AMERICAN CARPENTER AND BUILDER

THE WORLD'S GREATEST BUILDING PAPER

In Recognition of the Importance to the Building World of the

International Clay Products Exposition

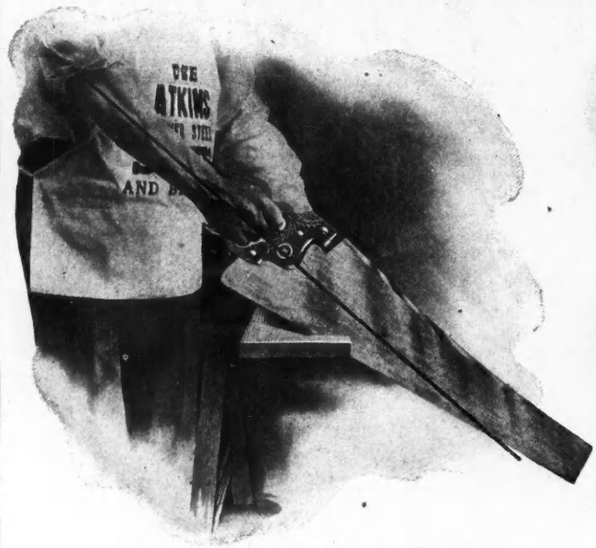
Chicago Coliseum — March 7-12

WE PRESENT in This Number COMPLETE PLANS FOR THIS

Modern Brick Bungalow

Two Famous Silver Steel Saws

We want to call particular attention to the two Saws shown in the pictures below. Both blades are of SILVER STEEL—both are Taper Ground—both are genuine ATKINS SILVER STEEL SAWS—BUT the handles are constructed on entirely different principles.



No. 53—Genuine Perfection Handle.

No. 51—Old Style Handle

"Pay Your Money and Take Your Choice"

ATKINS NO. 53.

The picture to the left shows ATKINS NO. 53 SILVER STEEL SAW equipped with ATKINS Genuine Perfection Handle and illustrates plainly why this type of handle is easiest on the saw arm. While it may feel strange to the beginner—a few days use will demonstrate that the Perfection Handle is the most **scientifically** constructed and much easier on the saw arm than any other style.

Note the line running through the saw arm straight through the blade to the cutting edge. See how every ounce of power is directed to the point of contact. Observe the wrist and saw arm, how easy and natural the blade drops into its work without pressure.

ATKINS NO. 51.

If you are under the impression that all ATKINS SAWS are made with the Perfection Handle, we wish to particularly call your attention to the saw shown to the right. This handle is similar to the old straight-across handle that you may have been using heretofore. Note the saw arm in this case and see that the pressure back of the saw arm is **not** directed on the cutting teeth, but rather to the back of the saw. Notice this wrist and see how it is necessary to push downward in order to secure proper contact. But even with this old style handle, the No. 51 is superior to any other, because the blade is made of genuine SILVER STEEL (our own exclusive formula) and is Taper Ground, which enables it to run free and easy, even in wet lumber with but little set.

If you do not wish to try the Perfection Handle, then try the No. 51. Either of these saws or any of our other popular numbers may be purchased through your regular dealer, who should order for you from his wholesale house in case he does not carry them in stock. If he will not order for you, let us know and we will see that you are taken care of. Be sure to see that our name, E. C. ATKINS & COMPANY, and the words "SILVER STEEL" are on the blade. None other are genuine.

OUR FREE OFFER

We are securing the names of high class mechanics who appreciate fine tools and if you will send us ten cents in stamps to pay postage, we will mail you one of our fine carpenter's nail aprons, Saw Sense Book, Time Book, and a great deal of useful information on the purchase and care of saws. Write to-day and learn "Who's Who" in the saw world.

E. C. ATKINS & CO., Inc.
INDIANAPOLIS, IND.

1-35 ad removed

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

Reducing the Fire Insurance Cost

FROM a small beginning many years ago a system has been developed whereby a large number of people have banded themselves together and pooled their liabilities to loss from fire, in such a way that each one pays his proportionate share according to the rate at which he is entered. Thus, when a loss occurs, an individual loser is reimbursed from the common fund so far as reimbursement of this sort can be made. It is perfectly true that no arrangement of this sort can adequately take care of the loss of business and good will occasioned by fire's destructiveness, nor of the inevitable shutdown which follows such a visitation. But the material loss is largely covered in this manner, and the individual is saved from what might otherwise be business death.

Each individual in the entire list of those so united in interest, feels the fire loss directly through the amount of his insurance premium, whether his property is attacked or not. Long experience has proved that this premium cannot consistently be reduced without a previous reduction in the total fire loss. It follows that a reduction in fire losses should mean not a direct saving of property and life, but a corresponding reduction in the cost of insurance to every policy holder.

Many tests have shown that it is perfectly practicable to build a structure which, while not absolutely fireproof, cannot well be ruined and is seldom more than superficially damaged, even by the fiercest fire. More important than this, however, is the fact that existing buildings, not in themselves fireproof, can be made almost perfectly free from serious danger of fire by the simple expedient of fitting them with a system of automatic fire fighting devices, the most important of which is, of course, the automatic sprinkler. Fire doors, would, for a limited time, hold a fire to a somewhat restricted area; but automatic sprinklers, while doing this in even better degree, would also perform the positive service of either extinguishing the fire completely (which they do in about two-thirds of all cases) or of totally preventing it from spreading until the fire department, which has been summoned by the automatic alarm, set off by the sprinklers themselves, can arrive upon the scene and end the trouble.

Protection of this sort is so thoroughly effective and well recognized that the Boston Chamber of Commerce has recommended the passage of an Act requiring the equipment with sprinklers of all second-class buildings in that city, that is, of all buildings of which the exterior only is non-combustible. The Rochester Chamber of Commerce has given unqualified approval to the automatic sprinkler system and has taken great pains to point out to the citizens of Rochester the manifold advantages of equipment of this character.

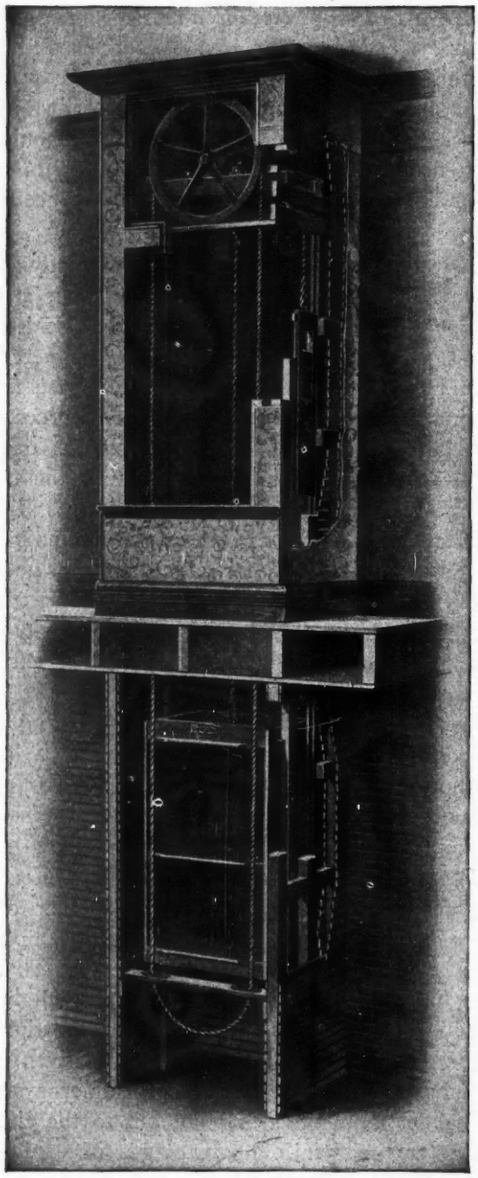
Dumb Waiters

EVERY RESIDENCE SHOULD BE EQUIPPED WITH A GOOD DUMB WAITER—GREAT CONVENIENCE FOR HOUSE WIFE

By J. I. Wakelee

THE use of Dumb Waiters and Hand Power Elevators is not so general as the convenience of these articles warrants: In the homes of the wealthy, where there are numerous servants, it is usual to find one or more dumb waiters and an elevator for carrying trunks, furniture, etc., and possibly a passenger elevator as well.

A dumb waiter, however, is not a luxury which should be restricted to the homes of the wealthy, but is of greater importance in the homes where the housewife does her own work. In homes where there are numerous servants, the servants, as a rule, have a comparatively easy time of it, and it really would not hurt them to run up and down stairs; but this is not the fact where the wife and mother has as much to do as most American mothers must do, and where a dumb waiter, which would save many trips up and down stairs daily, would make a very material difference in the demands on the strength of the one on whom the comfort and happiness of the whole family depend. Also in those homes where only one or two servants are employed, the installation of a dumb waiter is important, because it is in such homes that the servant problem is one which is very troublesome.



Automatic Brake Dumb Waiter Erected in Plastered Shaft; made by Sedgwick Mach. Works, New York City

In some localities dumb waiters are used very extensively, hardly a house being built without one being installed; while in other localities a dumb waiter is almost an unheard of thing.

One reason for the infrequent installation of dumb waiters doubtless with house owners and builders alike is that they are unacquainted with the improvements which have been made in late years in dumb waiters, and when they think of a dumb waiter at all, they think of the crude affair consisting of a box, a pulley, a rope, and a bunch of weights, which in some localities is supposed to constitute a dumb waiter. Or it may be that some one, realizing the advantages to be obtained by the installation of a dumb waiter, has purchased one which has turned out to be anything but satisfactory because it was of such an inferior design and construction that it could not give satisfaction. Or perhaps it was a good dumb waiter, but the man who installed it did not make a good job of the installation.

It is very safe to assume that in the localities where dumb waiters are freely used some reliable and satisfactory make of dumb waiter is known, and there is some builder in that locality who knows how a dumb waiter should be installed.

A good dumb waiter is one of the most useful labor saving devices that can be installed in a home, and the householder who will take the time to calculate the number of steps which such a dumb waiter will save will perhaps be astonished at the result of his calculations: The difference between a poor dumb waiter and a good one is astonishing. A New York property owner who had a dumb waiter in his house, found it necessary to install a hand power elevator to be used as an invalid lift for the convenience of his wife who had heart trouble, which made it impossible for her to walk up and down stairs. In his investigations preliminary to the installation of this elevator, he devoted considerable time to the subject and found that while there were a good many dumb waiters and hand power elevators in the market, there was one make which he preferred above the others, and he not only had these

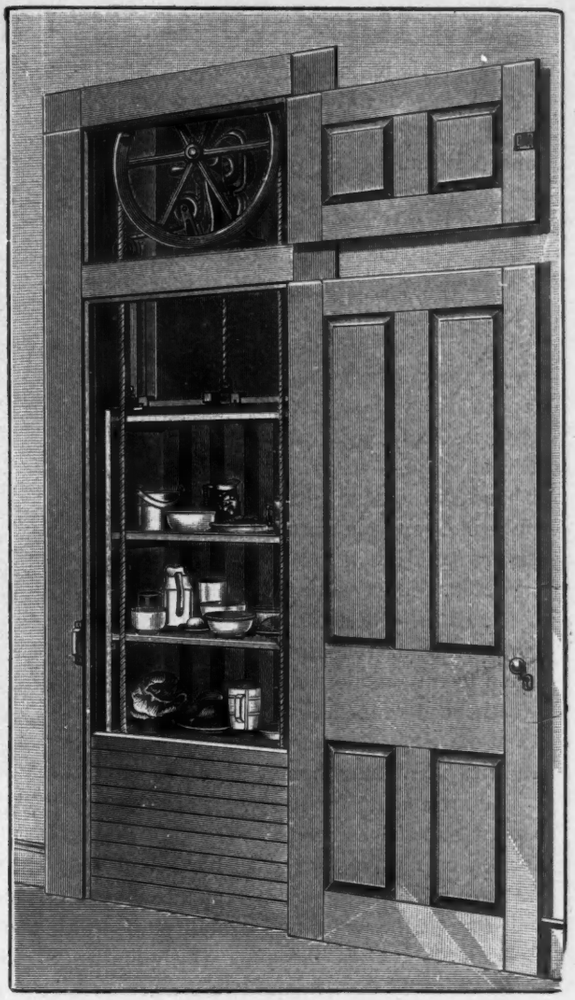
makers install the hand power elevator for him, but also had them replace the old dumb waiter in his home with one of their improved outfits.

