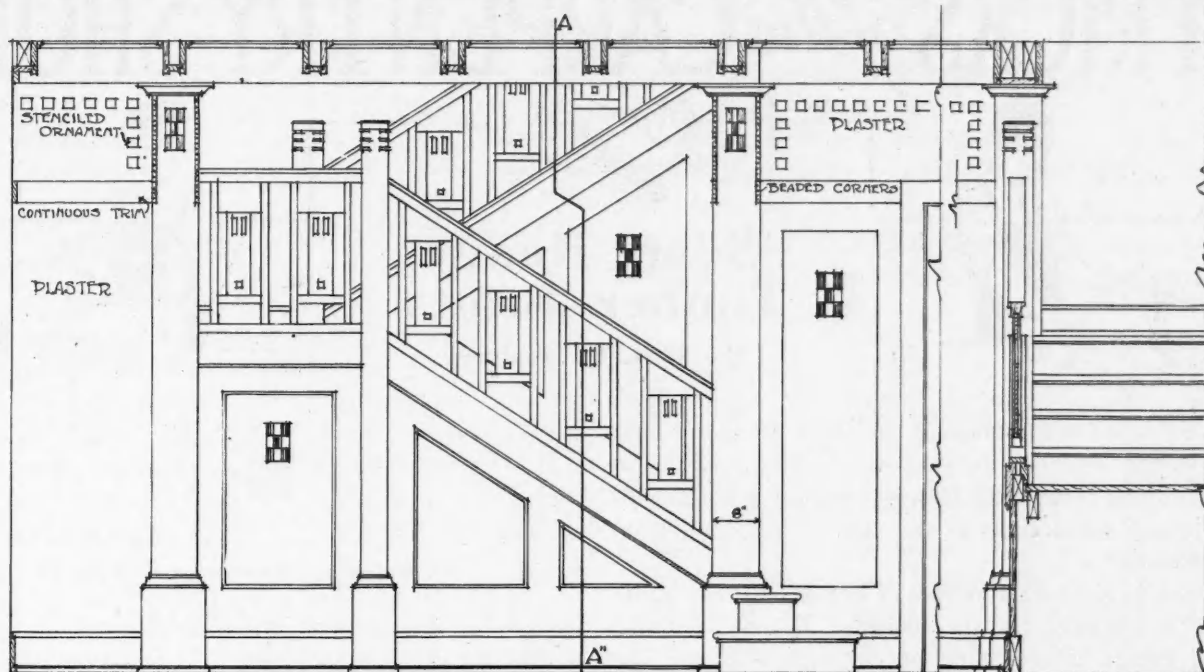
THE detailing of stairways is among the most important considerations in designing the interior of a house. In all the older houses, more attention was, perhaps, paid to the stairway than to any other one thing. You will find many houses, built fifty years or so ago, that have simple woodwork with the exception of the stairs, which are often decorated with hand carved newels and balustrades. In these days it is very unusual to find stairways handled in this way; but that is no reason why they should be neglected.

The upper part of the detail page opposite shows a side elevation view and a section of the stairway. A pleasant feature is the simple open construction of the balustrade panels. The hand rail is supported by posts and the simple panels are placed between.

The panels in the walls are decorated with a single figure. A space $3\frac{1}{2}$ inches by $5\frac{1}{2}$ inches is divided up into nine rectangles. The four corner rectangles and the center are stained dark and the other four are left in the lighter color that is used on the rest of the wood work. The panel is brought out clearly by the beveled groove that is cut around the entire figure.

In the center of the sheet is the design for the newel post. This is decorated in such a way that it is in keeping with the other parts of the stairway. A distinctive but not extreme design is used that helps to carry out the idea of dignity and quiet beauty.

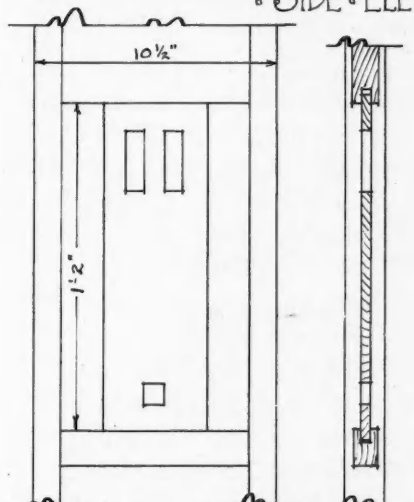
The lower part of the sheet shows the general arrangement of the stairway and its appearance as seen from the living room. It also shows the position of the stairhall with regard to the dining room and the living room—an arrangement that makes for comfort and convenience in the use of the stairs.



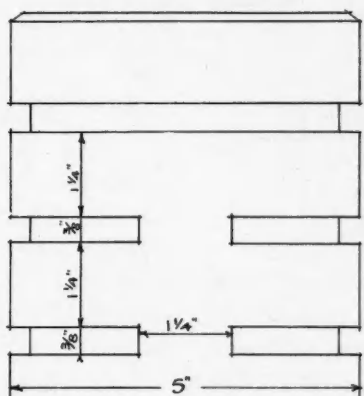
• SIDE ELEVATION OF STAIRWAY •

• SCALE = 3/8 IN = 1 FOOT •

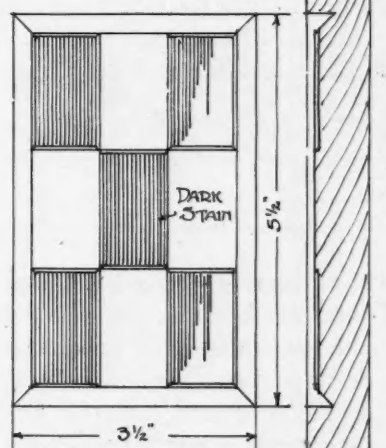
• SECTION A-A •



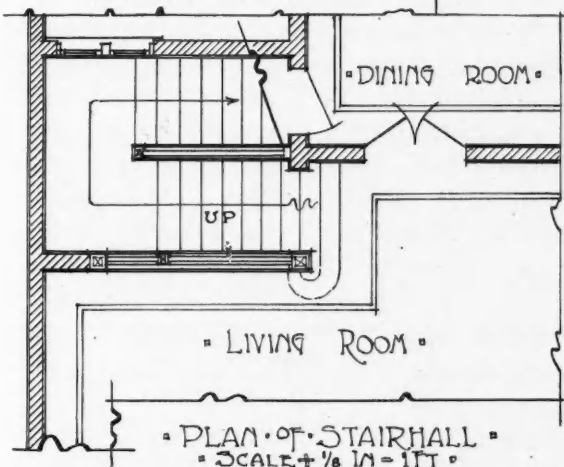
• PANEL OF BALUSTRADE •
• SCALE = 1 1/2 IN = 1 FT •



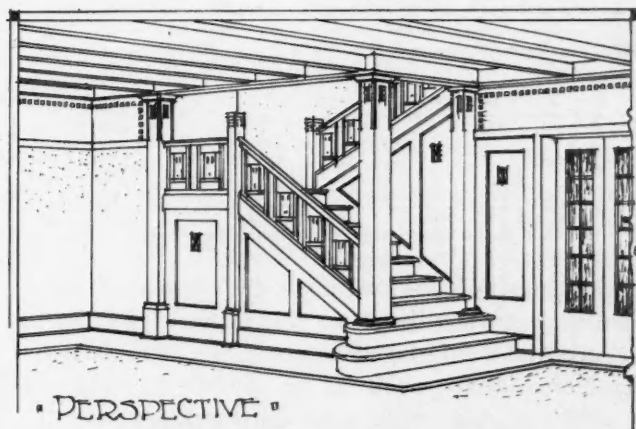
• CAP OF NEWEL-POST •
• SCALE = 8 IN = 1 FOOT •



• PANEL ORNAMENT •
• SCALE = 8 IN = 1 FOOT •



• PLAN OF STAIRHALL •
• SCALE = 1/8 IN = 1 FT •

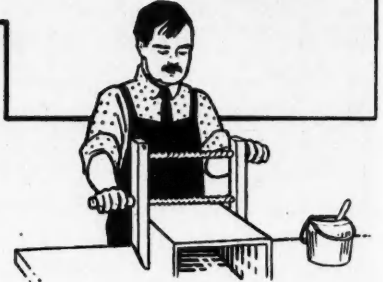
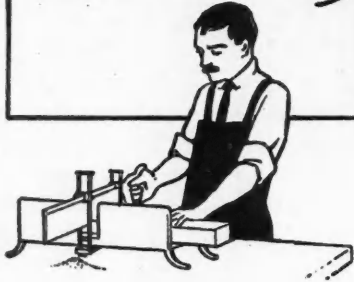


• PERSPECTIVE •

HOUSE INTERIORS--A STAIRWAY

Sketch, Plan, and Details of a Living Room Stairway.

TRICKS *of the* CARPENTRY SHOP

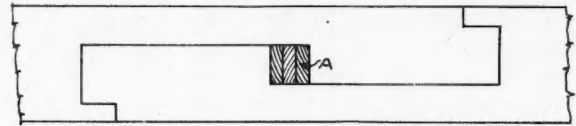


Some Heavy Timber Joints

By Wm. C. Jasbury

I SHALL now endeavor to show by word and sketch some of the odd woodworking joints, in framing, etc., that I have come in contact with during my wanderings in the capacity of a universal woodworker.

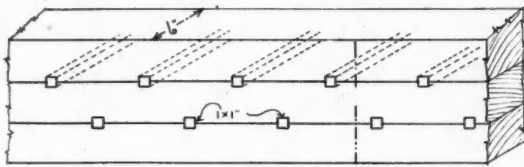
While in California in 1901, I saw a Japanese frame work constructed in the Oriental fashion, without nails, except where some of the men who had the Western idea of nails and screws, had completed the job. Some of the joints I saw were well made, as time seemed to be a secondary consideration. A beam



Oak Wedges "A" Hold This Joint Tight.

wedges driven in from either side, which naturally pushed the end joints together. I have never seen this one since.

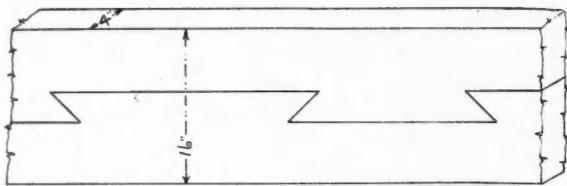
Here is one that is very similar, which I have seen quite recently.



Built-up Beam Held with Oak Keys.

that had its bearings a good distance apart was made up of three thicknesses; the wood was a species of cedar with oak square pins, or keys, running crosswise about every 2 feet. This, I believe, is called "jog-gling" in the American carpenter trade.

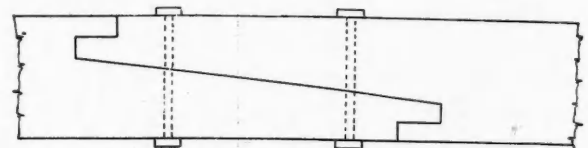
Also saw timbers put together in a manner similar to dovetailing, called by some "scarfing." This entailed much skill, as the joints were fairly tight and as I was told by the man who had charge, the amount



Scarfed Joint Requiring Very Accurate Work.

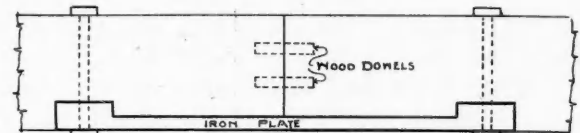
of strength finally depended upon the absence of lost motion, so that when the stress was applied, no creeping of material would take place. To me, this seemed a lot of unnecessary work, as one timber could have been used and done away with the extra amount of labor; but it appeared the right sized timber was not to be had at the time of framing, hence this joint.

Saw a splice in a timber in a Philadelphia ship yard like the following: The pieces, A, were oak



Common Form of Bolted Joint.

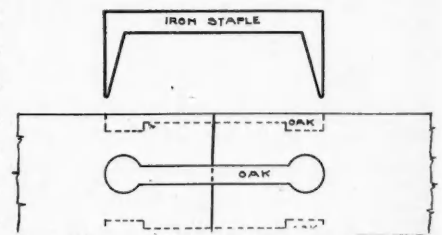
Here is another along the same line.



Iron Plate Joint.

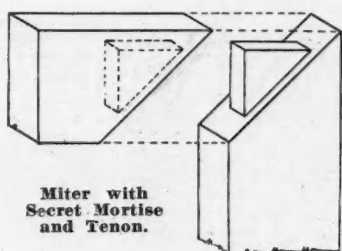
Here is one I helped make up once. Two timbers were to be joined end to end. The carpenter bored 2-inch holes 8 inches from each end on all four sides. A turner furnished four pieces with a 2-inch ball on each end, flattened off a little. The shaft between the balls was 1 inch diameter and a slot was cut out of the timbers to admit shaft part. The turnings were put in with white lead. Am under the impression that iron staples would have been much better, but all things at all times are not for the best.

And like no two persons see the moon the same diameter, we are not supposed to think alike on subjects wood-workish.



Oak Stapling that Requires Careful Work—Iron Staple to Serve Same Purpose.

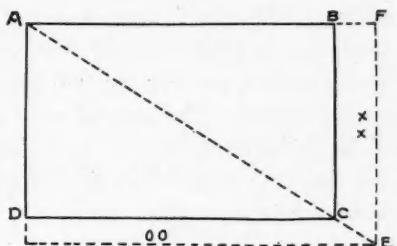
My next joint is one I have seen made and have made—a miter with a secret mortise and tenon. This makes a strong joint, but takes a little time.



Miter with Secret Mortise and Tenon.

INCREASING RECTANGLE IN SAME PROPORTION—A young architect showed me a geometrical trick recently. He asked me how I would increase the size of a rectangle and retain the same proportion. For instance, if it was necessary to make wider a door or window opening, how much higher should it be made to be in the same proportion. He scribed it on a board for me as per illustration.

A, B, C, D is original rectangle. Draw line A C as far out as the required space O O, then draw line E F, which encloses space X X. Thus, X X and O O added to the original

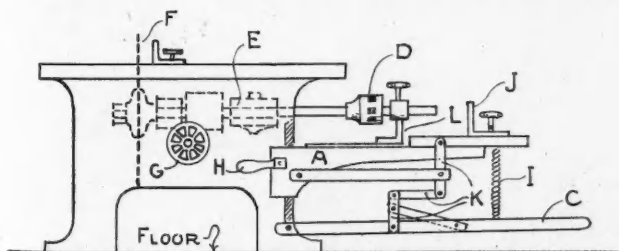


Keep Corner on Diagonal Line and Rectangle Retains Same Shape.

A, B, C, D makes it the same proportion.

MORTISER RIGGED UP AS SAW—I once saw a hollow chisel mortising machine rigged up on an ordinary rip, or combination saw. The end of the saw mandrel stuck out through the journal far enough so that it could be threaded for a chuck. The sliding bed or table of the mortising part of the machine was constructed of hard wood, with a foot treadle spring to pull it back, etc. This worked all right when a 1/4 inch or 3/8 inch bit was used, but larger bits made the task too laborious and often racked the affair. For small light work, this thing was oftentimes found handy, but for work of any size, especially in hard woods, the reciprocating or chain mortiser had to be resorted to.

A is the iron sliding up and down bed for boring

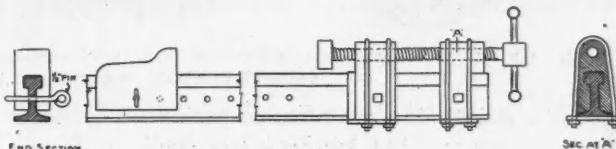


Hollow Chisel Mortiser Rigged Up as Rip Saw.

purposes that originally came with saw. B is the wood sliding (level) gauge of the new idea. C is the foot treadle, moving parts K. D is the chuck holding revolving bit. E is the original saw journals. The dotted part shows this as it would not show outside of frame. F is the regular saw. G is

the wheel to raise and lower saw and chuck also. H is handle to fasten the raising bed of boring end. I is spring to throw wood sliding bed back each time. J is the gauge the material is held up against while square boring. K is the new idea in movement for the home-made machine. L is the iron bracket that holds firm the square hollow chisel from revolving.

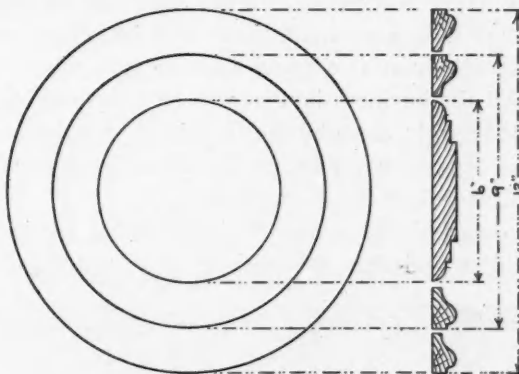
AN UNBREAKABLE CLAMP—There are men in every shop that seem to have the habit of breaking



Screw Clamp Made Out of Rail Road Iron.

up shop tools. I once knew a man who had an unenviable record of being a tool assassin. This fellow could break more clamps and hand-screws than a moving picture railroad wreck. The concern we worked for made a dozen clamps ranging from 5 feet to 10 feet out of 2 1/2-inch railroad iron. This outfit stood the racket and is still in service.

USING THE WASTE—Economy is the slogan of many successful concerns doing business. In fact, economy is business in other words, calking the leaks, tying up the loose ends, closing the valves of waste,



One Piece of Stock Furnishes Three Finished Pieces.

reducing the richness of the mixture, trimming the edges of business fabric, taking the cross-cut over the commercial plaza, or drawing together the crater of expenditures—call it what you will. I recently saw a wood worker turning a number of circles of mouldings; they were 12 inches in diameter and the moulding 7/8 inch thick. He would finish one, then use the remaining edge of the disc to make a moulding of the same kind, only 9 inches in diameter; then from the center or core he turned rosettes. So much for economy.

FILING GLASS UNDER WATER—Here is a new one on me. Recently I saw a workman enlarging a hole in a piece of plate glass. He used an ordinary rat-tail file, but held the glass under water the while; the result was very satisfactory.



A Public Garage

SECOND OF A SERIES OF DESIGNS OF SEMI-PUBLIC AND BUSINESS BUILDINGS, SHOWING DETAILS OF CONSTRUCTION, FLOOR PLAN AND PERSPECTIVE VIEW

THE automobile has affected nearly all branches of industry; and building has come in for its share. Roads are being developed and with them the number of automobiles that visit towns becomes greater all the time. To take care of these machines it is necessary to have a building that is specially designed for this purpose. Any town can get more than its share of the business that is brought by the automobile, if it has such a building. In the back of the garage shown here there is a machine shop where this kind of work can be handled in the best way. The effect of a building such as this is to give the automobile owner confidence in the workmen—a feeling that he will not have in a dingy shed which looks as if it will burn down at any minute.

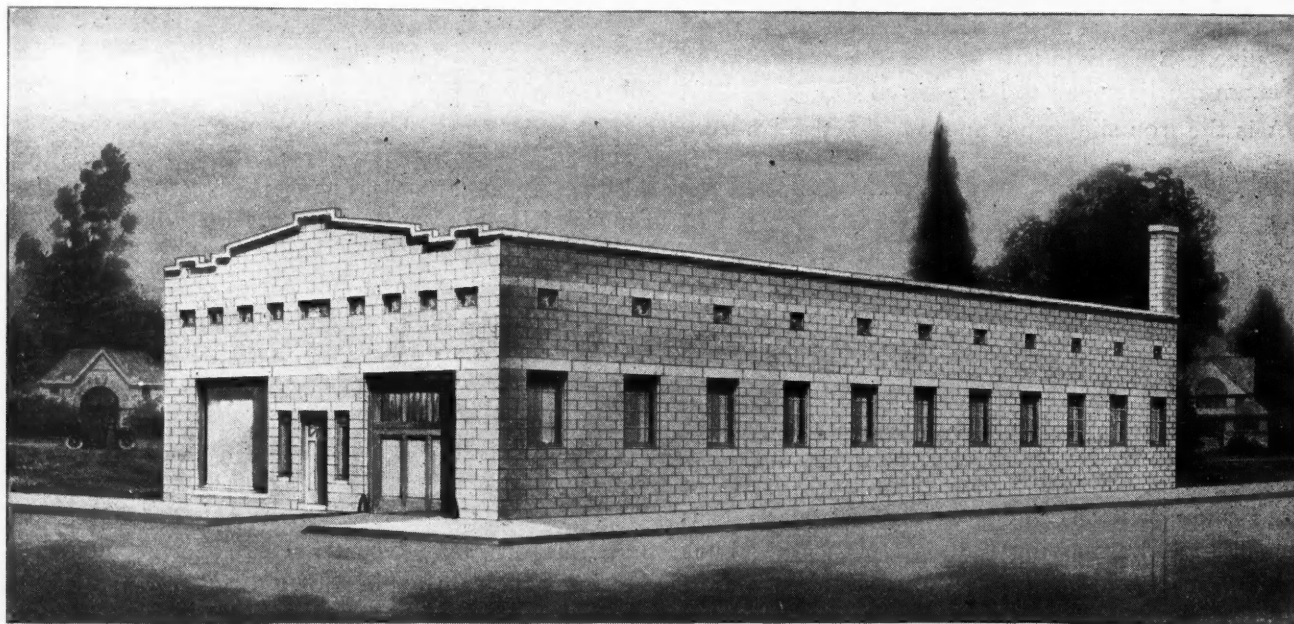
Aside from the personal gain that the owner of the garage will receive, the town will be helped when it becomes known as a good place to stop when on a trip. All the business houses will be benefited by the business brought them by the travelers. Such a building will also be a credit to the town because of its substantial and practical appearance.

The detail sheets show the longitudinal section of the building and also two methods of constructing the

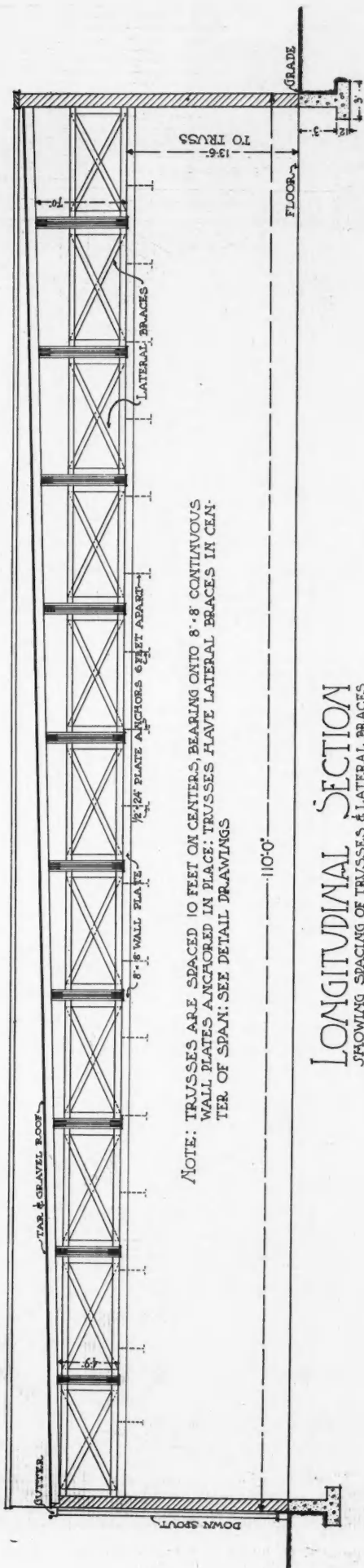
roof truss. The longitudinal section shows the walls, the slant as given to the roof to provide for drainage, and the spacing of the trusses which run across the building. Diagonal braces are placed between the trusses to provide lateral reinforcement. The two trusses shown are for the two types of roof that may be constructed. The curved roof is stronger than the flat, as mentioned on the sheet, but this type of truss costs more to build than the other. Both the trusses are of the lattice type.

On the larger sheet there is also shown a method of reinforcing the truss where it is desired to place a block and tackle for handling the various parts of machines. Such an arrangement is necessary in any garage and the detail shows one of the best methods of providing sufficient strength for this purpose.

The exterior is made rather simply and substantially, as it should be. The interior is made bright by the use of a good many windows. The entrance is at one end of the building and opens into the main part of the building. In the back, space is provided for a shop where repairing can be done, so that it will be out of the way of people driving in and out.



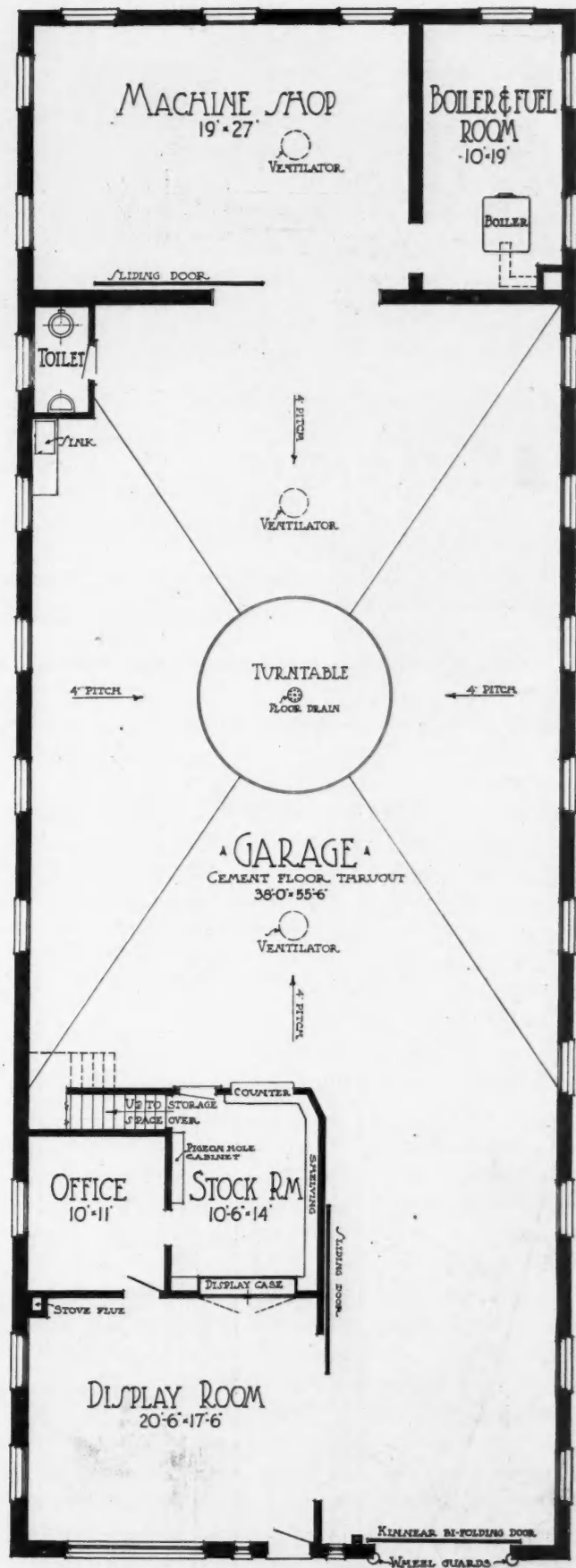
Perspective Sketch of Public Garage and Auto Sales Station. Inside Dimensions 38 ft. by 55 ft. 6 in. When Writing About This Design, Refer to Number 6747. Price of Blueprints and Specifications on Application.



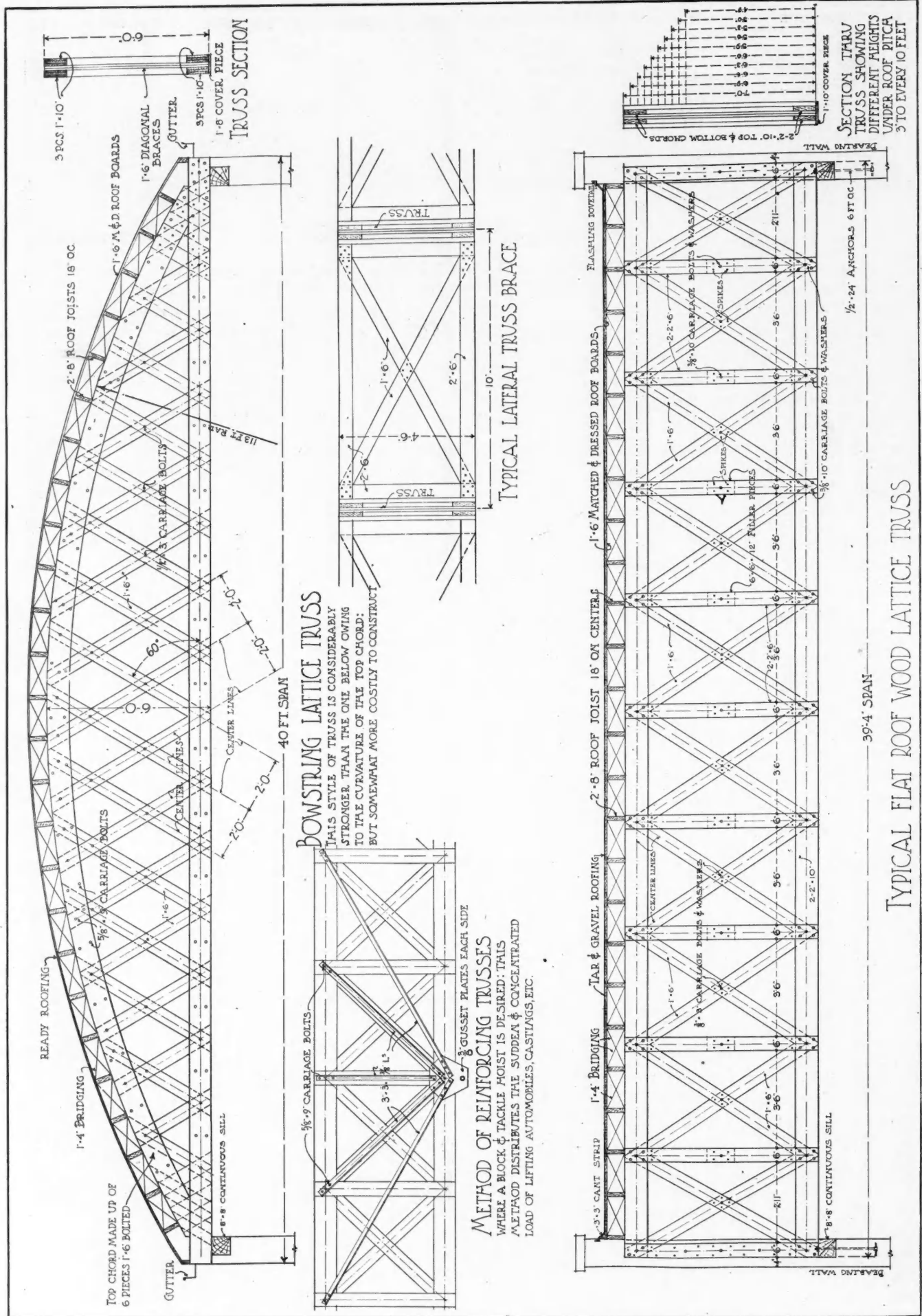
NOTE: TRUSSES ARE SPACED 10 FEET ON CENTERS, BEARING ONTO 8'-8" CONTINUOUS WALL PLATES ANCHORED IN PLACE. TRUSSES HAVE LATERAL BRACES IN CENTER OF SPAN; SEE DETAIL DRAWINGS

LONGITUDINAL SECTION
SHOWING SPACING OF TRUSSES & LATERAL BRACES

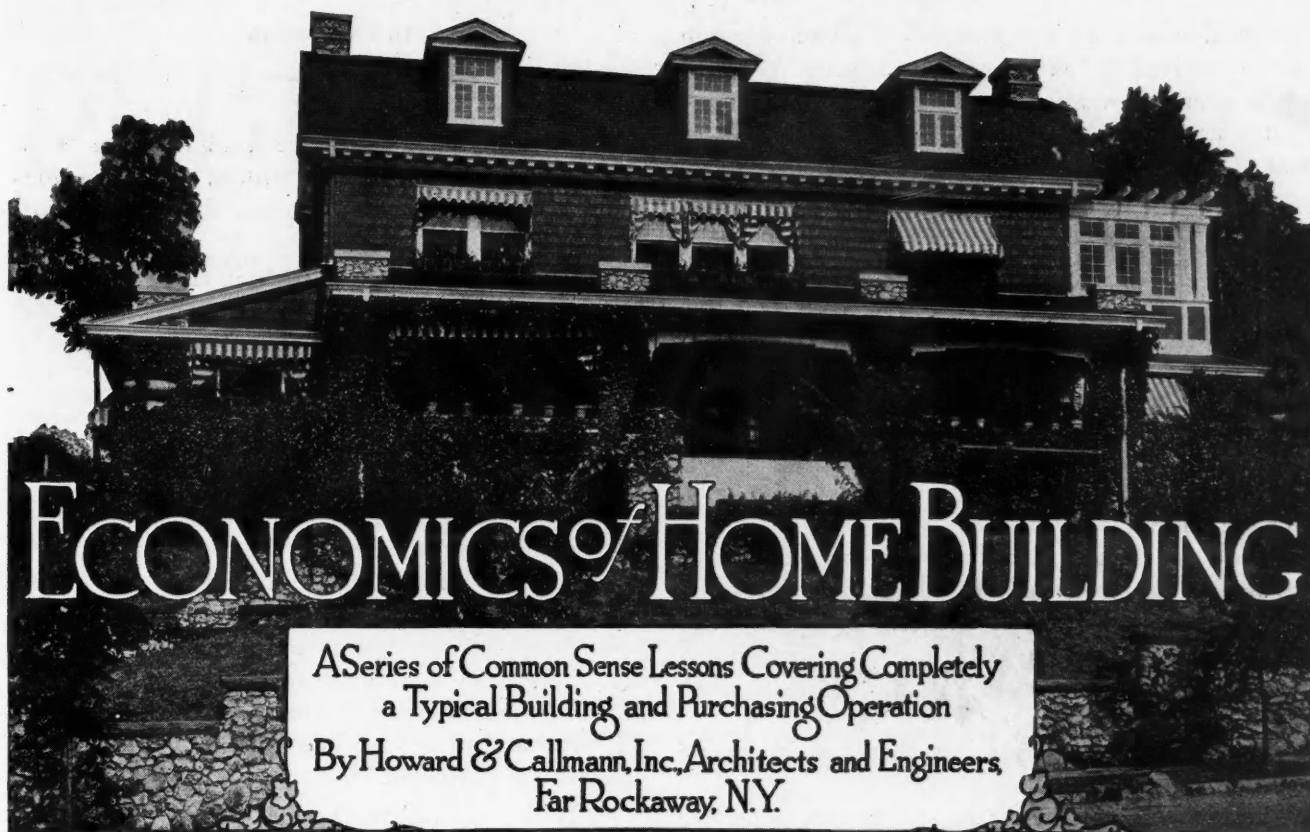
Details of Public Garage Illustrated on Opposite Page.



Floor Plan of Garage No. 6747, Showing the Arrangement of the Various Parts. The Front of the Building Contains a Display Room for Accessories and Show Cars. Back of This is the Stock Room and Office Which Can be Easily Made Very Attractive From the Front. The Turntable in the Center Simplifies the Handling of Cars. There is a Commodious Shop at the Rear.



Details of Two Styles of Lattice Truss Suitable for Public Garage 40 ft. in Width (See Design No. 6747 Illustrated on Page 68).



IN TWELVE PARTS—PART XII

Painting and Finishing the New Home

THE following information is intended as a guide and is not given in specification form.

A house may be well built and all the Carpenter work carefully performed, but its final appearance and attractiveness will depend largely upon the manner in which the painting is done.

Painting and Finishing

Selection of Paints. The best and most durable ingredients and colors should be selected for the paint, as they are a protection for the exterior woodwork against the action of the weather.

There are special stains, of various colors and shades, made for interior woodwork, samples of which can be obtained from the Manufacturers. It is unnecessary to choose the shades in advance, but the method of treating the woodwork should be specified. A clause should be inserted in the specification to the effect that the Painter will submit samples of the paint colors and stains showing the quality of finish, before proceeding with any part of the work.

When the Carpenter work is completed the Painter should sandpaper the woodwork, set the nails and putty the holes.

Priming Coat. All outside woodwork after being set, should receive one coat of white lead and boiled linseed oil. This coat is called the "priming coat." The best white lead should be used in the paint; as it

General Directions for Painting and Interior Finishing—Decorating—General Summary and Conclusion

EDITOR'S NOTE: So much interest has been shown in this series of helpful articles that the authors, Howard and Callman, Inc., Architects and Engineers, Far Rockaway, New York, have decided to issue this work in book form. All those interested should write them.

is the most important ingredient and will make more paint, cover more woodwork and give better lasting results than a poor quality of lead.

The rabbets of all windows and glass doors should receive one coat of paint before the glass is set; this will prevent the putty from falling out.

If a dark color is desired for the final coat on the outside woodwork, it is advisable to make the priming coat gray or buff; if a light color is desired, the priming coat should be chrome or white.

Finishing Coats. Three good coats of paint will make a substantial finish. The third and final coat should not be put on before the outside work of the building has been entirely completed. If pure white is selected for the finish, five pounds of French zinc mixed with every 100 pounds of white lead will make a brilliant finish.

The leaders, gutters, pipes, iron work and flashings should be painted with a coat of red lead, and followed with two coats of lead and boiled linseed oil of a shade to match the exterior wood trim. The red lead preserves the metal.

Inside Painted Woodwork. The finishing of inside woodwork in white or cream color for sunrooms, reception rooms and bedrooms is effective and readily restored.

A good serviceable enamel finish in white or cream can be obtained by the following treatment:

The door and window trim, mouldings, base, doors, ceiling beams and any other woodwork that is to be painted should be sandpapered until smooth, then a coat of "filler" applied. When thoroly dry, the grain of the wood that has raised should be sandpapered down; after this apply two good coats of white lead and boiled linseed oil and finish with a coat of flat or glass enamel. If a still more durable and higher finish is desired, an extra coat of enamel can be applied.

Hardwood (with the exception of cherry) is not a good base for a paint finish, as the hard and soft grains of the wood do not absorb the paint equally, thus the finish is uneven.

Finish of Floors. After the floors have been scraped, a coat of "paste filler" should be applied and followed with two coats of shellac. The filler treatment is necessary as soon as the floors are scraped, but the shellac should not be applied until the inside work is entirely completed.

Varnish is not serviceable for floors; it cracks and turns black.

Piazza Ceilings. The piazza ceilings can be painted or varnished.

If a painted finish is desired a light color should be selected, either white or cream. If the roof of a piazza covers the windows of a room the white paint by reflection will increase the light.

If the piazza ceilings are to be varnished a coat of "filler" should be applied to close the pores of the wood, and followed with two coats of outside water resisting varnish.

Stained Woodwork. The interior hardwood should be prepared for staining by sandpapering until the surface is perfectly smooth.

A coat of acid or oil stain should then be applied and immediately rubbed off with burlap. This is done to prevent the grain of the wood being hidden by the stain. The process can be repeated if the desired shade is not acquired by the first treatment. Follow this with a coat of "paste filler" which will close the pores of the wood and hold the stain.

For the finish two coats of rubbing varnish should be applied, rubbing down after each coat with pumice stone and oil until smooth. A coat of wax well rubbed down after this treatment will produce an eggshell gloss.

Decorating. The decorating of the plaster walls is seldom included in the painting of a new house. The composition of the plaster is such that a certain length of time is required for it to dry thoroly.

When the walls are decorated, either by painting or tinting, they should receive at least two coats of good varnish as a "size" before applying the finish. If the walls are to be papered they should be "sized" and covered with plain paper, after which the decorative paper is set.

The tints and paint colors should harmonize.

In Conclusion

A few guiding remarks may help those who are about to build a home.

It is not advisable in private work to invite Architects to submit competitive drawings, as the drawings are more or less misleading, particularly as to the cost of the building.

It is better to select an Architect who has had experience in the character of the work desired and whose integrity is unquestioned and be guided by his advice.

To avoid any misunderstanding between Architect and Client, the Architect's charges should be established before the order is given:

First. A percentage on the total cost of the building should be agreed upon for full services.

Second. If the work is abandoned the Owner should agree to pay to the Architect 1 per cent. for preliminary sketches and an additional 2 per cent. for the quarter scale working drawings and specifications. If the contract is closed the balance of the Architect's commission shall become due pro rata as the Builder receives his payments.

An Architect's full services comprise:

Preliminary sketches, which should be reasonably supplied until the Owner is satisfied.

A set of working drawings to $\frac{1}{4}$ inch scale, specifications, estimates, closing contracts, obtaining permits, supplying the full size detail drawings, issuing certificates of payment, supervising the work and auditing all accounts at completion.

The Architect's charges being agreed upon, the general requirements of the building should be written down; setting forth clearly what is desired in each part of the house. If any particular exterior style is desired a photograph could be selected that would suggest the general effect.

On giving instructions to an Architect it should be clearly understood by the Owner that there are two methods of procedure.

First. The Owner can give instructions as to the character of the desired building by establishing the sizes, heights, and the quality of the finish. From these instructions the Architect can prepare a sketch plan and obtain an approximate estimate as to what the building will cost.

Second. The Owner can set an amount for the entire cost of the building and the Architect can prepare his drawing to bring the cost within the amount stipulated. If the latter way is adopted, it should be made clear what is to be included in the stipulated amount; this should be done from the data given in Part I.

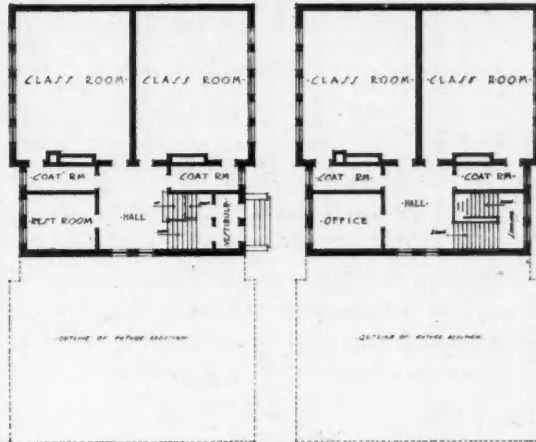
It is unreasonable for an Owner to give definite instructions as to the size and quality of the building and also to stipulate the amount to be expended, unless there is definite knowledge that such a building could be built for the amount.



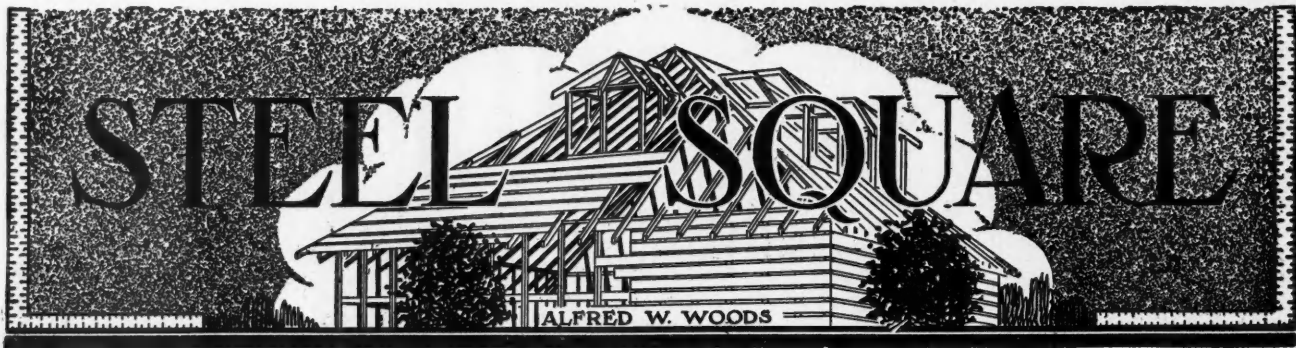
Greenwood, (Ill.) School Looks to the Future

THE building of schools is always quite a proposition for a growing community to handle. Trustees are unwilling to appropriate sufficient money to build a school large enough to take care of the number that will be attending in ten or fifteen years. If a school is built smaller to handle the present attendance, it will be too small in a few years, and another building will have to be erected to help it out. The splitting of the school in this way between two buildings is always inconvenient.

The school shown here is designed to take care of the future. Half of it is built and the other half can be added when it is needed. The outline of the future addition is shown on the floor plans.



First Half of Central Park School, Mt. Greenwood, Ill. Designed by the Well-known Schoolhouse Architect, G. W. Ashby.



Possibilities of the Steel Square

DESCRIBING HOW TO FRAME AN OCTAGON ROOF, SUITABLE FOR SUMMER HOUSE OR PAVILION
WITH EXPOSED RAFTERS

By A. W. Woods

WE have before us an inquiry asking for a framing design for an octagon roof, with exposed rafters, with beaded ceiling placed on top, with face down; and since this furnishes a

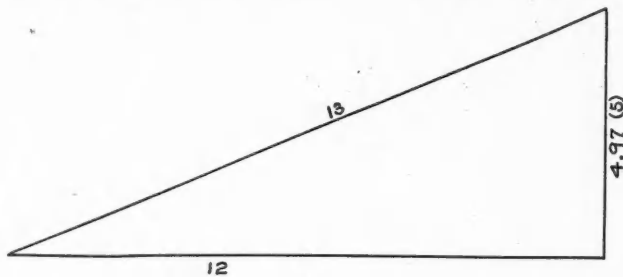


FIG. 1.

The Basic Triangle for All Octagon Work on Steel Square.

good subject, we will make use of it for a special article this month.

On a number of occasions we have considered the octagon; but in this, we are going to show a different design from anything we have heretofore published. The treatment for the cuts and bevels, of course, remain the same.

To begin with, we refer to Fig. 1, which shows the plan or foundation work for the beginning, regardless of size or pitch the roof may have. It is simply a little right-angle triangle and is the same as that formed by a line, as from 12 to 5 on the steel square, or the same as placing the square at those figures on a straight edged board. Marking from these points to the heel, will give the angle, as here shown. These figures give the miter for the plate; but that is not what we want in this case, because an octagon roof is like a huge umbrella with its stress outward. It is therefore necessary that the corners be made secure; and the best, or most economical way to do that, is to make a lap joint. The cut is the same as a miter for a square corner, as shown in Fig. 2; but instead of letting the two pieces come together at the cut, one is laid on top of the other in such a way that the cut will lie along the edge of the other and should be thoroly spiked together.

If it is a large or heavy roof, the plate should be of several thicknesses of timber lapped and nailed in this way. Right here we want to explain a little further in regard to the miter. The angle to take on the square for the octagon is $22\frac{1}{2}$ degrees and for the square corner it is 45 degrees. The latter has half as many corners as the former, yet its miter furnishes the cuts for the lap joint for the former. Thus, it will be seen, that it requires double the amount in degrees for the lap joint than for the miter joint as 45 degrees for the miter of the square corner and 90 degrees (square cut) for the lap joint; and so on to the end of the polygons, except for the triangle—and that is just the reverse.

Now, having our plan established, we are ready to proceed with the roof; and for this we will take a span of twenty feet over the plate and a hang-over of three feet, which is usually called the tail end of the rafter. For the slope of the roof, we will use the $\frac{1}{4}$ pitch, which we find to be 13.42 to the foot

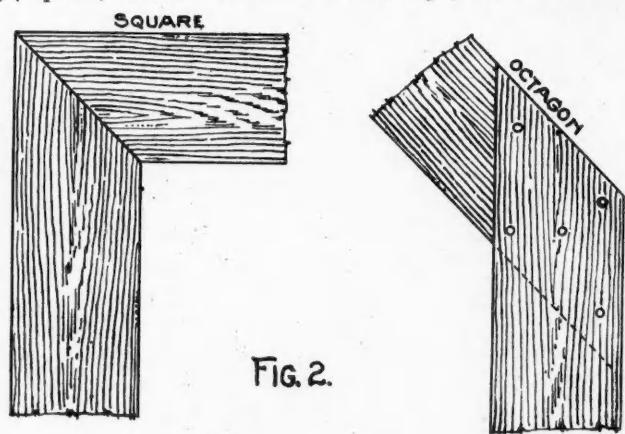


FIG. 2.

Reinforce the Octagon Corners by Using the Lap Joint.

run of the common rafter; but referring to the roof plan, as shown in Fig. 3, it will be seen that there are no common rafters, just the hips running to the center, with cross pieces set vertically three feet six inches square out from the center, cut in between the hips for the long common rafter to rest against just the same as in the case of resting against the

ridge piece. The rafters at either side of the center rafter are also common rafters cut against a piece set in like manner to the one above; but in this case it is set six feet square out from the center between the common rafter and the hip. We say common rafter, because the cuts are the same as for the common rafter but it takes the place of a jack.

The next rafter or the first one from the hip at either side are the only jack rafters used in the roof and are set so that they will not show from the interior.

The length of the various rafters, plate and cross pieces are given in their respective places, as shown on plan and elevation.

In Fig. 4 is shown the lay-out from which all of the calculations for the lengths and cuts for the $\frac{1}{4}$ pitch for any desired size of building are reckoned, as follows:

To find the length of the plate, the diameter being 20 feet, multiply $4.97 \times 20 = 99.40$ inches, or $8' 3\frac{3}{8}"$ —*Ans.*

To find the distance between tail end of hips—multiply $4.97 \times 26 = 129.22$ inches, or $10' 9\frac{1}{4}"$ —*Ans.* (26 is used because the common rafter has a three-foot projection, which, added to the span, makes $26' 0"$ over all).

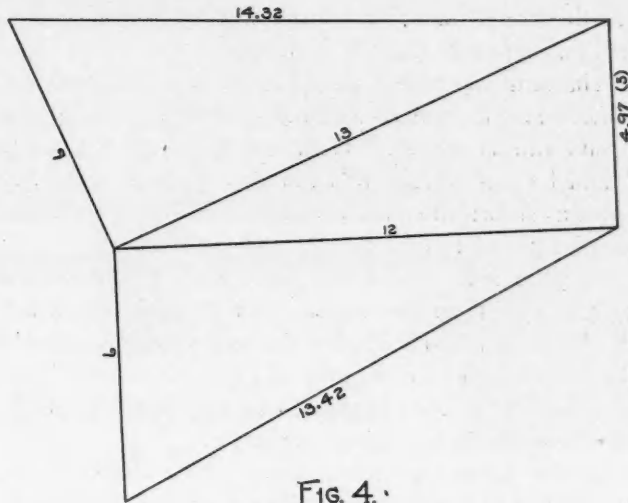


FIG. 4.

Layout from Which All Calculations for the Lengths and Cuts for $\frac{1}{4}$ Pitch—Any Size Building—Are Reckoned.

The length of the cross pieces are found in the same way, as for instance, the radius of the upper pieces is $3' 6"$; the diameter being $7' 0"$, multiply $4.97 \times 7 = 34.79$ inches, or $2' 10\frac{19}{24}"$ —*Ans.* The length, of course, is from center to center of hip and it is therefore necessary to make a deduction in the length to bring the pieces to the required diameter.

This may be readily found by laying off the length as found, applying the square at 12 and 4.97 (5) for the miter and from this at right angle, set off the thickness of the hip and thro this point lay off another miter line, which will be the proper one to cut on. Proceed in like manner for the next cross piece, or pieces, as it will be seen there are two to each section on account of the long common rafter running on through to the upper piece, which must also be allowed for in addition to the reduction, as described above.

We are now ready to take up the length and cuts of the rafters.

Beginning with the hip, 13 and 6 are the figures to use for the seat and plumb cuts in the order named and the length for a one foot run is 14.32 inches and as the run of the common rafter is $10' 0"$, multiply $14.32 \times 10 = 143.20$ inches, or $11' 5\frac{1}{24}"$ —*Ans.*

This is the length of the rafter from the outer edge of the plate at the corner to the center of the finial and the rafter should be laid off as though that were the length to cut the rafter; but since it is to rest against the finial, it is necessary to make a deduction in its length accordingly. This may be readily solved by measuring square back one-half of the thickness of the finial from the plumb line, as laid off for the above length and through this point lay off another plumb line, which will be the proper line on which to make the cut. So far we have only the length from the finial to the plate, leaving the length of the tail to be found and added to the length and as the tail of the common rafter has a projection of three feet, that

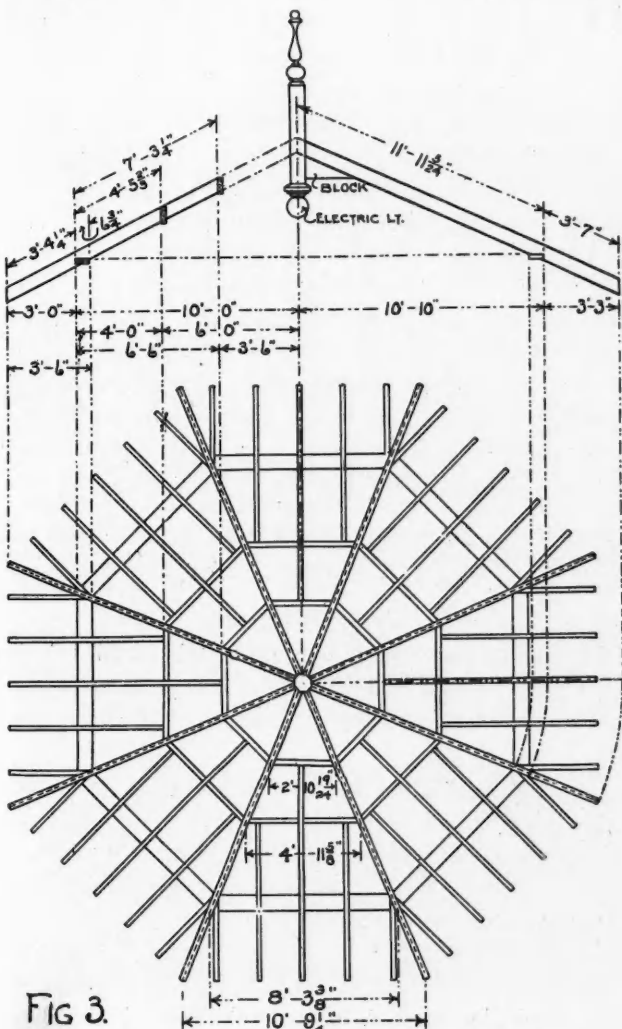


FIG. 3.

General Plan View and Elevation of Octagon Roof.

for the hip is found by multiplying $14.32 \times 3 = 42.96$ inches, or practically 3' 7"—*Ans.*

The seat and plumb cuts for the common and jack rafters are 12 and 6, and the length for a one foot of its run is 13.42". Their lengths may be readily found by multiplying this number by their respective runs, as shown in connection with the elevation, shown in Fig. 3 and reduce to feet and inches.

For the side cut of the jack, take 4.97 (5) and 13.42 ($13\frac{3}{8}$) on the square and the side on which the latter is taken will give the angle across back for the cut. These same figures will give the angle across the face of the roof boards to fit over the hip, but in this case the former gives the angle.

In the above, we have given all of the principal cuts involved in the roof. The few minor cuts not mentioned are all solvable by the lay-out, as shown in Fig. 4, but as this article has already strung out longer than we expected, we cannot take up more space to describe them.



Pickups on the Job

By H. J. Blacklidge

FOR coping base boards make a wooden miter box, the bottom of which is made of 1-inch-square stuff, the sides of one-half or five-eighths by six, and about two feet long. Now turn this upside down and carefully lay off a miter each way. Saw these down about four inches. Now if you slip this templet over a piece of base board and saw through the proper miter, it will cut deep enough to clear the moulded top of the base. Cope the mould and then saw square across the flat surface as usual. This is far easier, and ten times quicker, than trying to saw a piece of base (especially a long one), in the miter box.

IUSED to own (?) a boss who always said, "When you knock the staging down, for blank's sake always take the nails out. Better spend five or ten minutes taking out nails than a week in the hospital after you've stepped on one." I believe it good advice, and have always followed it in my work.

ALONG the same line I have always told my men to dig out splinters just as soon as they get them in. California redwood is especially poisonous to some people, and it is far more economical in the long run to let a man dig out a splinter than to have him favoring a sore hand for four or five days.

LIKEWISE, don't fool around with a rickety old stool when shingling, or a rocking horse instead of a saw horse.

AND shoot on sight the first man that drives a nail in a saw horse except on the most legitimate business—for the next man to run his saw onto and then require twenty minutes to sharpen it. (If he *does* do it, though, for heaven's sake see that he files it at once. Don't let him dilly-dally with a dull saw.)

AMAN dowelling some table tops the other day had a nifty little marking device. It was a plate of

thin metal about one-half inch square. Through the center was a pin one-eighth inch long, projecting a sixteenth each way. He placed this on one board where the dowel was to be and pressed it down firmly. Then he placed the other board against it and tapped them together. He certainly had the points for the bit exactly opposite. I have but one suggestion to make, and that is that he have several of them and put one at each dowel and then press together and mark all "to onect."

WHEN you are going to a house to do a little job—hang screen door, put in new drain board, or fix the front door lock, etc., etc.—take plenty of good tools with you, see that they are clean, keen and bright, either nicked or gun-metalled, and look well generally. You will make just three times as good an impression on the housewife as you will if you have only an old screwdriver, a rusty saw, one clawed hammer, and a greasy apron. Why make a good impression, you ask? Well, when a *real* job comes up around that house, if you have made a good impression, the housewife will demand that you be given the work. If you have made a poor impression, the opposite will be true. It pays to have good tools and to keep them clean and bright. Go and try it out in a dozen cases if you don't believe it!

BENCH Stop; ever try to plane a thin, *wide* board against a small stop and have it flying every which way around the bench every time you hit either edge of it? Take an old saw, cut off a piece about 12 inches long and bore three or four holes in it. Bevel off the end of the bench just enough so that when the saw blade is laid on the bevel the teeth will come about three-sixteenths above the level of the top. Now fasten it in place with screws through the holes and you have a stop which will *stop* a 12-inch board. Of course it is not adjustable for height, but you *might* remedy this by making slots instead of holes in the blade. But I would not advise it, as the force against it when planing would be apt to drive it down regardless of how hard the screws were set. You could, however, put a shim under it.



IF you are criticizing a man with a view to helping him, don't go about it in a fault-finding way.

True Wisdom

"IF there were four flies on a table and I killed one, how many would be left?" inquired the teacher. "One," answered a bright little boy, "the dead one."

Where He Was Weak

AQUAINT story is told to exemplify the pride that every man should take in the work by which he makes a living. Two street sweepers, seated on a curbstone, were discussing a comrade who had died the day before. "Bill certainly was a good sweeper," said one. "Yes," conceded the other, thoughtfully. "But—don't you think he was a little weak around the lamp posts?"—*Cardiff Western Mail.*

MAKING THE HOME GROUNDS MORE ATTRACTIVE



Wire Fencing Improves Property

IN any town or city in the country there are yards that are anything but a credit to the buildings they surround. The owners often have the idea that anything is all right for the back yard. If they build a chicken house they will use the old left-over boards to make a fence, or part of a fence. They say that nobody sees the back yard anyway, so why should they fix it up.

A bright open fence is an incentive for keeping the back yard in the best possible condition. It does not shut off the sunshine. It provides the best possible sanitary conditions.

The comparison between the two types of fence is

shown clearly in the lower illustration. On one side of the alley are dark, dingy yards surrounded by high board fences. Contrast this with the yards on the other side. They are bright and sunny, with no dark corners to hold all the rubbish that blows around the back yard. Compare the chances of gardens in these two kinds of back yards.

There are unlimited opportunities for builders to put up this kind of fence. Get the owner's pride aroused about his building and then show him the contrast with the back yard. After that it's easy—just put in an up-to-date wire fence for him. The very best people are doing it.



A Back Yard Scene—Compare the Neat and Sanitary Attractiveness of the Wire Fence Enclosed Rear Yards to the Left with the Dingy Eyesore to the Right.



The Decoration of Wall Board

SUCCESSFUL METHODS AND MATERIALS EXPLAINED

By Joseph A. Poehl

DURING recent years interior decoration has undergone remarkable changes. Today sanitation, health and cleanliness are the main considerations of the architect, the builder and the householder. A hard non-porous finish, which is germ-proof and easily washed with a damp cloth, is demanded. So, we have come back again to painting by hand after a lengthy period of disuse. And, wall board has played an important role in bringing it into popularity once more.

In planning the decorative treatment for a dwelling lined with wall board an important factor, besides rugs, carpets, draperies and furniture, must be borne in mind, and that is the panel arrangements. For



The careful use of Tiffany Glazing and Stencilling of the Walls, with Flat Oil Paint on the Ceiling, gives this Room much of its Charm.

instance, if a certain room has a frieze, or a dado, provisions must be made for harmoniously coloring that portion of the wall.

Like paneling, color apparently influences the proportions of a room. Red makes a room appear smaller, while tan, gray, blue, pink and yellow have a tendency of adding space. Some colors, such as green and brown have very little effect in this way, and consequently used very extensively.

Then, too, a sunny room facing the south should

have a different treatment from that of a room with subdued light from the north. In the former, reds and blues are desirable, and in the latter, brown, yellow and some greens may be used to good advantage.

Simplicity should be the keynote of all wall board interiors. When planning the decoration for a single room for individuality and appropriateness, remember that the effect throughout the different rooms should be in harmony and balanced.

Sizing Wall Board

There are two distinct classes of wall board, one is unsized and the other sized. In view of the fact that, at least, nine-tenths of all wall board sold is sized the remainder of this treatise will consider it alone; for, after the other board has received a coat of size it is susceptible to the same processes of painting as the sized board. This size may be glue, shellac or a cheap varnish diluted with turpentine to the consistency of water. Varnish is perhaps the best, being more economical than shellac and possessing moisture-proof qualities which are lacking in glue.

Only first class paint should be used on wall board, although it makes no difference whether it be prepared or hand-made. Flat or egg-shell gloss oil paint is, without question, used more than any other kind; although glazing, or, as it is frequently called, Tiffany glazing, is rapidly gaining in favor. Stain should be avoided as it is difficult to spread evenly.

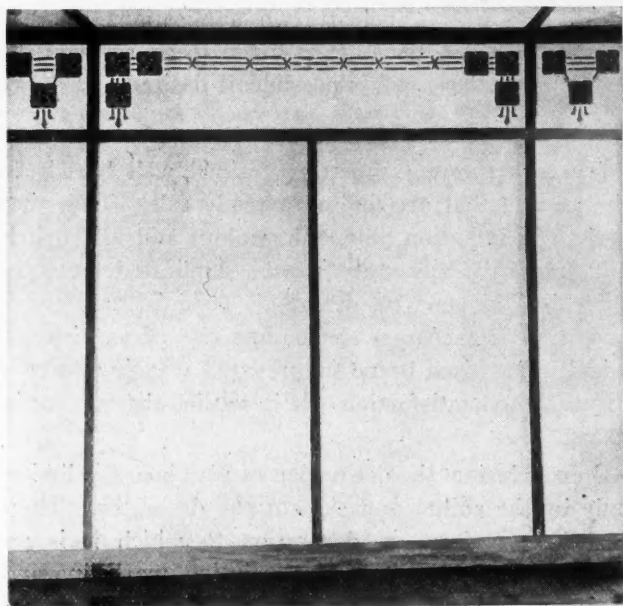
Before applying any kind of paint see to it that the brads in the center of the panels are countersunk very, very slightly below the surface of the board and stopped with putty or what is known as nail-head filler. The ingredients of the filler are about three parts of plaster of paris and one of dextrine of glue, both of which can be supplied by paint dealers. Mix well and when ready for use add enough water until a paste, having the consistency of putty, results. Do not apply shellac or knotting over this filler. No moulding, decorative strips or trim must be put on until after the decoration is completed.

Two coats of flat, or glossy, oil paint generally give a satisfactory finish, while only one coat of the dark shades is sufficient.

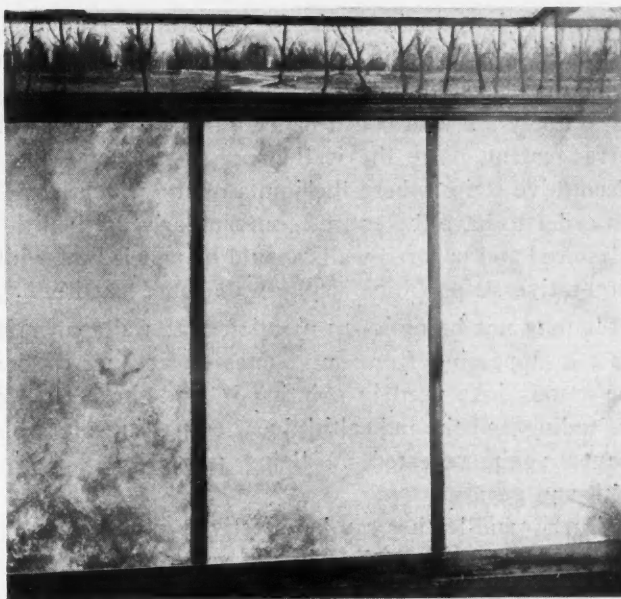
How to Do Tiffany Glazing

The common term for blending, glazing, mottling and wiping is Tiffany glazing. They all refer to the method of spreading transparent colors over a body of flat oil paint, which produces very beautiful decorative effects. The general public, indeed, the every day painter, as a rule, labor under the impression that this treatment is intricate and difficult. As a matter of fact, though, it is as simple as staining. However, a little experimentation and practice are advisable before an important job is attempted.

A perfect body or ground to work over is the first requisite. Different tints are used for this purpose to secure various effects, although some decorators employ only cream and ivory. It must be flat in every instance, however, and allowed at least thirty-six hours to dry before the glazing liquid, into which pure artist's colors are dissolved, is put on. Try out the mixture on waste pieces of board until the proper tone is obtained by adding colors or glazing liquid, as may be required. Apply to the wall with a three or four-inch brush. Cover a space of about seven or eight feet and use no particular pains to eliminate brush marks. Just spread the liquid over the wall and work the brush up, down and every way. Crumple a piece of cheese cloth in the hand and go lightly over the surface with a similar motion to that of the barber in lathering preparatory to shaving. Of course there is a knack to this but it is quickly learned. A little hint, do not try to make the edges of one application of glazing liquid straight, instead, it is better to have it ragged so that the following application will blend or graduate into the first without showing a division line.



Simple stencils used in connection with flat paints produce interesting and pleasing effects on wall board.



For a dining room this treatment is most desirable. The lower wall is tiffany glazed and mottled, several colors being blended together. The frieze is fresco painted.

The foregoing method of using glazing liquid into which is mixed one or a combination of colors is really glazing. It may be stippled but that would not materially change it. Stippling is the act of working over a wet painted surface with a large, flat, stiff, bristle brush known as a stippler, to eliminate brush marks and produce a dotted, or "toothed" surface. Blending or mottling is almost identical, the exception being that various colors are mixed in separate containers of glazing liquid and applied to the wall in blotches and blended together bringing about a mottled effect.

Glazing liquid is made of three parts of linseed oil and one of turpentine with a small quantity of driers. It is also procurable from paint dealers.

Decorating with Water Paints

Pleasing effects are readily obtained on wall board by water paint, or tint. It is generally applied with a wide brush, and two applications are necessary in most cases; darker shades may cover in one. Water paint is not durable and fades more rapidly than oil paints. It does not permit rearranging wall hangings as the original locations will always be visible due to the surrounding surface being discolored from the action of the light. This seems to be a serious drawback which is the reason why flat oil paint is finding such a ready market; it has all the advantages of water paint, in addition, being washable, more durable and more permanent of color. Water paint, however, is extremely inexpensive and allows frequent repaintings at small cost. Thus, one who wishes a different color treatment in his house every year is favorably inclined toward it.

Manufacturers of wall board do not recommend the use of wall paper for the reason that it invariably cracks at the panel joints, in spite of strips of canvass or adhesive paper tape being first put over them. Of

course, it is sometimes almost necessary to do this, as when a partition is installed at one end of a room which is plastered and papered. The thing to do then is to apply the wall board panels in some symmetrical arrangement, paste the wall paper over it and place decorative strips where the joints of the panels come. In order to have the entire room similarly finished the plastered and papered walls should be paneled off with decorative strips to match the wall board partition.

It may not be amiss to mention that wall paper is fast disappearing from our homes on account of the poisonous inks used in printing it, and the certainty of fading and the unhealthfulness of pasting on fresh paper again repeatedly. Being porous, it harbors filth and germs.

Burlap and leather can be effectively used over wall board. They are applied in the same manner as to other materials. Leather, on account of its nature,

Best Finish for Moulding Strips

With regard to the decorative strips and mouldings used in connection with wall board in addition to the ordinary trim, they should be finished to either harmonize or contrast with the decoration on the walls. Unless one is familiar with what contrasts are good, extreme contrasts should be avoided. By painting the walls in medium tones of soft green, brown, yellow, gray or blue and the woodwork in white, cream or ivory, excellent effects are obtained. Medium shades of brown, gray or green painted woodwork and respectively soft brown, gray and green walls several degrees lighter than the woodwork are other artistic treatments. There is also the scheme of having the woodwork the same color as the walls, so as to create a subdued panel effect that is rather interesting.

The foregoing are merely variations from the only too common practice of staining and varnishing. It

should not be understood, though, that a fine finish of this character on a good grade of wood, bringing out all its natural markings and attractiveness, is not desirable. But where economy necessitates cheap woodwork, painting is to be preferred. As an exception, cheap woodwork may be stained mission for that does not make the grain and imperfections unduly prominent.

As for wall board tile, which is ordinary board with a tiled effect impressed upon its surface, it is nearly always enameled to better imitate the genuine article. First, two or three coats of primer (not size) are put on. Common flat white paint is satisfactory. Then, at least two applications of good enamel is given it. A rubbed finish is possible, if desired.



From an Artistic Standpoint Grained Wall Board is Ideally Suitable for Wainscoting, as this Picture Shows.

is always paneled, but this is unnecessary with burlap. Both make rich looking wainscots or dados, for which they are commonly resorted to.

Stenciled Ornamentation

The beauty of any decorated wall board room can be greatly accentuated through the use of an appropriate stencil applied in one or more tints. They may be had from practically all paint makers and from several of the better known wall board concerns. Or, they can be original designs. Illustrated stencil catalogs are free and are a handy addition to the painter's library.

After a stencil has been fastened in place with thumbtacks, apply the color with a fairly stiff brush. Do not rub or wipe, simply tap on with the end of the brush.

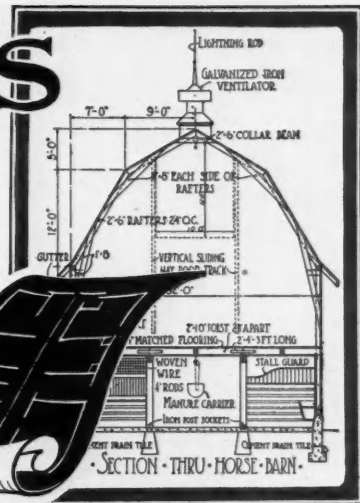
Natural Grained Wall Board

There are now, numerous grained wall boards on the market that are finding a ready sale. They may be had in imitation pine, oak, walnut and mahogany; but practically any wood can be duplicated, provided there is a big enough demand. To finish, all that is necessary is a coat of shellac and one of varnish. A widely advertised brand of prepared wax is also used to very good satisfaction. It is applied directly to the board.

In conclusion, the decoration of wall board is limited only by the ability and skill of the decorator. There is hardly a form of decoration to which it is not susceptible. Even dry fresco painting, marbeling and, if factory grained board is undesirable, hand graining can be executed upon its fine surface.

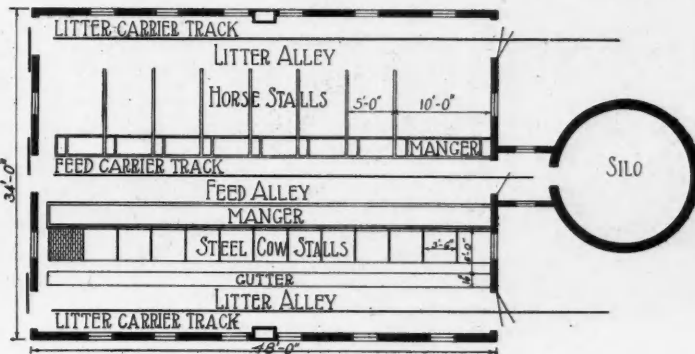
FARM BUILDINGS

Arranged For Convenience -



Gable Roof Horse and Cow Barn

A medium sized farm barn to stable horses on one side and cows on the other is given in Design A335. The plan of this barn shows another way of separating horses and cows in the same building. By running a partition to the ceiling, the two departments are kept almost as separate as tho the different animals were stabled in separate buildings. At the same time the feeding arrangements are very simple and convenient.



Stable Floor Plan of Barn No. A335.

The silo is placed at one end of the stable opposite the main feed alley. The space between the silo and the end of the barn is built in with a convenient feed and mixing room where feed from the silo and overhead mow is dumped before running it through the feed alley by means of a feed carrier running on an overhead track.

A similar track runs the manure carrier through the alley behind the cows and the other alley behind the horse stalls. These tracks extend out into the barnyard beyond the silo where the carrier dumps into the spreader. This arrangement keeps the yard end of the stable free from disagreeable litter for the going and coming of the attendants in their work of caring for the cattle and horses. It is much better than to use the same set of doors for both manure and cattle.

The ground around the stable is supposed to be kept clean and free from accumulations from either straw or manure. At the same time it is easier to manage when the manure doors are not used for any other purpose. Generally a silo is placed as much out of the way as possible and still have it convenient for feeding.

A good many barns are built with straight gable end roofs. They are not quite so roomy as curb roof barns, but the work of building is a little easier and quicker done. Also neighborhood fashions have always had a good deal to do with the designs of farm buildings.

There are a few hard and fast rules to follow in putting up a stable for live stock, but they are all simple when once

understood. A stable needs to be warm in cold weather and cool in warm weather. Fortunately the same kind of

construction answers in both cases. A wall and ceiling that is well built will keep out both heat and cold.

Next to warmth comes ventilation. A warm building in winter must be ventilated to keep the live stock in good health. Fortunately the ventilation of well built farm buildings is easy, but it is necessary to provide the intake and exhaust before the building is constructed. It is much more difficult to put in a ventilating system afterwards.

Another requisite in modern stables is plenty of windows to furnish abundance of light. Light is necessary to the health and comfort of both man and beast.



Gable roof horse and cow barn with high concrete foundations, size 48 by 34 feet. Arranged for thirteen cows and eight horses. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$7.00 per set. When ordering ask for Design No. A335.



Sixty-foot round barn arranged one-half for horses and one-half for cows. A 14-foot silo occupies the center and a gable end dormer gives access to the big circular hay mow. We can furnish complete set of blue printed working plans and typewritten specifications for only \$12.00 per set. When ordering, ask for Design No. A305.

60-Ft. Round Barn for Horses and Cows

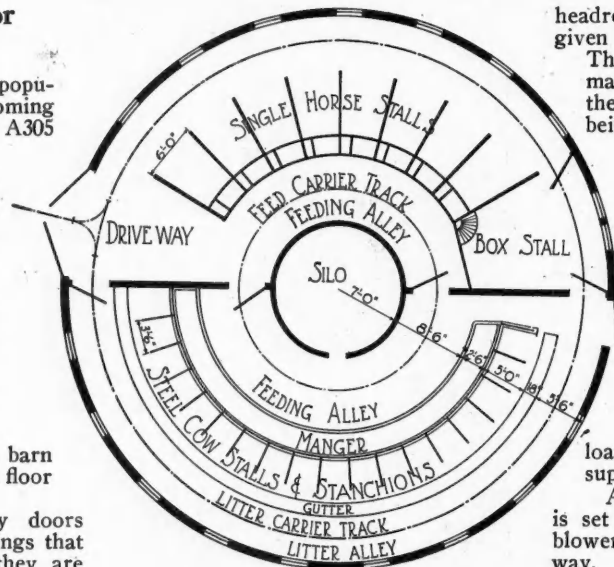
Round barns are growing in popularity as their merits are becoming better understood. Design A305 shows a round barn 60 feet in diameter, arranged to stable 18 cows and 8 horses in standing stalls. There also is a box stall between the cow stable and horse stalls, which may be used for either kind of stock. It is often used for hospital purposes.

When horses and cows are stabled on the same floor it is much more satisfactory to have a substantial division between the two stables. For this reason there is a solid partition in this barn which reaches from the concrete floor to the ceiling overhead.

There are four heavy alley doors hinged and fitted with door springs that keep them shut except when they are hooked back while doing the chores.

The horse stable floor is made level and the cow stable side is built with a solid concrete manger with standing floor that slopes back to the gutter. The gutter is 18 inches in width and is 8 inches deep on the standing floor side with the bottom sunk four inches lower than the outside alley floor. This alley floor slopes slightly towards the gutter.

Practically the cow stalls including all the fittings are the same as in a well-built rectangular barn, except that in this barn



Ground floor plan of 60-foot round barn, No. A305.

all the fixtures are laid out and built to true circles.

In the center is a silo fourteen feet in diameter, built of wood above the concrete base with an air tight lining of wood and building paper.

The floor in the horse stable is built on a level with the alley floor behind the cows, which gives a little more

headroom in the horse stalls than is given to the cows.

The floor plan shows a driveway and manure carrier track extending all the way around the stable, the exit being through the large double door at the rear.

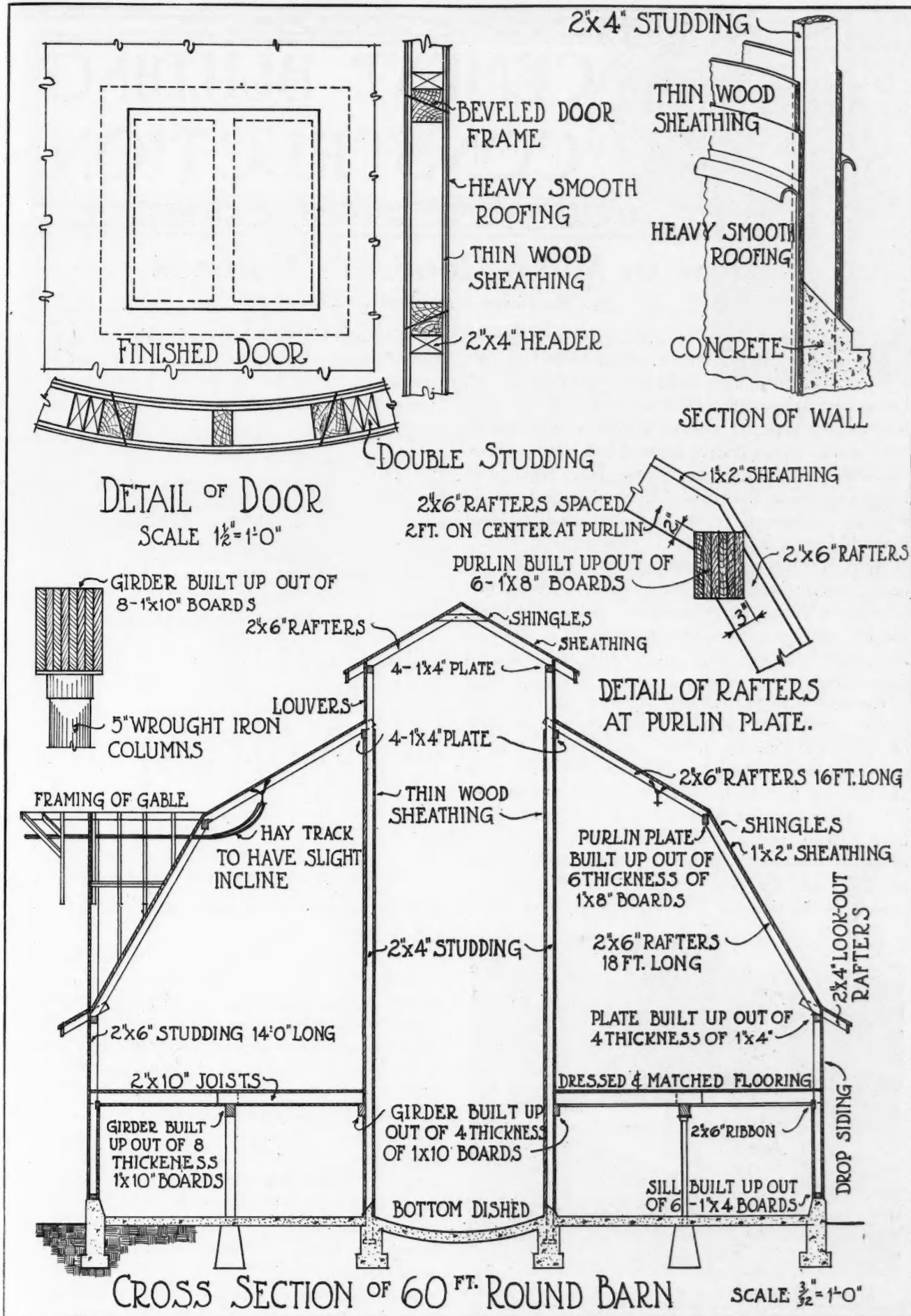
There is a good mow over the stable for the storage of roughage. This mow is filled by horse fork, which runs on a circular track suspended from the rafters. The car track extends all the way around and is inclined so the higher part of the track is towards the front side of the barn.

The hay car is propelled by a draft rope, which runs over pulleys when taut. When the load is dumped the slack rope is supported by rollers.

At silo filling time the silage cutter is set in close to the silo, so that the blower pipe stands vertical in the usual way. An extension carrier is employed to bring the corn in through the driveway to the cutter. This gives easy access to the unloading devices without driving the wagons inside of the barn.

All modern farm buildings require machinery to handle large quantities of feed and to do it quickly. Manufacturers are building new machinery and other equipment to adapt their lines to the needs of progressive farmers.

There are many points of interest in connection with round barns.



Details of construction of 60-foot diameter barn with central silo, Design No. A305, shown on opposite page.



CEMENT BUILDING CONSTRUCTION

How to Make Concrete Hotbeds

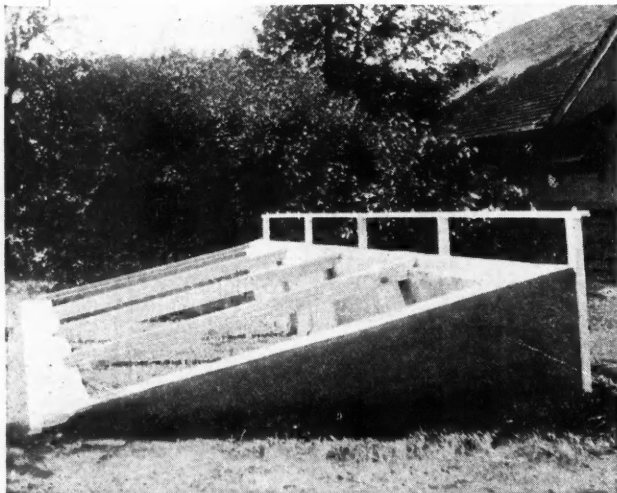
By H. Colin Campbell, C. E.

YEAR after year we see the farmer or vegetable grower replacing the old wood hotbed or cold frame with another wood one equally short lived. On second thought this is not literally true, for some have come to a realization that permanent construction pays, and to secure it have selected and used concrete. Certainly the annual expenditure of labor required to rebuild or repair the perishable wood hotbed will in a couple of seasons represent a sum equal to what it would have cost to build for permanence at first.

Many greenhouse men and plant growers have long used concrete benches in greenhouses, knowing that they are better suited to requirements than the wood benches previously used, and perhaps as a result of this, concrete was recognized as adapted to hotbed construction.

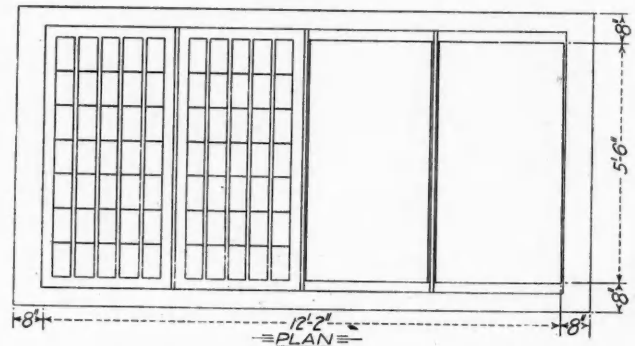
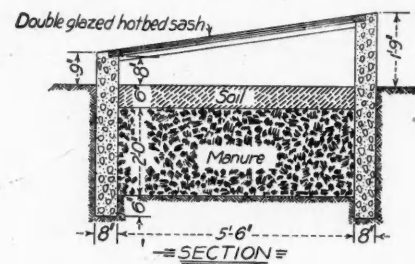
The accompanying drawing suggests the ease with which a permanent hotbed or cold frame can be made of concrete. Probably there is no simpler construction—a trench, without forms where the earth walls are sufficient to hold up the sides without caving, then a low form for that portion of the wall which is to have ground, and a mixture of 1:2:4 concrete of of quaky consistency, properly placed, and you have permanent construction.