Some six or eight years later he was placed on the board of trustees of a great philanthropic institution, a home for aged men and women. He found there were four dumb waiters in this building which had been in use for many years and which worked so hard that when loaded, as they were several times for each meal, it required the united efforts of four or five people to raise each of these dumb waiter cars, and that it was a frequent occurrence for the loaded car to get away from the operators and crash to the bottom. He obtained an estimate from the manufacturers who had installed the elevator and dumb waiter in his own home and showed the board of trustees that the investment of the amount required to tear out the old dumb waiters and put in those of this improved type would yield them a 4 per cent dividend in the saving of food and dishes alone, to say nothing of the saving in labor. This suggestion was naturally a surprise to the other members of the Board, but upon investigating the subject thoroughly they were fully convinced of the accuracy of his calculations and of the wisdom of making the change. New dumb waiters were installed and have been in use now for about a year, and have fully demonstrated the wisdom of the change.

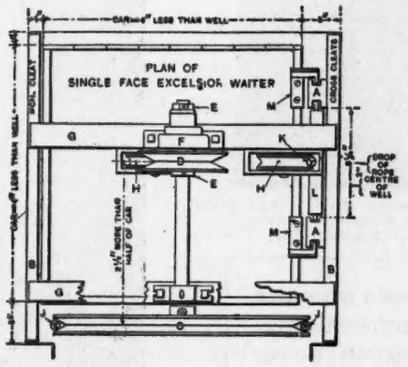
There is nothing mysterious about a dumb waiter, and satisfactory results depend merely upon the selection of an outfit suitable to the work and that the outfit selected shall be properly installed in accordance with drawings and directions which should be sent as a matter of course by the manufacturers with each outfit.

No one dumb waiter is equally well suited to all requirements, and this is one of the reasons why dumb waiters have not given satisfaction in many cases. The dumb waiter which is designed for light, rapid work is not the type of outfit which should be used where the dumb waiter is used less often and where the loads are heavier.

A manufacturer who specializes in dumb waiters and hand power elevators, and whose business is of sufficient magnitude to enable him to cover the field thoroughly, may naturally be expected to cover that field and to embody the best features in his goods, while another manufacturer whose specialty may be power elevators, and who merely sells a few dumb waiters or hand power elevators as an unimportant side line, would not naturally be expected to devote the time and attention to the matter which would enable him to either recommend the special type of outfit which is best adapted to the special conditions and requirements, or to keep his line as a whole up to date by embodying the latest improvements in design and construction.



"Columbia" Dumbwaiter and Residence Elevator made by J. G. Speidel, Reading, Pa.



Layout of Hoisting Rig as Recommended by R. M. Rodgers & Co., Brooklyn, N. Y.

For the sake of emphasis we repeat that satisfactory results from the installation of Hand Power Elevators and Dumb Waiters depend first upon the selection of an outfit suitable to the conditions and requirements and second upon the proper installation of the outfit selected.

EDITOR'S NOTE: Mr. Wakelee will continue the discussion of Dumb Waiters in an early issue, taking up the matter of their proper installation.

Hardwood Finish for Modern Homes

HOME builders in this country at last seem to be learning what is required for satisfaction in house finishing. They realize the importance of beautiful hardwood trim, and they know that the feature of first consideration is the hardwood doors; and next come hardwood mantels.

The possibilities in the use of the hardwoods for the interior finish of houses are just beginning to be fully appreciated. Tapestries, wallpapers, fine rugs and draperies had long been recognized and utilized. The material, however, nearest at hand and least artificial, namely, beautiful woods and the pictured effects which Nature has painted in the trees, had been neglected. It remained for the revival of one of the oldest cabinet maker's arts, namely that of veneering, and the application to it of modern methods, to stimulate the use of beautiful woods, and to point the way to newer and greater possibilities in making homes attractive.

Wisconsin Birch, Queen of the Hardwoods, at Home in the Forest

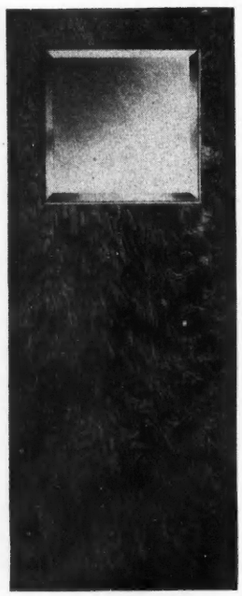
The arguments for hardwood trim are beauty and permanency, offset by the item of cost. To popularize hardwood trim, the cost has been reduced, the beauty enhanced and emphasized, and the permanence and stability of the wood increased. These are the aims which the leading hardwood veneered door manufacturers are striving for today—and achieving in no small measure. Effects that were impossible before are today easily obtainable, and fine interior trim, both beautiful and permanent, is more easily in the reach of the modest home builder than the wealthy man of a decade ago.

In selecting the stock for the door panels only the most beautiful woods are utilized. Even in woods that are noted for their beauty it is only those logs of surpassing beauty of grain and figure that are used for this purpose. These logs are taken for veneer, and by cutting very thin are made into a great many faces. The plainer stock is used for less conspicuous purposes.

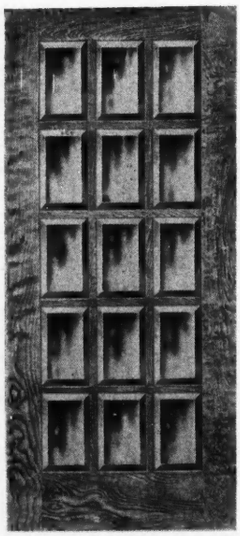
Of all the woods that have been tried out for interior finish, the leading hardwood door producers unite in backing Wisconsin birch as the most beautiful, adaptable and serviceable for doors. They call Wisconsin birch the "queen of the hardwoods"; and the appearance and behavior of the veneered doors made from this wood fully justify this name.

We have called attention before in these columns to the economy of recommending and using hardwood veneered doors on all jobs. Carpenter-contractors and builders will make lasting friends of their customers by doing this in all cases. Remember, a satisfied customer is your best advertisement.

With respect to wood mantels, it may be said that the commodious old-fashioned fireplace, with its attractive wood mantel, is a great favorite with home lovers, and it always will be. If properly constructed, it will not only throw out a great deal of heat, but it will also provide natural ventilation. An open fireplace, it is said,



Birch Slab Front Door by the Paine Lumber Co.



Red Birch Sash Door by the Morgan Co.

Unselected Birch Front Door by Moore & Galloway Lumber Co.

Red Birch Raised Panel Door by the R. McMillen Co.

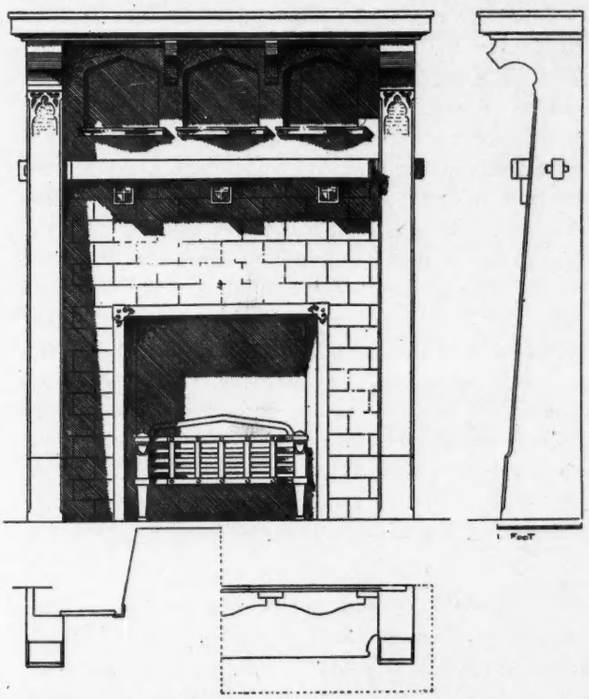
Hardwood Veneered Doors give the touch of elegance to any building. Yet they are reasonable in price.

Birch Doors by Leading M nufacturers

will extract about 250 cubic feet of air per minute, which will provide satisfactory ventilation for half a dozen persons. But the main reason for the popularity of the fireplace is based on sentimental grounds. It was in front of a log fire that many of us first heard of the fairies and their wonderful pranks, and it was there that the family gathered in the evening to welcome callers and display their hospitality under the cheering influence of the blazing logs.

We remember these things, and the fireplace brings to our minds scenes of the past which make us younger in the thought of them, and so the fireplace becomes a sort of rejuvenator in the cold winter evenings as we gather around it to discuss the news of the day or indulge in harmless gossip.

The open fireplace is greatly favored in England,



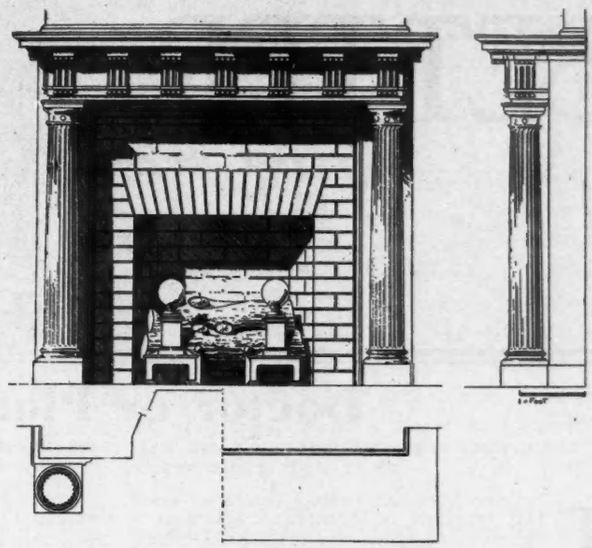
Stock Wood Mantel of Gothic Design

where, no matter how elaborate the heating system of a house may be, provision is always made for at least one large fireplace, where the lord of the manor may enjoy a quiet smoke and a nap, or may gather with his friends and neighbors to watch the snapping flames of the cheerful fire in the good old cheerful way.

In this country it has become the fashion, especially in the larger residences, to provide a fireplace at least in the living room, independently of other heating facilities. Those who gather around these hearthstones assert that they make wonderfully for cheerfulness and family fellowship.

With the coming of chilly days and evenings the fireplace assumes its rightful prerogatives; and thousands see pictures in the blazing logs and live again the days of their youth, inspired by the cracking wood or coal, as it vanishes to ashes in the ruddy glare.