Now is the time of year when many persons are



This Shows a Concrete Hotbed Built After the Accompanying Plans, Except, However, that the Builder Chose to Make the Front Wall Lower in Order Better to Admit Sunlight to the Extreme Front of the Soil in the Bed.

planning hotbeds for winter and early spring use, and regardless of whether the intending builder is constructing a hotbed for commercial vegetables or plant culture or to serve home needs, no equal expenditure



Plan and Cross Section of Concrete Hotbed.

of labor will give so great returns, if the bed is properly constructed and operated.

If walls are 8 inches thick, no reinforcing will be needed except, perhaps, that it might be a wise precaution to lay a $\frac{3}{8}$ -inch rod at the center of the wall around each corner. This will prevent possible cracking. One such rod at each corner in front and two at the back, 6 inches apart horizontally, will be sufficient.

The drawing shows a bed 5 feet 6 inches by 12 feet 2 inches inside dimensions, these dimensions having been adopted to conform to the standard size of sash usually manufactured for hotbed covers. It is very easy to embed eye-bolts in either the front or back wall on the upper face, so that the sash may be hinged for raising or lowering as temperature conditions require.

There are varying opinions as to the best methods of preparing the soil in the hotbed for seeding. Most

operators of hotbeds secure the desired heat for forcing plants from fresh stable manure containing a large quantity of straw, which when placed commences to "heat" and supplies necessary warmth to the soil. The most convenient way, perhaps, of heating the soil is by means of steam pipes embedded at proper depth, provided, of course, there is a source of steam supply available.

No housewife, who has once enjoyed the advantages of fresh vegetables thruout the winter months, would permit a well made, well operated hotbed to fall into disuse.

This is a type of construction which we believe many of our readers will find frequent opportunity to engage in. There is profit in doing the work for some one else, and both pleasure and profit in doing it for yourself.



A Sanitary Drinking Fount for the Farm

MOST of the States now have laws prohibiting the public drinking cup. One Illinois farmer who is locally noted for the sanitary improvements on his farm, has installed the outdoor drinking fount shown in the accompanying illustration. A "bubbling cup" which is fed by a pipe leading to a water supply, control being secured by a spring valve in the pipe near the cup does away with the family tin cup and water pail.

This is a concrete post cast in place around the water pipe previously connected with the source of supply. The post extends some 3 feet in the ground and consists of a 1:3 mixture, this being used since no excessive strength was required as would be de-

manded of a fence post, and also because using cement and sand instead of cement, sand and gravel, the concrete when mixed rather quaky could be puddled in the form, thus giving a smooth surface to the post after forms were removed. One-quarter-inch round rods are used as reinforcement in each corner 1 inch from the surface.

Here is a good suggestion which rural dwellers can well adopt, that makes for sanitation and hence for health. The family drinking cup should go.



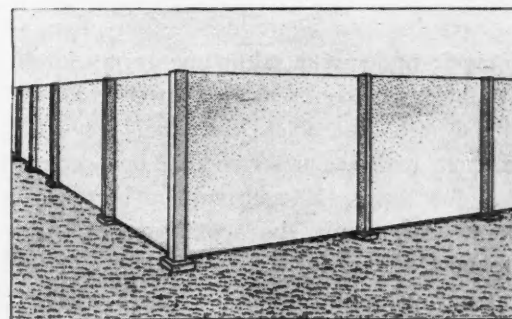
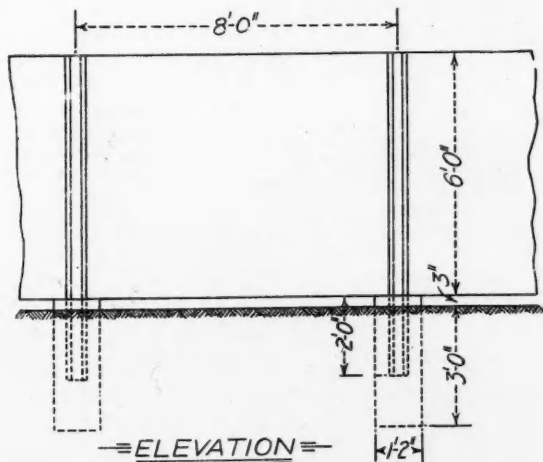
Bubbling Fountain with Supply Pipe Encased in Concrete.



Concrete Panel Fence

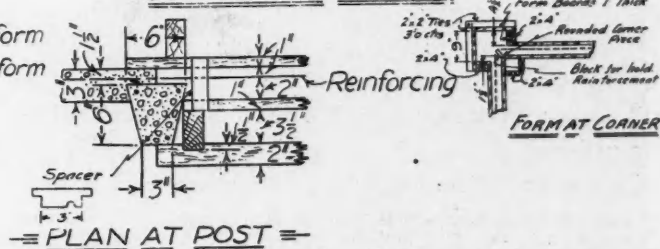
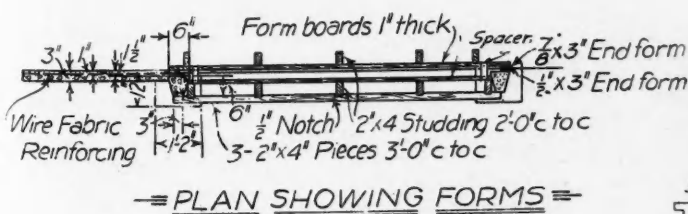
A CONCRETE panel fence or wall that requires but simple form construction and produces a rigid piece of work with the minimum amount of concrete, has been constructed by employes of one of the Chicago cemeteries after a plan following the accompanying drawings. This fence or wall is 6 feet high, and altho the panels are units so far as separation between the actual concrete of adjacent panels is concerned, the reinforcing which is mesh fabric is continuous throughout the wall or fence.

In this construction, posts of the section shown were made first. These are 3 inches on the outer face

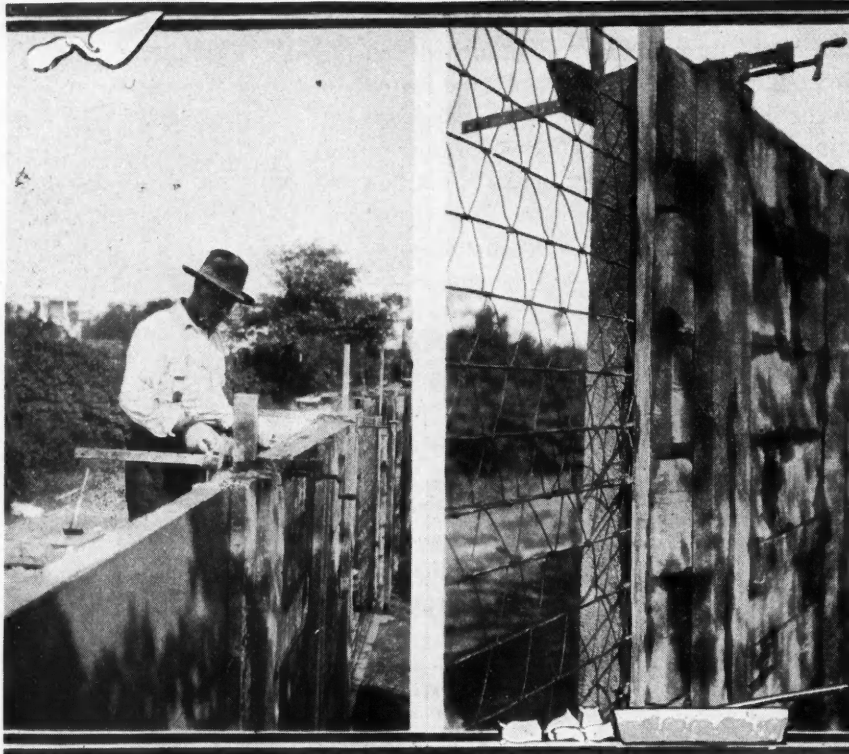


PERSPECTIVE VIEW

CONCRETE FENCE



Details of Concrete Panel Fence—Made with 6 by 6 in. Posts Set Every 8 ft., and 3-in. Reinforced Slabs Between.



Unclamping Forms from Partially Set Concrete Panel.

Close View of Triangular Mesh Reinforcement, and of Wood Form.

and 6 inches on the inner face and 6 inches deep, reinforced with 1/4-inch round rods placed about 1 inch from each corner. Posts are set in holes which are filled with a well tamped concrete so as to secure a rigid setting for the post, this setting being formed aboveground to have the appearance of a pedestal. This pedestal effect extends for 3 inches above ground level and serves to support the wall panels as shown in the accompanying perspective view, also in the elevation.

Photographs also reproduced show some of the actual work under way, altho the forms in use were not detailed as nicely as those shown in our drawing. It will be seen that when the panels have been cast they engage with the posts so that on account of the form of the latter, the construction becomes practically monolithic while the separation of slabs from post to post allows for expansion and contraction to prevent any possibility of the concrete cracking.

For construction of this kind a 1:2:3, or not leaner than a 1:2:4 mixture with aggregate no larger than 1/2 inch would be preferable thruout, except for filling around the post as set in the ground. This could be a leaner mixture altho the slight difference in cost between a 1:2 1/2:5 and a 1:2:4, for instance, would hardly warrant the trouble of arranging to use the leaner mixture, as the portion of the post setting or pedestal shown aboveground, should certainly be of a mixture at least 1:2:4. As wall panels are only 3 inches thick, the amount of material required for constructing a wall or fence of this kind is not exces-

sive, considering the rigidity of the resulting construction. The use of mesh fabric simplifies the reinforcing proposition as it serves both vertical and horizontal requirements.

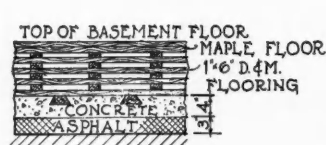
Floor Insulation for Cold Storage

IN refrigerating plants, the floor has to be very carefully made so as to prevent frost from penetrating into the ground. The footings of a building must be below the frost line to be safe and this is only possible, unless the floor is well insulated, when the foundation is carried about 20 feet below grade.

Cases are on record of buildings which have been badly damaged, due to the frost action because of inadequate insulation in building the floor. The floor heaved up in places and the walls heaved up in the middle and were cracked considerably.

Investigations were carried on to find the cause of this and also to find how far down the new foundations would have to be carried to get below the frost line. Frost was found commonly to a depth of 7 or 8 feet, and in one place the frost had penetrated to a depth of 16 feet. The unequal frost action that has resulted from these varying depths caused the upheaval of the floor in spots and also damaged the walls.

The temperature had never been very low in this plant but the plant had been in continuous operation for nineteen years, which seems to have been the cause



This Construction Allowed Frost to Penetrate 16 ft. of Soil Under Floor.



Improved Insulated Floor Construction for Cold Storage Plants.

of this remarkable frost action. The temperature had averaged about 15 degrees Fahrenheit.

The accompanying illustration shows the method used in insulating this floor. This method was in common practice some years ago. The other illustration shows floors as they are constructed under many refrigerating plants today. Constructed in this modern way, there should be no danger of the frost penetrating far enough into the ground to damage the floor or the walls.

ARGUMENT unsettles a lot of questions.

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.

First Attempt at Boat Building

To the Editor: Santa Barbara, Calif.
Enclosed is a photo of a boat I built this spring at Lake



"The Petrel," 15 Footer, Built on Lake Tahoe, Cal., by Carpenter T. J. Mansfield.

Tahoe, Calif. "The Petrel" is 15 feet 8 inches long over all and 5 feet 4 inches beam; a V-bottom, modeled after the "Sea Bird," a 25-footer that made a successful voyage across

the Atlantic with two men and Capt. Thos. Fleming Day, of New York.

I have been a reader of the AMERICAN CARPENTER AND BUILDER for the last eight years, and follow house carpentry; so this was my first attempt at boat work. I made the frame of oak, planking of Port Orford cedar, keel and inside trim of Oregon pine; installed a 3 H. P. gasoline engine and carry a jib and main sail, 106 square feet area, and a pair of oars, so am ready to meet any kind of weather.

Boat building is very interesting, as all are different, and any carpenter living near water should try and have some kind of a craft for recreation; but don't believe all that you read in the catalogs you will get from the knock-down boat manufacturing companies—that a screw driver and hammer is all you need to build one.

THOS. J. MANSFIELD.



Tornado-Proofness of Steel Ventilators Further Demonstrated

To the Editor: Fort Atkinson, Wis.

We are inclosing a photograph of a barn wrecked by a tornado last year, without injury to the steel ventilators.

We noticed a similar photograph in your publication recently and as we have received a couple or three photographs besides this one during the past twelve months, tho you might be interested in knowing that it is not unusual for ventilators to come through a tornado without harm, even when the barn is wrecked.

Just at the moment we are unable to put our hands on the other two pictures, but will try to locate and forward them if you want them.

JAMES MANUFACTURING COMPANY,
By E. W. Simons.



Lacrosse County, Wis., Insane Asylum Barn—All Wrecked but the James Steel Ventilators.

To Find the Length of the Rafter

To the Editor:

Sterling, Ill.

I am a carpenter by trade, but I have always found roof framing to be a very difficult subject for me to thoroughly understand, so I purchased your two books, Vols. 1 and 2, entitled "Practical Carpentry." I found therein some very simple rules which I am sure will be of great benefit to me in the future—that is, in framing roof for buildings where the rafter plate is even feet from out to out. You give me a rule where I am to apply the square as many times as there are feet in half the width of the building; for instance, where the building is 26 feet wide, I am to apply the square 13 times. This I understand quite well, but I am sending you outline of a building that is 26 feet wide at the wall plate and 29 feet 6 inches at the rafter plate. Now, half of this would be

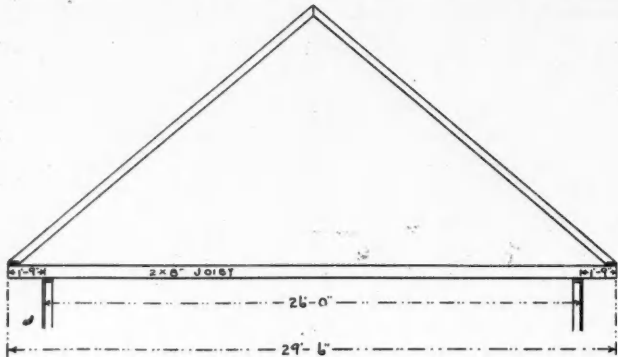


Diagram of Roof Involving Fractional Feet, and How to Frame Rafter Length with the Steel Square.

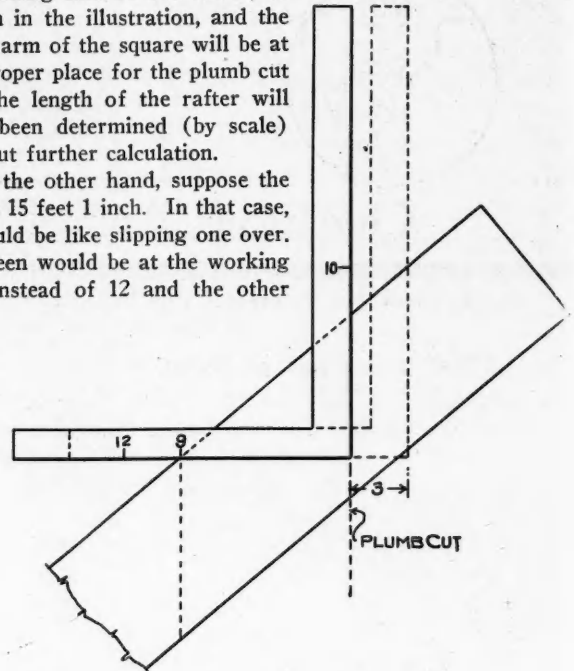
14 feet 9 inches. The 9 inches being three-fourths of a foot, I suppose I must apply the square 14 times and then add three-fourths of the distance between the two figures on my square—that is, if I am using the 10 and 12 scale, I must measure diagonal across the square from 10 on tongue to 12 on blade and take three-fourths of the result and add it to the fourteenth run, which I have already marked on the rafter.

LE ROY CASH.

Answer—Your diagnosis of the case is all right in a mathematical way, but if you want to solve the problem by the use of the steel square alone, without entering into figures, you

can do it in this way. The run being 14' 9", place the square at 12 and 10 fifteen times, and at the last placing instead of laying off the plumb line, lay off the seat line and then slide the square back along this line, until the figure 9 rests at working line of the rafter, as shown in the illustration, and the other arm of the square will be at the proper place for the plumb cut and the length of the rafter will have been determined (by scale) without further calculation.

On the other hand, suppose the run is 15 feet 1 inch. In that case, it would be like slipping one over. Thirteen would be at the working line instead of 12 and the other



arm of the square would be at the proper place for the plumb line.

In this, we have assumed that you are working to a rise of 10 inches to one foot run. You speak of it as using the 10 to 12 scale.

A. W. WOODS.

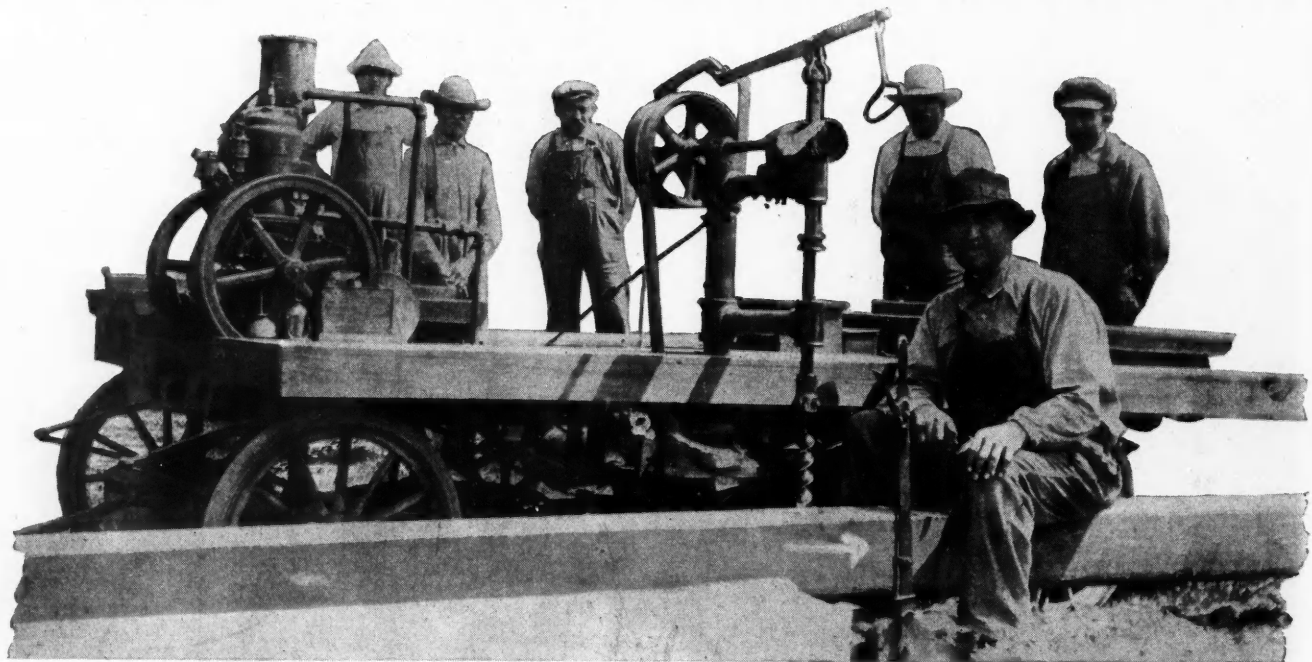


Built Power Rig on Old Auto Chassis

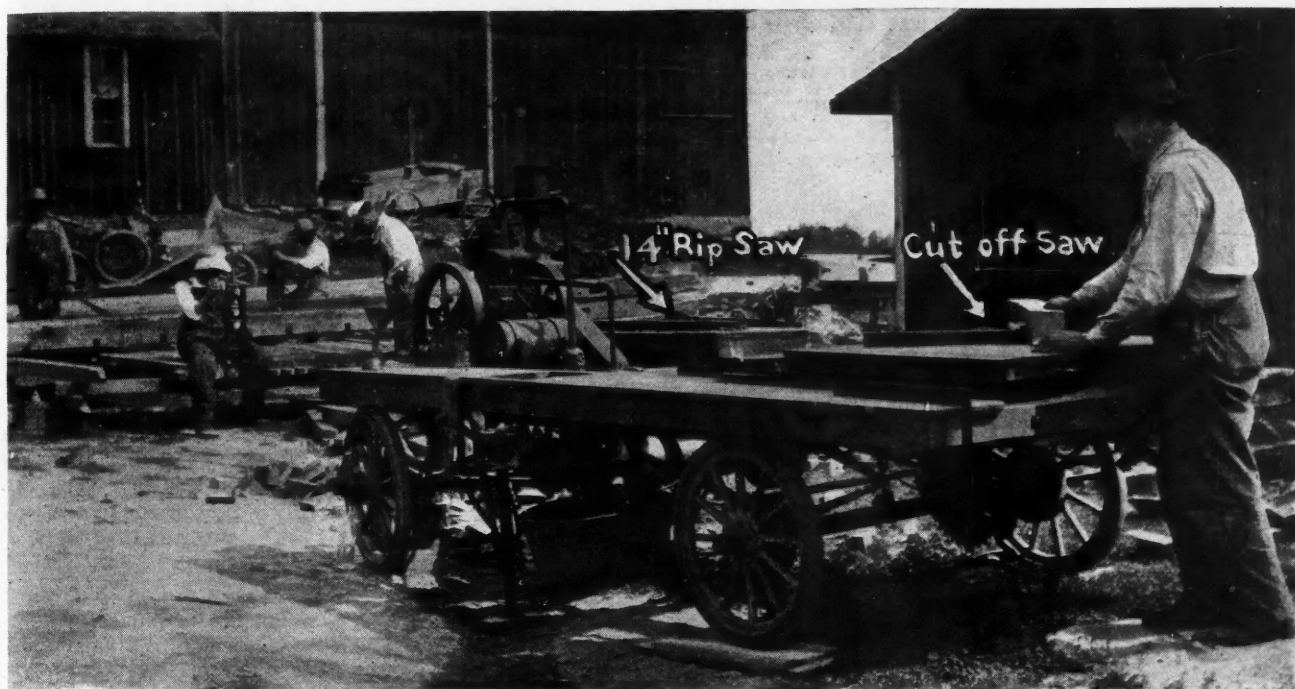
To the Editor:

Greenville, Ohio.

Enclosed you will find some pictures of my woodworking machine, and also some of the buildings that we have erected this season. I promised you this spring that I would send



Contractor L. A. Mills and Crew of Greenville, Ohio, with Home Made Power Barn Framer, Built on Old "Rambler" Auto Chassis. The Boring Attachment Screws On, So that It is Easily Removed Out of the Way When Other Work is to be Done.



The Mills Power Outfit Provides a Work Bench 12 ft. Long with Vise, Also Tables for Cutoff Saw and 14-in. Rip Saw.

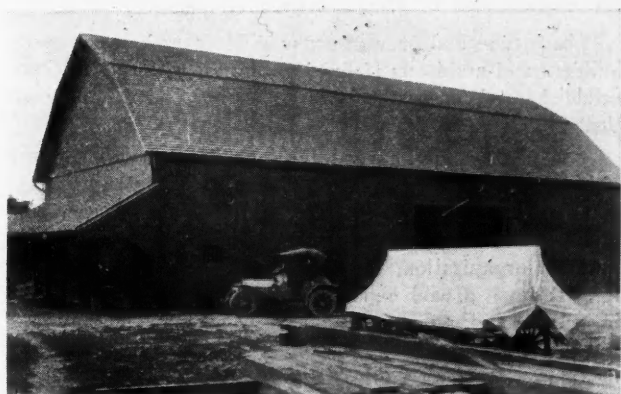
you some, so here they are. I have been reading in the *AMERICAN CARPENTER AND BUILDER* about what some of the brothers have done, and I thought perhaps they would like to hear from Western Ohio.

My framing outfit is one of my own get-up. I first got the running gears of an old Rambler automobile, which had good solid rubber tires, and I extended the back end of the frame about 3 feet longer, making it 12 feet long.

You will see in one of the photos the boring machine that I had built to my order. With this machine we can bore any ordinary barn or shed in one day; and when I am thru boring, I can take the machine out of the way, as it just screws on.

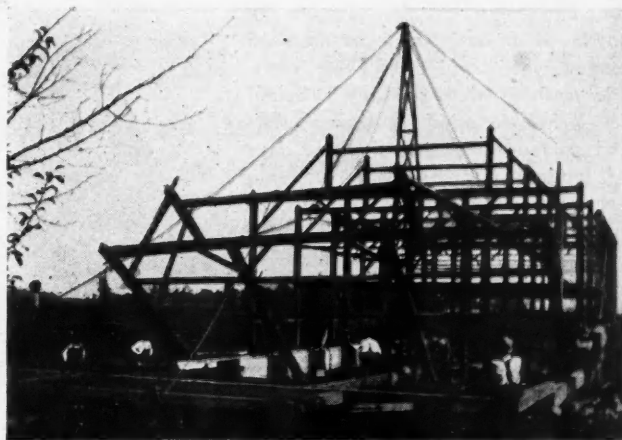
In another picture you will see I have a work bench, a small vise, and bench stop on this rig. The vise I made myself by the aid of my local blacksmith. In addition to this (see arrow point) I have a 14-inch rip saw with which I do all my ripping. In the same picture (see arrow) is the cut-off saw. This photo shows myself sawing braces. This saw has a table that I can raise or lower with a lever, and at the same time travels forward through the saw. I can cut any thickness up to 4 inches, and cut any angle that I wish; also cut a rafter for any pitch roof or any brace.

In the barn framing picture we are shown working on a



A Canvas Tent Cover Protects the Mills Outfit from the Weather.

tobacco shed for Mr. Wm. Baughman, which is 34 feet wide and 96 feet long, 18 feet from wall to top of plate, all 8-inch timber. In this building are one hundred and twenty 3-foot run braces, and we sawed them out of 4 by 4's in just one



Raising 34 by 96-ft. Barn for Wm. Baughman. 196 Rafters, 2 by 5's, Cut in 2 Hours 10 Minutes.

hour and twenty minutes, ready to draw bore. There are one hundred and ninety-six rafters, ninety-eight in each set, dimensions 2 by 5, and we sawed them in just two hours and ten minutes, and were ready for the shed. Did not have to touch them with a hand saw. The lower set had a 20-inch heel ripped in them.

I run the outfit with a 6-H.P. Amazing Detroit kerosene engine, which I think is one of the best made. I have had five different engines in the last twelve years.

The other picture shows one of the barns that we built, and also shows my outfit covered up, which protects everything from the winter.

If any brother wishes any more information about this, write me and I will gladly give it. I made all my own patterns to get the casting for the boxing, moving table, etc.

L. A. MILLS, General Contractor.

"Builders Week" at Fair Big Success

H. L. LEWMAN, PRESIDENT NAT. ASSN. OF BUILDERS EXCHANGES, DELIVERS NOTABLE ADDRESS—DISCUSSES IMPROVEMENTS THAT HAVE BEEN MADE AND ARE BEING SOUGHT BY BUILDERS.

THE President of the National Association of Builders' Exchanges, H. L. Lewman, of Louisville, Ky., was one of the principal speakers on the program at the meeting Oct. 19th of the Congress of Builders, which was the big feature of the San Francisco Fair from Oct. 18th to 23rd. The greatest aggregation of building experts ever assembled was present.

Mr. Lewman's address followed that of Major-General G. A. Goethals, builder of the Panama Canal.

Other speakers were Governor Hiram W. Johnson, of California; Charles C. Moore, president of the exposition; C. W. Gindele, president of the Building Construction Employers' Association, of Chicago; Halbert C. Gillette, founder of the American Society of Construction Engineers, and R. C. Sturgis, president of the American Institute of Architects.

Mr. Lewman's Address

The subject of Mr. Lewman's address was "National Organization in the Building Industry—Its Need." In his opening remarks he said:

"Throughout the entire realm of created life, the tendency toward united action for mutual protection and the advancement of common interests is instinctive.

"In the early days of our association we were brought to the realization that building operations were being conducted under a contract form which was a relic of antiquity, the outgrowth of the customs in vogue when only small amounts of money were involved. These obsolete methods were possibly sufficient for primitive conditions, but they can no longer be used in these days of modern and extensive building operation. We recently instituted a reform in this direction, and found many of the progressive members of the American Institute of Architects holding the same opinion as ourselves, and, co-operating with them, these conditions were largely corrected in the new standard documents, which substituted arbitration, on an appeal to the courts, for the exercise of arbitrary power.

"Where these documents have been introduced for use, and this has occurred in many cities, great benefits to the owner, builder, architect, and, in fact, to everyone even remotely connected with building have already accrued. Costs have been materially reduced and building expedited. This work has not been fully concluded. The new forms should be introduced in actual use in all places. This should be done through the local exchanges, but it can be greatly helped by the guidance and direction of the national association."

Contractors' Burdens

Taking up the difficulties that confront the contractors, Mr. Lewman said:

"We are constantly confronted with the evils of unfair, irresponsible and destructive competition, shopping and peddling of bids, favoritism and inequality in treatment and receiving bids, awarding of contract, and lack of frankness and fair dealing, and many other current wrongs. A common and vicious practice is that of receiving bids and immediately rejecting them upon some slight pretext or

change, and calling for new proposals after publicity has been given to the original bids. This strikes at the very heart of the system of awarding contracts by sealed bids and is merely a subterfuge for inviting irresponsible competition. It generally results in reliable firms, who made well-balanced bids with the intention of properly carrying out the work, withdrawing from the competition, and usually the work is finally let to some one at much below a proper price, resulting in improper construction, loss, annoyances and delay to the owner, as well as to contractors and material interests. The just settlement of all these matters, like contract reform, lies beyond the local and within the national sphere. We found the progressive and fair-minded architects, the owners and business interests of the nation, with us on contract reform, and I am confident they will assist in the remedy of these unfortunate disabilities and unnecessary costs imposed on building.

"The builder's duty is to give the public skilled and economical service. He is generally a factor and not a producer, usually providing in his price for all inherent and contingent costs, consequently the great burden of superfluous cost and loss, which has always been abnormal, must enter into the owner's investment. The exceptions to this rule are the losses incurred at times by the capital of the builder, but this is very small when considered with the vast sums unnecessarily invested by the owner. Excessive cost of material or labor does not come out of our pocket. We absorb it in our price and pass it on to the owner, and he passes it to the tenant, who ultimately bears the burden. We should avoid, as much as possible, this condition, which imposes a burdensome tax upon the poorer classes of tenants, who are in the large majority."

Universal Standards Needed

The necessity for universal standards was pointed out by Mr. Lewman thus:

"The standardization and nomenclature of materials, labor, etc., used in our business is extremely important. Before rapid transit disposed of the limitations of space, the building interests were, to a large degree, local; the result being that terms and measurements often different widely, according to locality, in amounts, quality and method of description. This lack of universal standards often caused great confusion and loss, and still exists to a degree that

should not be permitted. Efforts are being made to correct this evil, and its importance cannot be over-emphasized as it will save time and prevent many differences between owners, builders and architects if fixed authoritative standards can be established. We are the sufferers, but we are also the practical men who should assist in its cure.

"All of the states have different building codes and many cities in the same state differ widely. Conditions require some different; yet owners and builders suffer by unnecessary and improper requirements of many of these codes. A national organization, through a proper committee and perhaps through a paid expert, should collect all existing building codes and report a standard code for adoption in the different states and cities, subject to necessary local modifications. This is a work of years, but its ultimate benefit to owners and builders would be incalculable."

In concluding, Mr. Lewman urged full attendance at the annual convention in Baltimore, Feb. 22-24, 1916.

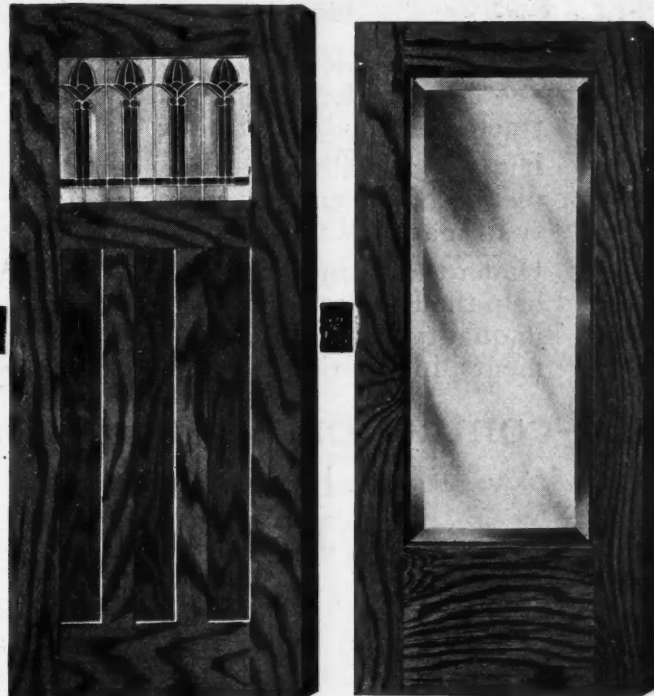


H. L. LEWMAN,
Pres. Nat. Assn. of Builders Exchanges.

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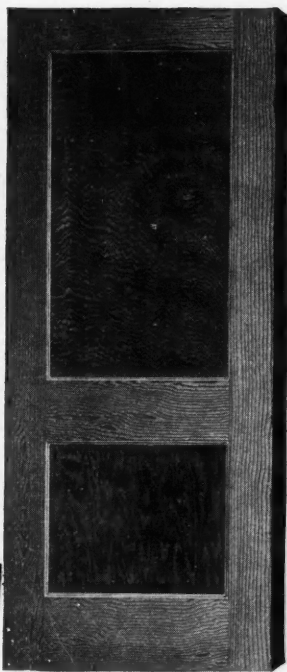
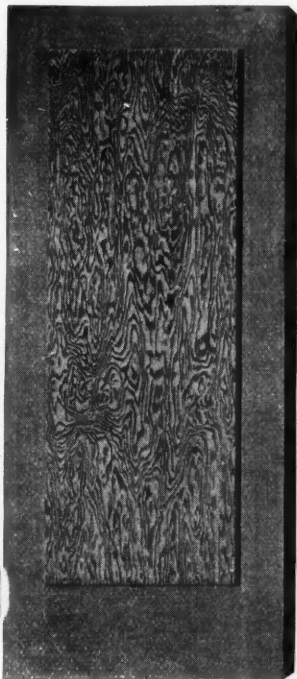
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WE CARRY one of the largest, best assorted and most up-to-date door stocks in the entire world. Page after page in our big catalog is devoted entirely to

Inside and Front! Doors in Every Size and Design

and all at "mill-direct-to-you" prices. On your next job, get our wholesale figures on the doors you need. Put us to the test on this one item and you will become one of our regular customers the same as over 10,000 other contractors, carpenters and builders now are.



1-PANEL DOOR

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1 AND 2-PANEL FIR DOORS 1 1/2 Inch Thick

SIZE Width Height ft. in. ft. in.	No. E 250 Fir, One Panel 1 1/2 Inches Thick	No. E 252 Fir, Two Panel 1 1/2 Inch Thick
2-0 x 6-0	\$1.80	\$1.62
2-0 x 6-6	2.01	1.81
2-0 x 6-8	2.06	1.85
2-6 x 6-6	2.04	1.84
2-6 x 6-8	2.09	1.88
2-8 x 6-8	2.10	1.89
2-6 x 7-0	2.40	2.16
2-8 x 7-0	2.46	2.21
3-0 x 7-0	2.64	2.38

CRAFTSMAN "D"—Oak

SIZE	Craftsman "D" Oak
2-8 x 6-8	\$ 9.95
3-0 x 7-0	10.25

MAJESTIC—Oak

SIZE	E 101 Majestic Oak	E 105 La Fayette Pine
2-8x6-8	\$10.35	\$ 9.05
3-0x7-0	12.40	11.60

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FREE CATALOG REMINDER

GORDON-VAN TINE CO.

791 Federal St., Davenport, Iowa

Gentlemen:—Please send the books checked below.

Building Material { Lumber, Millwork, Hardware, Paints, etc. } Plan Book

Name.....

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Gordon-Van Tine Co., 791 Federal St., Davenport, Iowa

Established Over Half a Century



JOHNS-MANVILLE SERVICE

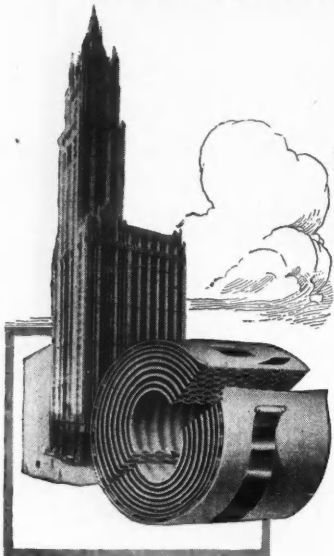


A BUILDER who enjoys the confidence of his client, is in many cases called upon in the capacity of Architect, General Contractor and Sub-Contractor.

His responsibility to the client still includes the satisfactory completion of the entire operation, and he is also sponsor for the quality of materials used.

Under these conditions Johns-Manville Service is admirably fitted to help the Builder because in all cases its products represent the highest in quality, they are easily obtainable and J-M Construction Departments, in addition to planning the work, will execute its installation.

A sub-contractor with a complete equipment and headquarters all over the continent— J-M Heat Insulation Service



WOOLWORTH BLDG.
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It doesn't matter how knotty that specification is, with its fancy heating systems, special requirements or tangled stipulations, J-M Heat Insulation Service will handle the whole job under you, the contractor.

Twenty-one separate insulations each at the head of the class. Skilled mechanics to apply them and all the help you need in getting the work planned, laid out and started.

So whether it is a case of making a dollar go the limit, or where the best is none to good, have J-M Heat Insulation Service on your next job, large or small. Ask any Branch.

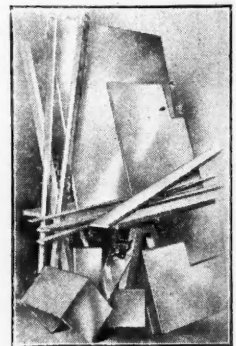
A splendid material for fire proof partitions J-M Transite Asbestos Wood

This material, because of its fire-resisting and physical properties, is an ideal building material for localizing fire hazard, such as in partitioning, fire doors, vaults, bins, etc. Furthermore, the fact that it may be readily planned, sawed and nailed by any good mechanic makes it a thoroughly practical building material.

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J-M Asbestos Fire and Damp-proof Flooring
Felt
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J-M Sanitor Drinking Fountain



TO THE BUILDING TRADE



**J-M Transite Asbestos Shingles
—practically indestructible**



RESIDENCE OF MR. D. T. DICKSON, WAYNE, PA.
Francis Giegert, Architect, Wayne, Pa.

As long as the rafters beneath them last, J-M Transite Asbestos Shingles insure a perfect roof.

Why? Because they are made of nothing but Asbestos Fibre and Portland Cement—a combination of materials that renders them practically indestructible. Age and exposure to weather actually **toughens** their composition and even **fire** cannot destroy them.

Made in attractive Gray, Indian Red and Brown. The gray may be stained any color to harmonize with any artistic scheme.

J-M Transite Asbestos Shingles are tested, approved and labeled by the Underwriters' Laboratories under the direction of the National Board of Fire Underwriters. Laid American method they are given class B rating; laid French method they secure C rating. Write for Literature and Specifications.

J-M Keystone Hair Insulator makes sound deadening positive, with only a small extra cost

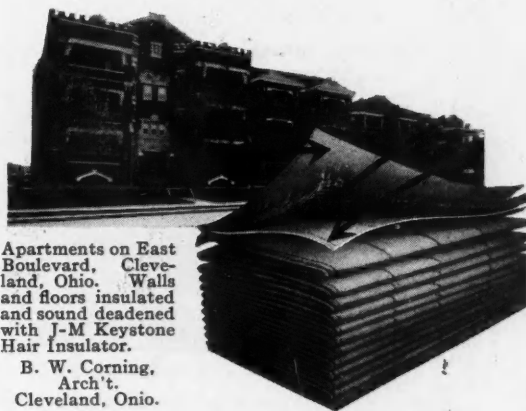
If J-M Keystone Hair Insulator is used between walls and floors, the building is made sound-proof at only a slightly increased cost.

J-M Keystone Insulator is made of cattle hair chemically treated, rendering it absolutely vermin-proof and odorless. It will not rot like vegetable fiber nor will it attract moisture, pack down, dry out or settle.

J-M Hair Insulator will not carry flame, because fire instantly shrivels it.

One layer of J-M Keystone—which can be applied at a single operation—will give far better results than several layers of the best sheathing paper. It quickly pays for itself in fuel saved and renders a dividend in economy and satisfaction.

Recommend it to your clients.



Apartments on East Boulevard, Cleveland, Ohio. Walls and floors insulated and sound deadened with J-M Keystone Hair Insulator.

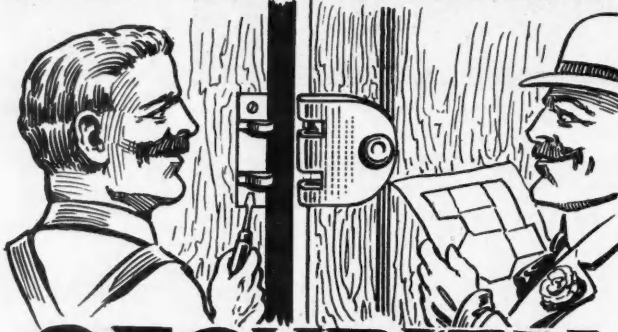
B. W. Corning,
Arch't.
Cleveland, Ohio.

H. W. JOHNS-MANVILLE CO.

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SECURITY and Boost Your Profits

This lock can be attached to a hinged or sliding door as quickly and easily as an ordinary lock and there is *more profit* in handling the

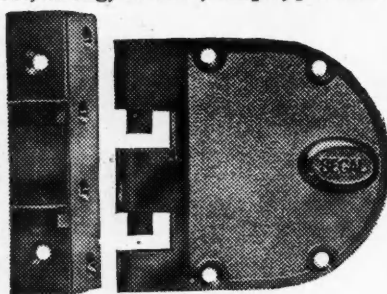


The finished job is more ornamental, attractive and satisfactory. Consequently you also secure *more for your work*.

Every Burglary in your locality offers you an opportunity to make money. Every merchant in your town is a prospect. Wherever security is required, the BURGLAR PROOF LOCK should be put on. Every big insurance company has endorsed it.

It is jimmy proof, strong, durable, simple, profitable

This lock is not made from an easily destroyed iron casting. It is solid bronze, highly ornamental, gives absolute security and as it can be installed easily and quickly, it's doubly profitable. Investigate it's merits. You are in business for profit—here's your opportunity.



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Burglar Proof Lock & Hardware Corp.,
13 Park Row, New York City.

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of AMERICAN CARPENTER AND BUILDER, published monthly at 1827 Prairie Avenue, Chicago, Ill., for October 1, 1915.

Editor, WM. A. RADFORD, 5341 Hyde Park Blvd., Chicago, Ill.

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Business Manager, E. L. HATFIELD, 1321 Hood Ave., Chicago, Ill.

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E. L. HATFIELD, *Business Manager*.

Sworn to and subscribed before me this 20th day of September, 1915.

JEANNETTE A. NICHOL, *Notary Public*.

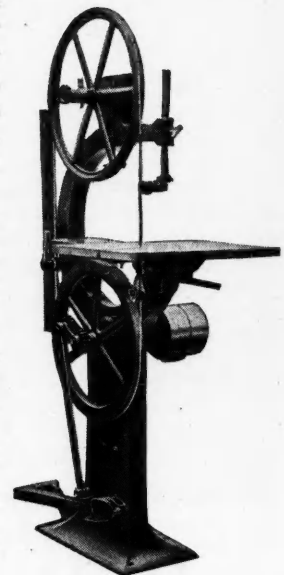
(My commission expires July 6, 1919.)



Planetary Foot or Belt Power Band Saw

Many contractors do not have steady enough work for a band saw to pay for having the power on all the time. The combination foot and belt power saw shown here is designed to overcome this difficulty. It is particularly suited for the small contractor who has need at various times of a band saw which is always ready and does not eat up all its earnings in consuming power all the time.

The feature of this machine is that the belt and foot power parts are entirely separate and either can be operated independently. The planetary system of gears makes sawing by foot power extremely easy. For each complete movement of the pedals the gears increase the revolutions of the band saw wheel two-fold—that is, the wheel carrying the band saw revolves twice and the saw blade moves 25 feet. The pedal can be adjusted to suit the stroke of



Foot Power or Belt Power "Silver" Band Saw.

the workman. In their catalog the Silver Manufacturing Company also show various other styles of machines that are of interest to carpenters and builders. These include saw tables, drills, and other types of band saws equipped with both foot and belt power. Copies of this catalog will be useful to our readers and can be obtained by addressing the company at 345 Broadway, Salem, Ohio.



CORBIN AXLE PULLEYS

are made with ball-bearings, roller-bearings and plain bearings, with wheels turning freely on heavy fixed axles; in any size or metal desired and with wheels grooved for rope, chain or ribbon. They are accurately made to standard gauges, rigidly inspected and give satisfaction under the most severe conditions. They are specified for the best buildings by architects who have learned their value. Full particulars on request, or from any dealer in Corbin hardware.

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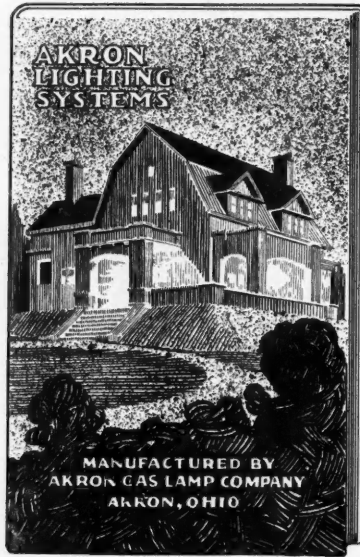
Gold Medal of Honor Awarded Bommer Spring Hinges

Bommer Brothers of Brooklyn, N. Y., have been awarded the Medal of Honor at the Panama-Pacific International Exposition in recognition of the high quality and up-to-date construction of their Bommer Spring Hinges, again demonstrating that Bommer Spring Hinges are among the best. This award is but one of many similar honors that have been bestowed upon them at all the previous Expositions where the goods were exhibited.



Gasoline Lighting Systems

Gasoline lighting systems have always had one particularly good feature — the quality of the light is very good, being white and clear and very easy on the eyes. At one time they were dangerous, but this feature has been entirely removed in the Akron Gas Lamp Company's gasoline lighting systems. Hollow wire is used and the cost of installing and operating the system is very small, say the makers.



Send for your copy of this Book.

They have issued a very attractive booklet describing both their systems and the various styles of lamps that they are in a position to furnish. There are types to suit every individual taste.

This company is offering agencies in unoccupied territory and their proposition is well worth investigating. Lighting systems are becoming more and more popular and are rapidly taking the place of individual lights. The prices of these systems are also getting to a point where they can be utilized by many people who have always wanted them.

The address of the Akron Gas Lamp Company is 633 S. Main Street, Akron, Ohio. Full details of their system and proposition can be secured from them.



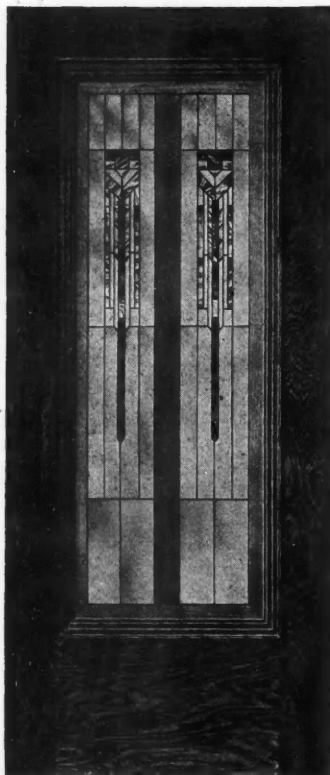
Beach Combination Disc and Drum Sander

Many carpenters have wanted for a long time a machine such as it shown in the illustration (see page 98), but the price has often been so high that they were unable to get one.

The Beach Manufacturing Co. have recently placed on the market this combination drum and disc sander and they say that the price is very reasonable, which will allow any carpenter to put this machine in his shop.

The machine will be found suitable for a large variety of work and is most useful for polishing long and short material, either straight or cross-grained stock, of either soft or hard woods.

The frame is made of hard maple and is securely bolted at each joint. The tables are also made of seasoned and kiln-dried maple and are carefully cleated so as to prevent warping. Each table is adjustable and can be moved either toward or from the drum or turned back to expose the



No. M-169—Morgan Front Door

Solid metal bars used in glass design and genuine Polished Bevel Plate.

See Morgan Millwork Handbook

Doors That Sell

By Reason of Their Beauty and Quality

MORGAN DOORS

stay sold and each day give the owner more pleasure and satisfaction. Morgan Doors are guaranteed — don't forget that and we are telling about ten million readers of National home magazines about them every month by our advertising. May we have your co-operation to use them on your jobs?

Your dealer can supply **MORGAN DOORS** without delay from our immense stock.

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Department A-23, CHICAGO

FACTORY: Morgan Co., Oshkosh, Wis.
Eastern Warehouse and Display: Morgan Millwork Co., Baltimore

DISPLAYS: 6 E. 39th Street, New York
309 Palmer Building, Detroit
Bldg. Exhibit, Insurance Exch., Chicago

Make a buying profit as well as a building profit

Use the Coupon

There are an awful lot of good builders, who aren't making the money they ought to make because they are not good buyers.

How long is it going to take you to find that you can make just as big or a bigger profit from wise buying than you now make from good building?

Below, at the left, is an instance of good buying. \$300 to \$400 was saved on the job and far better material went into it than if the lumber had been bought locally.



Here's a construction that gets exactly the same results as back plastering at a saving of 25% to 50% and a considerable gaining in time. Use coupon and ask for full information and prices.

Buy YOUR lumber direct from H-L-F—no middle profits—no juggling of grades

You buy best when you can buy from headquarters—and avoid all the middle profits possible. You buy *direct* from the *producer* when you deal with H-L-F. Our lumber comes from giant trees for which the Puget Sound region is famous. Your customers will be glad if you suggest to them this better lumber, and you will give the owner a better building as well as make more money on it.

Get prices without bill of Materials

If you haven't a supply of H-L-F House Pricers, use the coupon and ask for same. No charge and nothing like this for getting a price quick.



Now's the best time of all the year to buy lumber

Fall is always a dull time with the lumber producer. You can pretty nearly buy lumber at your own price right now. If you have some jobs lined up for late Fall or early Spring, you can get a price that will mean a mighty nice extra *buying* profit for you.

Send along bills of materials for prices—at least send the coupon for the H-L-F money saving booklets.

Saved Over \$300 So Can You

RALEIGH, S. D., Sept. 14, 1915.
HEWITT-LEA-FUNCK CO.,
Seattle, Wash.

In today's mail I am returning your blue print plan of the Albert Myer residence, and have the pleasure to assure you that Mr. Myer is very much pleased as to quality of material and reasonableness of cost of same.

The general view here of these people who have examined the building is, that it could not have been built for \$1,200 complete, if the material had been bought here instead of from you. It surely would have cost \$300 or \$400 more and the material would have been inferior to the material you furnished.

Yours very truly,
J. C. SCHROTKE.



HEWITT-LEA-FUNCK CO.

Capital \$1,000,000—not in any trust or combine

1508 H. L. F. Building

Sumner, Washington

Hewitt-Lea-Funck Co.,

1508 H. L. F. Building, Sumner, Washington.

Gentlemen—Please send me the following:

- Barn Builder's Guide (4 cents).
- H-L-F Prize Plan Book (10 cents).
- Delivered, freight-paid price on enclosed bill of materials.
- Millwork catalog (free).
- H-L-F House Pricer (free).
- Particulars on H-L-F patented Stud and Wall Board construction—if you have some particular job in mind give dimensions for price.

Name _____

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Post Office _____ State _____

Business _____

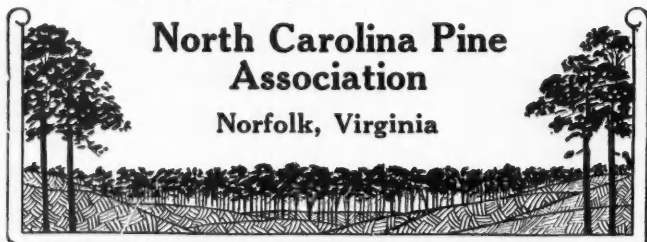


For Doors and Sash

North Carolina Pine is an admirable material for sash construction. It not only slides easily, but is harder and stronger, and presents a more attractive appearance than woods commonly used for this purpose.

For doors it will be found equally desirable, because it will last indefinitely and prove decidedly handsome in finish.

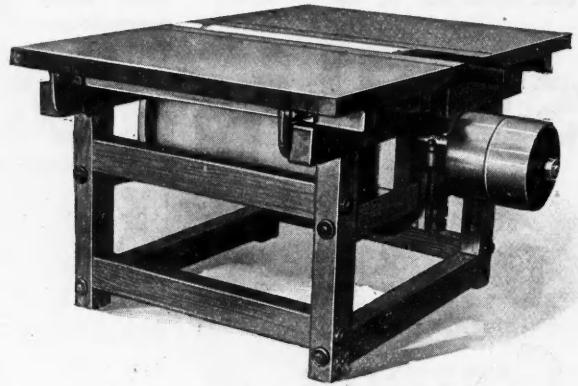
Write for our free Architects' and Builders' Reference Book, prepared in convenient form for filing. Specimen panels on request.



North Carolina Pine Association
Norfolk, Virginia

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN CARPENTER AND BUILDER

drum. The drum is 20 by 24 inches and is made of iron with wood lagging. It is covered with brussels carpet to give a yielding surface to the sandpaper.



Beach Combination Drum and Disc Sander.
(Showing Disc Removed).

Further complete details can be secured by addressing the Beach Manufacturing Co., Montrose, Pa. They will be glad to give particulars to all those interested.



Agents Can Obtain this Sample Case Free

A novelty that is made of good materials and in a careful way is one of the best propositions for an agents to handle. Sometimes the quality of a novelty is sacrificed in order to give it a particularly unique appearance; but this idea is eliminated in the goods shown here.

The president of the United Cutlery Company, Mr. L. C. Feightner, has been connected with the cutlery business for twenty years and has studied under the best cutlery experts of this country and England. Under his supervision the quality of the steel that is used in the products of this company has been kept at a high point. The combination of a really high grade knife with the novelty handle makes a design that good agents can handle with credit and profit.

The sample case pictured in the illustration shows the appearance of the goods and is sent free to agents. Full particulars can be obtained by writing the company, 603 Third St., N. E., Canton, Ohio.



Write for Particulars of How to Obtain this Beautiful Sample Case Free.



DOORWAY,
ISAAC ROYALL HOUSE
at Medford, Massachusetts.
Built of White Pine in 1732.

While the Royall House as it now stands was built in 1732, a section of it—which was originally the Winthrop Farm House—was built in 1631. This is the oldest section of any house now standing in this country.

CARPENTERS, lumber men and architects have for generations agreed that no other wood gives such long and satisfactory service, when exposed to the weather, as

WHITE PINE

Despite an impression that it is scarce there is still plenty of "Good Old White Pine," in all grades, and it can be purchased in all markets at reasonable prices, when considering its value as a structural wood.

If the lumber dealers supplying the materials for those for whom you are building are at any time unable to furnish it, we would appreciate the opportunity of being helpful to you in securing it.

A FREE MAGAZINE FOR CONTRACTORS

We are now publishing a bi-monthly architectural magazine, every issue of which will be full of valuable and helpful information for contractors and builders. If you would like this magazine, write us and we will be pleased to place your name on our mailing list.

Representing
The Northern Pine Manufacturers'
Association of Minnesota, Wisconsin
and Michigan, and The Associated
White Pine Manufacturers of Idaho

Address, *WHITE PINE BUREAU,*
2135 Merchants Bank Building, St. Paul, Minn.

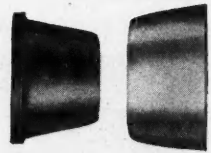
Valuable Book on Anchoring

Many different devices have been developed to secure an expansion bolt that will develop the full strength of the bolt. In the first anchors that were used, molten lead was poured in around the bolt. This had the disadvantage that it could not be used for horizontal holes or for vertical overhead holes. Various types of expanding shells have been made but the makers of this new type say that the disadvantage of this system is that the shell bears on a small area only and will often fracture the masonry in which it is set.

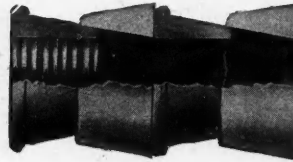
The National Lead's "Cinch" type is said to have none of these disadvantages and many added advantages. Each expansion unit consists of a male part, either threaded or plain, made of malleable iron, and of a lead composition female part. The male part is made in the form of a conical wedge which is driven in under the lead composition ring. As many of these units can be placed on the bolt as are needed to

develop the full strength.

In the cinch anchor and the cinch stud anchor the iron and lead rings are placed in regular order; first iron then lead, then iron and so forth. These are called in position as shown in the accompanying illustrations.



One Cinch Expansion Unit.



Two-Unit Cinch Anchorage Threaded.



Two-Unit Cinch Anchorage Plain.



Insert the bolt in the hole together with the first unit. Expand in position, as shown, by means of a piece of pipe, or a special calking tool. Add another plain male part and another alloy female part, expanding the second expansion unit by swedging as before with a piece of pipe or special calking tool. If more than two units are used, swedge the additional expansion units one at a time.

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SAVE \$5 to \$500 on Every Order

for building material. Our big Catalog tells you how. It shows 8,000 PRICE BARGAINS and contains illustrations, prices and descriptions of every conceivable article that enters into the construction of a building. It tells you how to buy lumber, flooring, roofing, doors, windows, mouldings, cabinet work, colonnades, porchwork, hardware, tile, paints, wall board, metal work, plumbing and heating equipment, water supply outfits and thousands of building specialties and interior fittings at WHOLE-SALE prices. Everything is sold direct to YOU and YOU save all middlemen's profits.

This book is more than a mere Catalog. It is an encyclopedia of building information and will prove of the utmost value to you every day in the year. Write for a copy today. It is sent absolutely free, postage prepaid, and places you under no obligation whatever.

Also ask for our Plan Book of Modern Homes. Every carpenter and contractor will find this superbly illustrated Plan Book an

invaluable aid in securing more work and a key that opens the way to greater profits. You can show your customers newer and better designs of modern homes, bungalows, handsome suburban residences, town houses, practical country homes and barns. You can also learn from this book how to secure

architect's blue print plans and specifications without one cent of cost. We shall gladly send you a copy of this book free, postage prepaid. Ask for it.

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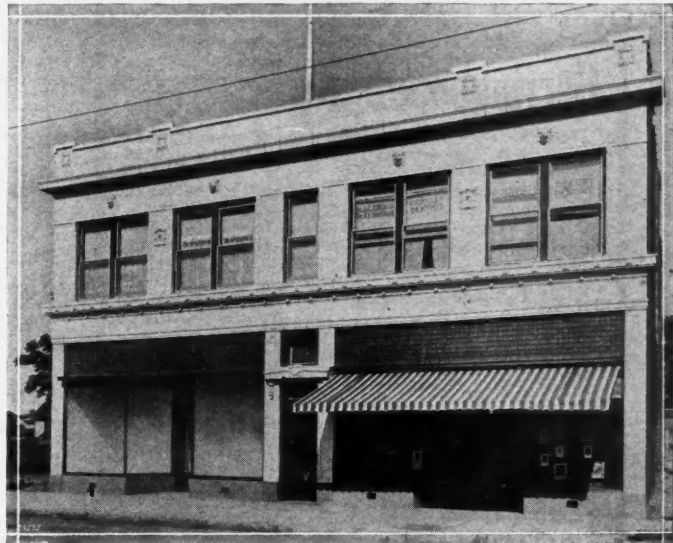
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MAKES AN
UNUSUALLY
ATTRACTIVE
EXTERIOR



J. T. Fortin, Architect



William G. Carnegie, Architect

MIDLAND
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1515 LUMBER EXCHANGE
BUILDING
CHICAGO, ILLINOIS

TERRA COTTA

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN CARPENTER AND BUILDER

Herringbone Armco Iron Lath, made of the most Rust-Resisting Iron known, was used by Edward Grey, Architect, in the beautiful Beverly Hills Hotel, Los Angeles, California.



Herringbone Saves Materials

On the scratch coat alone there is sometimes as much as 30% reduction in the plaster required as compared with other methods.

The material goes further because the flat ribs of Herringbone spread the plaster rather than cut it.

As a further result Herringbone has a broad grip and holds stucco and plaster. A Herringbone job remains good.

Herringbone all comes painted—goes into the wall rustless—cannot discolor the coat.

Herringbone Rigid Metal Lath

affords a firm surface for the trowel. It speeds up work and ensures an even coat—no thick and thin spots to dry unevenly and perhaps crack.

Wiring between studs is unnecessary because of the stiff interlocking selvage edges.

The "HERRINGBONE BOOK" FREE

will tell you the whole truth about Herringbone. Send for it today and tomorrow you will use it. Its worth to you has no limit except you fail to use it and—it is Free. Ready for you, today.

The General Fireproofing Co.

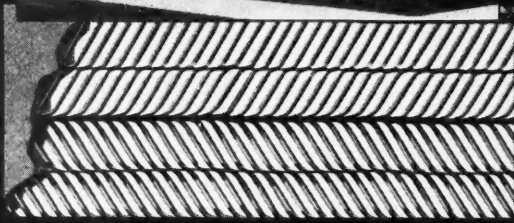
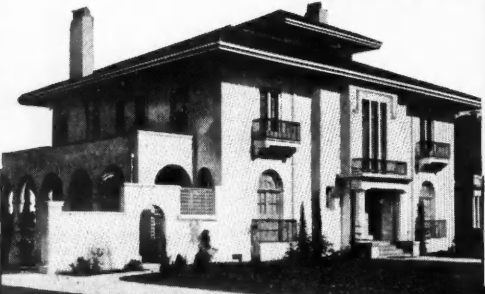
6110 Logan Ave., Youngstown, Ohio

Makers also of Self-Sentering—the concrete reinforcing that eliminates the need of forms

Herringbone Armco Iron Lath was used also in this fire-resisting and time-defying residence in Los Angeles, Lester Moore, Architect.



Trade Mark
Reg. U. S. Pat. Office



The expansion bolt has the iron rings placed at the end and the two lead rings placed together inside. The lead rings are expanded by turning the bolt as in the ordinary expansion bolt, unless more than two units are used, when it becomes necessary to calk as with the anchors.

The makers of this system, The National Lead Company, say that tests have been made in which the bolts have been broken before the anchorage was disturbed in any way. The expansion of the lead gives a bearing surface all the way round into all the small holes and uneven surfaces such as always occur in masonry.

The National Lead Company, head office in New York City, has issued an attractive catalog showing their "Cinch" expansion system in detail and the methods used in handling one or more expansion units for all kinds of work. A copy can be had on request. It is a very exceptional book, fully illustrated and containing a world of good, practical information for builders. Write for your copy today.



Neverbreak All-Steel Saw Vise

The accompanying illustration shows this compact and effective saw vise. It is made entirely of steel, riveted, and is practically unbreakable, say the makers.

One of the features is the patented eccentric locking bar. This bar grips the saw evenly for the entire length of the jaw. Each vise is carefully japanned and nickel plated and presents a very attractive appearance.



These vises are made in three different styles—the first is made with a steel jaw $9\frac{1}{2}$ inches long and weighs only $1\frac{1}{2}$ pounds. The second weighs $1\frac{3}{4}$ pounds and has rubber jaws which are 10 inches long. The third is similar to the second except that it is made slightly heavier and weighs 2 pounds.

Complete details with schedule of prices can be secured from the Clipper Tool Co., 285 Mills Street, Buffalo, N. Y.



Second National Conference on Concrete Road Building

The organization of sub-committees for the Second National Conference on Concrete Road Building, to be held in Chicago, February 15, 16, 17 and 18, 1916, has been completed. Seventeen committees have been named, each to investigate and submit a report upon a specific topic in connection with the construction of concrete roads. The committees are made up of college and university professors, state, city and county authorities, engineers and contractors. The committees are as follows:

1. Drainage and Preparation of Subgrade; 2. Economical Widths of Pavement and Shoulders; 3. Problems of Design, Thickness, Crown and Grade; 4. Aggregates; 5. Handling and Hauling Materials and Water Supply; 6. Organization of Concrete Crew; 7. Proportions of Materials and Consistency of Concrete; 8. Mixing and Placing Concrete; 9. Reinforcing; 10. Joint Location and Construction; 11. Expansion and Contraction; 12. Finishing and Curing; 13. Construction of Shoulders and Curbs; 14. Methods and Cost of Maintenance; 15. Form of Specifications; 16. Cost of Construction; 17. Estimating and Inspection Problems.

Your Responsibility

Mr. Carpenter and Builder, does not cease when you turn over the keys of a new dwelling to its owners. Will their first joy change to sorrow, owing to faulty planning, construction, or materials?

Always Specify

CLINTON WIRE LATH

It is the ideal support for stucco; it assures a permanent job, free from cracks and faults, and all future disappointments. Owing to its peculiar construction, it becomes an integral part of the plaster or stucco and is entirely imbedded therein away from air, moisture, and fire.

The houses you have erected in a community are what your work is judged by. No matter how conscientious you may have been as to workmanship, if poor materials have been used, through lack of information, **your** reputation will suffer. Specify **only** the best. **Clinton Wire Lath** is the best, with a reputation for quality reaching back over a period of more than fifty years to prove our assertions. The greatest architects and builders specify and use it. It has been a **reputation builder** for them—it will be for you, if you adopt it.

Send for our two books
"Successful Stucco Houses"
 and
"Clinton Handbook on Lath and Plaster"

Both are profusely illustrated and contain valuable tables and data, also comparative costs that you no doubt will be glad to get.

Correspondence cheerfully answered by our Engineering Department.

Clinton Wire Cloth Co.
 CLINTON, MASS.

New York Boston Chicago

First Power Loom Weavers of Wire Cloth in the World.

Makers of "Pompeian Bronze," "Golden Bronze," Clinton Painted and "Silver Finish" Screen Cloths, Clinton "Silver Finish" Brand Poultry Netting, Hardware Cloth, Clinton Electrically-Welded Fabric for Reinforcing Concrete, and Clinton Perforated Metal Products.



KELLASTONE

IMPERISHABLE STUCCO



Lasting as
the Pyramids

There's a vast difference in stuccos—just as there's a vast difference in lumber, in clothing and in motor cars.

Most stuccos look beautiful when first applied. Some retain that beauty six months, some a year, and a few for a longer period.

Kellastone Imperishable Stucco retains its beauty indefinitely. It is lasting as the pyramids.

This is due to two reasons: first, it has a magnesite base and contains no Portland cement, lime or gypsum; secondly, it is mixed with an oil compound instead of water.

Magnesite is a mineral—an ore. Cement stuccos have a marl base. Their comparative lasting qualities bear the same relationship that granite bears to sandstone.

Stuccos mixed with water will absorb water. This accounts for the mottled, blotched appearances of many cement stuccos before they have been exposed to the elements a year.

Kellastone Stucco, being mixed with an oil compound, resists the attacks of rain and moisture. Water cannot permeate Kellastone. It is also unaffected by frost; in fact, it can be applied in zero weather with the same degree of success as on an ideal summer day.

Facts about its elasticity, its non-cracking qualities, its great tension and tensile strength, the beautiful finishes that can be obtained—all are fully covered in our free Kellastone literature. It also describes

Kellastone Composition Flooring

for private homes, apartments, public buildings and industrial plants and Kellastone plaster for interior finish. No architect, contractor or builder should be without these books. A postal brings them post-haste.

The National Kellastone Co.
504 Association Building Chicago, Ill.

The Advisory Committee has again elected Dr. W. F. M. Goss, Dean of the College of Engineering of the University of Illinois as Chairman and J. P. Beck as Secretary.

The program for the second Conference will follow the general lines worked out so successfully for the first meeting with a few changes dictated by new conditions.

A few copies of the printed Proceedings of the first Conference may be had by interested parties, free of charge, upon application to the Secretary.

A cordial invitation is extended to all interested in highway improvements to correspond with the Secretary and to attend and participate in the Conference.

The Secretary's office is at 208 South LaSalle Street, Chicago.



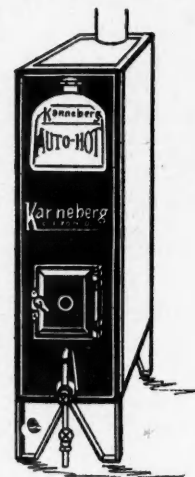
The Auto-Hot Heater For Garages

It has always been considered dangerous to have gasoline around a gas stove; but the heater shown here is arranged so that no danger is possible with it. The air that feeds the gas flame has no connection with the air in the garage.

The pipe that goes out thru the top of the building is made double. The inner pipe carries off the hot air and fumes from the heater and the space between the outer and inner pipe is utilized to bring in the fresh air. This space is protected by a hood so that no rain or snow can fall thru.

The flame is confined in a heavy gauge iron fire box and does not come in contact with the air of the garage. Either natural or artificial gas can be used and the cost of operation is said to be very small.

A card addressed to the Kanneberg Roofing and Ceiling Co., 929-931 Robin Court S. E., Canton, Ohio, will bring a circular describing this heater in detail.

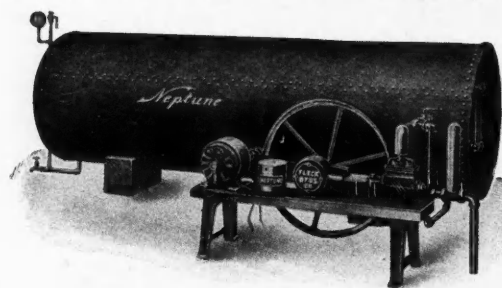


This Little Outfit Heats Auto and Garage.



"Neptune" Water System Installed on Buckman Estate

A large "Neptune" water supply system has been recently installed in the residence of Senator J. Hibbs Buckman, at Langhorne, Pa. It is electrically operated, automatic in its action, and is equipped to handle a large amount of water. It consists of a 3,000-gallon tank and supplies all the water that is needed for one residence with three baths, one resi-



"Neptune" Water Supply as Installed on Buckman Estate.

dence with one bath, an irrigating system, garage, hot houses, and a poultry yard.

Complete details of the various sizes and styles of "Neptune" water systems, together with prices, can be obtained from the manufacturers, Fleck Bros. Co., 50 N. Fifth Street, Philadelphia, Pa. They will be glad to take up each individual proposition and will give you the benefit of the experience of their engineering department.

WANTED—the right sort of man

One that can make good on a new proposition—can you recommend him?

HERE is an opportunity for one man—and only ONE. As soon as another man takes it, you lose it! What we are looking for is not a man out of a job, but a man who wants to get out of a job and start in business. Nor do we want men who have failed in other lines of work; but men who have already succeeded and are after still greater success.

WE want the best—not necessarily the biggest concrete or cement man in your neighborhood. \$5,000 to \$10,000 a year earnings must not be beyond his ambitions. But he must be prepared to work, to overcome obstacles and able to judge a new proposition on its own merits. Furthermore, he must be willing to back his own judgment by investing from \$150 to \$5,000 in his equipment.



ON this investment he should, after a few months of good preliminary work, earn not less than 10% a month profit, which rate should not only remain steady, but steadily increase. A man out in Michigan—to take a striking example—piled up yearly 2,000% profit in six years. Our proposition is neither a theory nor an experiment, but a tried out and tremendously profitable manufacturing line for a practical man with imagination and enterprise enough to crave something bigger than the rather crowded opportunities to be found in the regular cement line.

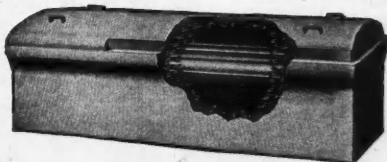
ON the other hand, the Norfolk proposition is neither a "sure thing" nor a get-rich-quick game. For the man willing to work hard enough and invest money enough to get a fair start, it will give bigger and more certain returns than any other legitimate business we ever heard of. This is all we claim—and this we can prove. If you are interested let us give you more details—you may investigate and check up to your heart's content.

OUR eight years' experience has shown that two kinds of men are most successful with the Norwalk Vault proposition:

a—The man already doing well, whose business, however, is not developing rapidly enough to suit him or has slow seasons at one time or another.

b—The man who wants to go into business for himself, but has so far seen nothing really worth his while.

STARTED as a side line, it is more than likely some day to prove at least as important as your present business. A man in a little town on the Hudson, working nights and holidays in a cellar, paid up in a single year his original investment of \$450 and in the second year cleared 200% profit. Naturally, however, we would much rather hear from a man with capital enough to make the business a pleasure rather than a struggle. For it is just as easy—and lots more certain—to make as good a rate of profit on \$4,500 as on \$450.



THE Norwalk Vault business is still in its infancy. Not one man in ten knows now that he can provide for a departed wife or child an absolutely moisture-proof, air-tight burial vault as smooth and clean cut as your desk, yet solid as if hewn out of granite. Undertakers everywhere are waking up to the fearful crudeness of the old-fashioned method of burying unprotected in the muddy bottom of a six foot cistern. As soon as the public begins to realize there is something better—and we are taking advertising steps to see that they do before long—the holders of the Norwalk Vault franchise for any given district will find they have a mighty valuable possession.

FOR the Norwalk Vault Company is, we believe, going to become one of the big business institutions of the country. We propose to unite several thousand local manufacturers all over the United States—each in his own territory—into a sort of giant partnership. Then we propose making the idea of a cement

burial case as thoroughly understood as the idea of a Pullman sleeping car, and the name "Norwalk Vault" as familiar as the name "Uneda Biscuit." The Norwalk Company has already a branch factory of its own in New York City; but the United States is pretty big, and to cover even a small part of it with our own shops would take far too many years. There is, therefore, this opportunity for the right man to take over local manufacturing rights—and get in on the ground floor of what is to become one of the great manufacturing businesses of the country.

NOW suppose you arranged a sort of partnership with all your local undertakers—they to sell, you to manufacture for your locality. Figures from more than a hundred concerns in various parts of the country show the average manufacturing cost per vault to be considerably less than \$10. Nowhere in the country is one of the finished vaults sold to the undertakers for less than \$20 and in most cases they bring \$25 or \$30. All the selling—the direct retailing—is taken entirely off your hands by the undertaker, who pays your wholesale price and makes for himself \$20 profit or more, according to his customer.

SUPPOSE you could ever reach the point where you made \$10 every time a funeral took place in your county. Wouldn't worry much about your income, would you? European wars, bad crops, hard times never affect the annual death rate.

AS you can see, there is a perfect gold mine of business on all sides—waiting—but this being a new and rather unusual proposition, it takes rather a good man to cash in. If you are the kind of man who has made good already or can make good, this may be your opportunity. No technical experience necessary; the equipment required is not expensive; any respectable shed may be converted into a factory; no high-priced labor—the knack of making the vaults can easily be taught an unskilled laborer; no large sum tied up in machinery or materials—a few dollars at a time will keep the business running. Once established, the business is not affected by hard times, no burdensome fixed charges—you can open up and shut down like an umbrella, according to your sales and collections.

THE amount of money required to start with, varies directly with the size of territory occupied. One man, for example, recently bought outright the entire state of Maine; another started at the same time on a royalty in a half-county in Ohio.

YOU may acquire your territory outright or we will share with you on a royalty basis. In either case—compared with the possible returns—the cash investment is ridiculously small.

REMEMBER the Norwalk Vault is a trademarked article fully protected by patents. Eight years' test has shown no weakness. More than 12,000 vaults have already been made, sold and used. Half of the good territory of the whole United States is already gone. And, remember, that every day—with each new round of advertising, with the opening of every new territory—comes a jump in values for those already in.

SO if the proposition appeals to you at all, don't pass it by because it is new; before it is much older someone else may take it. Let us prove it out for you. We will be glad to show you original letters, figures, maps, models, or to take you to the nearest local factory and let you see the vaults themselves. (We are so busy, however, that we would greatly appreciate the favor of your not writing, unless you are in a position to talk real business in case you are thoroughly satisfied on every point.) If you think you might be interested, ask us anything you want to know—our office and sales force are paid to answer your questions—no obligation on your part whatever.

THE NORWALK VAULT COMPANY

40 Seminary Street

NORWALK, OHIO

Wallace Lamp Patents Sustained by United States Court

A decision has just been rendered in the United States Court, Southern District of New York, declaring U. S. Patents Nos. 903499 and 1904409 valid and infringed.

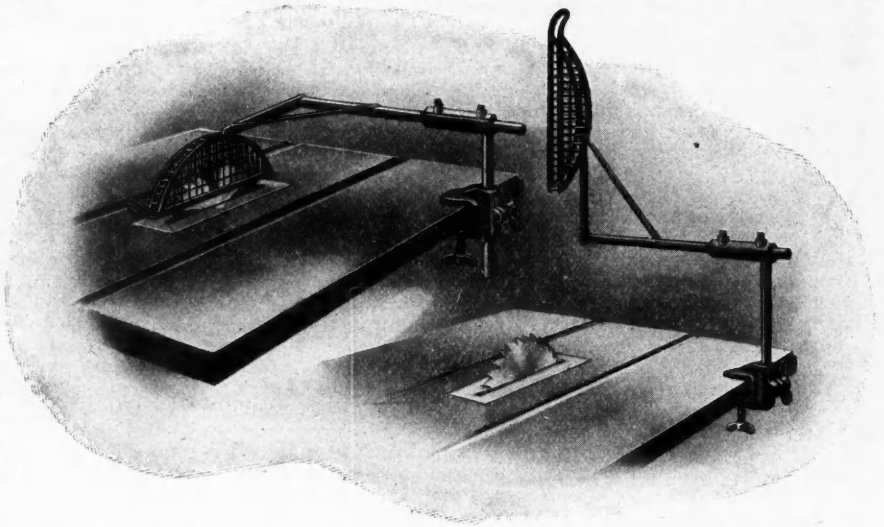
The Wallace Novelty Company, Inc., owners of these patents, brought suit against the World Syndicate Company, Inc., of New York, claiming the Mac-Kinnon Lamps marketed by the latter to be infringements of their patent rights.

These patents cover the spring clamping means, the rubber suction cup and the revoluble drum around which the cord is wound, which elements are found in a number of the portable electric lamp stands now in the market.

This decree of the United States Court upholding the validity of these patents and their infringement by the World Syndicate Company, Inc., is of great importance to the trade, as the owners of the patents have expressed their decision to prosecute all infringers, and suits have already been instituted against several concerns which are infringing not only these patents, but additional ones of the Wallace Novelty Company, Inc., covering other features of their lamps and shades.

cut-off work. This guard is attached to the machine by a pivoted thumb screw and therefore can be readily removed if desired.

The hood can be adjusted very close to the stock that is being cut so that the operator is well protected and the



Huther Bros. Saw Guard as Attached to Table Shown in Lowered and Raised Positions.

work and the saw are still in plain view. The hood can be easily raised or lowered or it can be swung up out of the way, as shown, or entirely removed from the table.

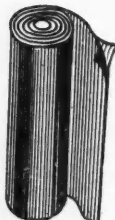
The second guard is a type that is suspended from the ceiling and is operated by a counter-weight. It is automatic for different thicknesses of material. A slight movement of the counter-weight will raise or lower the hood and a simple turn of the thumb screw secures the sliding parts. The

Two Types of Saw Guards

The first guard shown here is clamped to the right side of the table as shown. It can be used for either rip or

Lumber, Millwork, Mantels, Hardware, Roofing at Unheard-of-Prices

Make more money this Winter by buying from Huber. Learn what real values are. We have shaved our prices down to a feather-edge on all Building Materials and we are sure all keen Builders will be quick to take advantage of such an opportunity to procure such high-grade materials at such low prices. Goods illustrated are a sample of the wonderful values we offer.

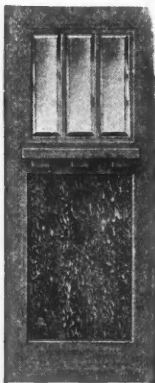


Roll Roofing
2-ply, 65c per roll
3-ply, 85c per roll

FREE

Our large new Building Material Catalogue and our Handsome Mantel Book. No Builder who is progressive should be without these two big books. They show the latest styles in Building Materials, and all the new improvements. Drop us a Postal or a letter and we'll send them both by return mail.

The Huber Builders Material Co.
45-49 Vine St. Cincinnati, Ohio



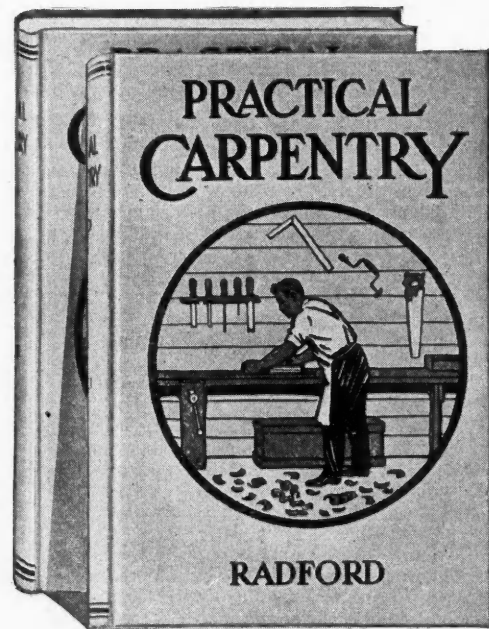
Bungalow "B."
A very pleasing design in a door. Only \$2.00.



MANTEL No. 1295
4' 5" high, 5' wide. Tile top 42"x39". Profile 3". Columns 4 1/2". Wht. Wood. 3 Coats White. . . . \$16.87
White Wood Enam. . . 19.37



STAIR NEWEL No. 101
8"x4"
Yel. Pine \$2.29
Oak \$2.50



Two volumes of reliable textbooks to which to refer in work that is new and unusual. **PRACTICAL CARPENTRY** is the most complete, most accurate, most practical and most up-to-date work of its kind. It describes the best and quickest methods for laying roofs, rafters, stairs, flooring, mitering, coping, splayed work, circular work, and, in fact, for forming all kinds of joinery and carpentry work. Bound in cloth, over 600 pages of useful and necessary information. Complete information from foundation to roof. One of these books and a year's subscription to the **American Carpenter and Builder** for only \$2.00, the regular price of the magazine alone. Both volumes and a year's subscription for \$3.00.

American Carpenter and Builder
1827 Prairie Ave., Chicago

Crown Your
Buildings with

VULCANITE

Ornamental
Roofing and
Shingles



A Most Pleasing
Variety of Effects Obtainable in Colors and Designs

SAFETY AND BEAUTY

Heretofore, safety has been secured by the wealthy by using slate and tile roofs. The man of moderate means had to take chances and has repeatedly seen all he possessed destroyed by a flying spark or a fire brand.

Temporary color effects have only been possible by the use of stains and paints, but these did not withstand sun and rain for any length of time.

It has remained for the Patent Vulcanite Roofing Co. to give the public a roofing material that perfectly combines the qualities of safety, comfort and beauty at so low an initial cost, that no one now needs to put over his home such a flimsy, highly combustible and temporary covering as a wood shingle roof.