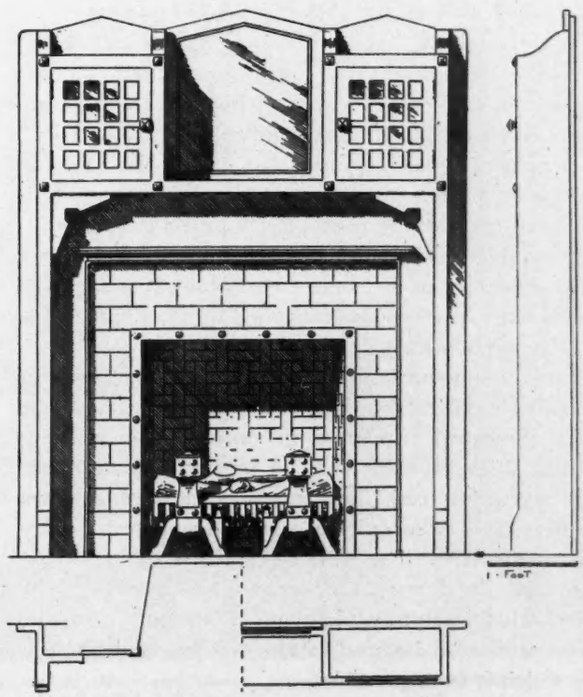
There is no one thing that can be added to a dwelling, whether new or remodeled, that will increase its value to such an extent as a good open fireplace with fine wood mantel.



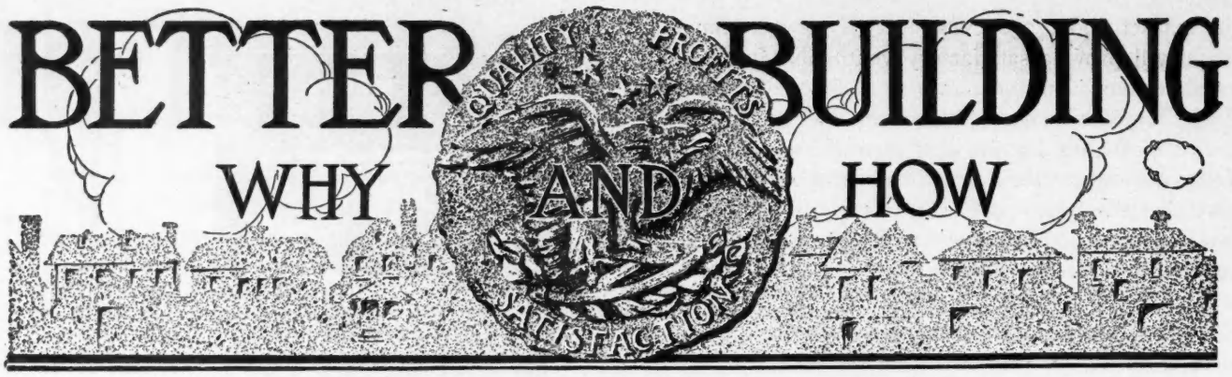
Colonial Design Wood Mantel

Stock mantels are now obtainable of very satisfactory designs in all the architectural styles to harmonize with the finish of any dwelling. These mantels are well built and beautifully finished like pieces of fine furniture. Being made up in quantities they can be sold at a low price.

No contractor or builder can afford to use any other than hardwood doors and wood mantels in the new houses he is putting up this year. Please and satisfy your customers by bringing these features to their attention.



Favorite "Bungalow" Design with Cases and Mirror Above



Doctor or Plumber—Which?

RELATION BETWEEN HIGH GRADE SANITARY PLUMBING EQUIPMENT AND FREEDOM FROM DISEASE —IS IT NOT MUCH BETTER TO PAY THE PLUMBER THAN THE DOCTOR?

THE resident of a small town who is about to build a dwelling should fortify himself with all the information possible in regard to sanitary plumbing equipment before he goes ahead with his plans.

There is every chance in the world to purchase equipment that will prove not only insanitary, but also expensive to keep in repair, and then it will dawn upon the builder that it would have been better to install modern equipment at the start than to put in the kind that breeds disease and results in heavy doctor bills.

The question then arises, "to plumb or not to plumb; doctor or plumber, which?" Considering the small additional expense entailed to install a modern, sanitary plumbing system in a house in this day of progressiveness, there can be no valid reason why a builder should overlook the advantage of equipping his dwelling with a modern plumbing system.

Good Plumbing Money-Making Investment

The builder has come to realize that if he makes an additional expenditure of $200 for sanitary plumbing facilities, the selling price of his house will be increased many times this amount; the equipment will serve as a safeguard against disease; and the need for repairs from time to time will be eliminated. Also the small expenditure necessary to give all the plumbing conveniences and accommodations of a pretentious home serves as an investment that is not of imaginary value, but is a constant reminder of good judgment and lasting worth.

The small town builder should move cautiously in selecting his plumbing equipment and always have the sanitary feature foremost in mind. The warning against diseases from lack of proper sanitation has been so widespread, however, that most small town builders have been quick to take advantage of every known appliance that will improve the sanitary condition of the houses they put up and equip. The fact is that insanitary plumbing is bringing about its own eradication because of the sickness and diseases for which it is responsible.

The man who has from $2,000 to $3,000 to invest in a home should figure on equipment that will be lasting. He realizes that it is more prudent to expend a little more money for this or that equipment which he knows is of unquestioned worth than to install inferior appliances that he may purchase for a smaller sum and then find it necessary to make repairs from time to time, and also find it necessary to pay doctor bills. It is absurd to become imbued with the idea that the cheaper the plumbing equipment the more fortunate the builder. Such builders seem oblivious to the fact that insanitary plumbing is one of the greatest evils of the home, and that it can be stamped out at little expense. Furthermore, the personal accommodation and convenience afforded by a modern plumbing system is one of the strongest arguments against the survival of the prehistoric outhouse, an institution that has long since been banished by all small town builders who make the least pretensions toward progressiveness.

Smooth Vitreous Surfaces Essential

It is essential to perfect sanitary conditions that the surface of any fixture in the bath or toilet room be hard, smooth and non-absorbent. When the plumbing becomes deranged your dwelling is contaminated with sewer gases and the family is at the mercy of the germs which this foul air carries. The most dangerous sewer gases are often inodorous and are therefore not discovered until ill-health renders necessary an examination of the existing sanitary conditions, but often too late to repair the damage done. The sewer gas that enters the house because of defective plumbing is not necessarily generated in the sewer, but is frequently created in the plumbing system within the house itself. This is invariably the case if there are any obstructions or uneven surfaces in the pipes where filth may collect. Not only must the gas from the sewer be prevented from entering the house, but that from the waste pipes within must be thoroughly excluded from the apartments and its venting be provided for.

In order to learn the true situation and the best remedial measures for insanitary plumbing, the

AMERICAN CARPENTER AND BUILDER has obtained the views of representatives of prominent plumbing supply concerns.

Prominent Plumbers Point the Way to Better Plumbing

"There is no question that insanitary water closets and bathrooms are great breeders of disease," said Leo H. Pleins, architect and sanitary engineer for James B. Clow & Sons, Chicago. "A piping system for soil waste and vent is one of the great needs. Instead of a standard weight cast iron pipe, extra heavy cast pipe and fittings should be used. The system should be carefully tested by means of water, air or smoke. Then all the fixtures should be set open. The water closets should be of the siphon jet type preferably, on account of the depth of water seal, and less fouling surface in bowls than wash down types have. Bathrooms should have cast iron drum traps with trap screws set flush with floor, as lead traps are obsolete. Connections between outlets of water closets and soil pipe stacks should be of cast iron and not lead. Composition gaskets should be used instead of rubber for making closet connections. All waste and supply connections for lavatories should be made to wall instead of to floor, and lavatories should be of vitreous ware where a more durable fixture is desired than the ones of enameled iron. The water supply system should be galvanized iron pipe with galvanized malleable iron beaded fittings. The piping should be ample in size and as little one-half inch pipe as possible used, except for short branch connections to fixtures. Range or hot water heating boilers should be placed in basement where possible and hot water supply system arranged so that a positive circulating system may be obtained."

According to John A. Noone, Chicago manager for the Standard Sanitary Manufacturing Company of Pittsburgh, no class of material entering into the construction of buildings has been improved as much and brought to such a high standard as sanitary plumbing. Mr. Noone is pleased to note also that with the increased popularity of up-to-date plumbing accessories there has been a corresponding decrease in the number of cases of disease brought about by insanitary water closets and bathrooms.

Metal to Metal Closet Connections

"The weakest point in a drainage system has been, up to the present time, where a water closet is connected to the soil pipe," began Mr. Noone. "The reason for this weakness is that the joint between the water closet and the lead bend is almost always made with putty, and putty is anything but a reliable material for this purpose. From the very earliest records of plumbing, up to within about twelve years ago, the connection of water closets was made by beating the end of the lead closet bend over the top of the floor, and setting the fixture outlet into the opening thus

Model Bath Room Equipment for Average American Home Today—Syphon Jet Water Closet, Vitreous Lavatory on Enameled Iron Wall Supports, and Modern White Enameled Bath Tub

made, with a bed of putty between, then fastening the fixture in place by means of lag screws. Even to this day in many of the smaller cities where there are no plumbing laws, this insanitary method is still adhered to, for no better reason than that of economy. That such a connection was faulty was long ago recognized by progressive plumbers. After a closet had been set for some time, the putty dried out and disintegrated; jolting of the closet cracked the putty at the joint, so that it no longer remained gas and water tight, and, in many cases, settlement of the stacks actually pulled the lead flanges through the floor, leaving gaping openings for the passage of drain air and water. To prevent the pulling apart of the joints, the closet floor flange was invented. This fitting, although but a compromise, for that is what it proved to be, nevertheless went a long way towards strengthening the weakest link in the house-drainage chain. It was such a distinct improvement over the old method that it was immediately given the stamp of approval by sanitarians, and its use required in every city having a plumbing code. Further than that, architects and sanitary engineers specified the floor flange for closets on work they had charge of in cities where there were no plumbing laws. While the flange of cast brass which can be soldered to the lead closet bend and bolted to the flange of the bowl strengthens the weakest point in a drainage system, still it is open to the serious objection that, like the lead flange, its predecessor, this joint depends upon putty to make it tight. A stronger and more enduring joint has been found in a screw thread connection. This makes the joint a metal to metal connection. Putty or no other kind of paste is necessary with this invention. Also it is noted that in homes where disease had encroached previously because of insanitary plumbing, there has not been any sickness from this cause since the metal to metal connection has been introduced."

We wish to acknowledge indebtedness also to L. Wolff Mfg. Co., of Chicago, for valuable information on this subject and for the use of the model bath room illustration.

"Better Buildings" and Our Readers

"The sweetness of low prices never equals the bitterness of poor quality."

He Favors Cut Iron Nails

To the Editor: Toronto, Ont.

As a reader of your valuable and interesting paper almost from its beginning, allow me space to say a few words as to the relative merits of the different kinds of nails used for shingling. I have about 24 years' experience at the trade and quite agree with Mr. Kane that the ordinary wire nail is not the best to use on shingled roofs. Nevertheless we use them here almost entirely because perhaps they are the easiest to drive. We use them 1½ inch long. I have used 1½ inch cut iron nails, which I consider the best for all purposes.

I reshingled a roof that had been on for over 50 years and a great number of the nails were more or less sound. Of course the shingles were the old fashioned split kind, that did not hold the moisture as much as the present sawn shingle. I have reshingled roofs in Chicago which had not been on more than 10 years where the wire nails were used. I found the shingles quite sound but the nails had rusted right through and you could pull the shingles off with your hands.

Of course, climate makes a difference, also the pitch of the roof and the quality of the shingle; for in some localities the same shingle has a much longer life than in others. I find the white cedar shingle grown in New Brunswick the best for all purposes we get here. I have never handled cypress shingles but would think they would give good service. Enough shingle talk for this time.

Now a few words as to the merits of your paper. I am now subscribing to five different papers that treat on building and building construction, and in my humble opinion you have the best. It is so varied in the many subjects you treat; and every word of it is good.