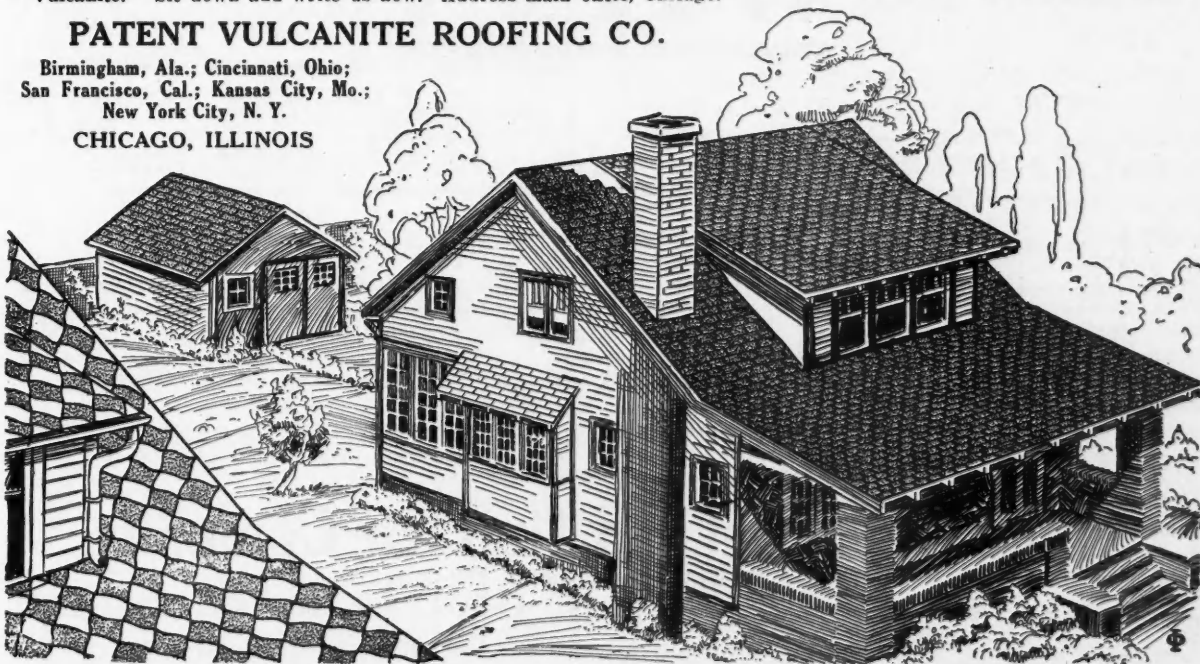
Vulcanite Roofings are an unflinching weather-proof and fire-resisting material. Twenty years' service is a reasonable expectancy. Vulcanite comes in rolls and shingles in several patterns that can be worked into a large variety of truly artistic effects.

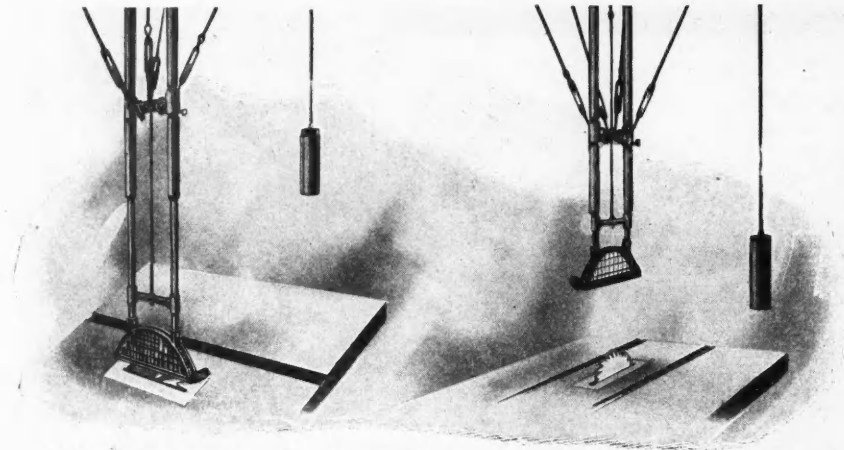
We shall be very glad to send you our large illustrated catalogue which will show you some of our popular roofings and how they add to the appearance of a building. We'll also tell you just what we do for Builders to help them lay more "Vulcanite." Sit down and write us now. Address main office, Chicago.

PATENT VULCANITE ROOFING CO.

Birmingham, Ala.; Cincinnati, Ohio;
San Francisco, Cal.; Kansas City, Mo.;
New York City, N. Y.

CHICAGO, ILLINOIS





Huther Bros. Saw Guard as Suspended Above the Machine, Shown in Lowered and Raised Positions.

guard is said to be of exceptional strength and rigidity and is useful for saws up to 24 inches in diameter. A drop-forged dog fitted back of the hood, prevents fly-backs. The guard can be raised 24 inches above the table.

Both these guards are made by the Huther Bros. Saw Mfg. Co., located at 1101 University Ave., Rochester, N. Y. They will be glad to furnish prices, etc., on request.

Look Into This

We have never known or heard of a builder who would object to making extra profits. If he can figure a reasonably sure income from a small investment of money and some work, there is no one more keen for it. A builder friend of ours, we'll call him Mr. F., thought he saw possibilities for himself in the concrete burial vault business. He called on the Norwalk Vault Co., 40 Seminary St., Norwalk, Ohio, for

details; and the following conversation he had with their salesman, Mr. Barrett is interesting:

"Why," asked Mr. F——, "should I be interested in the National Vault?"

"\$3,000 a year profit!" answered Mr. Barrett.

Mr. F—On what investment? That would be 10 per cent on \$30,000.

Mr. Barrett—An investment of less than \$500 would be nearer your need.

Mr. F—What? Do you expect me to believe that any man can honestly make \$3,000 a year on a \$500 investment?

Mr. Barrett—There's a man down in Georgia—in one of the smaller cities, too,—who is clearing \$5,000 a year—and he tells us his business is still growing.

Mr. F—How do you figure it?

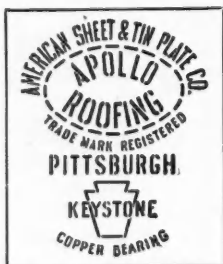
Mr. Barrett—Let's see. How many funerals do you have here in a year? Not alone in your town, but in your whole county, for it's easy to ship anywhere in the neighborhood. The man in Georgia has about 1,500 to draw from.

Mr. F.—I don't know exactly, but taking the whole county we have at least that many.

Mr. Barrett—All right. Now for how many of these funerals could you sell a reasonably-priced vault—not a patent casket, or a metal box, but an honest cement vault that is not only waterproof but air-tight, a vault as smooth and clean cut as your desk there, yet as solid as if it were hewn out of granite.

Mr. F—That would depend. How—

Mr. Barrett—The man in Georgia sells one in every six funerals. But out in a little Michigan town a man is selling



WHY?



Why assume all Sheet Metal to be equally good?

It is *not*. KEYSTONE COPPER BEARING Sheets and Terne Plates are unequalled for lasting service and rust-resistance. Awarded the Grand Prize for their excellence by the Panama-Pacific International Exposition, at San Francisco, California.

APOLLO-KEYSTONE Galvanized Sheets are specially adapted to construction purposes, and all forms of exposed sheet metal work. Copper Bearing Roofing Tin, stamped "C. B. Open Hearth" is the highest quality and most durable roofing tin obtainable.

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

CUT NAILS Grip and Hold Siding Tight and Firm



The enlargement shows how the siding on this house will look in Twenty Years: Because CUT NAILS were used.

No CUT NAILS used. Fifteen Years of Service will loosen the Siding on this house because the nails will lose their grip—rust, and it will look as shown in enlargement.

CUT NAILS Outlast Shingles



CUT NAILS Never Give Way on Scaffolding



Safety First

CUT NAILS

are demonstrating their Supremacy on every class of work



The Better Nail for Flooring

They are taking their rightful place as all-around better nails for any kind of work, whether it be holding shingles, flooring, siding or the back door-step.

Cut Nails



U. S. GOVERNMENT TESTS

47 to 135% Greater Holding Power than any other Nails

Now, Mr. Builder, isn't it going to help both you and your customer to use nails that possess greater holding power, and that are practically rust-proof, when they cost no more than other nails? Of course it is, and it's up to you to try them on your next job. The next time you buy nails be sure and say CUT NAILS and get them.

If your Dealer hasn't got them and says other nails are just as good, write to the nearest Cut Nail Manufacturer and he'll send you Free Samples and prove that they are better. He'll convince your Dealer, too, and see that you are supplied.

CUT NAIL MANUFACTURERS

- | | | |
|--------------------------------|-----|---------------------|
| Tremont Nail Co. | - - | West Wareham, Mass. |
| Van Alen & Co., E. G. Van Alen | - - | Northumberland, Pa. |
| E. & G. Brooke Iron Co. | - - | Birdsboro, Pa. |
| Geo. B. Lessig Co. | - - | Pottstown, Pa. |
| Williamsport Iron & Nail Co. | - - | Williamsport, Pa. |
| La Belle Iron Works | - - | Steubenville, O. |

Try this test on Giant Flex-a-Tiles

One stream icy cold The other boiling hot



G IANT Flex-a-Tiles will stand up under all conditions of wear and weather. But prove it to yourself. Take a Giant Flex-a-Tile and submit it to *this* test:—

Let a heavy stream of the coldest water pour on one end of the Flex-a-Tile. On the other end of the same shingle let boiling hot water pour. Then, notice the result.

You will find that the Giant Flex-a-Tile is absolutely water-proof; water can't soak into a Flex-a-Tile. You will also find that the extremes of heat or cold affect it in no way. You will also see how permanently the surfacings are imbedded.

Giant Flex-a-Tiles stand this test because they are made to meet the most unexpected conditions. No change of temperature can be too sudden—no weather can be too cold—no sun can be too hot—no rain, sleet, snow, ice can lessen their wearing qualities. They make roofs you can stake your reputation on.

SEND FOR SAMPLE "GIANT" FLEX-A-TILE

Get all the details, too, about Giant Flex-a-Tile service, quality and full particulars about our other high-grade roofings. Write today.

THE HEPPE'S COMPANY

1010 So. Kilbourne Ave. Chicago

Utility Wall Board No-Tar Asphalt Paint
Standard Flex-a-Tile Shingles Rubbertex Roll Roofing

Other Guaranteed Heppes Products

three out of every four! He writes us that his sales started at 5 per cent five years ago and have never stopped increasing since.

Mr. F—I could never sell 75 per cent of the funerals here.

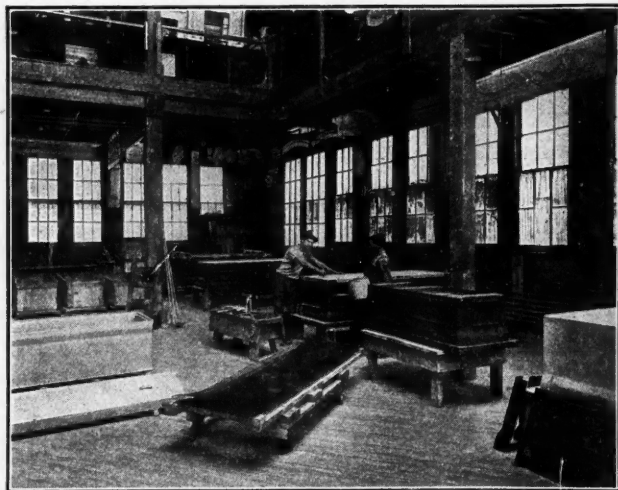
Mr. Barrett—Not at first, anyway; but suppose you could sell, say, 5 per cent, one in twenty—as the Michigan man did when he started. That would be 75—not even two a week. At \$40 each—the regular price—your gross income would be \$3,000 the very first year.

Mr. F—How about my expenses?

Mr. Barrett—You can keep them as low as you wish; all you really need is materials, a shed to manufacture in, and somebody to do the work.

Mr. F—I guess maybe I could make the vaults all right, but how would I sell them?

Mr. Barrett—The best way is right through the undertakers. It costs you only \$5 or \$6 to manufacture the vault,



Any Number of Contractors Have Worked Up Really Big Business Manufacturing Norwalk Burial Vaults.

and they sell easily for \$40 or \$50. So, you see, there is plenty of clean profit for you even after paying a big commission to the undertaker.

Mr. F—Suppose our local undertaker can't sell them fast enough?

Mr. Barrett—Unless he's a slower undertaker than any I've ever seen, he will sell them lots faster than you can make them. But if he doesn't you can advertise.

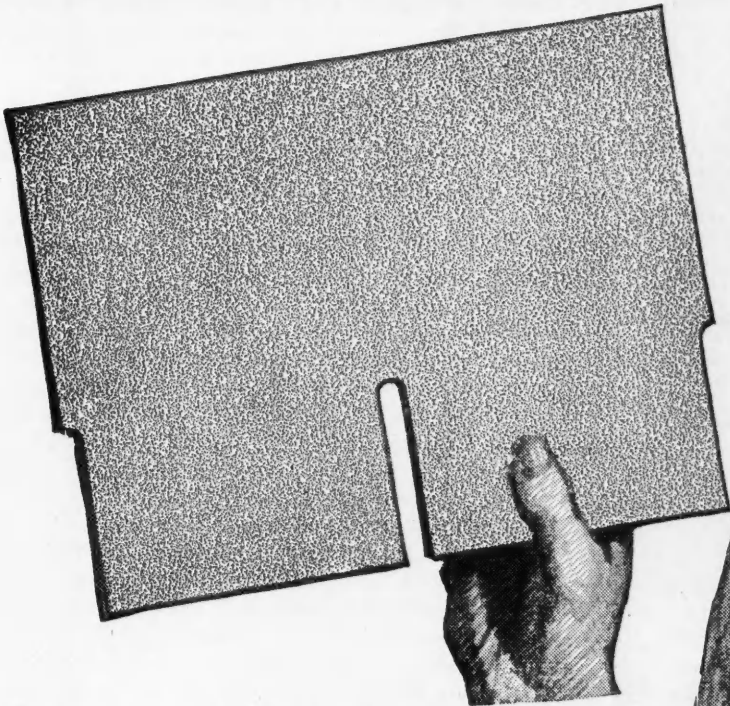
Mr. F—I don't know anything about advertising.

Mr. Barrett—That's where our Home Office comes in! The Norwalk Vault Company isn't selling "blue sky"; we're not even selling molds; we are selling vaults, all over the country, and we want you to sell them for us in your neighborhood. You've seen some of our advertising, haven't you?

Mr. F—Yes, I've noticed it.

Mr. Barrett—Well, that advertising is selling goods for us, and it will sell goods for you. Part of our service—which we gladly give free—is advice and assistance in solving your own local sales problem. If you run up against snags, all you have to do is to write out to Norwalk. You say the words—we'll look after the rest of it. But please don't say the word until you have decided that you are really ready to go after the business in your territory, and that the Norwalk proposition is worth your most serious consideration. When you have reached the conclusion that you want it, look into the question of partnership with us in one of the cleanest, fastest growing manufacturing businesses alive. Simply write The Norwalk Vault Company, 40 Seminary Street, Norwalk, Ohio.: "Send Mr. Barrett to tell me about the Norwalk Vault."

"My Sale of Wooden Shingles Increased"



"When I first took on the NEPONSET Shingle I expected it would cut into my wooden shingle business. Instead, NEPONSET Shingles advertised *me* and *my business*, and *increased* my wooden shingle sales.

NEPONSET Shingles

PATENTED

Are not ordinary composition shingles. They are built up *individually*. Made in pairs to reduce laying-costs.

"The greatest roofing development of the 20th century. Any carpenter would be foolish to overlook this new *yet time-tested* product."

The same materials are used in Neponset Shingles as in the well-known PAROID Roofing, also used in Neponset Proslate, the highest grade colored ready roofing ever made. Neponset Wall Board, Neponset Waterproof Building Paper and Neponset Floor Covering are other well-known Neponset products.

Bird & Son, Department C, East Walpole, Mass.

Please send me a sample of the NEPONSET Shingle. This does not obligate me *in any way* whatever. Also send copy of your booklet, "Repairing and Building."



Name

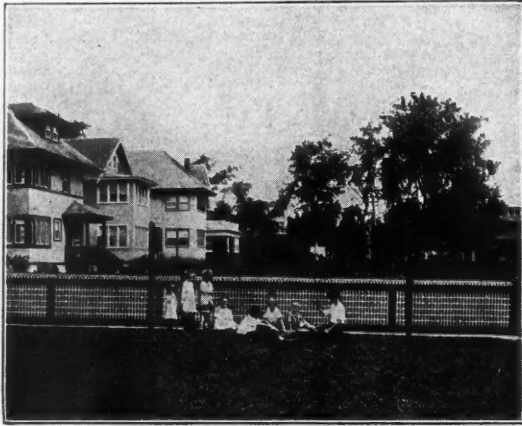
Address

COUPON

COUPON

Backyard Fencing

Many of the larger cities now have ordinances requiring the use of open wire fencing in alleyways. This style of fence is much more sanitary than the tight board fencing so commonly used. Because of its "openness" one can see on both sides of the fence at once, making it very effective in keeping rubbish from accumulating. It appeals to the



Globe Wire Fencing Gives Full Security without Being an Eyesore.

pride of the property owner or tenant and creates an interest in keeping the premises clean (on both sides of the fence). This woven wire fencing also affords ample protection from intrusion, as it is closely spaced.

Here is a great field for carpenters and contractors to develop for fall work, or to be used at odd times for fill-in work.

Ornamental woven wire fencing is easily erected; can be mounted on wood, iron or steel posts. Conforms per-

fectly to uneven ground. There are many constructions which are adaptable for front, rear or division fence purposes—all making very attractive appearance.

The Globe Fence Co. of North Chicago, Ill., have a very complete line of yard fencing and gates and are making a special proposition to carpenters and contractors. They claim that the line is a very profitable one, for contractors, that the goods are high grade in every particular and make satisfied customers everywhere.

When one stops to think that every house in a locality is a prospective customer, the immensity of the field to be developed can be more definitely comprehended. Write them for particulars.



The "American Universal" Floor Surfacer for New or Old Wood Floors

There is no detail in business construction today receives more consideration by the architect and owner than floors; and good, first-class floors, nicely finished are no longer considered luxuries, but are absolutely necessary. The public demands a better finish on wood floors from year to year and the slow and unsatisfactory method of surfacing them by hand adds so much to the labor cost that the contractor dreads this part of the contract. As a matter of fact, all floors should be surfaced whether they are covered or not. A rough unsurfaced floor will soon wear carpets, rugs, cause linoleums to crack and to show every uneven piece of flooring underneath. It is just as necessary to surface kitchen floors as it is to surface expensive floors requiring a high polish.

The "American Universal" is a new machine made by an old company with many years of experience manufacturing floor surfacing machinery for all kinds of floors. The American Floor Surfacing Machine Co., 515 South St. Clair Street, Toledo, Ohio, the pioneers in this business having perfected

Learn to Be a Draftsman and Draw Your Own Plans

By means of these two books the contractor, builder or carpenter can advance by easy steps from the first principles of drafting room practice to the complete work of an architect's office, including drawing to scale, tracing, detailing, lettering, rendering, designing, etc. He can combine the work of the architect and builder. He will learn not only how to plan the structure, but how to lay out the work, specify the materials and finish, make the contracts, and take complete charge. A complete set of plans with every dimension, all sizes of windows, doors, etc., is shown in these books. This serves as a guide as it shows the process from the preliminary sketch to the finished plan.

Radford's "Mechanical Drawing" is a book of 272 pages, with 165 illustrations, and a supplement showing perspective views and floor plans of 41 brick, cement and frame residences.

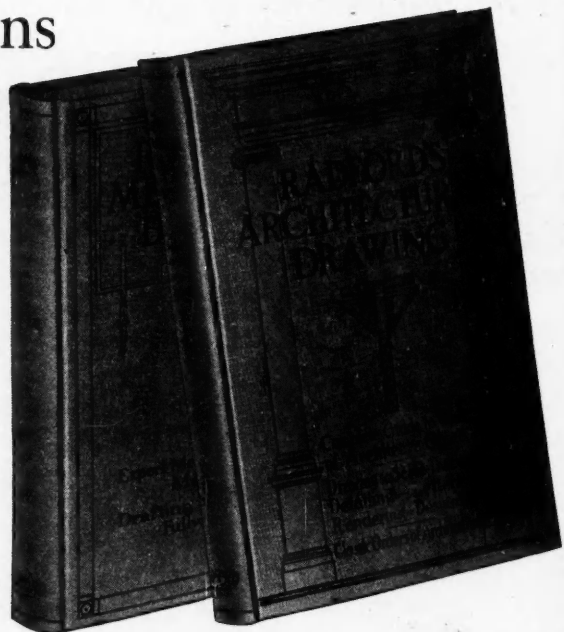
Radford's "Architectural Drawing" is a book of 304 pages, with 147 illustrations and a supplement showing perspective views and floor plans of 41 brick, cement and frame residences.

Each book is printed on high-grade paper, bound in cloth, is 6x9 inches and has a beautiful illuminated cover.

Don't Depend on Another Man's Brains

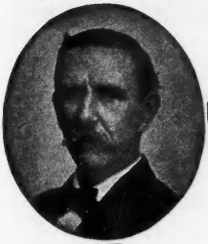
Develop your own ideas. Be in a position where you can work a customer's hazy suggestions into a tastefully arranged, complete plan, showing all dimensions.

One of these books and a year's subscription to the American Carpenter and Builder for only \$2.00, the regular price of the magazine alone. Both volumes and a year's subscription for \$3.00.



American Carpenter and Builder

1827 Prairie Ave., Chicago



Let me design your CHURCHES

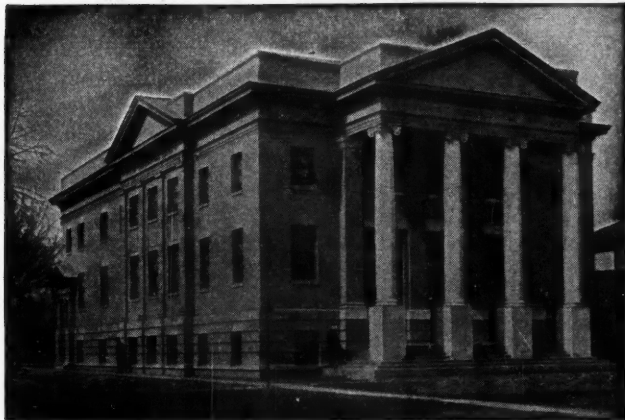
My experience in church work is valuable to you. My knowledge of church architecture assures your getting the most approved, up-to-date designs. The work I have done for hundreds of Builders, Contractors, and various Church Boards throughout the country proves that I can do satisfactory work for you. I can plan a church to meet your needs.



Presbyterian Church

Minden, Nebr

I CAN SAVE YOU MONEY



First Congregational Church

York, Nebr.

by furnishing plans and specifications at the lowest possible cost. Tell me what you need. Information is free. You pay me only for actual services. Let me show you what I can do for you. Fill out the coupon and mail it. You pay nothing in advance fees and you will not be obliged to give me the work unless I show you that I can do it better, quicker, and at a smaller cost than anyone else.

ALFRED W. WOODS,

— ARCHITECT —

LINCOLN

NEBRASKA

----- TEAR OFF THIS COUPON and MAIL -----

Alfred W Woods, Architect,
Lincoln, Nebraska.

DEAR SIR:—

We propose building a church as per details given below. Please send us information as to what architectural service you can furnish us. It is understood that this information costs us nothing.

Proposed Cost..... Name

Frame, Brick or Stone..... Address

Denomination..... Town and State.....

Seating Capacity.....

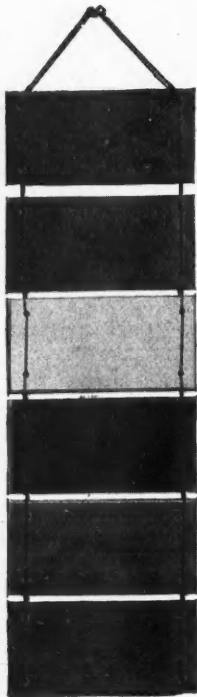
Size and Location of Lot.....

BIRCH AS BIRCH

For all Interior Trim and Woodwork

Whether Birch is specified by the architect, suggested by the contractor, or insisted upon by the owner, its use imparts additional value to buildings old and new without materially increasing the cost.

Birch Effects Please—A suitable, desirable and durable finish for every room in the house is within reach of all who use Birch and employ modern finishing materials



Use good judgment and good taste in varying the finish you give. Here are suggested treatments:

Living and Dining Rooms
—Dutch Brown, flat or glossy finish.

Halls—Same as living room, if opening from the latter.

Stair—French gray enamel risers, ballisters and base, natural finish treads, mahogany banisters.

Library—Early English, dull finish.

Kitchen—Natural.

Bath—White or French Gray enamel.

Bedrooms—Silver gray, window stools in mahogany.

Secure a set of Finished Birch Panels before finally deciding.

Sent FREE on request.

"Birch Interiors," a combination of helpful suggestions, also will be mailed FREE. It contains suggestions for finish for all manner of buildings.

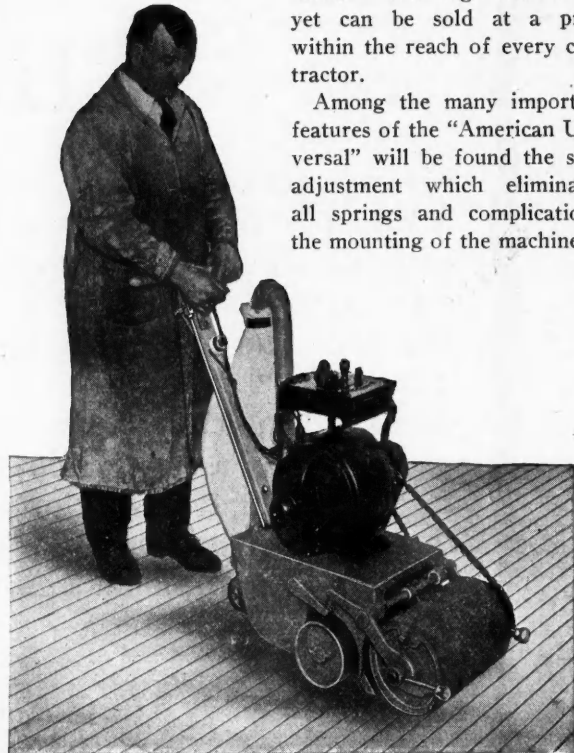
**Northern Hemlock & Hardwood
Manufacturers Association**

Oshkosh - - Wisconsin

and placed on the market the first machine for surfacing wood floors, the "Big American" now found in operation in every city of any size in the world.

Due to the fact that so many dwellings and apartment houses are constructed with small rooms, there has been quite a demand for a small machine which is easier handled than the "Big American" and the company has brought out this machine which embodies many of the excellent features found in their big machine and yet can be sold at a price within the reach of every contractor.

Among the many important features of the "American Universal" will be found the self-adjustment which eliminated all springs and complications, the mounting of the machine so



"American Universal," the Machine for the Average Job.

as to respond to irregularities of the floors, leaving the machine solid on its own truck wheels and eliminating the objectionable necessity of regulating the cut by tilting the entire machine. This machine is equipped with a sanding roll 12 inches long, revolving 725 revolutions per minute. This roll is mounted on pivoted arms which put the drive chain always in direct line with the sanding drum, regardless the position of the drum and overcomes every trace of vibration as well as prolonging the life of the chain, sprockets and bearings.

The "American Universal" is equipped with the celebrated S. K. F. self-adjusting ball bearings. A vacuum cleaner placed directly behind the sanding roll, automatic in action, gathers every particle of dust, storing it into a sack attached to the machine. The vacuum attachment permits the machine to be used in the finest homes, private buildings, hospitals, etc., without inconvenience to the occupants. Each machine is supplied with an extra sanding drum smaller than the main roller and is used for finishing the edge of the floor close up to the wall where the main sanding drum cannot reach.

The American Floor Surfacing Machine Co., 515 South St. Clair Street, Toledo, Ohio, have just issued a circular fully describing this machine and will be pleased to send a copy to any subscriber interested.

✦ Buck Tool Companies Consolidate

Announcement is made that Buck Brothers, of Millbury, Mass., are the original makers of the Buck edge tools and have bought out the firm of Charles Buck Edge Tool Co.

Cut Labor Costs And Leave a Better Looking Job By Recommending King Aerators and the King Sanitary Ventilating System

Why let one of your best men spend two or three days' time building wooden cupolas when a carpenter and a helper can install "King Aerators" while the crew is getting ready to leave the job?

Save that needless labor expense. It never shows its value in the eyes of the owner. Instead, recommend King Aerators and a King Ventilating system for every barn you build. You will please the owner, too. His building will be kept in a more sanitary condition—dry—free from foul air—stock live better—owner makes

more profits—speaks a better word for you.

Prevent Spontaneous Combustion

Lack of ventilation in the hay-mow has caused a large percentage of the fires in farm barns. Hay gets overheated—easily ignites—attracts lightning during thunderstorms. Efficient ventilation is the farmer's best protection against this trouble. Tell him about the King equipment.

Catalog mailed **free** on request.

King Ventilating Co.

1120 Cedar St.
OWATONNA, MINN.

Formerly
Galvanized Steel Cupola Co.

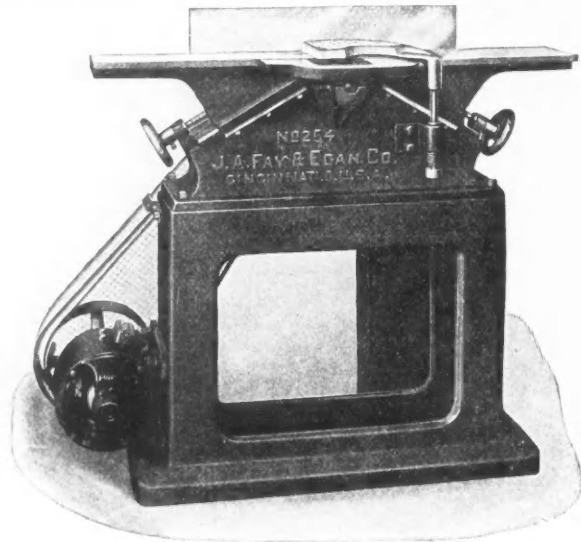


Our catalog will be a great help in showing your customers the beauty in architecture and efficiency of King Aerators. Let us send you a copy **FREE**.

Portable Hand Planer

A machine, that is attracting a great deal of attention from carpenters and builders thruout the country, is the J. A. Fay & Egan Co. No. 254 Hand Planer and Jointer. This machine is mounted on its own column, with self-contained electric motor drive and is complete, all ready to set up and run, by simply connecting to the feed wires. It can be set up any place where most convenient, either in the shop or out on a job.

A great many purchasers of the machine place it on a low truck and move it about the shop wherever it is most convenient for the work in hand. By using it the slow hand



Fay & Egan No. 254 Hand Planer and Jointer.

plane operation is entirely eliminated, and the time saved soon pays for the first cost of the machine.

A big advantage of this machine is the fact that it is mounted on its own cast iron base and a space does not have to be clear for it on a bench. It can be put right where the work is to be done, saving many steps, and is easily accessible to the operator.

This machine carries a 6 1/2-inch safety cutter head. It has removable steel lips in the tables; a rabbeting arm is furnished as regular equipment; the fence angles to 45 degrees, and is adjustable clear across the table, so that jointing can be done at any place on the head. This causes uniform wear on the knives, and eliminates any possibility of the cylinder springing or breaking.

The tables are adjusted on long, continuous inclines by hand wheel and screw, self-locking in any position. There is no possibility of getting them out of alignment.

Full information and price of this equipment will be given upon application to J. A. Fay & Egan Co., and in writing, readers should state whether they have direct or alternating current, give the voltage, and if alternating, the number of cycles, and whether single, 2 or 3 phase. Address J. A. Fay & Egan Co., 545-565 West Front St., Cincinnati, Ohio.



New Surfacing Material for Reynolds Shingles

After a very extensive search and many tests, the H. M. Reynolds Asphalt Shingle Company have found a material that gives a handsome maroon surface to their shingles.

In Keweenaw county, Michigan, there are large beds of stamp sands, and these have been experimented with as a surfacing face for their shingles. After the tests it was decided that the sand, when properly screened, made a very



**YOU!
YES, YOU
CAN GET IT**

**\$300 MONTHLY for YOU
BE MY GENERAL AGENT IN YOUR COUNTY! GET
INTO AN HONEST, DIGNIFIED BUSINESS of your OWN!**

The man who makes big money doesn't depend upon his own efforts. He organizes other men and makes a profit from their labor, too. I show you how to do just that. Give you valuable exclusive sales territory absolutely free. Put you in a position to manage a large crew of successful agents and make fat commissions on their work as well as yours. With the fastest selling specialty on earth — with the help I can and will give you, and with money rolling in from your own sales and the sales of from six to ten men working under your direction — YOU SIMPLY CAN'T HELP BUT SUCCEED.

You are an opportunity seeker. All you want is the chance. I know you will do your part. If anyone will convince you that he can establish you in a paying, honest, dignified business where big money is practically sure, you'll take the job, won't you?
All right, I'll take you up on your own proposition. I'll appoint you as my representative on that very basis. I'll convince you that we've got the best selling specialty in existence. I'll prove to you that when you secure the exclusive representation for your county that you're not entering into a dinky, paltry agency proposition. You're putting yourself in line for an amazingly big paying business of your own with profits of from \$30 per week upward.

Over 70% Are Without Bath Rooms

In country and small towns and cities, the percentage is vastly greater than that. These people have gone without the exhilarating, invigorating health-giving bath simply because until now they could not get it. They have used all sorts of makeshifts, sponge baths, wooden, zinc and metal tubs of various kinds. Heavy, clumsy, unsanitary, in-the-way tubs. Lugging them in and out before and after the bath. Taking up valuable space all the time.

I have invented a practical bath tub that can be used in any room — bedroom — sickroom — kitchen — anywhere — a tub that can be sold at a price within reach of the masses — a tub that is light and yet durable, one that can be folded up and stood up in any corner when you are through with it. — THE ROBINSON STEELINE PORTABLE BATH TUB.

I wish I could show you this wonderful tub. Look at the picture. See how it folds up after the bath. Pick it up with one hand and stand it away in a corner just as you would an umbrella. Isn't that the climax of convenience? In use it's as stable as the stationary tub — as luxuriant a submergent bath as any city bathroom affords. Can't tip or splash, equipped with a handy self-emptying device — plenty of room — just the right shape — simple — perfect — absolutely ideal.

YOU MAKE \$5.00 ON EVERY SALE

Think of it. What's the use of wasting your time and effort pushing some specialty that sells for a few cents, when the same time and energy will make you \$5. You get exclusive territory. We protect you. Give you county rights. No cost to you to secure exclusive territory. Then you can appoint sub-agents. If you are a hustler you can make more on this proposition than many a high-class salesman makes on a straight salary. In fact there is no limit to what you can earn. Just one sale a day means \$30 a week. Think of that — two a day means \$60 a week.

NO EXPERIENCE NECESSARY I don't care if you have never had a day's selling experience in your life. I know that you can sell this tub and sell it fast enough and often enough to make big money. I know it because fifty per cent of my best representatives are men and women and even boys and girls who never sold a dollar's worth of any kind of goods in their life before they started to work for us.

This is no fairy-tale. No dream of mine. Every word I write is founded on what has been done by the representatives who are now working for me. I know that they are just ordinary men and women. I know that if they can sell these tubs as they are selling them that YOU can do the same thing — that YOU can make the big money just as they do. I want to tell you all about it — what my men have done and what you can do. Let me send you full descriptive matter about my goods and convincing testimonials from others I have helped to succeed.

Write today — NOW this very minute — either a postal or letter. These exclusive county agencies won't last long. Pick one of these plums while you can — NOW!

H. S. Robinson, Pres., THE ROBINSON CABINET MFG. COMPANY
798 FACTORIES BLDG., TOLEDO, OHIO. For Canadian Territory Write Our Canadian Branch at Walkerville, Ontario, Canada

Send no money. Just name on penny post card for free tub offer. Hustle!

I tell you people are simply falling over each other to buy these tubs. All you have to do is to show them and write out the order. In the country and smaller towns practically every home is a prospect. Even in the city it is surprising how they sell. Right here in Toledo, Mr. N. J. Smith is averaging two sales a day. Used to work in a hardware store at \$65 a month; now he makes that much every week. You can, too. I will send you the records of lots of men who are making big money — just ordinary men and ordinary towns.

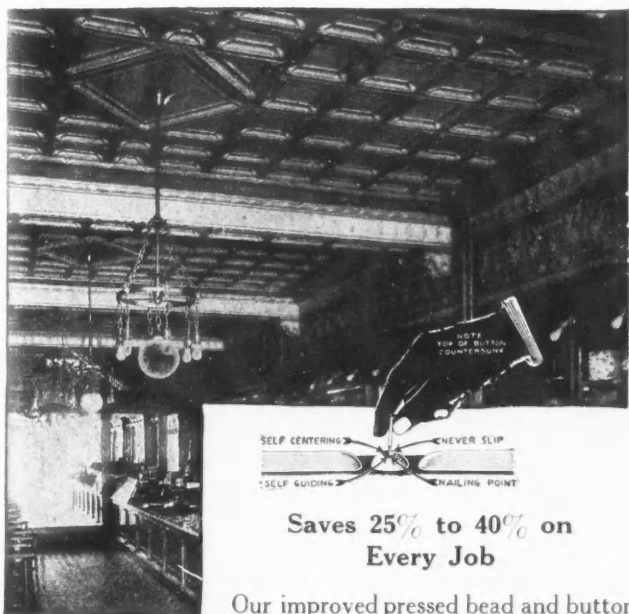


DEMONSTRATING TUB FREE

I grant credit — Furnish a sample. Help you out — Back you up — Don't doubt

— Don't hesitate — don't hold back — You can't lose. My other men are building homes, bank accounts, so can you. Act then quickly.

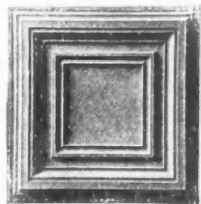
Berger's Ceilings and Berger's Shingles—Winners Both!



Saves 25% to 40% on Every Job

Our improved pressed bead and button construction makes a perfectly tight joint without tamping and calking. Think of the saving in erection cost this enables you to make, and the advantage it gives you in figuring on contracts. Moreover, Berger's "Classik" Steel Ceilings are a perfect fire retardant, ornamental, safe, sanitary, easily erected, and give lasting satisfaction.

"BERGER'S Classik STEEL CEILINGS"



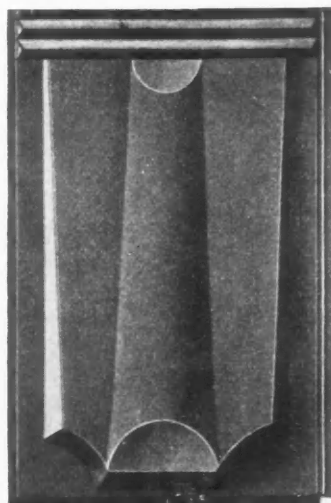
Colonial Panel No. 4056

This is one of our more than 500 beautiful designs representing every period and school of architecture. Others are shown in our Special Catalog D. A. B., which is yours for the asking.

"Decorative Suggestions" contains information of interest and value to every ceiling constructor. It's free and you incur no obligation. Why not send for your copy today?

Simply ask for Special Monograph D. A. B.

Let Berger's Metal Shingles Increase Your Reputation as a Skillful Builder



Berco

Notice those extra high corrugations with knife-edge finish at the top? They assure still further a wind and weather tight roof. Then there is our three-point sidelock construction which closes the joint tightly.

Being automatically interlocking and self-aligning, your men can apply them rapidly and correctly with only a hammer, nails and a pair of snips.

Your customers have three beautiful designs to choose from, each of which adds to the appearance and value of their buildings. And being made of a heavy gauge metal, they give lasting satisfaction and full protection against the elements, even lightning.

Better ask us today for our Dealers' Proposition and Special Shingle Handbook E. A. B.

The Berger Mfg. Co., Canton, Ohio
The Largest Sheet Metal Works in the World

Our Nearest Branch for Best Service:

Boston New York Philadelphia Chicago St. Louis Minneapolis San Francisco

Export Department: Berger Building, New York City, U. S. A.

It is the Energetic Squirrel That Gets the Chestnuts—

That may be an old one, but it has a good moral.

The contractor who makes his winter plans now will be the busy boy when his competitors are snapping apple seeds.

There is always a considerable amount of metal ceiling work during the winter; hang-over jobs, alterations, remodeling, etc. The number of these jobs can be increased many fold in any locality by the energetic contractor. It is good business when others are scarce; there is a nice profit in it, too.

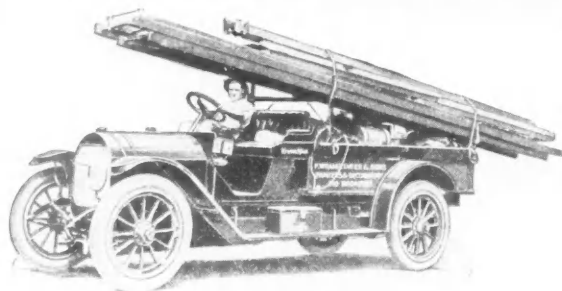
Shall we tell you more of our plan? Have you one of our 1915 catalogs? There is some agency territory still open. Perhaps your town—Do you wish it?



The CANTON METAL CEILING COMPANY

**1947 Harrison Avenue
 CANTON : : OHIO**

(Manufacturers of Metal Ceilings, Shingles, Roofing, Siding, Building Corners, Wall Ties, etc.)



Investigate and You'll Say *Kissel* Sure

If you want to get your men "on the job" quickly, save the most time in running for tools and supplies—in short, make sixty minutes yield the fullest hour—you must use motor trucks.

Which truck? Many successful builders and contractors will say *Kissel* without a moment's hesitation.

May we give you *specific* information about the new 1000-pound delivery at \$950? Or about the larger trucks—up to 6 tons capacity?

KISSELKAR TRUCKS

SEVEN SIZES

Owners of KisselKar Trucks are invariably truck enthusiasts. We would like to have you know their experiences.

We would like to have them tell you of the great dependability and economy of their trucks.

We would like to have them tell you of the vastly improved service over horses, of the new consumers won through increased delivery area and the general advertising value of their vehicles.

Ask us who are using KisselKar Trucks in your line—then write to them. Also say you would like a copy of our new portfolio with 500 illustrations—it will interest you.

Kissel Motor Car Company
546 Kissel Ave. - Hartford, Wis.