I would like to see a little more space given to brick and stone dwellings, as that is the class we build almost altogether here. You seldom see a frame building here of the class that we see so much of in American publications.

THOS. LEWIS, Carpenter and Builder.

Better Building Practice for Veranda Foundations

To the Editor: Watertown, N. Y.

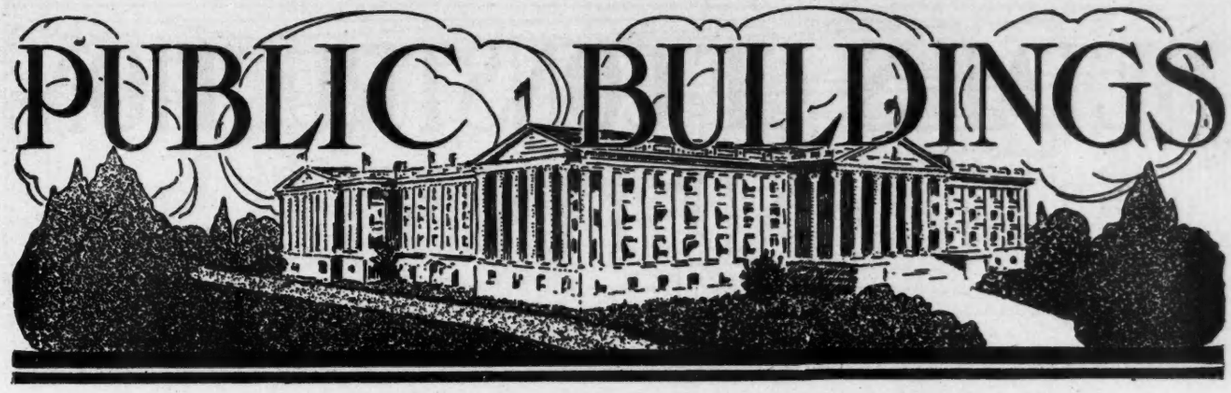
I will offer a suggestion to the readers of this department as to the best way to put up the sills and foundations for a good veranda. I find that the great reason for so many verandas rotting out is from the custom of using green timber for sills and then nailing on the skirting boards directly to this green timber, leaving no chance for air to get between them to keep them dry and to get a chance to dry out after a damp spell of weather. I always build the sills up by using 2 by 6 hemlock spiked together in two thickness, making the space between ½ inch, by the use of strips tacked on to one before spiking them together. This will make a sill 6 by 4½, which allows the air to get at all sides of it to dry it out and keep it so.

Next I tack on ¼-inch furring on outside of sill; then put on skirting boards—with all joints put up in lead.

I use iron pipes put 3½ to 4 feet into the ground on good flat stones at the bottom and cast iron caps on top. In this way the frost can't get under them to lift the foundations. Next I place the lattice and brace it to the joists to hold them plumb. This is the easiest time to do this, as one can stand between the joists and does not have to crawl on all fours to do it, especially where the veranda is low. Next lay the floor out of good white pine or cypress.

Paint the edges of the boards, groove and tongue completely with good heavy lead and oil, as thick as heavy cream. Then I never leave a bit of material over night that is not primed over thoroughly, for if it gets wet you will have a bum job forever. I will say also that it's important to set all the columns in white lead and lots of it, if one would keep the floor for rotting under them. But this can be remedied now largely by the use of the cast iron bases on the market. These gives air space and drainage for the bottom of columns.

J. M. KANE.



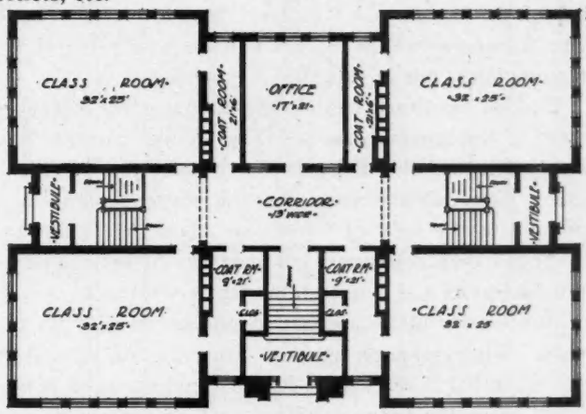
Provision Made for Expected Growth

THIS NEW GRAMMAR SCHOOL BUILDING FOR ARGO, ILL., IS DESIGNED SO AS TO PERMIT THE ADDITION OF A SECOND STORY WHICH IS TO BE BUILT AT SOME FUTURE TIME

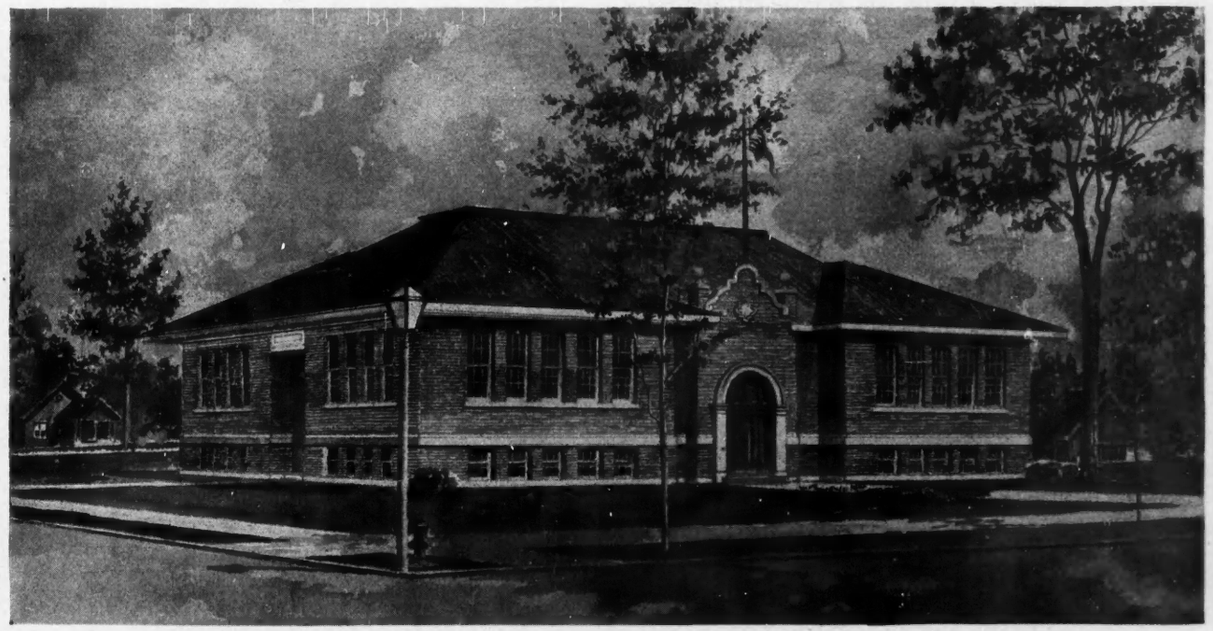
A FEATURE decidedly unique in schoolhouse construction will be adopted in the building of the new grammar school building for Argo, Ill., plans for which have been prepared by G. W. Ashby, the well-known authority upon schoolhouse architecture, of Chicago. Ground for this new school building will be broken about April 1st.

The construction feature above referred to is the erecting now of the first floor of a future two story schoolhouse. The plans as finally accepted provide for a building of gray brick with white stone trimmings. The roof, for present usage, will be of shingles, stained red. When the additional and final story it is planned to build within a year or two is completed, a permanent roof of tile or slate will be put on.

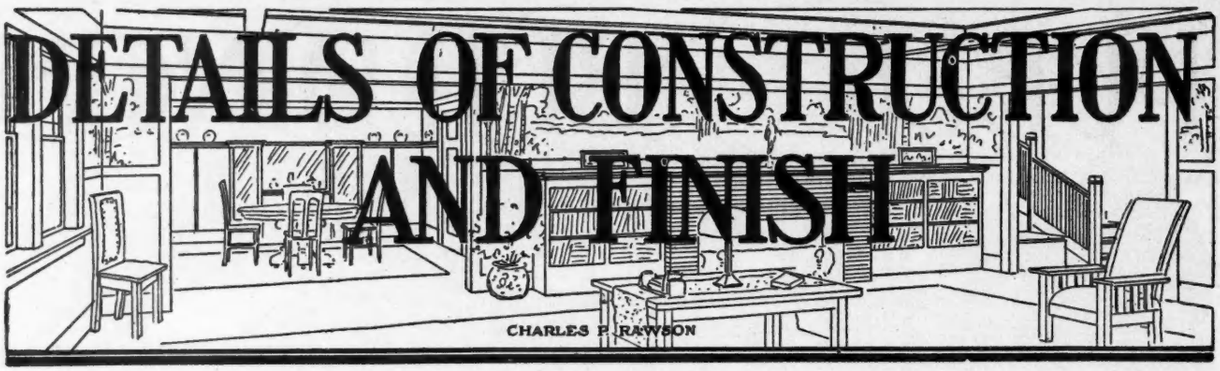
Accompanying illustration and floor plan will show at a glance that the latest modern appointments in schoolhouse construction have been provided for. Class rooms are large and with ample light. Each will have its connecting cloakroom. Stairs and first landing of the flights which will lead to the second floor will be installed now. The basement will be finished for a manual training room, heating system, lunch-rooms, toilets, etc.



Floor Plan of New Grammar School Building at Argo, Ill.



Grammar School Building to be Erected at Argo, Ill. It is Planned to Construct an Additional Story within a Year or so. Designed by G. W. Ashby, Architect, of Chicago



Design and Details of Built-in Wardrobe

PROPER WAY TO BUILD-IN THIS CONVENIENCE—AN ARRANGEMENT THAT WILL PROVE POPULAR

WITH perhaps an exception here and there, built-in furniture, as we understand it today, belongs to this period and this decade. In the last generation furniture was a thing apart and not of the house, and I am sure that few of us recall any furniture in our mother's home which might be appropriately put in this class.

Built-in furniture has closely followed the development of the bungalow idea. The servant question has also influenced the construction of this type of furniture. Conveniences built into the home not only are of help to the lady of the house when she is thrown upon her own resources, but they are of assistance to the domestics and help to retain their services.

Built-in furniture appeals to one because of its fitness. The architect has the designing of it, and it therefore harmonizes with its surroundings, and is finished after the manner of the rest of the room, and the sense of harmony in color treatment is not thus rudely interrupted. To the one who has the care of the furniture, the built-in product appeals because it requires less work. It is more sanitary, and has no open space underneath for the accumulation of dirt. It also makes available a larger percentage of floor space, which is an important factor in small houses.

We show herewith details of a built-in wardrobe for a bed room. The doors are ordinary one panel, 2 feet 6 inches by 7 feet doors with the panels filled with a beveled plate mirror. At the top of the case is a movable rod for coat and suit hangers. Below are long, wide drawers and shelves. Above these drawers are placed two large hat boxes with drop-front doors provided with spring hinges. The inside of the doors and the back of the case can also contain ordinary clothes hooks. The inside of the case, including the drawers, inside veneering of doors, etc., should be made of cedar. This is a splendid wood for this purpose and makes the case entirely vermin-proof, provided that no filler or varnish is put upon the wood.

The drawings show front elevation, plan and section of the case and are drawn to the scale of three-quarters inch equals one foot. The entire case should be made at the mill and installed in the house at the time that the inside finishing is done. The opening is cased similar to other openings in the room. Housekeepers will find that an article of this description will be far more convenient, more sanitary, and more easily kept clean than the ordinary clothes closet.