New York, Boston, Philadelphia, Chicago, St. Louis, Milwaukee, Minneapolis, St. Paul, Dallas, San Francisco, Los Angeles, Oakland, Cincinnati, Omaha, Cleveland, Detroit, Toledo, Columbus, Rochester, Buffalo, Baltimore, Pittsburgh, Duluth, Dayton, New Orleans, Nashville, Hartford, Conn., New Haven, Troy, Norfolk, Providence, Marshalltown, Iowa, Madison, Montreal, Toronto, Calgary, Victoria and three hundred other principal points in the United States and Canada.

desirable and attractive shingle. The sand is maroon in color and has very good wearing qualities.

In the manufacture of these shingles a three ply layer of felt is used that has been thoroly saturated with asphalt. It is then covered with a layer of hot asphalt and the sharp sand is pressed into this last layer.

The Reynolds Shingle is made in six different colors. For particulars of these various colors and the construction of the shingle can be had by writing this company at Grand Rapids, Mich.



Pulling the Bad Air Out of the Barn

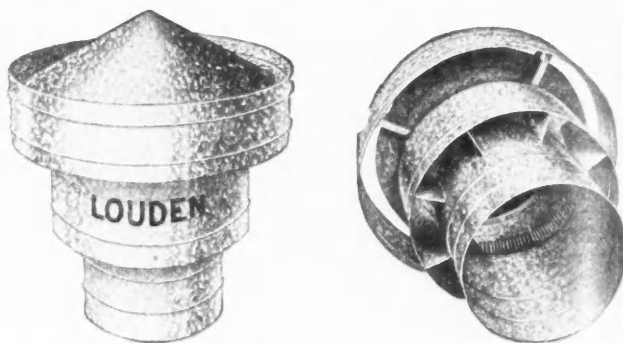
The Louden cupola and ventilator are designed for durability, beauty, and efficiency. The method of constructing them is shown in one of the illustrations.

The exhaust openings are made of ample area and are so placed that the wind can never blow into them, but always across them. The makers say that every opening is an exhaust opening, and that the ventilators actually pull the bad air out of the barn or other building on which they are built. No matter whether the wind is blowing or the snow coming down or the weather sultry and quiet, the ventilator is always on the job, drawing the air in a steady draft out of the barn.

The base of the cupola is made so that it does not need any special frame to attach it to the roof. The well designed moulding with the angle-braced wood frame adds great strength to the base and gives an artistic appearance to the cupola.

The Louden Cupola is Very Artistic as Well as Practical.

This cupola and the various other items of Louden barn equipment are shown in the Louden Barn Bulletin. This is a monthly publication that should be in the hands of carpenters and builders. The Louden Machinery Company's address is 5504 Fourth St., Fairfield, Iowa, and they will be glad to place our readers on the mailing list on request.



Two Views of the Louden Vent Top.

Overland
TRADE MARK REG.



**Men and Materials
are There on Time**

You need the best possible transportation facilities in order to meet the competition of today.

Builders and contractors find that the Overland Delivery Car is a decided asset in their business.

It furnishes the quick action they frequently need—combined with absolute dependability and economy of operation.

It carries them, their men, tools and supplies from job to job quickly. It enables them personally to supervise their work, even though located at widely separated points.

The Overland has a sturdy, powerful 35 horsepower motor. It is electrically lighted and started. It has high tension magneto ignition, large tires and many other advantages unusual in a car at such a low price.

\$725
Open Express
Delivery Car

Write for a Special Delivery Car
Catalog. Please Address Dept. 255

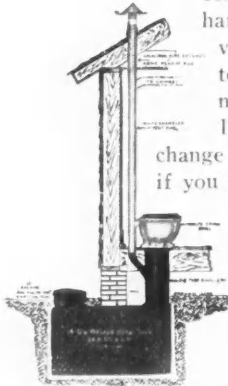
\$750
Panel Body
Delivery Car

The Willys-Overland Co., Toledo, Ohio



Kaustine Chemical Closets as a Side Line

Any carpenter or builder that has studied into the proposition will admit that chemical closets are the best solution of the sewage disposal system where a complete community system is not available. The hard part of the proposition lies in convincing the house owners that it is best to discard the old-fashioned arrangements—namely, the unsanitary outhouse. It's hard sometimes to get people to change from obsolete to modern things; but if you can once get them to change, they are your friends for life.



How "Kaustine" System is Installed.

There is one thing that will be of great value in convincing doubtful prospects of the usefulness of chemical closets. It is the catalog of the makers of the system.

The Kaustine catalog contains much information that will interest everyone. The advantages of the chemical closet system are most completely given and the drawings show various installations with the accompanying convenience and sanitary features. Copies can be secured from the Kaustine Company, Inc., Department 1096, Buffalo, N. Y., or 60 Colborne Street, Toronto, Canada.

The chemical closet provides one of the best side lines for the builder and with the help of the catalogs he should be able to do a good business. Write for your copy today and post up on this.



More Profitable than a Plumbing Business

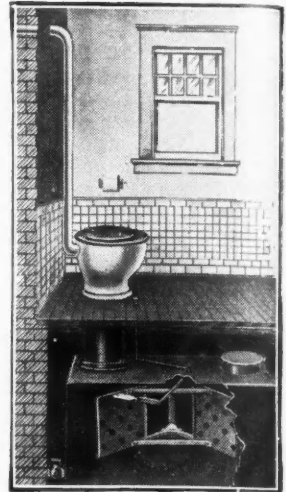
How a Michigan carpenter and builder has built up business on chemical closets which he considers more profitable than any plumbing business, is narrated in the

following letter. Other carpenters and builders should find it interesting and inspiring reading.

Jackson, Mich., Oct. 13, 1915

I believe that there are many carpenters and builders who will be interested in my experience this summer in selling chemical closets.

About six months ago, I visited a relative who had a "Wolverine" chemical closet installed in their farm home. The fact that these country people could enjoy an indoor closet equal in every way to the city water closet, without having waterworks or sewer, impressed me as being a great invention and I saw great possibilities of selling such an outfit of this kind in villages and small towns where they have no sewers. Also to people who live on farm and in rural districts.



View of "Wolverine" Apparatus.

I immediately got in touch with the Dail Steel Products Company, 600 Main Street, Lansing, Mich., who manufacture these closets and secured a contract for a country agency.

That was six months ago and I now consider my contract worth at least \$2,500.00. In fact, I would not trade my business for any plumbing business in the county.

At first the sales did not come very fast, but after I had sold one or two in a locality, I found it very easy to sell nearly every one in the neighborhood. I have one little town of five or six hundred people, where I have

\$25⁰⁰ Paid for One Day's Work
NEW MIGHTY MONEY MAKER!



Over
One Million
in Use
Millions
To Be Sold

THE MILLION DOLLAR HIT!

New, wonderful home invention, just introduced, yet million sales already recorded. Tremendous, rapid sale staggers country. Agents happy—banking enormous profits daily. Mighty opportunity for you to get the mighty dollar. Failure impossible. Experience unnecessary. Money rolls in first hour—\$10.00 to \$30.00 daily. Amazing cash records made. Walters made \$25.00 first day; never sold goods before. Arnold, N. Dak., Carpenter, orders one, then 2 gross; sold 160 in 2 days.

Cleared \$80.00 in Two Days

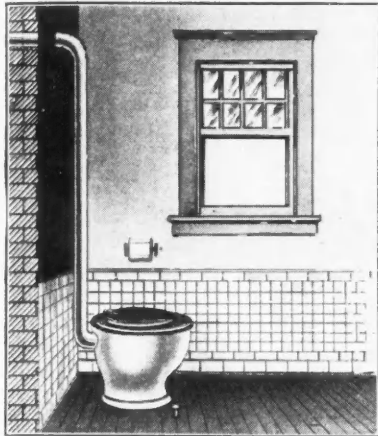
Hagen, Texas, sold 100 in two days. Webb, Pennsylvania, Contractor, averaged 10 sales per hour. O'Connell, Montana, 25 first day. Mike Bock, Minn., writes: "They are fine sellers; worked one day and sold 30 (profit \$15.00)." Harry Gassmann, Illinois: "Can sell scrapers as fast as I can get them. Overwhelmed with orders. Everybody wants scrapers; 100 already sold." Roy Burninghaus, Mass.: "Send 10 dozen. One week's work." Hundreds like these. You, too, can have money in abundance.

GRAB'S SCIENTIFIC SHOE CLEANER

Sells itself—you take orders—that's all. Every family wants one on their door-step. Replaces unsightly, unsanitary, crude door mat. Automatically cleans mud, dirt, snow from shoe in one operation. Cleans sole, sides, heel. Works like magic—sells like "sixty." Saves drudgery, time, money, shoes—saves carpets, floors. Mechanical wonder. Has 7 new patented features not found in any other scraper—10 steel blades—10 dirt outlets—twin adjustable and removable brushes—compound springs. Rotates for sweeping. Can't clog—practically self-cleaning. Handsomely enameled. Nothing else like it. Nothing so popular—so easy to sell. Selling price only \$1.00. You make half—100%. Satisfaction guaranteed. Write quick for free catalog—exclusive agency. Better still, send order, naming territory. Investigate anyhow.

SECURITY MANUFACTURING CO. DEPT. 197 TOLEDO, - - OHIO

Here's the Answer for the Slack Season



An Indoor Closet like this can now be enjoyed by every home

Sell and Install a Convenience every Country Home needs

WOLVERINE CHEMICAL CLOSETS

The greatest convenience ever offered rural residents. Sells easily to churches, schools, lodge halls and every home. This is the season Wolverine Chemical Closets practically sell themselves.

Mr. Geo. E. Hindelang, a contractor of Jackson, Michigan, writes us: "I consider my contract worth \$2,500.00—in fact, I would not trade my business for any plumbing business in the country."

BIG PROFITS FOR YOU

Cold weather will soon be here. Quick action means a big business. The popularity of the Wolverine spreads like wildfire. Sells at a price every home can afford. Make a profit not only on sale, but also on installation. Become our exclusive agent.

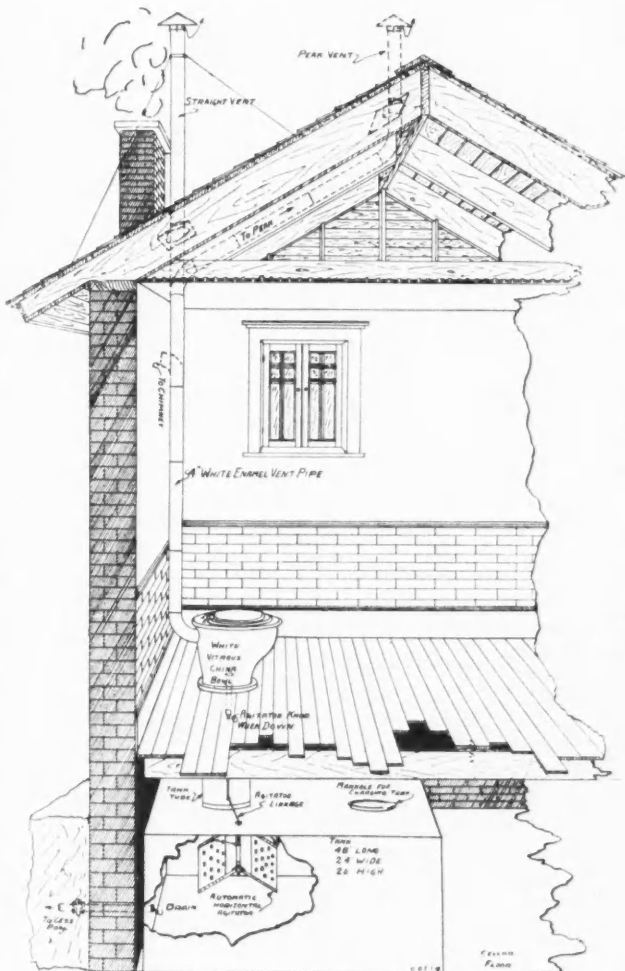
A modern, cleanly, chemical closet. Requires no water pressure or sewer. A practical, economical and sanitary method of sewerage without expense of plumbing. Guaranteed to be odorless. This is a legitimate proposition, backed by an ironclad guarantee to give satisfaction. Indorsed by health authorities.

We have choice territory still open in each state. **There is no time to lose.** Write us at once for complete information and Special Proposition to Carpenters and Builders.

Dail Steel Products Co.

600 Main St.

Lansing - - Michigan



Here It Is—All Together



"Colonna" Bath,
Plate No. K-64

"Bretton" Lavatory,
Plate No. K-580

This trade-mark appears on every piece of KOHLER enameled plumbing ware. It is incorporated in faint blue in the enamel, at the points indicated by the arrows.

KOHLER Quick-Cleansing Enamel

In featuring the quick cleansing quality of KOHLER enameled plumbing ware, it is with the belief that this advance in the science of enameling—as developed in the KOHLER factory—is of great importance to contractors, the builders' trade and the public.

The real value of an enameled bathtub, lavatory or sink is in the enamel itself.

It is in the KOHLER enamel, uniform in color and quality, whether the fixture is the simplest or the most ornate, that the distinctive excellence of KOHLER ware is to be found.

The quick-cleansing feature

KOHLER enamel is easy to clean.

Wiping with a dampened cloth is all that it requires. This makes the strongest kind of an appeal to every housewife.

This superior enamel is a characteristic feature of every KOHLER fixture.

It is your right to be able to identify Kohler Enameled Ware

KOHLER OF KOHLER has perfected a permanent trade-mark for this quick-cleansing enameled ware, so that you will always be able to identify it. The word "KOHLER" in faint blue is permanently incorporated in the enamel. This trade-mark is inconspicuous, but easily found.

See the new KOHLER Viceroy bathtub—the lightest ONE-PIECE built-in tub of its class and design.

THE SATURDAY EVENING POST



This KOHLER advertisement appearing in many widely circulated publications announces another of our advances in the production of the highest grade of enameled plumbing ware.

Kohler enameled plumbing ware adds a tangible value to any structure. Every Kohler enameled fixture will last a lifetime.

MAKERS OF
Enameled
Bathtubs,
Lavatories,
Sinks,
Etc.

"It's in the Kohler Enamel"
KOHLER CO.
Founded 1873
Kohler, Wis., U.S.A.

BRANCHES
Boston
New York
Chicago
San Francisco
London

installed fourteen outfits. I have sold nearly every outfit at some of the summer resorts. Also a good many public buildings, schools, etc.

I look after all the installations myself and as a result every system has proven successful and I have every customer boosting the business and have as many prospects and inquiries as I can follow up each week.

I am satisfied that the "Wolverine" chemical system is a solution of the closet problem for the village and farm home and any carpenter or builder who gets the agency for these outfits can soon build up a business that will be worth more than any building business in his territory.

The carpenter is especially suited to this work because he can make the installations himself and because he is generally well known in his community and this proves a great advantage.

Yours truly,

GEO. E. HINDELANG.



"Complete Information for Agents"

The above name is the title of a pamphlet that is being issued by the Rowe Sanitary Manufacturing Company that contains the selling points and the details of the Ro-San indoor chemical closet.

The chemical closet presents one of the best lines to handle for agency work, and especially winter work. In addition to being a money maker, it represents the best possible sanitary equipment where sewerage systems are not readily available.

The accompanying illustration shows the Ro-San chemical closet as it is installed. It is made of sheet steel and with ordinary care will last indefinitely, say the makers. The seat is made of aluminum, but a wooden seat will be furnished if the buyer desires it.

The chemical used kills all the life matter and a gallon is said to last a family of three for eight months—larger families a proportionate time.

This solves an ugly problem for the home owner, the office tenant or the school board that must provide toilet facilities, but still has not access to sewer connection. The "Ro-San" closet conforms to the specifications laid down by state boards of health for such fixtures and is in very general use in most parts of the country.

The builder who wants to make his winter days show a profit might well look into the possibilities of this closet.

They also have an ingenious wash stand which furnishes running water, yet requires no plumbing. This is a winner, too, as an agency proposition.

The full details of their agency proposition can be obtained by writing to this company at 211CC Sixth St., Detroit, Mich. Their offer is well worth investigating, as it offers good profits to anyone who has a little time and perseverance to spare.



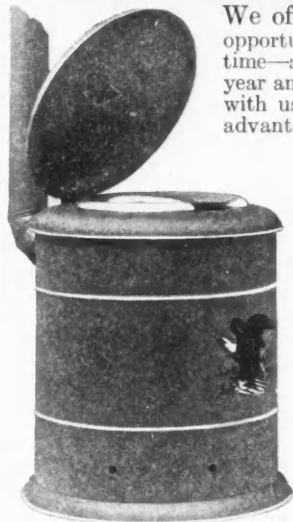
The Air Syphon System

The illustration on page 124 shows the air syphon system of the Wichita chemical closet. The down-draft thru the seat and out thru the vent pipe is one of the features of this



The "Ro-San" Seat and container.

Mr. Builder, here's a chance to make good money all this winter



We offer to every carpenter who is a good business man, an opportunity to turn the dull season into a prosperous, money-making time—a chance to do a little work at odd times in any month in the year and make a handsome profit. Thousands of builders are working with us—thousands are turning their business ability to their own advantage. Read what some of them say in the next column.

Ro-San Indoor Closet

This is a modern, healthful, comfortable, sanitary fixture that you can introduce to your customers, at a profit. It eliminates the vile, germ-breeding outdoor privy. This is a chemical closet—efficient and odorless—that may be installed right in the house. The old privy breeds disease in summer and is cold and unhealthful in winter. The Ro-San Indoor Closet brings health, comfort and convenience to the home, the office, school, factory. Endorsed by health boards. Recommended by physicians.

Easy to Install

Set it up in hall, spare room, clothes closets—anywhere. Comes complete, ready for business. Easy to set up as a heating stove.

Our Guarantee

We back this closet with our guarantee—If it doesn't satisfy your customer, we'll buy it back. It has to make good. The buyer is the judge.

Our Proposition to You

We distribute these closets through local builders. We don't expect our agents to peddle them. We establish you in a dignified paying business. We assist you in building up that business. Write today for catalog and our agent's proposition—write before some other fellow gets the exclusive agency in your town.

ROWE SANITARY MFG. CO., 211-C Sixth St., DETROIT, MICH.

Absolutely Odorless

In use, the closet is absolutely odorless. A vent pipe provides air circulation. Ro-San Chemical destroys life matter and renders contents harmless.

Read What These Carpenters say:—

I haven't been able to put in much time on your proposition, but I enclose seven orders. These will help sell others who are waiting to see how the closets work.

ED. LAMEN,
Flora, N. D.

I set my closet up in my office and sold it the next day. Enclosed find six more orders.

S. W. CASSIDY,
Herkimer, N. Y.

Enclosed find five orders. One is for a sample for myself. The other four I sold right from your catalog.

C. F. BERTHELSEN,
Clear Lake, Iowa

Please hurry shipment of closets. I sold two today without doing any taking at all. They sell themselves.

C. B. LA HUIS,
Grand Rapids, Mich.

What This Contractor is Doing - YOU Can Do

This letter, from our Saginaw, Mich., Contractor-Agent, is typical of what hundreds in your line are doing—and you can do the same with the

Kaustine Chemical Closet

Mr. Pharis writes: "I took the agency for Kaustine Closets six months ago. I have sold 41 outfits—30 to schools, balance to private parties. Am planning to spend my entire time next year. A \$50 Kaustine Closet will add \$100 to the selling price of your house."

The built-in-the-house Chemical Closet is here to stay, for it gives the rural home, school, factory, church and hotel all the advantages of plumbing and city conveniences—with no plumbing bills or repairs.

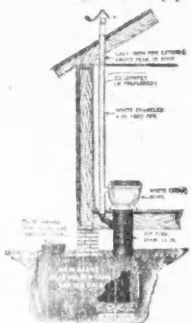
How We Help You

You're protected on the sale in your locality—you get all the inquiries in your section—from our national advertising—reaching 10,000,000 readers every month. We circularize your prospects. Any wonder that Kaustine agents make \$100 to \$350 monthly?

Originators and patentees of Kaustine System of Sewage Disposal and Underground Tank Chemical Closet.

Get Our Proposition—Write Today, Right NOW!

Kaustine Co. Dept. 1096 Buffalo, N. Y.
Also 60 Colborne Street, Toronto



A Simple Sanitary Inside Closet THE WICHITA Chemical Closet

Any Carpenter and Builder can install these closets in a few hours. No sewer, no water, no cesspool, no plumbing, no odor. Eliminates disagreeable and unhealthy out-houses. Sold on Guarantee.

Live Agents Wanted
In every locality—Carpenters and Builders make the best agents we have. Special prices and big profits to you—Write for particulars about this wonderful system and our liberal proposition.

Modern Sanitation Co.
153 N. Market St., Wichita, Kansas

Here's A New Way to Clinch A Building Contract

Show your prospective builder your plans with this modern convenience installed, at no greater cost than the obnoxious wooden privy. It will convince him that you know every down-to-date building appliance. It will fix his confidence and also bring a new source of profit to you.

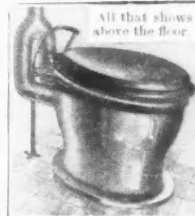
The Bowser Sanitary Closet

Gives the owner all the luxury of a city bath room, and can be installed anywhere in homes, churches, factories, and country clubs.

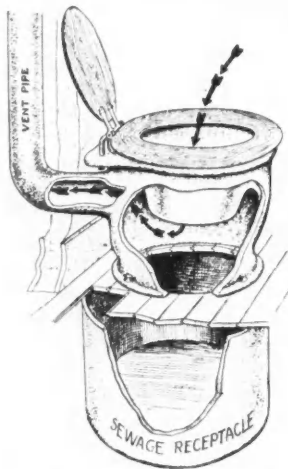
No Water—Plumbing—Sewer!

This closet is permanent, practical, and easy to install. The agitator is automatically operated, requires only a few minutes attention twice a year, and costs practically nothing to maintain.

It will pay you to be the Bowser man in your locality. You will get the plumber's profits and attract every home of refinement with this new luxury. Write for dealers' co-operative plan today.



The Bowser Sanitary Mfg. Co., 88 Trust Building, LaFayette, Ind.



"Wichita" Closet Cut Open to Show Arrangement.

to furnish all details to our readers.

sanitary equipment. The makers say that this arrangement combined with the chemical that is used, effectually prevents any odors from reaching the rooms of the house.

Another desirable feature lies in the fact that the receptacle is handled outside the house. It is claimed that the amount of chemical needed is very small and will not cost more than one cent per day for the ordinary family.

The Modern Sanitation Company, 153 N. Market St., Wichita, Kan., are offering an attractive agency proposition on this closet and will be glad



The "Classik" in the Lodge Room

All of our long established fraternal orders have as a fundamental part of their activities—the building of character among men. It is very fitting, therefore, that the interior decorations of their lodge rooms or meeting hall should be beautiful, dignified and inspiring.

The I. O. O. F. Lodge Room, Des Moines, Iowa, is a criterion in these respects. Note particularly in the illustration the stately effect produced by the simple and elegant colonial design ceiling. The extremely deep and clean cut embossing is particularly pleasing to those who appreciate beauty in structural design and realize the skillful artisanship which has entered into its production.

The ceiling shown in the picture is the famous "Classik" steel ceiling manufactured by the Berger Manufacturing Company, Canton, Ohio.

This concern has recently issued a monograph entitled



I. O. O. F. Lodge Room, Des Moines, Iowa, with Newly Installed "Classik" Steel Ceiling.

"Decorative Suggestions," which in a simple, clear manner, advises the best color schemes to be used in decorating ceilings.

This monograph is mailed free upon request to any interested in steel ceilings.

FIBREWEB



Interior of Home Constructed of FIBREWEB

Mr. Contractor and Mr. Builder—Let FIBREWEB help you solve that building problem by utilizing the latest improved moisture proof fibre wall board.

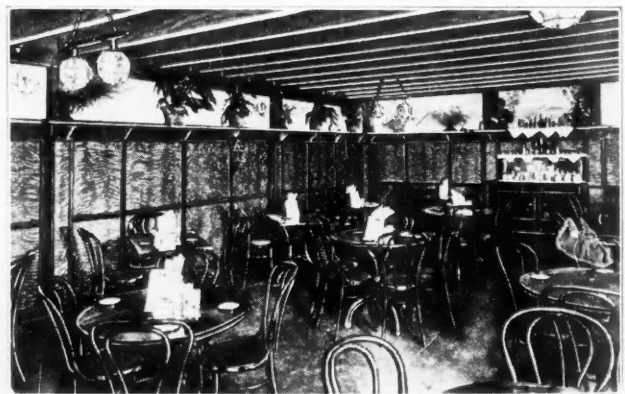
FIBREWEB is exactly what its name implies—a closely woven and compactly formed wall board every fibre of which is treated in the pulp form to withstand moisture.

Replace the old, unsanitary lath and plaster construction with the modern FIBREWEBBING process.

Ask us about it.

The Fibreweb Co.

Department A - - - Marion, Indiana



Comus Cafe, New Orleans

This popular eating place in the Crescent City has been remodeled with

CAREY Ceil-Board FOR WALLS AND CEILINGS SUPERSEDES PLASTER

Note the handsome quartered oak finish Ceil Board used for wainscoting

Remodelling jobs of this kind offer plenty of winter work to the carpenter who uses Ceil Board. Just the thing for refinishing over cracked plaster, for lining attics, cellars, garages, etc. Plain or wood grain finishes. Can be papered, painted or varnished. We have dealers in all principal centers and fifty branch warehouses. This means short freight hauls, quick delivery and low freight charges.

Samples and Booklets to those interested.

THE PHILIP CAREY COMPANY

General Offices 1021 Wayne Ave, Lockland Cin, Ohio
OFFICES & WAREHOUSES IN PRINCIPAL CITIES



HERE'S A STARTLING FACT ABOUT YOUR BUSINESS

Fully 30% profit is lost if you do not use WATERPROOF Plastergon on every one of your jobs that its use will permit.

Figure It Out

You make a double profit on these jobs. The sale of the Plastergon nets you \$5.00 or \$6.00 per thousand, and there's the profit figured on your labor in applying it.

IMPROVED PLASTERGON WALL-BOARD
TREATED WOOD FIBRE

"Every Panel Guaranteed"

Think What You Are Getting

A board as hard as lumber. Stiff enough to lie smooth between studding set 16" centers *Without Waving*. Water proof enough to be unaffected by the heavy dampness of Atlantic City or the fogs of Newfoundland, and "ready sized" to save your customers from \$4.00 to \$6.00 a thousand.

Lose No Time in Getting Samples of Waterproof Plastergon

A postal brings these—with a price on the board that will surprise you.

Write Before You Forget It.

PLASTERGON WALL BOARD COMPANY
 101 Fillmore Ave., TONAWANDA, N. Y.

Use Fiberlic—for these reasons:

Though Fiberlic comes under the classification of wall boards, its make-up and qualities put it away above the different boards now on the market.

First of all, it is made of long, tough, imported root fiber. This insures remarkable strength and rigid qualities.

Fiberlic
for Walls and Ceilings

can be applied directly to the studding. Also over old work. Fiberlic can be cut and fitted with a fine-tooth cross-cut saw—it cuts clean.

Fiberlic is a splendid insulator, is not subject to deterioration and has wonderful fire-resisting qualities. Made in 3 thicknesses and comes in standard-size sheets.

Many Color Schemes

Fiberlic paints and stains, in 24 different colors, afford an unlimited variety of decorative effects. These paints give a permanent painted surface that will not crack, peel or flake.

Samples of Fiberlic and Literature on Request

THE FIBERLIC COMPANY, Camden, N. J.
 New England Branch: 140 Washington St. North, Boston, Mass.
 New York Branch: Fuller Bros. Co., 139 Greenwich St.
 London (England) Branch
 MacAndrews & Forbes, Ltd., Finsbury Court, E. C.

Mr. Contractor and Mr. Builder:—

This Simple Test Tells Which is Best

It is decidedly to your interest to know what brand of Wall Board is best. You are often asked the question, "which is best?" when different building materials are being considered. Isn't it a great satisfaction to be able to answer with positive assurance? When it comes to Wall Board, if you will make this simple test, you will KNOW ABSOLUTELY what brand to use and recommend.

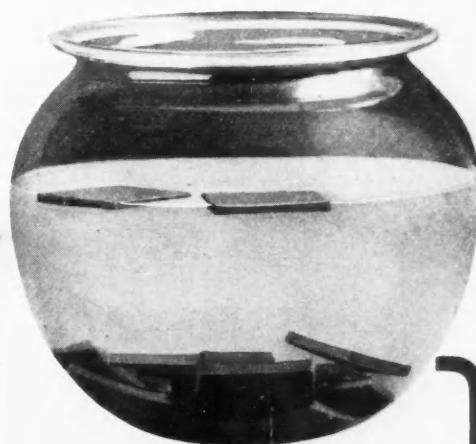
First, secure all the different samples that it is possible for you to get. Cut them of equal size and place in a receptacle containing water. At first, all of them will remain afloat, but gradually they will commence to sink. We give herewith an actual photograph and result of a test conducted last February, March and April.

Roberds' Ideal Guaranteed Moisture-Proof Wall Board

ROBERDS' IDEAL WALL BOARD is the result of 21 years experience. It consists of four sheets of macerated wood fibre cemented together with three layers of specially prepared asphalt cement, making seven distinct layers. It is absolutely moisture-proof, fire-retarding, will not check nor crack, will not war nor crumble, and can be kalsomined, stenciled, painted or papered. Finished in gray, tan, mission and quarter sawed oak.

The use of ROBERDS will not only add dollars to your business, but add fame to your reputation. Just fill out the coupon and get our Free Package of samples, prices, etc.

The Roberds Mfg. Co., 100 Railroad Ave., Marion, Ind.



This table tells the story. You will notice that

Roberds' Ideal Wall Board
 remained afloat 35 days longer than its nearest competitor

Roberds' Ideal Wall Board	60 days 10 hours
2nd Wall Board	25 days 23 hours
3rd Wall Board	8 days 22 hours
4th Wall Board	8 days 4 hours
5th Wall Board	8 days 4 hours
6th Wall Board	7 days 18 hours
7th Wall Board	4 days 3 hours
8th Wall Board	4 days . . . hours
9th Wall Board	3 days 22 hours
10th Wall Board	2 days 3 hours
11th Wall Board	23 hours
12th Wall Board	22 hours

FREE PACKAGE COUPON

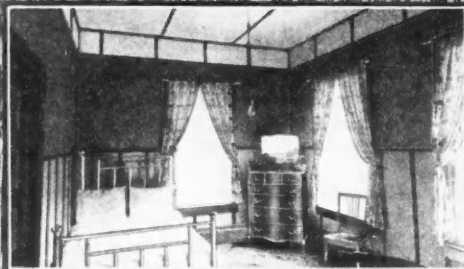
Roberds Mfg. Co., 100 Railroad Ave.
 Marion, Indiana
 Gentlemen:—Please send me, prepaid, your Free Package of samples and oblige

Name
 Town
 State

UTILITY BOARD



In Grained Wood Finishes



PLAIN OAK—QUARTERED OAK
CIRCASSIAN WALNUT—MAHOGANY
(Also in Standard Finish)



Easy to lay and lays to stay.
Costs little. Looks attractive
and gives the contractor a
liberal profit. Write for free
samples.

THE HEPPE COMPANY

4503 Fillmore St. Chicago, Ill.

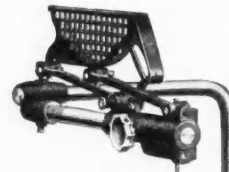
A Saw Guard That Protects and is Not in the Way

A lot of mills and factories have adopted the "safety" slogan, while few of them have adopted the really efficient

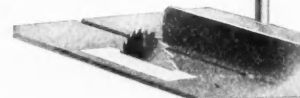


Showing Crescent Saw Guard Attached to Saw Rig, and Let Down Close to Table Top.

devices to put it into practice. One of the most common things around a planing mill is to find a machine fitted with



Guard Turned Up Out of the Way.



Guard Raised for Thick Work.

proper safety guards and then have the workman neglect to use them because of the inefficiency and impracticability of the guards themselves. A very efficient yet practical and convenient guard, that is really adaptable on any make of saw table, is shown here. The guard will automatically return to the table after lumber has been passed thru the machine and, if for any reason it is desirable to have the guard held up out of position, a convenient latch holds it suspended

above the table. The pressure of the finger on the latch will release it instantly so that it will return again to the protective position without further attention from the operator. By loosening a hand wheel on the main shaft that holds the guard, it is possible to swing it clear out of position when, for any reason, it may be necessary or desirable to do so.

Our readers, who use saw tables, can get additional information from The Crescent Machine Co., 224 Main St., Leetonia, Ohio.



Buildings Built in Movies

Still another use has been found for motion pictures. The Third National Bank building of Springfield, Mass., a ten-story bank and office structure now in course of erection by Hoggson Brothers of New York and Chicago, will have its complete history shown on the film, while individual bank buildings being constructed in different sections of the country by the same concern will furnish the basis for certain features of the picture.

Not only will the history of the erection be followed, from the demolition of the old building and the excavations for the new one, through the construction to the actual moving in of the bank's business, but the various materials to be used



Tell Your Client Why You Specified **BAYONNE**

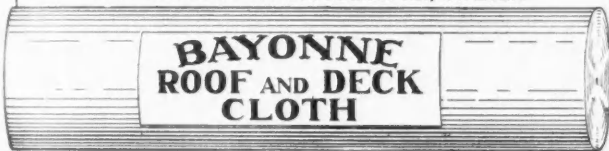
Because—

The Special Process with which the best grade duck is treated absolutely guarantees that no amount of cold, rain or sunshine will cause BAYONNE to shrink, stretch or deteriorate. And no amount of walking will wear it out.

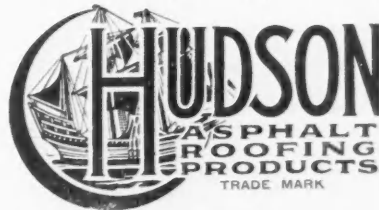
BAYONNE gives less trouble and is more economical in laying. It is laid directly over the dry boards, tacked only on the edges and given one coat of paint for ordinary uses (2 coats if unusual wear is counted on). You may depend upon it to wear longer, without ever buckling, cracking or leaking.

Write for Sample Book "N" giving Prices and laying instructions. See Sweet's Page 539

JOHN BOYLE & COMPANY, Inc.
112-114 Duane Street 70-72 Reade Street
New York City
Branch House: 202-204 Market St., St. Louis



Eight out of Ten Railroads entering New York, and many others use



- i.e.:
- Protection Brand Roofing** Mineral surfaced. Has 6-inch lap (Pat. Nov. 18-02). Laid with all nails covered. Joints absolutely tight.
 - Hudson Asphalt Shingles** Slate surfaced (Red or Green). Artistic, Durable, Economical.
 - Rockland Roofing** Mineral surfaced. Red, Green and Gray.
 - Arrow Brand Roofing** Sand or Gravel surfaced.
 - Hudson Brand Asphalt Felts** For sheathing buildings. For reinforcing Slate and Tile Roofs. Materials used by Railroads are very carefully selected for merit, quality and reputation for the service which they have given in the past. If you want samples of roofings and shingles which are reliable and which will protect as well as beautify the houses which you are building, just cut out this advertisement, write your name and address on the bottom lines, and send it to—

ASPHALT READY ROOFING CO.,
Room 453 9 Church St., NEW YORK

Name.....
Address.....

Put an X in the circle **O** opposite the materials which you are interested in.

Handles Easily

—saws clean and smooth, no shrinking or warping to allow for when you are nailing it on; does not crack or break like wood paneling; always lies flat and straight; these are some of the many strong features that our patented construction gives to—



Trademark Reg. No. 94745.

It's the "right-hand" material for any carpenter. There are 1001 jobs that can be done with Compo-Board more satisfactorily, quicker, and with less muss, fuss and worry.

But do not get the impression, as many folks have, that "Compo-Board" is a popular name for "wall board." Compo-Board is our trade-mark name for our distinctive kind of a wall board—the kind with our patented centre core of wood slats as illustrated in the border of this "ad."

The wood core is the feature that gives Compo-Board so many strong advantages over other kinds of wall boards and also the feature that makes Compo-Board so easily identified.

Sold by dealers everywhere in strips 4 feet wide and in lengths of one to 18 feet, as desired.

Write for interesting book and sample.

Northwestern Compo-Board Company

5777 Lyndale Ave., No. MINNEAPOLIS, MINN.



ASK THE MAN WHO KNOWS ROOFING

"Well Sir, my advice as to the best kind of covering is **CON-SER-TEX**"

"I've used it for roofings, porch-floors, sleeping verandas and bungalows. It gives continual satisfaction."

Con-ser-tex is a specially woven canvas roofing, chemically treated to preserve the fibre from mildew and the detrimental action of the oil in paint. It is water-proof, weather-proof, rot-proof and wear-proof.

- Costs very little.
- Is easy and inexpensive to lay.
- Makes a neat, smooth, durable surface.
- Will not leak, rot, stretch or shrink.

Better secure complete information and samples from

William L. Barrell Co., 8 Thomas St., New York

Chicago Distributors: Geo. B. Carpenter & Co., 430-40 Wells St.
California Distributors: Waterhouse & Price Co., Los Angeles.
The Pacific Building Material Co., San Francisco.



Use the Scientific Shingles On Every Job

The house-owner whose home has a Rex-tile roof will always be grateful to the carpenter and builder who recommended the scientific shingles and laid them.

They are weather and time proof. Nailed at the bottom through a turned-under fold, they can't flap, warp or curl. Rain-water can't seep under the edges.

Rex-tile
TRADE MARK

"The Scientific Shingle"

makes a handsomer roof than wooden shingles, slate or tile, and are more economical.

The color is a part of the shingle—will not fade. No painting necessary. Easy to handle. Light weight and smooth.

Rex-tile is an exclusive material sold at one price. Therefore you are not subjected to price-cutting, because the turn-under fold for nailing—at bottom—no flapping or warping—nails perfectly covered—is patented and exclusive.

Write today for free samples, prices, and full information.

Flintkote Manufacturing Co.

90 Pearl St., Boston, Mass
67 Beaver St., New York
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, piazza 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 construction will be followed from their respective sources until they are installed in proper place in the building.

The operation of quarries from which the stone and granite for the foundations and base of the building are taken will be portrayed; the rolling of steel be shown in the Pittsburgh steel mills; the beams loaded on cars ready for shipment, and at the building lifted and put in place as a part of the great skeleton. Huge trees will be shown felled in the forests of Austria, Africa and South America, and they will be followed through the saw mills, the cabinet shops of Hoggson Brothers, there to be made up into furniture and bank fixtures, and later fitted in as a part of the building. Terra cotta and brick for the exterior and the interior fireproofing will be shown cast and burned, and set in the growing edifice.

The spectacular casting and moulding of bronze will be reviewed, as will another visit to quarries for the marble to be used as the base of the counterscreen and for the wainscoting in the upper corridors. In European countries will be seen the weaving of floor coverings, fine hangings and draperies for the officers' quarters and reception room.

The average layman little realizes that there are more than fifty professions and trades called into action in a big building operation, and this film is intended to show the close co-operation and co-ordination of these branches of activities as they are brought together through the medium of the Hoggson Building Method, where all elements are united and under the control of one organization.

As the scenes in the picture shift from the office of the company to the mills and factories, working on their assignments simultaneously with the fourteen departments of the organization, and then to the growing building, the observer will feel the powerful master-hand of the organization directing all elements concerned with an efficiency only gained through supreme knowledge and thoroughness.

Finally will be shown the completed building, exterior and interior, the furniture in place to the smallest detail of ink well and waste paper basket; finished, ready for occupancy.



A Jimmy Proof Lock

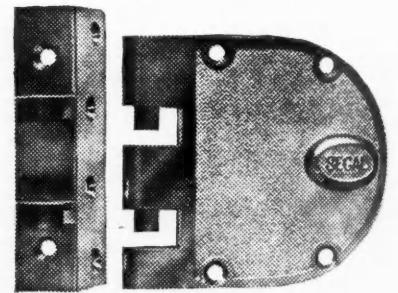
The distinguishing feature of this lock is that it operates vertically instead of horizontally. The ordinary lock can be opened if the bolt can be pried away from the socket for the smallest part of an inch; but the makers of this lock say that the hinge of the door is practically jimmy proof. This lock is therefore constructed on the principle of the hinge and the bolts move vertically when the door is locked. Any pressure which comes in between the door and the jamb makes this lock grip tighter.

As shown in the illustration, the bolts move thru a socket and into their casing on the other side. They are thus out of sight and out of reach of any instrument.

The locks are made of brass and can be easily fitted to any

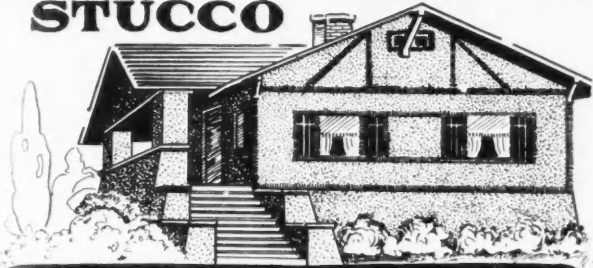
kind of door, either sliding or swinging. They are said to be attractively finished and will look well on any door. Further information on request.

The makers of this lock, the Burglar Proof Lock & Hardware Corp., 13 Park Row, New York City, have an attractive proposition for contractors and builders who will handle their lock. There should be good profits in this for progressive men. Complete details and descriptive matter can be secured from the above mentioned company.



The Segal Burglar Proof Lock

SAN-A-BESTOS STUCCO



Gives Your Buildings a Pleasing Distinctive Effect

San-A-Bestos Stucco has an individuality all of its own. It lends itself to the most artistic and pleasing finishes—finishes that are permanent, standing the test of time and requiring no painting.

San-A-Bestos possesses great tensile strength and is not affected by climatic conditions. It possesses flexibility that gives with settling or other disturbances, making cracking improbable. It is fire-proof and damp-proof. Give your customers better and more permanent finished buildings, it costs no more and helps you.

Responsible, Local Men Wanted

We also manufacture San-A-Bestos Composition Flooring, at a low cost. Flooring material the equal of tile, terrazzo or marble. Full information about San-A-Bestos Building Products is sent Free to all Builders who write for it.

FRANKLYN R. MULLER COMPANY
Waukegan, Illinois



Concrete has advantages which make it superior for building purposes. Finish it with

Bay State Brick and Cement Coating

and you knock out its only drawbacks—a tendency to absorb water and a dull blue-gray color. Bay State Coating weather-proofs concrete, stucco, cement and brick surfaces—thus prevents dampness and discoloration. "Bay State" also comes in white and a variety of attractive tints, making it possible to obtain rich, artistic effects.