✣

To Hang Burlap

For hanging burlap on a board wall the following method has been tested and found O. K.:

First, make a size of 1 lb. glue, soak the same in 1 gallon of cold water for two hours, then add 4 lbs. of very dark brown sugar (the darker the better) and then bring to a boil and boil for ten minutes, then reduce the whole with as much water as for sizing, apply to boards when cold, dry and follow just before hanging with a second coat.

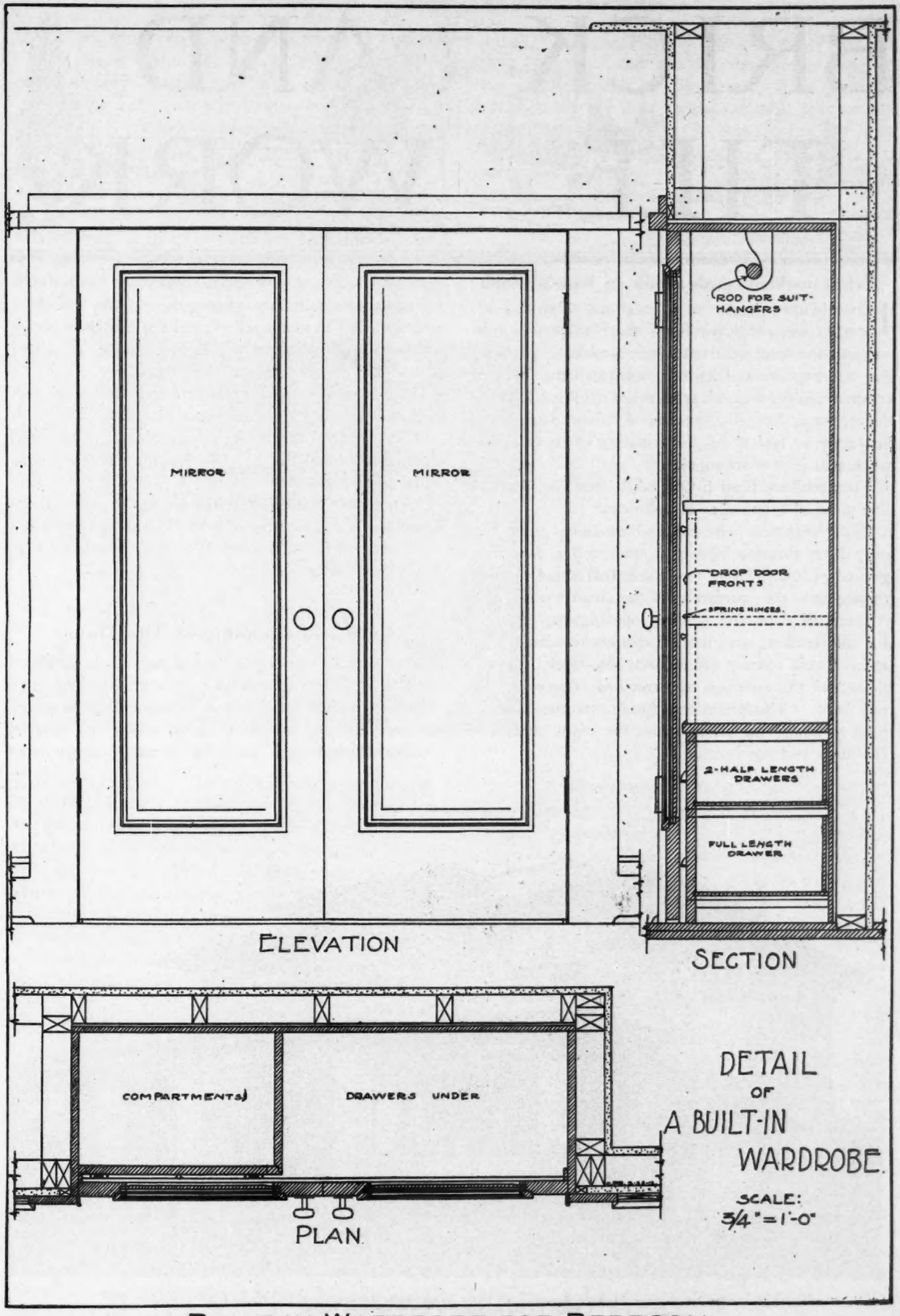
To make up your paste for this work, make up a good stiff wheat flour paste, and while hot add to a 12-quart pail full, Venice turpentine, two tablespoonsful, paste your strip, fold and lay aside till a second strip is pasted, then take first strip, unfold and paste again, when after trimming with straight edge and knife it is ready to hang.

Hang your strip, and brush up and down, never crossways, as burlap will stretch and will soon be out of line for a second strip.

In hanging the second strip, hang so your edges do not quite meet. Brush down the whole strip, same way as first, cut off at the bottom, then bring edges together from both sides to a butt edge, roll down seam and never leave it till you are sure it is dry. Always look back for seams shrinking open. Proceed sure and success is assured.

This same system applies to plastered walls, except that only one coat of sizing is then applied.

FULL PAGE PLATE SHOWING COMPLETE DETAILS IS PRESENTED ON THE OPPOSITE PAGE



BUILT-IN WARDROBE FOR BEDROOM

BRICK AND TILE WORK

Present-day Tendencies in Brick Work

IT is always a matter of interest and profit to builders to see and learn how other builders in other parts of the land are meeting the problems of present day building demand and are solving them. The accompanying photograph is of a beautiful modern residence, put up by C. T. Broxton of Athens, Ga. It may be taken as typical of the rough texture face brick work that is now so popular.

The architect, Fred J. Orr, of Athens, Ga., describes this piece of brick work as follows:

"The brick are wire-cut and range in color from deep blue, through blue gray, red, and a very much grayed yellow. These tones are distributed unevenly throughout the surface of the main wall faces. Around all door and window openings, as shown in the illustration, are header courses projecting one inch. These courses are of dark blue brick. Between them and the opening are stretched courses of dark red brick. The projecting header courses are also used to bound the frieze under the eaves, and in the chimneys and porch columns.

"The frieze is a very simple pattern of header-and-stretcher effect in two tones—the middle (header) courses being in rayed yellow, and the stretchers above and below of light red. This is bounded, as stated above, with projecting courses of dark blue.

"Mortar joints are of cream colored mortar, ⅜-inch wide and raked out ⅜-inch deep, square.

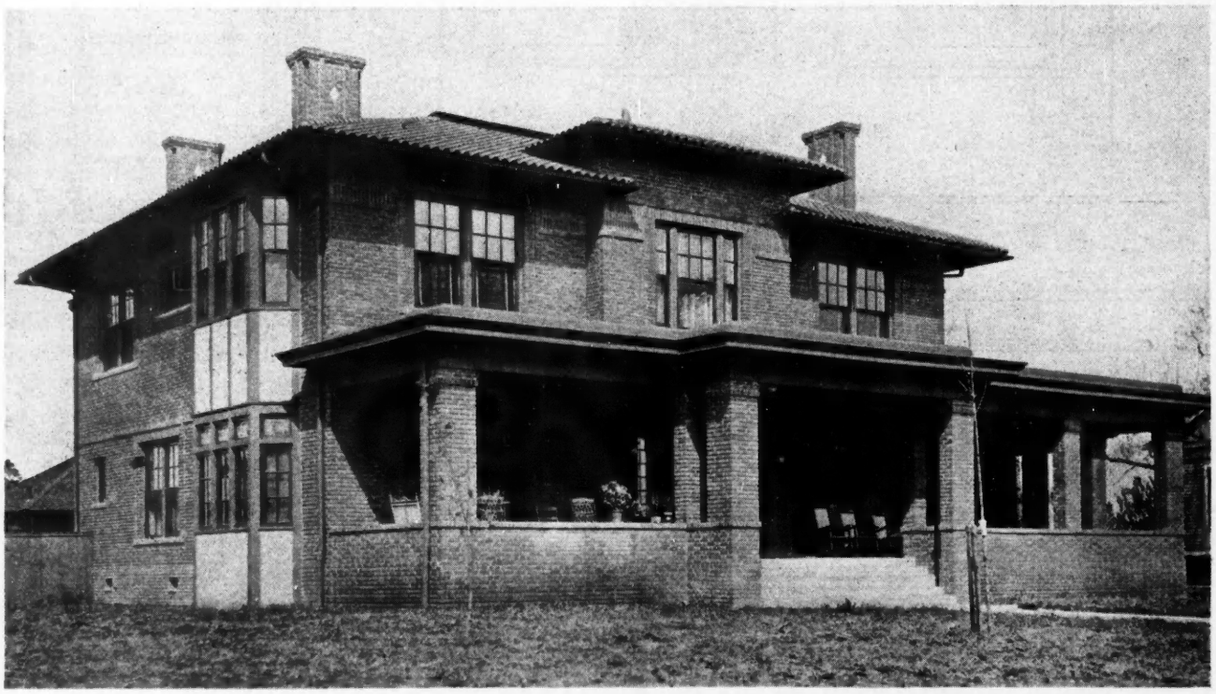
"The roof of the house is covered with dark red Spanish tiles and the wood trimmings painted a dark brown.

"Altogether the effect is one of great richness, the brick surface presenting a most delightfully soft mellow tone, restful to the eye, and really exquisite in its harmony of color."

✣

Care and Cleaning of Tile Floors

To clean a stained tile floor it should be scrubbed with clean soap suds and lye. Sufficient lye should be added to the water to make it strong enough to attack the dirt, but not so strong as to injure the fibre of the scrubbing brush. In order to avoid injury from



A Beautiful Example of Modern Rough Face Style Brickwork; Residence of Dr. H. C. White. Athens, Ga.
Built by McArthur Old Style Mission Brick

lye, the workman should protect his hands by a pair of rubber gloves. After the soap suds have been wiped off the floor, it should be sprinkled with fine sand and rubbed with a soft pine board, renewing the sand from time to time. It may be necessary to give the floor a second scrubbing with soap suds and lye, after it has been treated with sand.

Ink spots and many other stains cannot be removed in this manner. They must be gotten rid of by being treated with a dilute solution of ordinary muriatic acid, rather stronger than is ordinarily used for removing cement from the surface of tile after they have been set. This strong acid should not remain on the

Ornamental Tiling the Ideal Material for Porch Floors

floor too long, because, although it has no effect on the clay tile, it is very injurious to cement jointing. If the stains resist this treatment, the floor should be wiped off with clean water and chlorinated lime or bleaching powder should be sprinkled upon the stains. The powder should be moistened with a little water and then rubbed into the tile. Dilute muriatic acid should then be sprinkled upon the bleaching powder and water, rubbing the mixture well into the tile with a small wet rag and keeping the hands protected with rubber gloves. The operator should avoid, as much as possible, breathing in the strong chlorine gas which is given off by this mixture. Then wipe up with clear water.

All tiled floors except those composed entirely of vitreous tile should be coated on the surface with a material that will prevent dirt from being ground into them. After the floor has been thoroughly cleaned and allowed to dry, it should be coated with a preparation composed of half a pound of yellow beeswax and half a pound of paraffin, dissolved at a low heat in one gallon of turpentine. This must be done over a slow fire, as the turpentine takes fire if it becomes too hot. When cool, the mixture should form a thin oily liquid. It should be applied to the floor with a soft rag or with a brush, rubbing it into the tiles as long as they will absorb it. After the tiles become glossy, wipe off what excess remains on the surface. This treatment will leave the tile floor bright and will prevent dirt being ground into the tile. As this substance is of an oily nature, it cannot be applied to a floor which has been cleaned until the same is thoroughly dried out, which takes several days.—*Mantel Tile & Grate Monthly.*

✣

Dirt Bands on Lath and Plaster Ceiling

An inquirer wants to know why the ceiling of her room is striped with alternating bands of light and dark, and why this is more plain nearer the radiator than elsewhere.

The reason has been explained as follows: The plastering is put on over laths. The wooden laths are better conductors of heat than the air spaces between them. Therefore the plaster over the lath is colder than that over the spaces.

The water in the air precipitates at the colder zones, and the moisture catches the dirt out of the air. The dirty band marks the location of the lath, the clean that of the space.

The space over the radiator shows this more plainly because the hot air from the radiator flies straight to the ceiling, carrying the dust and sticking it there.

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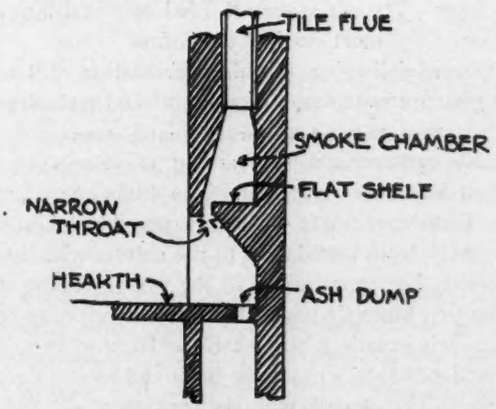
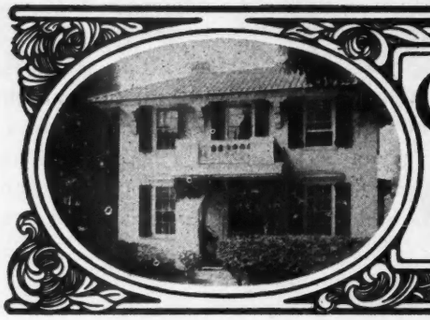
Smokeless Fireplace

By means of a flat shelf built at the rear of the flue opening, as shown in the accompanying sectional diagram—which will serve the purpose not only of



Sectional Detail Showing How to Construct a Smokeless Fireplace

catching falling soot, but also of preventing wind from blowing into the fire—a fireplace may be rendered "smokeless," and a common source of trouble be thus avoided.



CEMENT BUILDING CONSTRUCTION

Stucco on Metal Lath

TYPICAL SPECIFICATIONS RECOMMENDED BY ASSOCIATED METAL LATH MANUFACTURERS

H. B. McMaster, Commissioner

THE merits of the stucco house are now so well recognized that arguments in its favor seem to be trite. It is assumed that the prospective builder and his architect want a stucco exterior and, realizing that when built, the house will look as substantial as stone, brick or solid concrete, they want a structure that will age slowly and gracefully through decades—not fail perceptibly from year to year.

This specification is offered with this realization promised; but it must be borne in mind that poor work is dear at any price. A faithful observance of every detail will give results gratifying to the architect and satisfactory to the owner.

Metal lath is recommended because wood lath absorbs moisture required by the mortar. Wood lath drys out and shrinks away from the plaster, following which the alternate shrinkage and swelling resulting from moisture causes unsightly cracks and finally failure. Wood lath, also, increases the fire risk and it will harbor vermin.

Metal lath in combination with cement plaster is "reinforced concrete" and will insure an unbroken surface—to be assured of which is at least an uncertainty when the plaster is applied direct to a wall set up in block form. The air space afforded by metal lath construction is the most efficient insulation.

A careful following of this specification will absolutely give a construction economical and enduring.

Framing and General Construction

Flimsy construction in framing is false economy. The best will prove cheapest. The studs spaced at 12 inches between centers wherever possible, should be run entirely from foundation to the rafters without any intervening horizontal grain in the wood. These studs shall be tied together just below the second story joists by a 6-inch board, which shall be let into the joists on their inner side, so as to be flush and securely nailed to them. This board will also act as a sill for the second story joists, which, in addition, will be securely spiked to the sides of the studs. At two points between the foundation and the eaves, brace between the studding with 2 by 3 inch bridging placed horizontally but with the faces of the bridging inclined in alternate directions in adjacent spaces.

All roof gutters should be fixed and down-spouts put up before the plastering is done; the down-spouts should be temporarily placed about a foot from the wall so there will be no break in the plastering where they are to be finally fixed.

Wood copings or rails for tops of parapets, balustrades, etc., are not so good as cement, for they may curl up, warp, check, crack, and in various ways fail to do what they should—keep water from getting behind the plaster. This also applies to brick chimneys which, when plastered, should have wide and tight caps of concrete or stone to prevent water running behind the plaster.

If only wood sills are used, they should project well from the face of the plaster and should have a good drip; either by being placed with a downward slant or by a groove rebated in the under side of the sill near enough to its edge that it will not be covered by plaster. The drip is an essential of good stucco construction that can not be slighted. It must be used to prevent water getting behind the plaster.

Lath and plaster should not be carried all the way down to the ground; this same restriction applies to brick or stone.

Care should be taken that all trim be placed the proper distance from the studding or furring to show its right projection after the plaster is on. It is a common mistake to allow too little for the lath and plaster, with the result that mouldings which should project from the face of the wall are back from it or partly buried under the plaster, thus missing the effect desired. About 1½ inches should be allowed for the lath and plaster, making sure that the projection of the moulding to show when finished is not measured in as part of this thickness.

Furring. Use painted or galvanized steel rods or painted or galvanized crimped furring. One-quarter inch is best, and it should not be over one-half inch at the most. This furring is to be applied along the face of the studding with galvanized staples.

Insulation. After the lath on the outside has been back-plastered the air space may be divided by applying heavy building paper, quilting, felt or some suitable insulating material between the studs, fastening it by

nailing wood strips over folded ends of the material. This insulation should be so fastened as to clear the 2-inch bridging, leaving the preponderance of the air-space on the outside. Care must be taken to keep the insulating material clear of the outside plaster, and to make tight joints against the wood framing at the top and bottom of the spaces and against the bridging where the 3-inch face intercepts.

Corner Bead. If corner bead is not used, there should be 6-inch strips of metal lath bent around the corners and stapled over the lathing unless the sheets of metal lath as applied are folded around the corners.

Even though corner bead is used, it is a good precaution to bind the corners in this way and apply the corner bead over the strips of lath.

Lathing

The lath shall be painted to protect it until it can be applied and covered with Portland cement plaster. Care should be taken not to expose the lath to the weather while it is lying about the building.

Use metal lath weighing not less than 3 pounds per square yard, spaced at 12-inch centers and fastened horizontally over the furring strips with galvanized staples 1¼ by No. 14 gauge. The sheets between furring are to be tied with No. 18 gauge galvanized wire.

Plastering

Portland cement will protect metal from corrosion absolutely by reason of its moisture-resisting qualities. Calcined gypsum should not be used in combination with Portland cement; the gypsum will destroy the protective quality in the cement, and neither should it be used as a substitute for Portland cement. A gypsum plaster may repel moisture for a time, but Portland cement actually thrives on it.

It is not theory only that Portland cement will preserve iron or steel indefinitely; it has been well demonstrated that Portland cement stucco will endure in any habitable climate. The first and second coats should be of good thickness and the finishing coat should have with it a mixture of waterproofing. A total thickness of plaster of about 1½ inches is good practice.

It is aimed for the first and second coats to get a Portland cement mortar with as little lime in it as will make it work properly. Clean, long, winter cattle hair should be used.

For first and second coats and back-plastering, mix in the following proportions:

Lime Mortar. Two barrels of hydrated lime, 1 yard of clean sharp sand free from loam, 4 bushels cattle hair.

Make up at least 3 days before using.

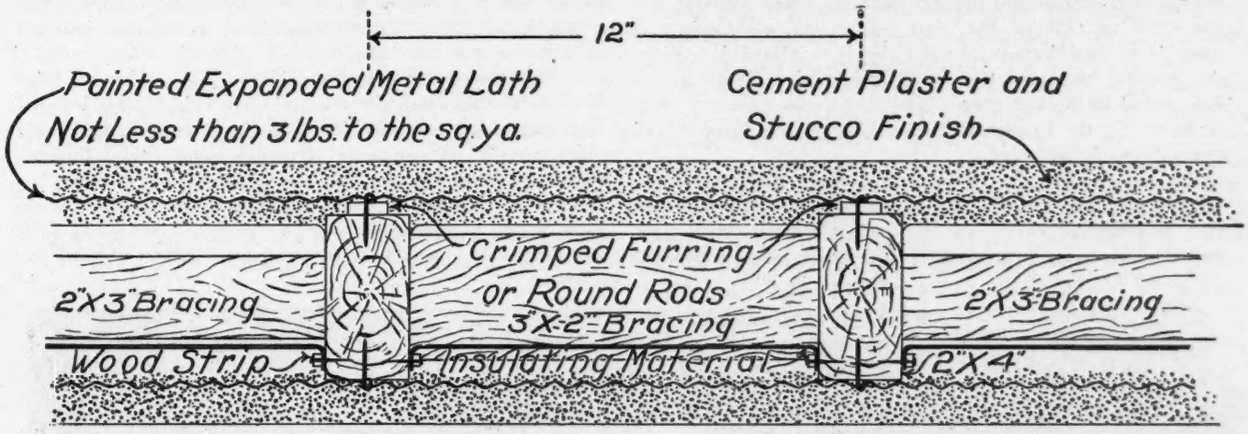
Cement Mortar. Two parts of clean sharp sand free from loam, 1 part Portland cement.

Mix fresh in small batches as used.

The lime mortar and cement mortar should be mixed and tempered separately, measured carefully, equal parts of each and mixed well together.

In plastering over the face of the stud, the plaster should be forced well through the lath in order to fill entirely the space between the lath and the stud.

The back-plastering should be a heavy coat well troweled, so that the lath is entirely enveloped. The finish coat may be done in a way to get any one of the many surfaces which give stucco its charm; this coat should contain no lime, as it makes the wall more porous, and if a lighter color is wanted than can be gotten with ordinary cement, a white Portland cement should be used.



Detail Showing Section of Exterior Wall

The waterproofing acceptable to the architect should be mixed with the last coat of the exterior, according to directions given by the waterproofing manufacturer. The lathing and plastering on the inner side of the wall need not differ from ordinary practice.

The exterior plaster must not be allowed to set rapidly; if necessary hang in front of the wall a curtain of burlap or other material that can be kept moist for a couple of days. Stucco should never be applied when the temperature is below freezing.

"The Spectator" Visits the Cement Show

READERS of *The Outlook* (New York) have long been delighted and refreshed by the weekly papers of "The Spectator," that traveler, philosopher and sight seer of mysterious identity. "The Spectator" has journeyed far and spectated many strange and human things—all of which he has set down most graphically for the delectation of his readers.

And now "The Spectator" has been to the New York Cement Show. Evidently he found it entertaining and instructive. His report in *The Outlook* of Feb. 17th, is as follows:

Ceiled in misty green, the vaulted roof of the Garden brilliantly lit, overarched three great rows of gray-hued booths, with clusters of electric lamps studding them thickly. At each end, around the spacious ovals of the balconies, were hung tapestry scenes whose landscapes appealed irresistibly to the eye and mind. They were of the true drop-curtain type of magnificence, with broad steps, massive balustrades, haughty mansions, flower-decked pergolas, arched bridges, winding walks, and all the rest of it. But their appeal was deeper than the eye—to every object in the scene the same central and fundamental thought applied. Their keynote was the same as that of the gray booths below—"Cement is King!"—as one fervent electric sign proclaimed it. From the graceful sweep of the walks (made of cement) in the foreground to the low purple hills (from which cement could be made) in the background, one thought, one purpose, and one will ruled the design.