Builders and architects everywhere endorse it. We'll send you A SAMPLE CAN, FREE, if you'll try it. When you write, say what tint and ask for Booklet 30.

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Paint and Varnish Makers
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New York Office:
Architects' Building

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GET BETTER ARCHITECTURAL EFFECTS AND SAVE REPAINTING AND REPAIR BILLS

"CREO-DIPT" STAINED SHINGLES

17 Grades

16, 18, 24-inch

30 Different Colors

We select best cedar shingles cut from live timber—no stumpage—no wedge shapes—and preserve them in creosote and stain them any color desired; best earth pigments and pure linseed oil—no aniline dyes or kerosene. They save all muss, waste and bother of staining on the job. They last twice as long as natural wood.

Good lumber dealers carry popular colors in stock for reshingling and general work.

Send for your book of "Creo-Dipt" Stained Shingled Homes today, sample of colors on wood and full particulars.

STANDARD STAINED SHINGLE CO., 1028 Oliver St., North Tonawanda, N. Y.
(Factory in Chicago for Western Trade)



They Come Stained
Ready-to-lay Without waste.

Of the Buildings Around You About 90% in Point of Numbers and 80% of the Value are Wood Construction

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Bulletin 10H

BOSTWICK TRUSS-LOOP METALLATH

Send for
Bulletin 10H

Is acknowledged by practical men everywhere as giving greater efficiency and lower finished cost than any other type
—Moral—Buy Bostwick Truss-Loop, the result will show in your bank account and with your satisfied customers.

The Bostwick Steel Lath Co.

Niles, Ohio

Foundations, Basement Walls, Concrete Floors, and Concrete Roof

Waterproofed with—



The new service station of the Atlantic Refining Co., Pittsburgh, Pa. (shown below), is thoroughly protected against seepage, dampness and all the damaging effects of moisture and water because of the architects' good judgment in specifying *Ceresit Waterproofing Compound*.

Ceresit Waterproofing Compound is a white plastic paste—does not color—easily applied—costs little. It guarantees sure, dependable, economical results on all concrete, cement and stucco work. Use it for making troughs, tanks and cisterns *absolutely water-tight*—on concrete silos for keeping the ensilage dry and fresh.

Ask for Advice

Our engineers are helping architects, builders and contractors every day in solving their waterproofing problems. Their information is often worth hundreds of dollars, but is offered to you *without charge*. No matter what it is that you do not understand about waterproofing, do not hesitate to ask us. *We'll be pleased to serve you.*

Write for full information.

Ceresit Waterproofing Co.

910 Westminster Building
Chicago



WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN CARPENTER AND BUILDER

A Money-Making Scheme for Builders

Many people are looking for some convenient arrangement to furnish hot water to the bathroom, where they have no water system. It is rather inconvenient to heat all the water that is needed in the tea kettle.

The Allen Manufacturing Co., 4228 Allen Building, Toledo, Ohio, have a proposition for builders and carpenters that is said to fill the bill for this purpose. They have letters showing that many of their agents have received handsome incomes through handling this device.

The arrangement is said to give all the conveniences of the modern bathroom with running hot and cold water. No plumbing is needed. The company reports that there are over 200,000 satisfied users of their device.

The accompanying illustration shows the appearance of the heater and the operation is very simple, as can be seen. Complete descriptions of the device and the proposition that is being offered can be obtained from the



Shower Bath Tray, Elevated Supply Tank, Piping and Brush (Enlarged Out of Scale to Show Construction).



Two New Millers Falls Hand Drills

Two most attractive and practical hand drills have been put upon the market by Millers Falls Co., of Millers Falls, Mass. One special feature is a chuck of new design that is compact and accurate in centering drills. It has three jaws each in its separate solid socket and opened by springs that are concealed and will not get out of order. Capacity is for round shanks from 0 to 3/16 inch in diameter. Another feature is the main handle which is of graceful and convenient shape. This is made from birch with deep mahogany stain and has screw cap and hollow receptacle containing eight wood boring points. Gears are cut, small ones being of steel and large gear white nicked. No. 104 drill has malleable iron frame and one small gear while No. 304 has solid steel frame with both working and idler small gears.



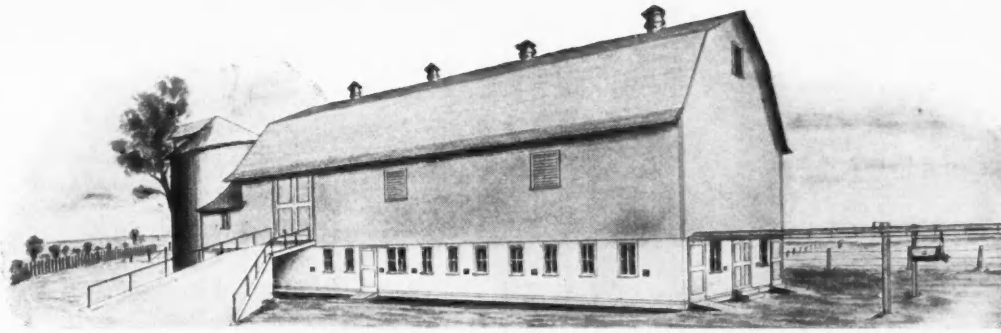
Both drills are attractively packed and boxes bear the striking new labels recently adopted by the Millers Falls Company. The simplicity of design of the two drills carries with it a moderate price.



Smith—Chicago Low Charging Mixers

For a great many years The T. L. Smith Company has endeavored to give the contracting trade machines which would take care of their work to the best advantage. Eight years ago they put out a low-charging mixer which was unique in design and construction. The vertical acting power charger was put on the market about that time, however, and was such a wonderful improvement over the loading methods of that day that the low charging device was side tracked. The present demand has brought about a revival of this machine and they have spent a good many months in designing, constructing and trying out the present type of machine.

This new type is built in four sizes, these four sizes being



CONTRACTORS-

Are you going to secure your share of the barn contracts to be awarded in the near future? You will agree with us that this work is of a profitable nature, and especially so in view of the assistance we offer. Our Free Service Bureau is maintained for the benefit of all those interested in better barn construction and equipment. Floor Plans are submitted without expense or obligation, and any additional information is promptly furnished upon application.

Porter Steel Stalls, Cow Stanchions, Litter Carriers, Barn Door Hangers, Hay Carriers, Forks, Hay Slings and other tools are acknowledged leaders everywhere.

Investigate and determine the prospective barn builders in the community, then call on us for any assistance relative to interior arrangement, construction, ventilation, etc., and see to what extent Porter Service serves.

New Barn Plan Booklet and complete catalog furnished upon receipt of your letter containing the names of parties who expect to build or remodel barns. **Write today and learn more about modern barns and equipment.**

J. E. PORTER COMPANY, 620 FREMONT ST., OTTAWA, ILLINOIS

CARPENTERS AND SHOP MEN—

RETAIL PRICES

Stationary Engines

2 H-P.,	\$ 35.10
3 H-P.,	52.65
4 H-P.,	70.20
6 H-P.,	100.00
8 H-P.,	140.40
12 H-P.,	210.90

Portable Engines

2 H-P.,	\$ 40.15
3 H-P.,	60.75
4 H-P.,	83.35
6 H-P.,	130.00
8 H-P.,	176.80
12 H-P.,	248.00

Engine Saw-Rigs

4 H-P.,	\$128.25
6 H-P.,	155.90
8 H-P.,	205.00
12 H-P.,	272.50

(F. O. B. Factory)

5 YEAR

GUARANTY

Here is a fast seller at the retail prices shown at the left. Our liberal dealer's discounts from these prices make you a good profit. Complete line of sizes and styles as here listed. With this agency, you can do the engine business of your trade territory. Write us now while your territory may still be open.

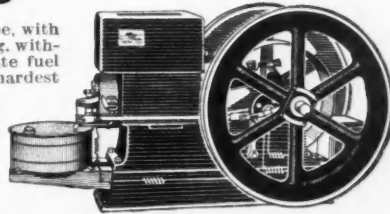
***Meco* ENGINES**
Gasoline, Kerosene & Gas

Through and through high quality. Center-firing, valve-in-head type, with automobile style ignition. Safety spark-shift for easy and safe starting, without cranking. Best of materials and workmanship, with up-to-date fuel saving design of engine. Simple to operate, and durable under the hardest wear, giving even speed and continuous power.

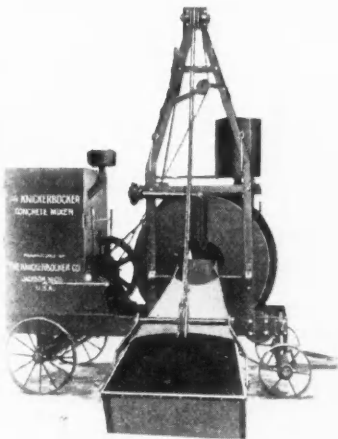
Sold on Trial Every engine fully guaranteed for durability, capacity and all around efficiency. Write for our dealer's proposition under which you can handle this line without risk under our buy-back-in-90-days' selling plan. Let us show you the profit in this agency.

Manufacturers Engine Co. 1629 Crystal Avenue
Kansas City, Mo.

**Sell
This
Engine!**



SUCCESSFUL CONTRACTORS INVARIABLY USE GOOD EQUIPMENT

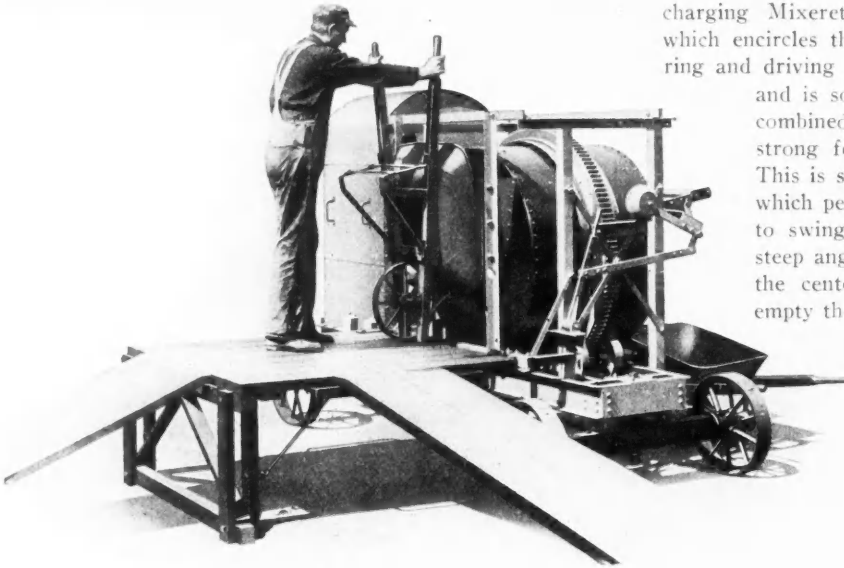


The quick, clean discharge of materials from the loading-skip and the fast delivery of concrete from the drum are making a splendid reputation for the "KNICKERBOCKER" MIXER as a money maker. It means many dollars saved every day to have a rapid working mixer that is **built to stand up and keep ahead of the game.**

We will be glad to mail you a catalog.

The Knickerbocker Company

Jackson, Mich.



Charging the Smith-Chicago Low-Charging Mixer.

under the head of Smith-Chicago low charging mixers. The smallest size is the 3-foot low charging Mixerette. This is an adaptation of their well known Mixerette, the low charging platform taking the place of either the gated batch hopper or the gear driven power charger. The other three sizes, the 4-foot, 6-foot and 9-foot mixers, are constructed along the lines of their standard Smith-Chicago mixers, with the addition of the low charging feature.

A great deal could be said about the talking points of the two types of low charging mixers. For example, the low

charging Mixerette retains the famous dust-proof casing which encircles the drum, completely enclosing the big gear ring and driving pinion. This machine is an all-steel mixer and is so designed and constructed that lightness is combined with durability. Another of its very strong features is the exceedingly rapid discharge. This is secured by means of the concave drum head which permits the long, steep-angled discharge chute to swing way into the drum, and still maintain a steep angle. It actually penetrates the drum beyond the center so that as the deep scoop-like blades empty the materials every particle is caught and discharged with great rapidity.

The big vital feature of this machine, however, is the low charging device. This device is practically the same general design on all four sizes. It differs only in the size of the opening in the drum and the actual loading height of the platform. In the Smith Mixerette the loading platform is only 18 inches high. It is a very easy matter, therefore, to run the barrows up a short plank to the low platform where they are up-ended and emptied directly into the drum. In order to accomplish this the feed end of the drum is left almost entirely open. A narrow hopper is added so that, as a wheelbarrow is up-ended, it fits right into the hopper and empties its contents directly into the drum.

One of the hardest points to overcome in building a machine of this type has been to eliminate splashing. The Mixerette is absolutely guaranteed by the makers against splashing. This result was secured by increasing the width

KEEP YOUR MEN BUSY THIS WINTER AT A BIG PROFIT TO YOU



THERE IS A
BIG PROFIT TO
YOU in SELLING
AND LAYING
"SANTILITE
COMPOSITION
FLOORING"
IN THE DULL
WINTER
MONTHS

As you know, "SANTILITE COMPOSITION FLOORING" is laid just like plaster $\frac{1}{4}$ of an inch thick on any sub-floor of wood or cement—sets in 6 to 8 hours into a smooth, jointless, absolutely sanitary surface, without cracks to collect dirt, germs and filth—absolutely no trouble to keep clean—never grows dusty regardless of wear—extremely easy to stand and walk upon—fire will not burn it—water will not soak it—of permanent, pleasing appearance—never requires painting and will last the life of the building.

"SANTILITE" is the ideal floor in the home for the kitchen, pantry, bath or any room where a sanitary, dustless floor is wanted. It is extensively used in the factory for offices, halls, lockers, toilets; and the store, restaurant, cafe, public, semi-public buildings. In areas subjected to heavy wear, where a pleasing appearance, durability and absolute sanitation are required.

There are many masons, building and cement contractors who are making big profits in selling and laying "SANTILITE." It enlarges that branch of your business where there is an ever increasing demand—every home with a wooden bath room or kitchen floor needs it—every public place that has lots of wear must have it. You will find that there is little competition in your own locality, and it is especially attractive for it keeps your men profitably busy during the closed or Winter Season.

Write for samples, illustrated instructions for laying "SANTILITE," and our proposition to make your winter's work profitable.

SANITARY COMPOSITION FLOOR CO.
131 Plum St. SYRACUSE, N. Y.

LORENZEN— Tiles and Mosaics

Write

For Bathrooms, Kitchens, Hall-rooms, etc.

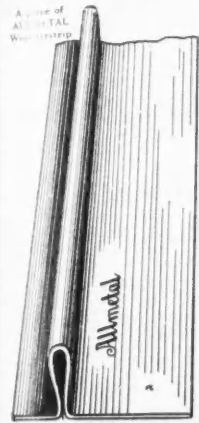
We carry a most complete line of Ceramic Mosaic Floor Tile and Sanitary Glazed Wall Tile for every purpose. Our designs are unusually artistic and correctly executed. The quality is *Lorenzen*—the best guarantee a builder can get. You can depend upon our prices being *right*.

Let us estimate on your next job or furnish you with an original design. At any rate, write for our Catalog No. 51 on Tiles and Mosaics. A postal will bring it and it is invaluable for your files.

Our large Catalog, "Vogue in Fire Places," the most comprehensive and complete catalog ever issued on fireplaces, should also be in your files. Write for it when building.

Chas. F. Lorenzen & Co.
103 N. Clark St. CHICAGO

Costs but a few cents a foot



There is nothing complicated about Metal Weatherstrip

Old, shrunken, warped and out-of-square openings of every kind made dust and draft-proof.

EASIER TO INSTALL. This pattern is used more than all others combined.

EASIER TO SELL. This kind made metal weatherstripping a business.

ASK ANY ARCHITECT. Noiseless, easy-running, non-rattling sash; better than storm sash; absolutely permanent; sash instantly removable for repairs; coal saving pays the cost; solid comfort with a smaller heating plant.

ARE YOU THE MAN? We guarantee a money-making business for a live carpenter or builder who will follow our selling plan.

Answer Quick to Make Biggest Profits this Fall and Winter

Metal Weatherstrip Co. 226 West Madison St., Chicago, Ill.

AGENTS! 500% PROFIT

\$25.00 to \$50.00 a week that's what our agents are making selling our new metallic sign letters for office windows, store windows and glass signs. For a quick, easy money making proposition for agents, salesmen and sign painters, there is nothing to equal the selling and putting up of our new metallic letters and numbers. There is no experience necessary to put up these signs. Anyone can succeed and make money right from the start. We will send you full particulars and you will see how easy it is to make money in this business. One agent says: "Have already put up 14 signs in this little burg and more in sight. Your letters are the best thing I have seen in years. Will soon be in a position to buy in 5000 lots." Another says: "I am getting all the work I can do and the letters have given entire satisfaction everywhere." We are daily receiving such letters from agents who have started in the sign letter business. This is the only field that is not overcrowded. There is a big demand for window and glass signs in every town. You can sell to nearby trade or travel from town to town all over the country as you please. We would be pleased to send you a free sample and full particulars.

Write Today. Address

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BUILD YOUR OWN Grandfather's Clocks WITH OUR HELP

With the blue prints, instructions, finishing material, etc., we furnish, any handy man can build his own Grandfather's Clock. We sell you the works, dial, weights, pendulum, and everything you need at prices so low as to surprise you.

Works complete, \$5.00 each; others with chimes, all prices.

Here's winter work you can turn to good profit. Make duplicates for your friends. Our designs are clear cut, attractive and salable.

Write for our free offer on the drawings, etc.

Clock Company
1655 Ruffner St. Philadelphia, Pa.

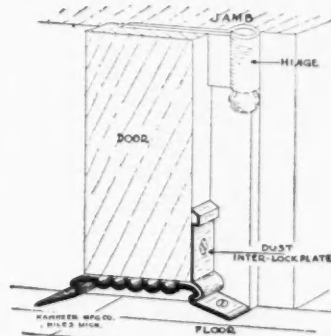


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HAS EXCLUSIVE FEATURES OF IT'S OWN
LARGEST MOST COMPLETE LINE IN U. S. A.
REDUCES FUEL BILLS 20 TO 40%
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SEND FOR OUR NEW BOOKLET

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DIAMOND METAL WEATHER STRIPS
THE DIAMOND-METAL-STAMPING COMPANY
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A New KAWNEER Threshold

Made of only solid, heavy gauge brass.
Dust and cold air proof.
Made in two sizes.
Easily installed and adjusted for door settlement.
Combination threshold and weather strip.
Low price, considering the length of its life and usefulness.

Orders can be filled immediately. Complete with weather strip and necessary screws for installing.

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Kawneer Manufacturing Co.
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Makers of **Kawneer** STORE FRONTS

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Say SIMONDS and stick to it



Don't let Your Dealer offer you some other saw when you ask for SIMONDS (Say it SI-MONDS)

When you ask for SIMONDS—get it. Don't let the Dealer convince you that he has a better saw, because better saws are not made than SIMONDS.

Our Warranty Your Protection

Every SIMONDS Saw made carries our Warranty of Quality, Temper and Workmanship.

SIMONDS Saws hold their edge longest and cut faster and are light-running. They have a hang that pleases every carpenter and that will not tire the wrist. Handles are made of selected applewood nicely carved and polished. Brass screws are used that grip the blade and hold it firmly and in the correct position.

A Popular Model



No. 62 Simonds Blue Ribbon Saw. Price \$2.50

Now to get back to our first thought. If your Dealer hasn't got this SIMONDS Saw, don't be persuaded to try some other. Just send the price to us and we'll ship it express paid. State whether 24 or 26 in. is wanted and what point.

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is a handy reference book containing everything you've always wanted to remember. We'll gladly send you a Copy FREE.

SIMONDS MFG. CO.

"The Saw Makers"

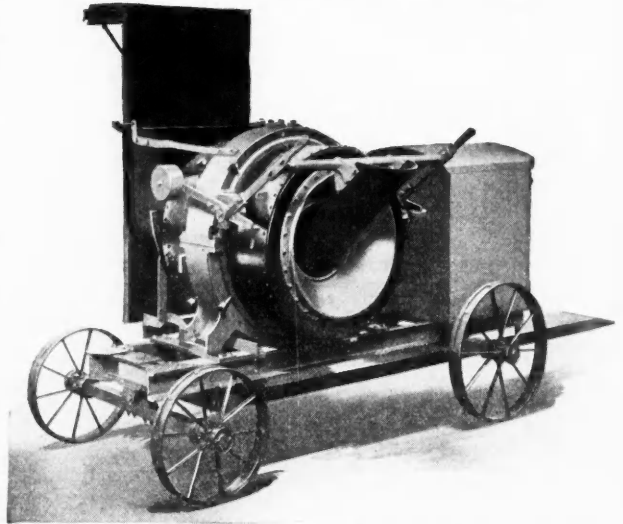
Fitchburg,

Mass.

Five Factories

Eleven Branches

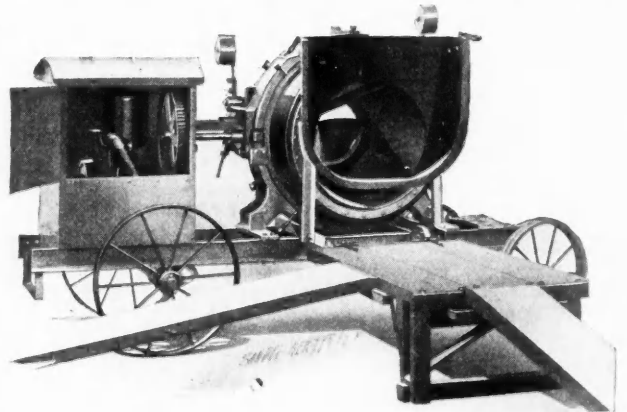
of the drum and adding a short wing on the feed side of the blades. This wing gathers the materials as they are emptied into the drum, and works them over to the center of the drum into the deep scoop-like blades, which are used in all Smith-Chicago mixers. These blades are raised slightly above the interior surface of the drum so that there are no cor-



Charging Platform Raised for Moving. View of Discharging Side.

ners for the materials to lodge in. In other words, there can be absolutely no splashing, nor can the drum clog up. It will clean itself perfectly if given ordinary care and attention.

Smith-Chicago low charger mixers were designed and built with a view to supplying an enormous trade. This has enabled them to put a price upon these machines which brings them within reach of everyone. The larger contractors will find that it pays them to add one of these machines to their equipment as they will not have to invest much money and at the same time they will have a machine which can



View of Charging Side of New Low-Charging Smith-Chicago Mixer.

be used for a great many different classes of work. The price of the smaller machine is within reach of every contractor, even the beginner in the business. These machines are particularly fitted for those contractors who are just breaking into concrete work. They are very simple in construction, easily operated, light and portable.

The T. L. Smith Company, 3120-A Hadley St., will be very glad to mail copies of the new circular illustrating and describing these machines, to anyone who is interested. This circular will be forwarded without placing the receiver under any obligation whatever.

Estimating and Contracting

FREE
With One Year's
Subscription if
Ordered at Once

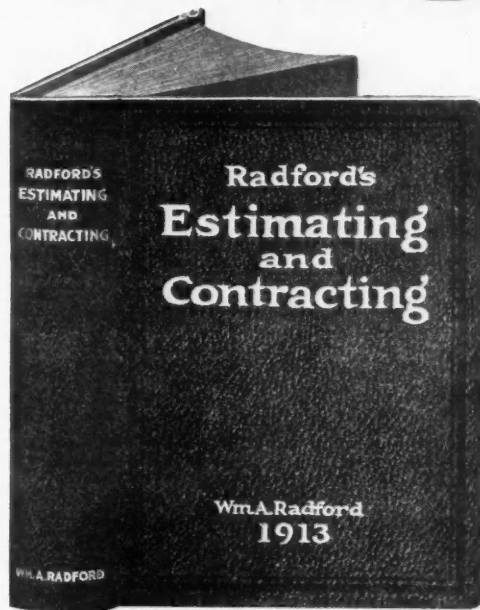
A mistake in estimating means the difference between a profit or a loss on a contract. In these days of modern construction, it is not safe to guess or go by "rule of thumb." Even experienced contractors who rely upon eyesight or rough calculations make costly errors.

It is mighty easy to overlook some important detail if it is not down in black and white. Jobs are lost because of too high prices. Profits are lost because prices are too low. Be on safe ground; have a reliable, accurate guide to help you in your figuring.

**Newest, Largest,
Most Complete Estimating Book
900 PAGES
Bound in Limp Fabrikoid Leather**

"Estimating and Contracting" is a big, practical, up-to-the-minute book for the lumberman, contractor, builder, cement user, carpenter, sidewalk and paving man, architect, draftsman, plumber, painter and plasterer, as well as all other men whose work is in the building or construction field. Even the home owner can use it to excellent advantage in checking the costs of his home or its fixtures.

Nothing is omitted that will help and guide in the construction of residences, public and private buildings of all descriptions, paving, bridge-work, engineering and all kinds of large or small jobs. It is the largest, newest, most complete work on the subjects it is designed to cover, and no other book like it has ever before been published. It can be accepted as thoroughly dependable in the accuracy of its information.



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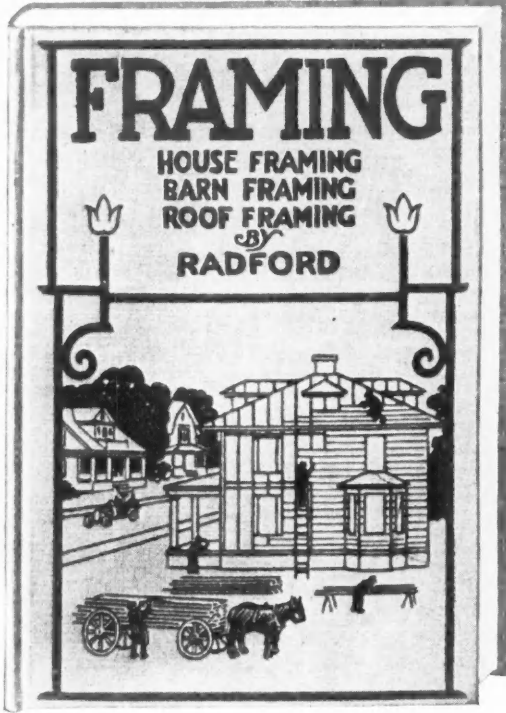
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Practical information is the keynote of "Framing." By practical, we mean information that can be successfully applied to the everyday work of the average carpenter, builder and contractor, as well as the more intricate forms of framing that come less often, but about which it is necessary to be fully posted. The book presents problems as they have been worked out by well-known architects and the man on the job.

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Part I. Framing for all Types of Houses

- Chapter 1. Ordinary Frame Houses—Framing complete, from foundation to roof
- Chapter 2. Roof Framing Simplified
- Chapter 3. Stair Building Simplified
- Chapter 4. Cement Plastered and English Half-Timber Houses
- Chapter 5. Wood Framing for brick veneer houses
- Chapter 6. Wood Framing for stone and brick houses

Part II. Barn Framing Complete

- Chapter 1. Heavy Timber Barns
- Chapter 2. Plank Framing
- Chapter 3. Balloon or Self-Supporting Construction

Part III. Framing of Factories, Stores and Public Buildings

- Chapter 1. Mill Construction
- Chapter 2. Wood Trusses of all kinds
- Chapter 3. Architectural Framing as in churches, gymnasiums, halls, etc.

Part IV. Miscellaneous Framing

- Chapter 1. Scaffolding and Shoring
- Chapter 2. Wooden Bridges
- Chapter 3. False Work for Concrete

Part V. Useful Tables and Data

Part VI. Dictionary of Terms and Index

All terms used in framing, building construction and architecture defined and explained, with cross reference to full discussion in body of book

This book contains the boiled-down essence of all the accurate information on the subject of "Framing" possible to obtain; indispensable to the man who in any way has anything to do with construction.

Wm. A. Radford, editor-in-chief of the American Carpenter and Builder; editor-in-chief of the Cement World, author of "Practical Carpentry," "Steel Square and Its Uses," "Cement Houses and How to Build Them," and other well-known and popular building books, is the author of "Framing." It is one of the best, most complete and most instructive building books ever written by him. It deals with the subject of "Framing" 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.

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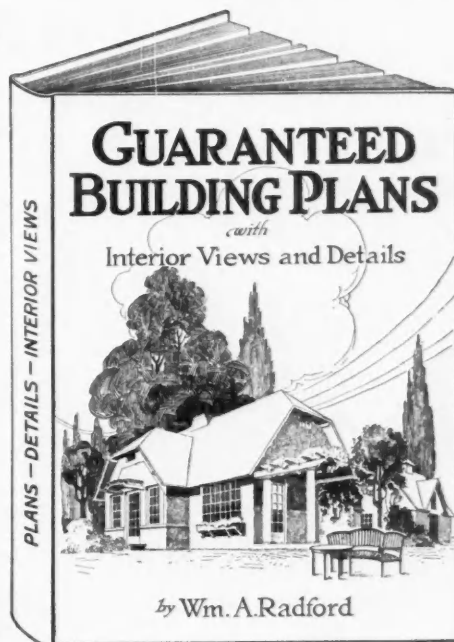
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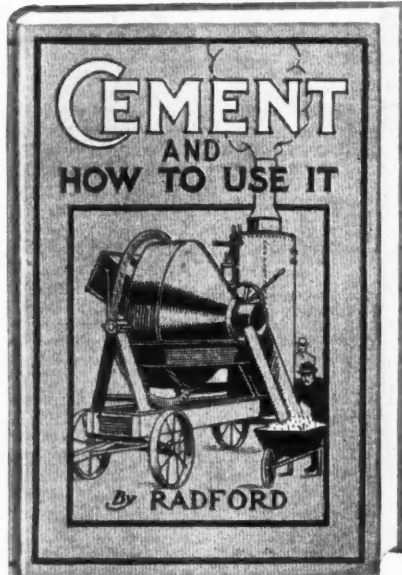
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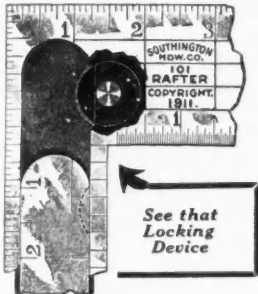
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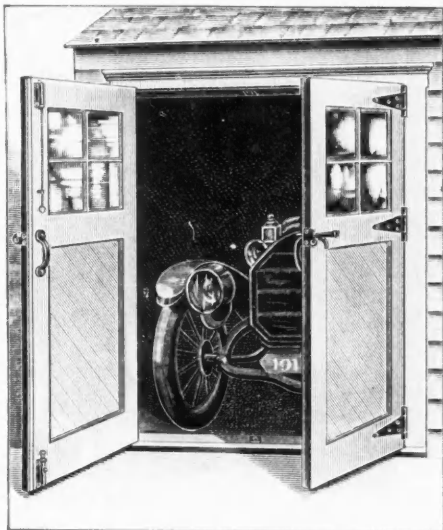
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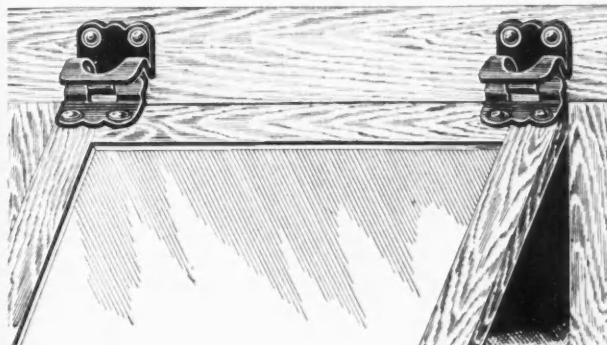
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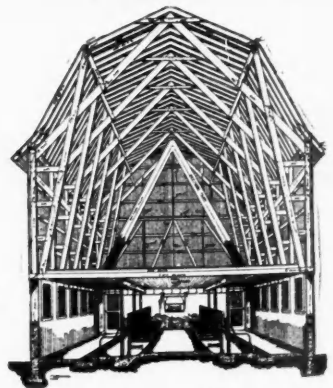
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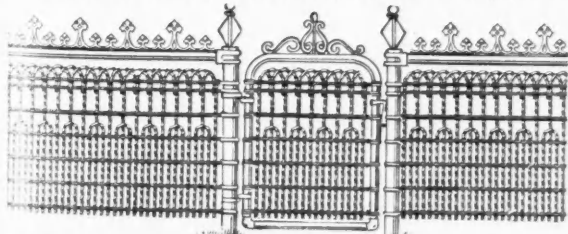


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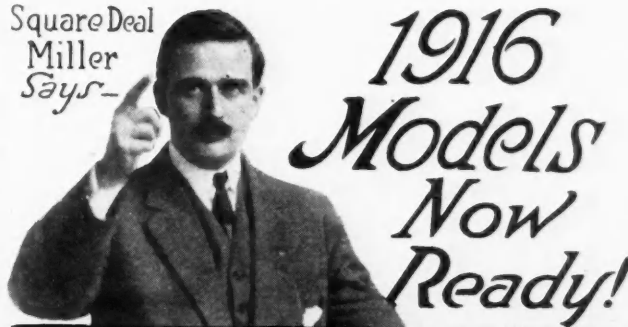
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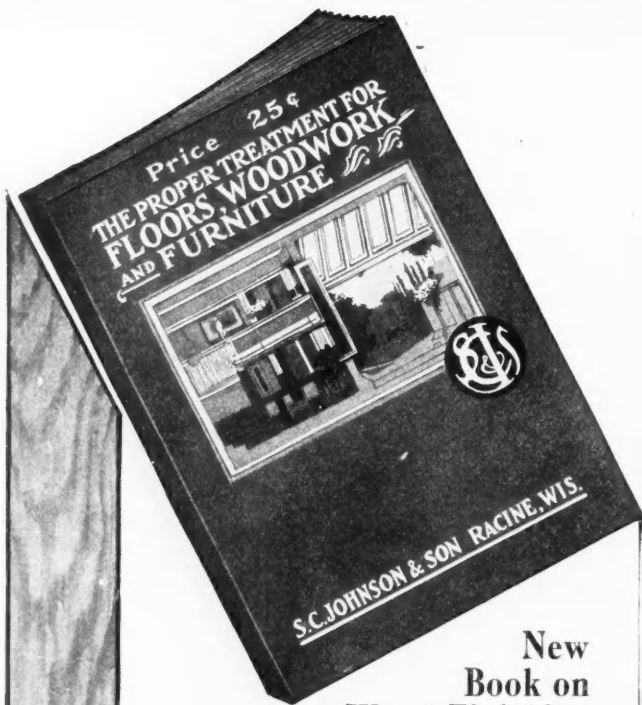
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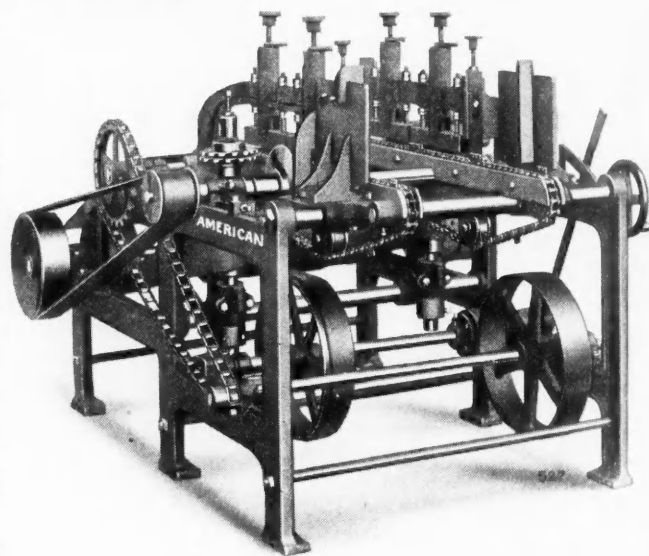
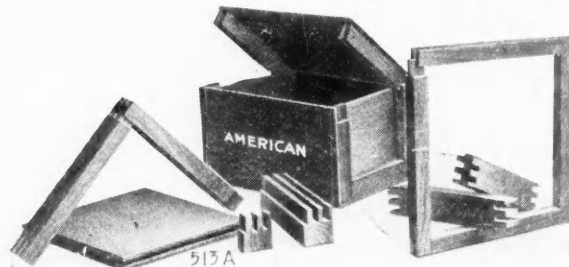
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(Trade Notes Department continued to page 144.)

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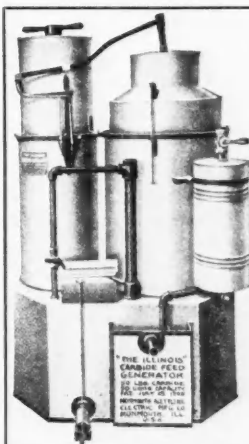
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Illinois and Monmouth Pit Generators

represent the pinnacle of Perfection in Lighting Systems. Their convenience and fine lighting facilities are appreciated by every rural resident. They are very easy to sell and yield you a handsome profit.

We give Carpenters and Builders special Prices and Discounts and help them close sales by sending all prospects, handsome booklets and literature showing the desirability of our Generators.

Simply send us the names of persons who might be interested; we'll work together and you act as our direct agent installing and selling them. In the meantime learn more about Illinois and Monmouth Generators by reading over our Catalogue and Proposition—Write

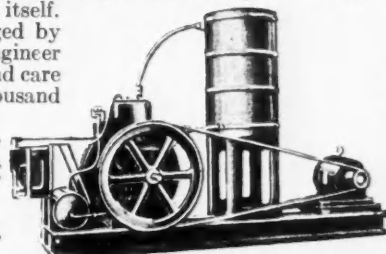
Monmouth Acetylene-Electric Manufacturing Co.
Dept. AB. MONMOUTH, ILL.

You simply switch
on the light!



The Bruston Automatic Electric Light Plant for

Country Homes, Churches, Hotels, Institutions, Small Towns, etc. Absolutely automatic—starts and stops itself. Generates current at $\frac{1}{3}$ the cost charged by public lighting corporations. No engineer and no large battery needed. Labor and care almost entirely eliminated. Over a thousand in successful operation.



Big Opportunity for Builders Carpenters and Builders in small towns and country districts can easily sell and install the Bruston plant at a good profit. We have a special proposition for builders—get in touch with us at once. Write for catalogue and further particulars.

Bruston Automatic Electric Lighting & Power Co., Inc., 126 Liberty St., New York City, N.Y.

100 LBS.



IN GRAY DRUMS WITH BLUE BANDS

HOME MADE ACETYLENE

Safest Light and Cooking Fuel

Insurance Records Prove It!

Insurance records show this—the misuse and abuse of city gas, kerosene and gasoline caused over 100,000 fires in six months. While the misuse and abuse of acetylene caused but four fires during the same period. And there are over a quarter of a million Country-Home-Acetylene-Plants in use. A mighty fine showing for acetylene.

A hundred feet of acetylene makes more light than a thousand feet of city gas. For this reason acetylene light burners have small openings—so small that not enough gas could escape from an open burner—in a whole day—to do any harm whatever.

Our advertising literature tells all about the best way to make acetylene for country home use, and how it is used extensively for cooking as well as lighting. Just address—

UNION CARBIDE SALES COMPANY

Dept. 9, 42nd St. Building, NEW YORK, or Peoples Gas Bldg., CHICAGO, ILL.

Write for the special proposition to Carpenters and Builders

Also, acetylene gas is not poisonous to breathe—you would suffer no harm in sleeping under an open unlighted burner. Also, acetylene burns with no odor whatever—but acetylene from an unlighted burner has a strong pungent odor which immediately attracts attention.

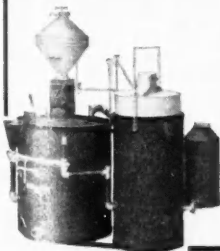
Also, acetylene lights are permanently fastened to walls and ceilings—they cannot be tipped over.

Also, the acetylene producing stone, Union Carbide, won't burn and can't explode.

For these reasons insurance authorities have pronounced acetylene safer than illuminants it is displacing.

Lighting and Cooking for Country Homes

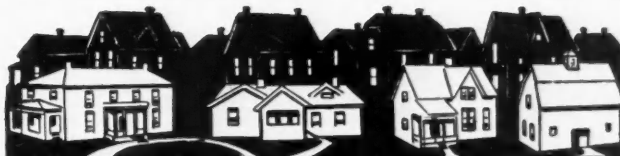
SUNLIGHT GAS MACHINES



Are the oldest reliable acetylene generators in the world. No clock work. No complicated parts. Perfectly automatic. Guaranteed.

All leading contractors recommend SUNLIGHT machines. It pays to do so. Why not make from \$1,000 to \$5,000 a year in deals you can close if you try? Others do, why not you? We will help you. Write Dept. K.

THE SUNLIGHT GAS MACHINE CO.
52 Vanderbilt Ave. New York City
Opposite Grand Central Depot



How to Get Lumber at Mill Prices

We ship direct to you from our Yellow Pine Mills or from our St. Louis Yard at lowest wholesale prices. We carry in stock over 25,000,000 feet of dry, bright lumber and the capacity of our mills is over 75 million annually.

Contractors: We can furnish HOME BUILDERS promptly. lumber for building of every character. Special bills cut to order. Low prices quoted on millwork, asphalt roofing and superior wall board. Contractors and home builders write us for delivered prices.

Catalog Sent FREE!

Send for our Special No. 3 Millwork catalog. The only one that gives the exact cost of millwork laid down to your station. Also our up-to-date Lumber catalog. Don't delay.

HOME LUMBER & SUPPLY CO.

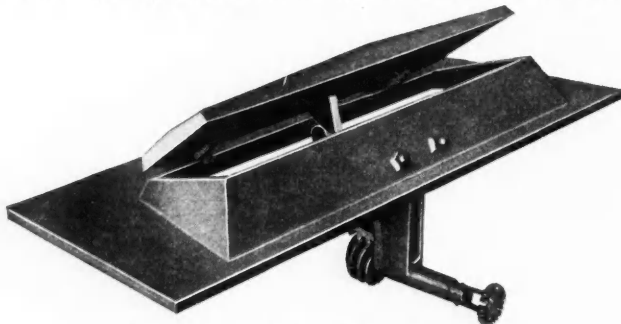
11 South La Salle Street Dept. 6083 Chicago, Ill.

They Insure Smokeless Fireplaces

Few homes of any importance are built nowadays that do not have at least one fireplace. Some of the more elaborate homes have five or six.

There was a time when fireplaces were put in largely for artistic effect and builders did not give particular attention to proportions, shape, arrangements to regulate draft, etc. Today, actual service is required of fireplaces and builders should know how to install fireplaces that will give out the maximum heat with the least smoke and the best regulation of the fire.

Nothing is more important to a fireplace than a properly constructed dome damper. Without a damper, vast quantities of fuel are used without getting benefit of the heat. When a poorly constructed damper is used, there is consid-



The Stover Fireplace Dome Damper.

erable trouble putting in the damper and more trouble utilizing the heat without being smoked out of the house.

The Stover dome damper shown here, is one of the most modern and improved types on the market. It is so constructed that when the brickwork is built the right height, the damper can be set in place, and the remaining brickwork

completed without further interference, as the lever that operates the cover extends out below the brick. These dampers can be furnished with or without cast angle for supporting the brick across the opening. The mechanism is such that the cover cannot open or close except as it is operated by the lever. The flanges at the side of the dome are wide and allow contractors to give the sides of the fireplace any angle they desire. The castings are extra strong. Aside from fireplace dampers, the manufacturers, the Stover Manufacturing Company, of Freeport, Ill., also make a large line of fixtures including cleanout doors, ash trap doors, chimney thimbles, brass thresholds, andirons, fire baskets, fire sets, fire screens, spark guards, gas logs, and such items as screen door double-acting hinges, stove pipe registers, sink brackets, etc.

Those interested should write to the company for further information.



New Superintendent of Original Gas Engine Company

Mr. A. D. Wilkins has accepted the position of Superintendent of the Original Gas Engine Company and the Ideal Power Lawn Mower Company. Mr. R. E. Olds is chairman of both these concerns.

Mr. Wilkins has been in the gas engine business for over twenty years. He received his first experience with the Olds Gas Engine Company, and from there he went to the New Way Motor Company as Superintendent. For the past five years Mr. Wilkins has been Division Superintendent of the Reo Motor Car Company, of Lansing, Michigan. In all his work he has been connected with Mr. R. E. Olds, pioneer gasoline engine and motor car builder.

The Original Gas Engine Company is located at 630 Kalamazoo St., Lansing, Michigan.

**Plenty of Work This Winter—
If You Own a**

BERLIN

Portable Woodworking Mill

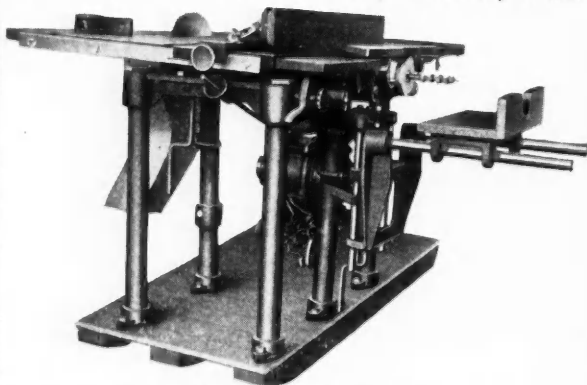
A man with this valuable piece of equipment can do any number of things during the slack season. He can make all sorts of interior improvements—such as built-in side-boards, medicine cabinets, stair work and cabinet work. He can also be getting ready for next year—making sash and doors, exterior and interior trim, etc. Many Builders have paid for this machine and made a handsome profit, too, during the winter season.

A Machine for all Purposes

The BERLIN heavy duty Portable Saw Rig consists of a Rip Saw, Cross Cut Saw, Dado Saw, Grooving Machine, Jointer, Jig Saw, Boring Machine, Sander and Emery Wheel. It comes equipped with either a gasoline engine or electric motor mounted on its own base. It is easily moved from job to job and is strong and rigid. Guaranteed for two years.

Write for Details and Full Information Today

SCHAEFER MFG. CO., Berlin, Wis.



\$1200 IN CASH

Made, Paid, Banked in 30 days, by STONEMAN—\$15000.00 To Date

This offer is open to you—this money—the cold cash—can be yours. You need you alone by waiting too long can lose it. Investigate today—get the proof, send your name and address—but NO MONEY—this very minute.

\$1000.00 PER MAN PER COUNTY

Experience unnecessary—business supplies the capital. Payments start the first day—and continue daily up to \$1000.00 per month per county. For years we have been quietly picking men from all walks of life, carpenters, ministers, clerks, farmers, doctors, lawyers, teachers and so on—enabling them with our help and \$50,000.00 appropriation to get what we here offer for you—\$1000.00 per man, per county. Some of these men you may have envied without knowing the reason of their prosperity.



INVESTIGATE AND BE AMAZED

Demand absolute proof—accept no other kind. Either we have the best thing that ever happened or we're colossal liars. Ask Schleicher, minister, whether it's true that he received

\$195.00 TWELVE HOURS AFTER APPOINTMENT:

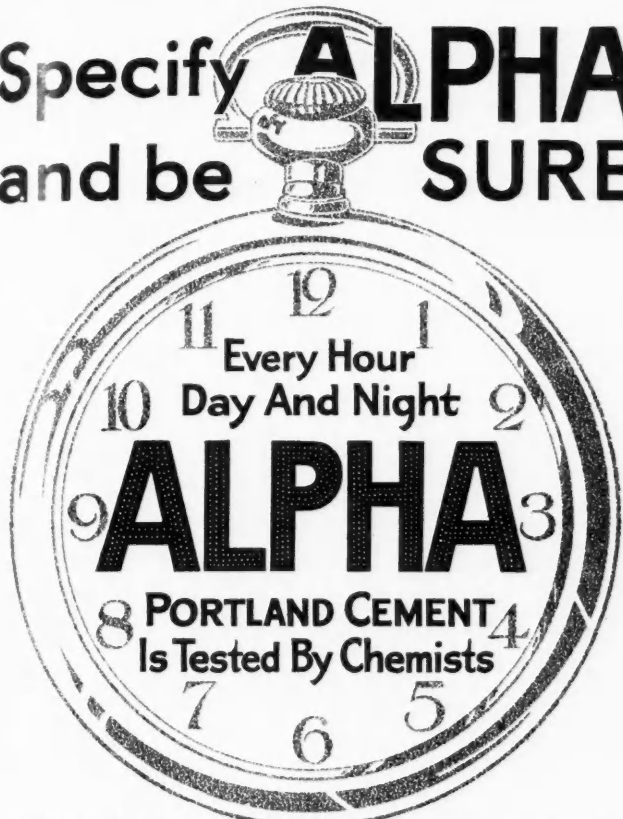
Langley, livaryman, \$115 first day; Rasp, agent, \$1685 in 73 days; Beem, solicitor, \$164.25 weekly for 12 weeks; Korstad, farmer, \$2212 in a few weeks; Zimmerman, farmer, \$3856 in 30 days; Juell, clerk, \$6800; Hart, farmer, \$5000; Wilson, cashier, \$3000 in 30 days. Let us refer you to those men, to the U. S. government, to banks, business houses, noted people. Heed this caution from Chas. Starr, of Mich. "Sorry this field is closed. Should have acted sooner but was skeptical. Your local man's great success has set everybody talking and proves I was a chump. Wonderful what a man can do with a real opportunity." Then read this from Lodewick who acted quickly: "Lucky I answered ad. It's great. Money coming fast." Which will you be, Starr, a victim of "neglected opportunities" or Lodewick, the early bird? Avoid regret, send a postal this very minute.

SPEND 1 CENT TO MAKE THOUSANDS Strange invention starts world. Gives every home that long-desired blessing, a modern bathroom with hot and cold running water facilities for only \$6.50. No plumbing—no water works—self-heating. Only ten minutes to install. Gives cleansing plus friction, massage and shower baths in every room. Equivalent to any \$200 bathroom. Over 200,000 delighted users. Used by U. S. government.

More remarkable than this invention is our startling plan of universal distribution through special representatives who virtually become profit sharing partners in a business that's immense—exciting—fascinating—and above all, has enabled them, will enable you, to get \$1000.00 per month per county. Asking to be shown doesn't obligate you one bit. Investigate today by all means.

ALLEN MANUFACTURING CO., 4228 ALLEN BLDG., TOLEDO, O.

Specify **ALPHA**
and be **SURE**

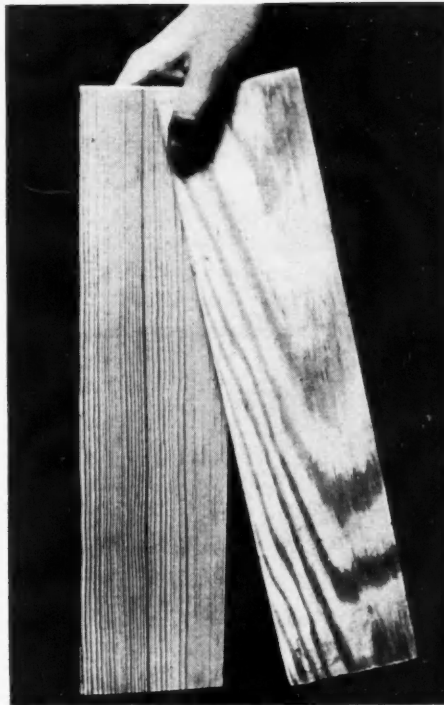


ALPHA PORTLAND CEMENT CO., General Offices: EASTON, PA.

Sales Offices:

New York	Hudson Terminal	Boston	Board of Trade
Boston	Board of Trade	Buffalo	Builders' Exchange
Philadelphia	Harrison Bldg.	Baltimore	Builders' Exchange
Pittsburgh	Oliver Bldg.	Savannah	Nat. Bank Bldg.

At Our Expense



"EDGE GRAIN" (Quarter-Sawn) "FLAT GRAIN"

**TRY YOUR TOOLS ON
Arkansas Soft Pine**

Find out for yourself, Mr. Carpenter, that this superior wood is—

- Soft—Light—Won't Split*
- Non-Resinous—Easily Worked*
- Easy on Edged Tools*
- Easy on Your Own Temper*
- Has a Satin-like Surface*
- Holds Stains, Paint and Enamel Permanently.*

We will send you *free*, a pair of these samples as photographed above (3½" x 16"), dressed four sides, but otherwise untreated—

Try Them Out on Your Own Work Bench in Your Own Way

Fill Out the Coupon Now

Arkansas Soft Pine Bureau,
Little Rock, Ark.

Gentlemen: Send me samples as per your free offer in *American Carpenter and Builder* for November.

Name

St. No.

Town

State

**ARKANSAS
SOFT PINE
BUREAU**

Little Rock,
Arkansas



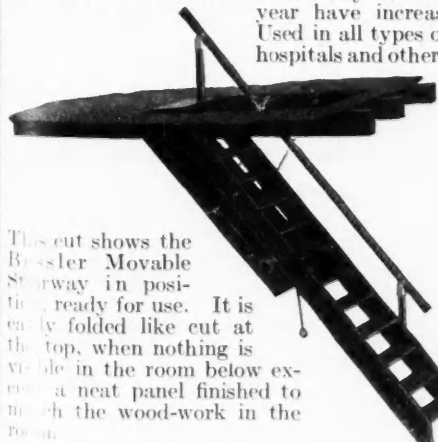
The Bessler Movable Stairway
When Folded

A Practical Stairway

Designed by a **PRACTICAL** Builder for the **PRACTICAL** Purposes of Saving Space and adding convenience.

The Bessler Movable Stairway was designed to replace the stationary stairway leading to upper rooms where the space in the room below is valuable—and where is this not the case?

That it is successful is attested by the fact, that sales this year have increased over 500%. Used in all types of homes, schools, hospitals and other public buildings.



This cut shows the Bessler Movable Stairway in position, ready for use. It is easily folded like cut at the top, when nothing is visible in the room below except a neat panel finished to match the wood-work in the room.

Write us for our booklet explaining the stairway in detail.

**The
Bessler
Movable
Stairway
Company**

Akron, Ohio

Increased Sales of Bessler Movable Stairways Reported

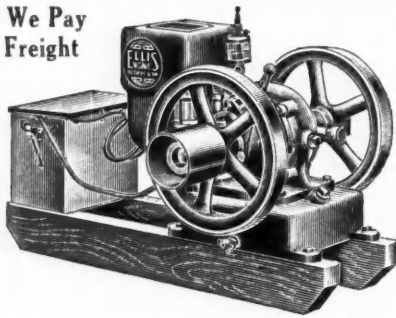
Very optimistic reports reach us concerning the activities of the Bessler movable stairway. Mr. Frank E. Bessler, the company's president, who is also the inventor of the stairway, says that sales this season have increased more than 500 per cent. He gives as a reason that the stairway is becoming better known by architects, contractors and home builders. One of the most encouraging indications of the future growth of the company, Mr. Bessler pointed out, is that invariably when a stairway is shipped into a community, other orders follow. To use a time-worn phrase, the stairway "must be seen to be appreciated." "People like to 'show off' something new in their homes," Mr. Bessler stated. "The Bessler movable stairway is so simple and yet so practical, convenient and I might say indispensable, that it cannot fail to make a strong impression on the observer. If there is an unused

attic in his home, or if he is contemplating the erection of a new home, the result is another Bessler stairway is sold."

The Bessler Stairway has long ago passed from the experimental stage and is now an assured success. It has been specified and endorsed by some of the country's leading architects. Its use extends from the humble bungalow to imposing mansions. During the past year the stairway has been installed in schools, hospitals and other public buildings. In each case a searching preliminary investigation was made, and in each case the architect specified it.

A few words of description would not be amiss here. Briefly, the stairway is intended to replace the stationary type leading to loft, attics or any upper room where a stationary stairway would use up valuable floor space in the room below. When in position for use, the stairway slopes up on any easy angle, and is provided with a hand-rail. When not wanted, it is easily raised up on a panel by means of a powerful spring barrel, thence swung up into the ceiling.

We Pay Freight



All sizes for all purposes. 1 1/2 to 18 H. P. Vertical and horizontal. Guaranteed 10 Years.

Don't Pay For Your "Ellis" without getting it

Every carpenter or contractor who does not use a reliable engine is paying for the engine without getting it. He pays for it in lost time, and in labor costs. You can buy an Ellis Engine out of two weeks' wages to one workman; and your Ellis will give you reliable service for many years.

Ellis Engines are America's favorite with carpenters, contractors and builders. Very compact in design; light in weight in proportion to power. Easy to operate; no cranking. Run either way; reversible while running. They work successfully on common cheap lamp oil at a fuel cost of

6 cts. for 10 hours

for each horsepower developed. Just the thing for woodworkers, rip-saws, planers, cement mixers, hoists; in fact, for every job where power can be used. Write for free book, "Engine Facts," giving valuable information and full details of our 30 Days' Free Trial Offer, with opinions of users from all parts of the world.

Ellis Engine Co., 2863E. Gd. Boulevard, Detroit, Mich.

Who Pays the Piper?



When the engine lays down on the job and you who are working tooth and nail to get your job completed have to call a halt—perhaps to dozens of men while the engine is being fixed or replaced with a good one.

With the "NEW-WAY" power plant you are ready for anything. In these days of close figuring and the ever-present need for speed, an engine on the job is an absolute necessity to every contractor and builder. It may be attached to the saw outfit, made to run the planer, used for hoisting purposes and in almost any number of other ways tending to shorten processes, cut costs and increase general efficiency.

THE "New-Way"

"GOES AND GOES RIGHT"

Of compact, sturdy build, perfect construction, finest materials, ready to start all the time and work to its full rated horse-power, the "NEW-WAY" engine stands alone as especially adapted for the manifold uses of the carpenter and builder.

The "NEW-WAY" is direct cooled, has splash oil system, enclosed crank case, no packing, ground cylinders and many other points of superiority. There are fewer engine troubles—the cost of up-keep is less—it is simple to handle and easily moved from one job to another.

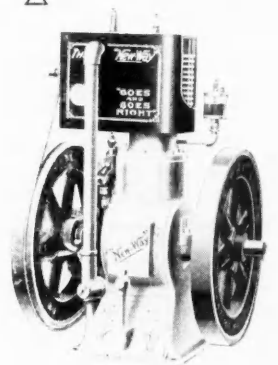
When you install a "NEW-WAY" as a part of your equipment, you are taking the longest possible stride forward, with greater efficiency, saving the time, cutting of costs and greater profits on every job.

To appreciate this fully send for Catalogue No. 10 and see what "NEW-WAY" engines are doing for others.

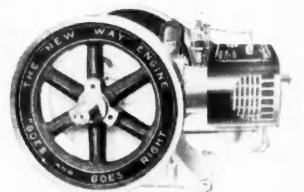
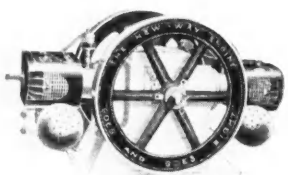
Sizes, One to Twelve Horse-Power, costs \$44.00 to \$385.00.

THE "New-Way" MOTOR COMPANY
LANSING, MICHIGAN, U.S.A.

10 Race Street



Guaranteed for Life



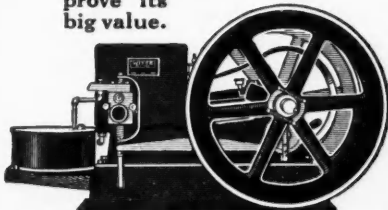


Get My Latest Engine Offer

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 28 years. Ed. H. Witte.



WITTE Engines

Gasoline, Gas, Kerosene, Distillate

Besides lower prices, WITTE engines use less fuel per horsepower hour, by one-fourth to one-third—enough saving to pay entire cost of engine in a year. Easy starting; no cranking; steady running. My 28 years at one thing, making WITTE engines, makes my higher quality.

BUY DIRECT 2 H. P., \$34.95 8 H. P., \$139.65
3 H. P., 52.45 12 H. P., 197.00
Cash or Easy Terms 4 H. P., 69.75 16 H. P., 279.70
6 H. P., 97.75 22 H. P., 359.80

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 Engine Works
1779 Oakland Avenue, Kansas City, Mo.
Office 1779, Pittsburgh, Pa.

Make This Guarantee Yourself

Save 1-2 to 2-3 Coal Cost

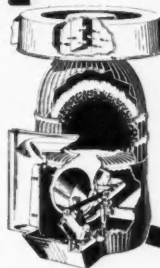
A Million Dollar Concern Backs You

It's something to be able to say to a prospective customer: "Yes, sir—I guarantee that you will save one-half to two-thirds of your coal cost if you use a Williamson New-Feed UNDERFEED Furnace or Boiler."

And that's just what you can do. A million dollar concern stands ready to make that guarantee good. And, after you have made the installation the New-Feed will continue to boost for you through many a coal-saving and house-warming season.

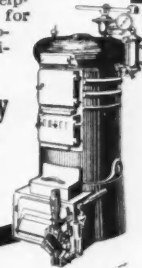


There's an interesting book, full of helpful information regarding free plans for builders and owners. Write for it today. It's free. It means more business for you. Write now!



The Williamson Heater Company
(Formerly The Peck-Williamson Co.)

385 Fifth Avenue
Cincinnati, : : Ohio



Other Builders] Do Why Not You—

Demonstrate the

WALLACE

Portable, Collapsible Lamp

to your customers and their friends, and nine out of ten will buy one—and every sale will mean a nice little Profit for you.

It Stands, Hangs, Clamps or Sticks Any Place — at Any Angle

The handiest light you ever saw, and when it's not in use folds up into a compact ball.

Made in Brass, Bronze or Nickel, and reasonable in price.

Now, Mr. Builder, drop us a line and let us explain our liberal proposition to help you earn some money this winter. Better write early.

WALLACE NOVELTY COMPANY

22 East 41st Street
New York, N. Y.



Folded

Carpenters & Builders

You Can Make \$250 Per Month

With This

New Machine

Many are doing \$3,000 a year and better with this new machine. You can, too. **You need no experience.** We teach you FREE in one simple lesson. Start right at home. Everywhere there's plenty of money and big cash profits waiting for ambitious men. Just the thing to bring in the money between jobs, until you get the business started.

This is the Business for You

A business all of your own. Requires little capital and grows fast into a real factory—a real manufacturer. **Open a Tire Repair Shop with Haywood Equipment.** Let the money roll in. Auto tires need mending constantly. There is your profit. Owners eager to give you their business. It means a saving of money to them, and big cash returns for you. If you own a shop now, put in one of these machines and double your profits.



Just Mail the Coupon for This FREE Book

A valuable guide to power and wealth. It gives the complete details. How to start. How to succeed. Tells all about your opportunity. Shows how easy the work can be done. Shows the big profit in this new field. Write for it today. A postcard will do. Get your FREE copy.

HAYWOOD TIRE AND EQUIPMENT CO.
695 Capitol Ave.
INDIANAPOLIS, IND.

Gentlemen:—Please send me your book as you promised to do. This of course does not obligate me in any way.

HAYWOOD TIRE AND EQUIPMENT COMPANY

695 Capitol Ave.
INDIANAPOLIS, IND.

Name.....

Address.....

A spring barrel and a system of counterbalance performs the latter operation. All this is accomplished in less time than it takes to tell about it, and is so easy that a child can operate it. Once up in the ceiling it is out of the way until again wanted. Nothing is visible but a neat panel finished to match the woodwork in the room below. When the stairway is again wanted, the above described operations are reversed.

The company is located at Akron, Ohio, and will furnish full information on request.



Lay Five Shingles at One Operation

Laying five shingles with six nails is the result attained by

made. They consist of strips of five shingles each, each strip being 40 inches long by 10 inches wide. The strips are divided into the five shingles by the "slots" or "cut-outs" as shown, which extend back into the strip 4 inches. Each of the slots is 1/2 inch wide. The exposed portion of each shingle is therefore 7 1/2 inches wide.

No chalk lines are needed, as the lower edge of each strip is laid flush with the top of the slots. This exposes 4 inches of the shingle uniformly to the weather. The strips in each row are butted together, which insures uniform spacing of the shingles across the roof.

The Rex strip shingle is finished in dark red and grayish green. Both these colors are obtained by the use of crushed slate which is pressed into the asphalt surface.

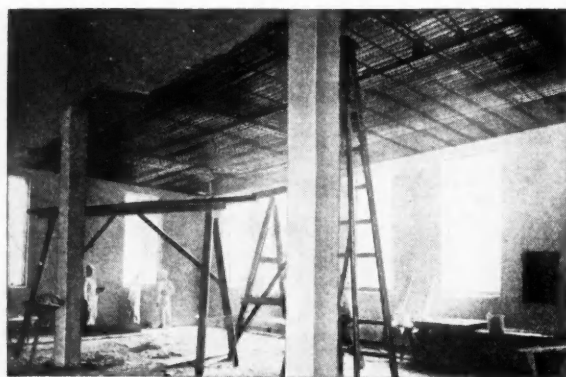


"Rex" Strip Shingles Measure 40 by 10 inches—Five Shingles to the Strip.

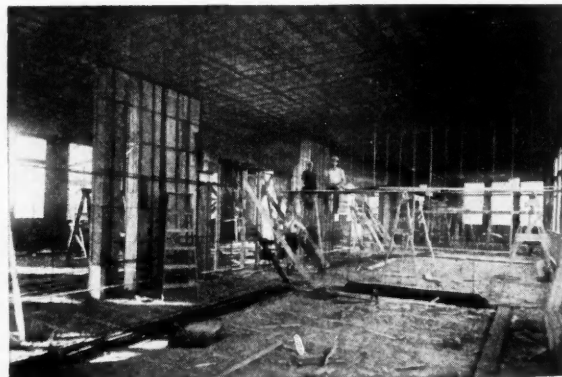
the use of Rex strip shingles, as described in a circular that has been recently issued by the Flintkote Manufacturing Company.

The accompanying illustration shows how the shingles are

The Flintkote Manufacturing Co., Inc., 90 Pearl St., Boston, Mass.; and 659 Peoples Gas Building, Chicago, Ill., will be glad to send the circular describing their strip shingle to all our readers who are interested.



Suspended Ceiling of Hy-Rib. Interstate Telephone Co., Bldg., St. Paul, Minn.



Rib Lath used for Partitions and Ceiling. Fannin School, Dallas, Texas. Lang & Wittchell, Arch.

BY USING HY-RIB AND RIB LATH

You Save Half

- The Cost of Brick Walls.
- The Studs and Supports.
- The Time and Labor.
- The Dead Weight.
- The Floor Space.

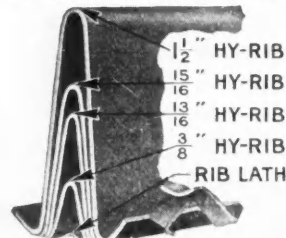
You Eliminate Entirely

- The Expense of Forms.
- Stiffening Channels (with 13-16" and 15-16" Hy-Rib).
- One Plaster Coat.
- Fire Danger and Repairs.
- Cracked and Streaked Plaster.
- Makeshifts, Inconveniences and Delays.

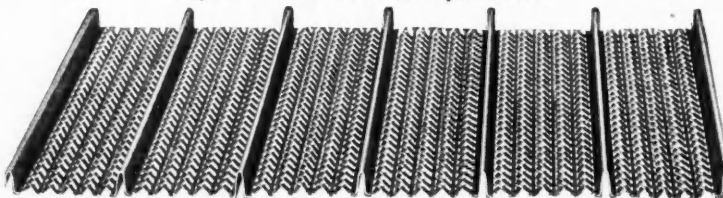
Hy-Rib and Rib Lath are a complete line of ribbed meshes furnished in all depths and weights to economically meet all requirements of construction. In every building there is a place for Hy-Rib in roofs, wall, sidings, floors, partitions, ceilings, furring, tanks, etc.

Write for Hy-Rib Handbook and Our Suggestions

TRUSSED CONCRETE STEEL CO., Dept. H-44, Youngstown, Ohio
Representatives in Principal Cities



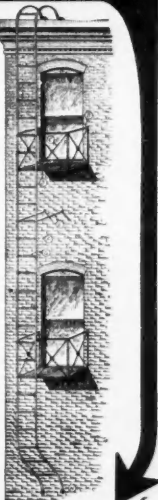
IT'S THE STRENGTH OF THE RIBS THAT COUNTS



Get a Copy of the BARBEE BOOK

It Contains 147 Pages of Builders Iron and Wire at Lowest Prices

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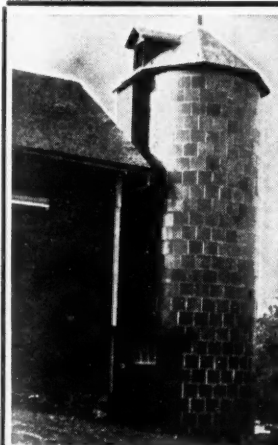
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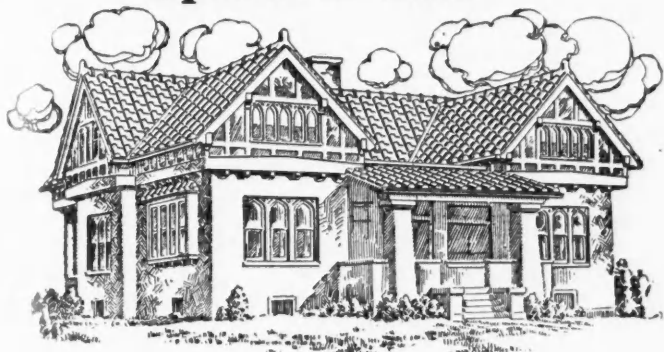
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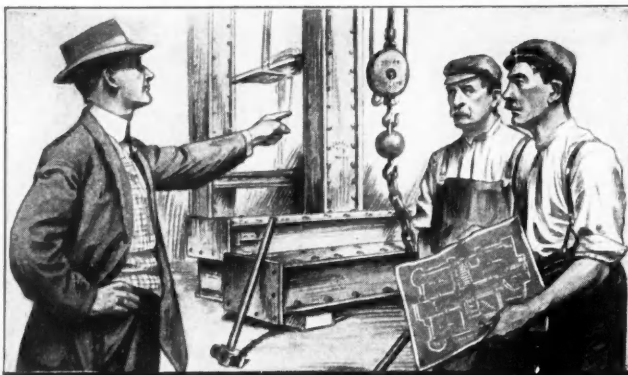
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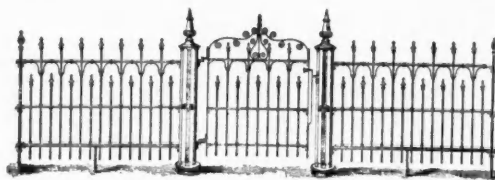
Present Occupation _____

Builders' Wire and Iron Work

A most complete line of builders' wire and iron work for all purposes is shown in the new catalog of the Barbee Iron and Wire Works, whose office is located at 174 N. Dearborn St., Chicago, Illinois.

The illustration shows one of their designs for a gate and fence. The posts in this design are made of wrought steel, as the makers say that posts of this kind are more durable than cast iron. The fence shown is made in three different heights: 30, 36, and 42 inches. The gate is made 40 inches wide between the posts.

Their large catalog, which will be mailed on request, contains many designs of ornamental and useful wire and iron building material. Among the designs offered are weather



One of Many Styles—Send for Catalog Showing Full Line.

vanes, fencing and gates, gratings, stable fixtures, posts, railings of all kinds, steel stairways, fire escapes, etc. The variety of materials shown makes this a valuable reference book for all carpenters and builders. If you will send in your name and address you will receive your copy.



Johns-Manville Electric Lighting Service

One booth at this year's Electrical Exposition of exceptional interest for both the business man and the woman—who-plans-her-home, is the exhibit of Johns-Manville Company.

Most visitors to the J-M booth will take away some ideas that will make their office, shop or home a better place in which to work or live—and probably at a distinct saving in cost.

Johns-Manville Company is pressing home the importance of correct lighting—and the fact that the great majority of offices, shops and homes today are incorrectly lighted—in many cases at probably greater expense than for the right way.

In the Johns-Manville lighting department are men who *know how* in every phase of lighting and illumination. They are the specialists who have worked out, in co-operation with America's foremost architects, the illumination and lighting plans for big office buildings, model factories, wonderful salesrooms, cathedrals—and homes by the thousands.

They are always glad to explain the details—*tell how*—free of any charge. They will be found at the booth ready to answer questions of any kind on lighting, and to explain the many advances in the science of lighting that the I. P. Frink systems of diffused reflective illumination have standardized.

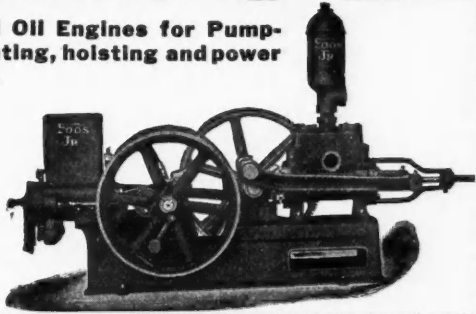
The Johns-Manville company is now the exclusive sales agent for the three great leaders in different phases of lighting—the celebrated Mitchell Vance artistic lighting fixtures and bronzes; Gill Brothers "Parian Ware," the beautifully molded translucent ware used in semi-indirect lighting, now of unusual interest to home owners; and the I. P. Frink systems of scientifically diffused reflective illumination.

A selection of the latest designs and newest achievements of each of these three noted organizations is being shown at the booth. The Mitchell Vance designs to be introduced this fall are being given their first public exhibition.

THE FOOS

Gas and Oil Engines for Pumping, lighting, hoisting and power service.

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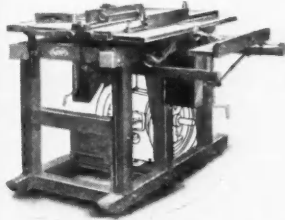


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A Sure Money Saver

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ENGINES AND OUTFITS

Mitre Accurately and Quickly with a KAWALLE AUTOMATIC MITRE BOX

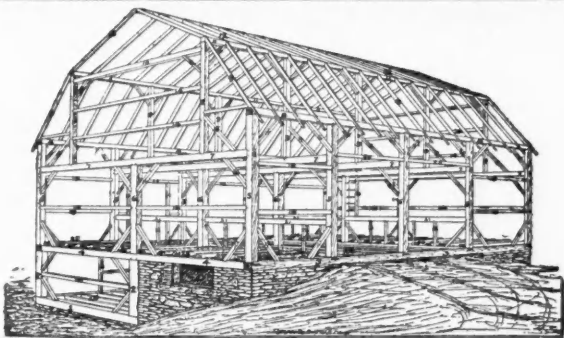
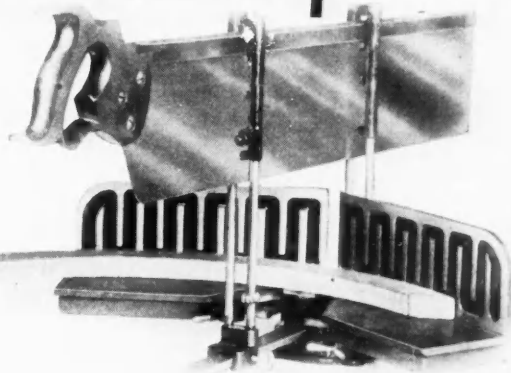
Here's a Mitre Box that does your figuring and thinking for you. Automatically gives the True Center Cuts of any corner without knowing how many degrees the corner is out of square. Automatically gives the True Radius Cut of any size circle work without knowing the diameter of the circle.

Gives a Perfect Joint—No Planing

of any kind of work square or circle. The value of the "Kawalle" Automatic Mitre Box to carpenters and builders cannot be estimated. Any carpenter can use it. Folds up neat and compact to fit in your tool chest. Sold on a Satisfaction or money-back guarantee. It will pay you to investigate this time and money-saving tool.

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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.

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1827 to 1833 Prairie Avenue
CHICAGO, ILL.

FIREPLACE MATERIAL



Every Contractor building Fireplaces should know the advantages of this Dome Damper.

The rod extends out under the brick or tile so there is no interference after the Damper is first set. Wide flanges allow giving sides of Fireplace any angle desired. Cover will not slip out of position. Castings are extra strong. Made with or without angle for carrying brick.

Catalogue No. 1550 shows them in detail

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The Stanley Works Awarded Medal of Honor

Our readers will be interested to know that Stanley butts, hinges and other wrought steel products have received the highest award, gold medal of honor, at the Panama-Pacific International Exposition, in acknowledgment of the superiority of Stanley products. This is only one of the many awards which Stanley products have received. Their first Medal of Honor was received from the American Institute in 1855, sixty years ago.



1908 KisselKar Has Traveled 164,000 Miles

Harris Montgomery of Hartford, Wisconsin, has decided that 164,000 miles is good enough service for an automobile and has passed his KisselKar on to another owner.

Mr. Montgomery is a commercial photographer and travels almost constantly. He purchased his old KisselKar in 1908 and has declared that it has been thru every possible experience liable to wreck a car. He now owns a smart new KisselKar 32-Four, but declares he will miss his old "road pal."



Making a Leaky Houseboat Staunch and Weatherproof

Maxwell was a carpenter for a good many years until an unfortunate accident compelled him to abandon his trade and take a job sorting mail in the post office. The close confinement of this indoor work soon told on Maxwell's health and when the inevitable breakdown came his family physician prescribed a change of scene and life in the open.

Maxwell had saved a little money, but not nearly enough to finance the extended trip the doctor said he should have. It seemed like a providential stroke of good fortune, then, when old man Crawford, who owned a houseboat he had not used for a long time told Maxwell he was welcome to it, if he cared to make use of it.

Maxwell was very thankful—until he saw the houseboat—and, it really was not much to be grateful for, with its leaky roof and gaping walls and forsaken, uncared-for appearance. Of course, it was not as if Maxwell had a wife and family to bring along with him, but it would have taken a more heroic bachelor than Maxwell to make the eight or nine hundred mile trip to the Gulf in that houseboat in its present condition.

Sizing it up with his carpenter instinct, Maxwell could readily see that the most important thing was a new roof.

The walls, unlined of course, needed a good deal of fixing and patching. The floor seemed rather damp—a little too damp to help Maxwell's health any—something must be done to the floor. The whole thing looked at first glance like a more expensive proposition than he could afford, but instead of becoming disheartened, Maxwell took out his rule and jotted down some measurements, then went home and started to figure.

When Maxwell started on his trip two weeks later, even old man Crawford didn't recognize the houseboat. Its roof, a beautiful deep red in color, blended harmoniously with the rich, durable-looking green with which the body of the houseboat had been painted.

But the chief feature that charmed everyone who had paid Maxwell's floating home a tour of inspection was the warm, snug, comfortable coziness of the interior. All wondered how Maxwell did it—where he had got the money to fix the houseboat up so well. Maxwell intimated that he would let them into the secret when he returned.

Early spring saw Maxwell's houseboat return—with a hale and hearty Maxwell at the helm. As the big boat slowly silled up to the dock, some of the onlookers wondered if he had had the roof painted, it seemed even more attractive and more colorful than it had on the day he left.

Of course everyone was asking all sorts of questions, and, instead of trying to answer them then, the grinning Maxwell extended a general invitation to a homecoming party that night on the boat.

The party hadn't progressed very far, when Maxwell asked if anyone noticed any changes on the boat. Old man Crawford, who had been scrutinizing everything with a careful eye, was the first to reply. "You've got a lot more furniture, Bob," he said to Maxwell. "But otherwise the boat seems to be in the same nice ship-shape condition you had



**An Ounce of Prevention
SNOW GUARDS**

prevent snow sliding off the roof, tearing away and damaging gutters and injuring passers-by. They are easily and quickly applied—low in cost. They are damage-suit insurance. For old or new roofs together with various styles and prices on request.

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On our profit sharing inducement to all reliable live wire dealers. Write for information, how our agents are growing rich handling Montross Metal Shingles. Big demand. This is your chance. Don't overlook it. Testimonial letters and affidavits cheerfully given.

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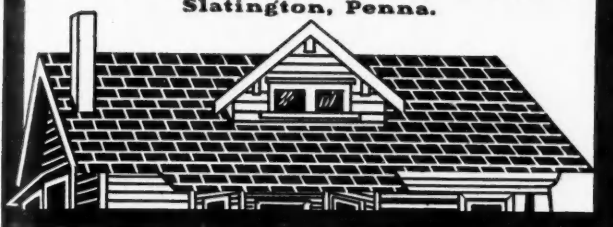
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 of the famous G F T Slate-Roofing will be sent on request to all Carpenters and Builders for comparison on Quality, Appearance and Prices.
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 RED GREEN
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ECONOMICAL — ARTISTIC — FIREPROOF
 Outlast the building. First cost, only cost. The only roof you can afford to consider for a permanent investment. Artificial substitutes bring endless expense for upkeep. Post a postal and get posted.
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 is coated or plated after stamping, so that every last possible spot where deterioration could start has a rich, heavy, zinc coating. The result is: Walter's and Cooper's Interlocking Metal Shingles are practically indestructible under all climatic and weather conditions. Roofs covered thirty years ago are as good now as when first put on and have never caused a cent's worth of expense in renewals or repairs in all that time. Roofing contractors make a very handsome profit handling these shingles. Ask for particulars.

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customers with the deceiving bait of low prices, and attracting customers with good work and good material, for which they are glad to pay a fair price.

We have shown hundreds of roofers and carpenters how to get a better price for their workmanship and material.
 We shall be glad to show you.
 You are under no obligation to let us prove it.
 You will make more money by writing us for particulars than by ignoring this invitation.
 Suppose you write us now, while you think of it—you can't afford to forget about it.

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 GENUINE BANGOR SLATE CO., Easton, Pa. November, 1915
 Please send information.

Signed
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it the day you left. That certainly was a fine job of repairing you did."

"Don't compliment the workman," rejoined Maxwell. "All the glory belongs to the materials. They didn't cost me much, but they certainly have stood up even better than I expected."

"That beautiful roof you've all been admiring," Maxwell continued, "is made of shingles built up from an asphalt soaked and coated core of pure wool felt into which the handsome naturally colored red granite surfacing is imbedded. They are known as Flex-A-Tile Asphalt Shingles. I chose them because I wanted a roof that would be absolutely impervious to wind, wear and weather—and I got it. One commendable thing about those shingles, too, is that the older they get, the more beautiful and richer their color becomes. They never need painting."

Maxwell went on to tell about the whole job of fixing,

how he had lined the walls, the ceiling and the floor with Utility Board because he wanted a perfect non-conductor of heat, cold and moisture and a wear-proof material besides, how he had painted the entire exterior with No-Tar Asphalt Paint at a surprisingly low cost—but the most interesting part of his story came when he told the real reason why he had kept mum about the fixings of his boat until he returned.

"I wanted to give all those materials that I used the severest kind of a test. I wanted to see if they were as wear-proof, as weather-proof and as moisture-proof as they were touted, I'm convinced," he concluded, "so convinced that I'm writing a story of my experience with these splendid products to Heppes & Company, the people in Chicago who make them."

"I don't believe my trip would have been nearly so successful," Maxwell added, "I'm sure my health would not have been nearly so well conserved, if I had not had as staunch and weather-proof a houseboat to live in."



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Revolving Chimney Top

An all Cast Iron (except steel vane) Chimney Top, that is Simple, Durable and easy to attach. Filled with perfectly adjusted Ball Bearings so that the slightest breeze turns the hood to the wind, causing a suction at the opening which draws the smoke out, thus making a strong draft for the chimney. Made in three sizes

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is designed to replace the old style galvanized iron hood that rusts out at the chimney line in one or two seasons. This cap protects the masonry and it forms a solid base for a pipe extension, if additional draft is desired, or it can be used to advantage to just protect the masonry.

Made in three sizes with adjustable legs to fit any size flue.



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that works for years and years. One of these handsome, high-grade pocket knives with your name and address on it will close contracts when sent along with your plans and estimates. Brings business and builds goodwill. Considering the number of times a man uses a knife and the years one of these knives lasts, this is the lowest cost advertising any builder. Architect or Lumber Dealer can do and at the same time the most practical.

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\$1.00**

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Built of steel and in complete units—casing and hinged window—Chief Cellar Windows leave no chance open for window troubles. They always open and close easily, leave no open cracks and are absolutely unaffected by the weather.

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These windows are easy to install, cost no more than wooden windows and are worth three times as much. They give real service—permanent, satisfaction-giving service. There's nothing to wear out about them and they can't shrink or swell and stick in the casing.

Satisfy your customers with Chief Windows. They'll all want them when they see them and there's profit for you in selling and installing these modern windows.

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