"Cement is King!" It is toward this twentieth-century slogan that the mud-pie instinct and talent, born with the race, has worked ever since the ancient Romans were new. Down in one of the central aisles of the show, upon a pedestal of concrete, under a glass shade of the sort usually sacred to wax flowers, stood a lump of cement taken from the Roman Forum. It was over two thousand years old, and Romulus and Remus may have mixed it, but it appeared to be as good as ever. The latest young couple from the suburbs, visiting the Show to see how cheaply they could build a cement bungalow that would be a dream of summer coolness, winter warmth, and all-the-year-round beauty, looked at this chunk from the Eternal City and remarked earnestly to each other, "There's *nothing* lasts like concrete!" Close beside it, but not able to look it out of countenance at all, was the pride of the Show, the splendid working model of the Gatun Locks and Dam of the Panama Canal, with its tiny ships that passed to and fro in the miniature locks and demonstrated the blessings to flow from pouring some five million barrels of cement into the isthmus. Cement can thus divide continents as well as hold them together. The Spectator felt that Romulus and Remus would have enjoyed mixing concrete for such a truly imperial enterprise.

Empire-builders and home-builders alike are interested in concrete nowadays. It might have been called "*New* Home Week," for the young pairs who looked at poured houses, fence-posts, statuary, bath-tubs, furniture, fountains, etc., were legion. One young man, with a face of rapture, paused before a cement hen-coop, shaped like an oven, with a handful of straw and four gleaming china eggs inside to give it the true agricultural touch. "That's what I want!" he said to the sweet young girl by his side. "You see what it says—you can burn it out, and that kills all the insects." The girl smiled vaguely in sympathy. "Yes, indeed," she cried, anxious to partake his every thought. "But mightn't the fire cook the eggs too?" doubtfully.

Such rifts in the lute did, of course, occur. But in the main young home-seekers were blissfully of one mind as to concrete. They would have a house of it—yes, not to cost

Booth of the Radford Publications ("American Carpenter and Builder," "Cement World," and "Dealers' Building Material Record") at the New York Cement Show, Jan. 29-Feb. 3, 1912

anything like as much as an ordinary house—and fence-posts of it that would *never* wear out, and steps, and walks, and hitching-posts, and garage, and chicken-house, and water-trough, all cheap beyond compare. All sorts of castles in the air were being built on concrete foundations that day. Prosaic indeed would be the pair whose imaginations were not stirred by the call of the cement. A material that can be mixed out of any sandbank, and that will make a Renaissance mantel-piece or a garden balustrade, a goldfish acquarium or a set of mission furniture, is admirably suited to lovers' dreams.

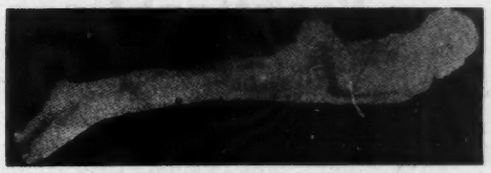
There was a patent mixer too. It was a cross between a wheelbarrow and a mediaeval iron maiden filled with cutting knives. Anybody could shovel in the ingredients, close the iron doors, and push the two-wheeled affair along. As the axle turned, the knives within turned and churned with it, cutting and mixing the cement, and when the spot was reached where the concrete was required, lo! there it was ready, well and duly mixed. The Spectator was greatly drawn to this machine, with which, on a down grade, mixing would be one grand, sweet song. He was also much attracted by a "unit system" of building concrete houses. The sections consisted of concrete members, some horizontal, some upright, none weighing over fifteen hundred pounds, and so arranged as to interlock and hold together. Two men and a small hand-derrick could, it was claimed, do the placing, or even, the inventor proclaimed, a woman could execute the process of erection. These units, combined in any size and variety of building, could be locked together by a patent lock until such a time as their dissolution was desired. Then, presto! they could be unlocked, and the building done over again like a house of blocks. Perhaps in the plays and novels of the future the Raffles of the plot will not break into a house, but simply unlock it with a master-key. It might give a householder a rather unsettled feeling; but, then, think of the joy of being able to take one side of the house out and let the breeze blow through on a hot day!

Concrete pipes were displayed in variety, and concrete poles were at the same booths. Whether the poles were made out of the cores of the pipes, or the pipes built around the poles, the Spectator did not ask, but, in either case, why not? The telegraph poles of the future are to be of cement, and the sanitary pigsties, and the roads and pavements, and the barns, and the floors and stairs, and the pillared porches, and the tunnels, and the roofs, and the canal barges, and the bridges and the subways, and the statues and the docks, and the dye-vats and the ash-bins, and the corner-stones and the cisterns and the grand stands. Perhaps a cement breakfast food may be discovered, too. The present materials, crushed and heaped up, have a look of some stone-age cereal about them even now. It is already prophesied by one of the clever scribes of the Show that, "born in a cement house, rocked in a cement cradle, fed from cement dishes that rest on cement tables, the modern baby . . may at last be laid away in a coffin of cement."

The baby may not be ready for that, but the coffin is. The Spectator saw it—two or three varieties of it—among the exhibits. "Will it make funerals still more expensive?" asked a middle-aged and careworn individual, and on being answered in the affirmative, went on, disapprovingly, "Why don't you have urns for ashes, so's people can be cremated instead?!" The exhibitor smiled proudly and pointed to a small dress-suit-case affair with a domed top. "This is for ashes," he said, "and lots of folks here in New York buy them for their dogs and cats."

One concrete tomb, however, with always a crowd about it, had a past instead of a future. It was the reproduction of an ancient tragedy. Centuries ago, in 1535, the Spanish garrison of Oran, in Algiers captured a tiny Arab child—a boy whom they named Geronimo, after a Christian saint. Brought up as a Christian, he returned to his family, lived as a Mohammedan for some years, but came back to the faith, and in 1569 he joined the Spanish soldiers on a coasting raid. A Moorish corsair captured the raiders, and they were brought to Algiers. Geronimo was promised his life if he would return to Mohammedanism. This he refused to do, and was condemned to be buried alive in the concrete wall of the fort which was then being built. His hands were tied behind his back, and he was cast, face downward, into a block of concrete then being prepared for its place in the wall.

Haido, a Spanish Benedictine missionary, set down in his book on Algiers, in 1612, the story of Geronimo, with careful notes as to the exact spot of his tomb in the fort wall. He adjured the Christian world to conquer Algiers, find the tomb, and give the martyr Christian burial. In 1854, when, under

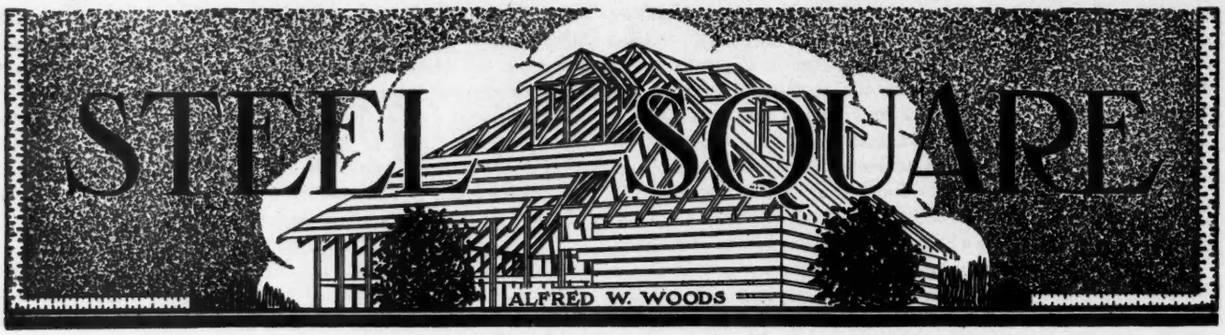


Cast of Boy who was Buried Alive

the French, the old fort was torn down, Haido's notes were followed in seeking for the body. The concrete block was found and cut open, disclosing the bones of Geronimo and the cavity left by his body. In this mold plaster was poured and a cast taken, showing, as history had told, the form of a young man, bound with his arms behind his back. The bones now rest in a massive stone sarcophagus in the Christian cathedral, and the plaster cast, with the hollow cement block broken apart as if to show it, has been preserved; and the Cement Show had it copied, and showed it as its romantic and appealing exhibit.

The "poured house" and the "cement gun" were also always surrounded by a throng of sightseers. Last year Edison promised cement houses poured at high pressure, so to speak. That has not yet come to pass, but one or two companies now pour houses by using wall molds. One sort of wall mold makes a solid wall, another makes a hollow wall. One railway company in Pennsylvania is now building a model village of these poured houses, which require neither "pointing, painting, nor repairs." In the house of the twenty-first century, indeed, all repairs will probably be made by the cement gun—which is not a gun, but a glorified garden-hose affair, coupled to an engine by one pipe and a cement-mixer with another. The engine works, the bags are emptied into the mixer, the cement is mixed in the "gun" and shoots out from the hose to be played on wall or roof or pavement or whatever is to be covered with the cement. The concert-room of the Garden, where the gun was at work, was full of mist and cement dust, but through it all the workman in canvas overalls who held the gun went on calmly decorating the bas-reliefs, walls, panels, etc., of a sort of bomb-proof in the middle, and laid on an inch layer of concrete at a time, more evenly than any trowel could do. Any crack in a cement wall, any hole in a concrete roof, could, the Spectator supposes, be easily mended by even an inexperienced gunner. The roofer and the carpenter may yet perish from the earth before the cement gun.

In fact, the Spectator felt as if he were looking into a new world through the vistas of the Cement Show. What is going to become of house rats and of stone-cutters and of quarrymen? Will the iron ship become reinforced concrete, as the canal barges are going to be? Will bricks and mortar be put into museums? Will there ever be a conservation movement to preserve the mountains from going into the hopper in order to build whole cities of poured houses? A cement Sphinx, gray and calm, confronted the Spectator at the corner of the aisle. Was it the flicker of the electric lights upon the heavy lids—or did it really wink?



Practical Uses of the Steel Square

ILLUSTRATING THE POSITION OF RAFTERS BY THE CUBE SYSTEM SHOWN IN ISOMETRICAL PROJECTION WITH PARTS TO TAKE ON THE STEEL SQUARE

THERE are many ways of illustrating roof framing and which we have in the past endeavored through this medium to make clear. How well we have succeeded, is a question for the readers to answer. We have tried to get at the root of the subject; and if our efforts have been of special benefit to those engaged in building operations dealing in angles, and more especially to those whose living depends on their daily labor, giving full measure and then some for every dollar that they take home at the end of the week; to these, if our efforts have been beneficial in placing them on a more substantial earning basis, then we feel that we have given value for that which we have received. It is not an easy matter to talk on the same subject month after month and say something new each time, when in reality there is not much to be said. Take for instance the last article. It gives the fundamental principle, the cause and effect, the beginning and the end. When these principles are once fixed upon the mind, they can be readily applied to any condition that may arise; and the operator can proceed with a knowledge of certainty as to the outcome of a perfect fit when the work is set up in place. So we are not going to try to say anything new in this article, but take up the same problem or example as shown last month, but show it in a different light.

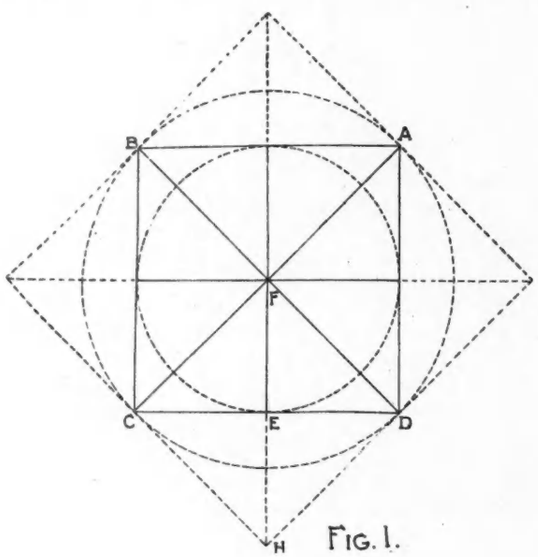


FIG. 1.

In the last article, different parts were illustrated on different squares in the layout, but in this are shown the same parts in isometrical projection, but omitting the squares. The positions of the rafters are shown and the parts to take on the square are clearly defined. To begin with, we wish to emphasize the fact that all angles forming the roof are represented in a cube, therefore we will illustrate by that method.

In Fig. 1 is shown the straight plan, or shape of the building to be roofed, as bounded by A B C D.

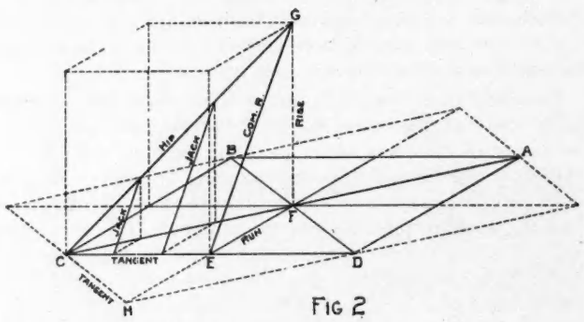


FIG 2

In Fig. 2 the same plan is represented in isometrical projection and in addition on one-fourth of this is erected a cube in which the parts of the roof are represented as follows:

E F represents the run of the common rafter and F G its rise. These parts taken on the square will give the seat and plumb cuts and E G will give its length. C E represents its tangent, which with the length of the rafter will give the side cut of the jack, also for the hip, if it has been backed and the above proportions applied to the backing plane; the side on which the length is taken, giving the cut.

The backing for the square corner may be found by taking the length of the hip (C G) and the rise (F G) and the side of the square on which the latter is taken will give the angle.

The side cut for the unbacked hip, take its tangent (C H) and the length of the hip (C G) and the side of the square on which the latter is taken will give the cut.

In Fig. 3 is shown the completed plan by the cube system, but owing to the complication of lines, as would be required, the rafters for the opposite side

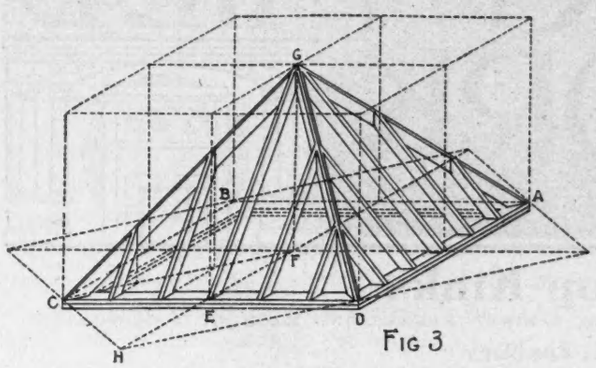


FIG 3

have been omitted. Like letters representing like parts are carried through all of the illustrations, so that it is an easy matter to trace the relative parts from one to the other.

✣

Retaining Walls that Will Retain

A man who has a big place on a hilly part of the New Jersey coast gave out in despair, says *"House Beautiful,"* that he did not believe in retaining wall had ever been built that did not break with frost, or bulge with heavy thunder storms. The architect to whom he uttered his plaint drly observed that any retaining wall that was *properly* built would do its work, even in New Jersey, thereby exasperating the gentleman. "But mine is properly built," he declared, "built by a mason who has lived there all his life and has put up hundreds of walls. He knows his business well enough, but you simply can't keep back a sandy hill once it has made up its mind to slide down!" As the architect obstinately stuck to his initial observation, he was forced to visit the place and vindicate himself. As he suspected, the mason had missed the underlying principle of the matter. Every retaining wall, high or low, that ever he had built there bulged. Holding back a great bank of upward sloping earth he would have an eight foot high wall with a slight batter at its outer face that gave it six feet of thickness at the bottom. This being, to the village contractor, the utmost precaution that man could devise. And as he was a well-meaning soul willing to repair and even to rebuild at his own expense, no one looked into the question further. Yet the secret of doing the thing properly is very simple—*step your wall at the back.*

If a wall is eighteen inches thick at the top and has, at two foot intervals, steps projecting backward eight inches or a foot, according to the weight to be withstood, it will never cause trouble. It is practically bonded into the earth behind it which, resting on every step in turn, presses its mass *on* the wall instead of *against* it. Reinforced concrete, or stone, hard split or block, laid in cement mortar and carefully bonded to prevent the stones from sliding on their bed joints, will defy the worst storms on the coast if stepped as described above. In addition, the footings should, if built of soil affected by frost or surface water, be carried down far enough below ground to insure against heaving or settling; if the incline is steep, a cement gutter should be formed behind the coping and connected with a drain pipe to carry off the surface water, and the wall at the back and on the tops of the steps should be plastered with cement to a depth of at least three or four feet.

✣

Hints on Nailing

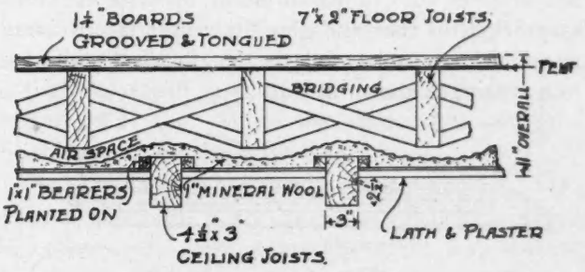
"Strange as it may appear, the true art of driving nails is seldom taught." An experienced employer once remarked that his greatest difficulty had been to inspire his workmen with the habit of leaving off the last hammer blow in nailing on siding and shingles. It seems rather curious that so many workers regard these light and frail materials, when nailing, as they do the heavier framing material.

"While nailing may be the immediate cause of splits, another is the practice, steadily increasing on the plea of economy, of sheathing parallel with the course that the siding takes. This practice, though rarely regarded in its true effect, is inconsistent with the laws of mechanics which do not permit the laying of parallel fibres in building up thickness, as in veneer work or the laying of floors one over another. This has possibly become so general, from the use of shingles in the place of siding. For shingles it is permissible practice. But for siding the sheathing should be placed diagonally across the studding, not squarely. This method adds very considerably to the stability of the walls."

✣

Sound-Deadening a Floor

Inasmuch as floor-joists are conductors of sound, there can be no perfect sound-deadening in a floor, without their insulation. In the accompanying diagram is shown a method of rendering a floor resistant to sound transmission. There is an unobstructed air-



Method of Sound-Proofing Floors

space giving perfect insulation, and also providing very desirable ventilation. Instead of the herring-bone strutting indicated, solid strutting might be used to advantage; but it would cost more.

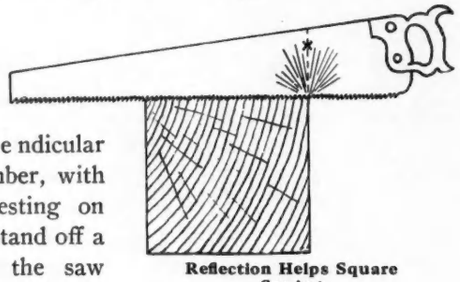
More Shop Kinks

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

By Wm. C. Jasbury

SEVERAL more suggestions and clever schemes it is well worth the time to develop are shot off below:

A Squaring Method: In sawing off a piece of timber, it is sometimes hard to saw square across the timber without the aid of a steel square to give a line to cut to. Here is a method.



Reflection Helps Square Sawing

Place the saw perpendicular with the timber, with the teeth resting on top. Then stand off a piece from the saw and move it until the reflection of the timber's edge shows across the polished blade, as at x, and move the saw until the reflection is in line with actual edge of timber. Try it and you will see more clearly than I can explain.

Some Stair Problems: Many carpenters have trouble in successfully bending stair risers, such as curtail steps, bull-nose, quarter turns, etc. I shall try to treat this subject as clearly as possible. Many architects will not stand for a kerfed riser; they specify, or recommend, sprung veneer. When we have one of these types, we nail, or glue, a sufficient number of waste pieces, of 2 or 3-inch pieces, to make the necessary height of riser and glue the veneer face to same; sometimes we veneer all the length of the riser, as to a veneer, as shown in Fig. 2.

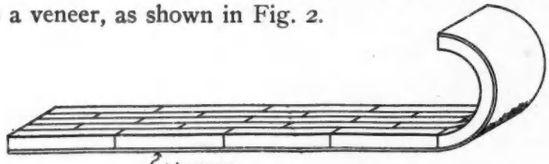


FIG. 1.

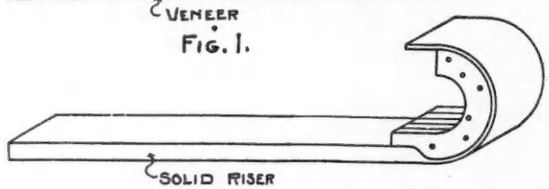


FIG 2

If the above ways are not specified, we kerf the riser, which is usually of 7/8-inch stuff, leaving a full 1/8 inch of its thickness to stand, as shown in Fig. 3. Then we glue it to the rough core, or form, using plenty of glue, so that it will run into the kerfs. After it is dry, clean up and with a plane, or spokeshave, take the kerf ridges out, and it makes just as good a job. Before gluing on the riser, always spread out some sawdust on the floor and sprinkle it with water and then lay the part of the riser that is to be bent, face down on the wet sawdust, so that it will become saturated and it will spring much easier and without danger of breaking. Then clamp to form with hand screws, or by any other practical means.

The placing of the kerfs the proper distance apart, so that when the riser is bent, the kerfs will close up tight so as to make it rigid and also keep it from showng up ridges at the kerfs after being cleaned up, furnishes a little problem that requires care in workmanship.

Considering a riser 7/8 of an inch thick, I take a

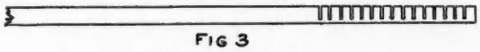


FIG 3

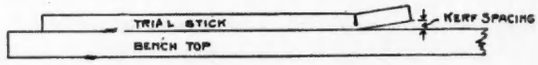


FIG.4.

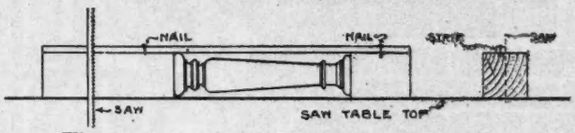
stick of that thickness and measure back from one end a distance equal to the radius of the curve to be bent, and cut kerf in the stick at the mark found, same depth as the kerfs are to be in the riser, using the same saw. Then hold the long end of the stick down to the bench and lift up the kerf end and the distance from the end to the bench will be the proper distance the kerfs should be apart as shown in Fig. 4.

Why the Difference in Turning Balusters: Many wood turners wonder why the stair builder has balusters that vary in the size of the square and turning. One of the seasons is this:

Take the rise of a stair; say it is 7 11/16 inches and three balusters to the tread, the start baluster will be 2 feet 3 inches long and the next will be about 2 feet 5 7/12 inches and the next 2 feet 8 2/12 inches. That

shows how the difference in baluster lengths is arrived at and why small and odd figures occur.

To Halve Balusters: In ripping turned columns



Strip Guides Saw in Halving Turned Pieces

or balusters on a band saw it is made an easy matter and comparatively an accurate task by nailing a strip on the top side as a guide for the saw to follow.

The Use of the Pitch Board: I have seen stair men make much use of the pitch board. Some space off the balusters, so many to the tread, some lay the newels off on same so as to get heights of the rails, turnouts, wreaths of rail, ramps, easement, etc.

Pitch Blocks Laid Off

Something About Panel Raising: I shall endeavor to say something about panel raising. Of course, in a regular door shop, panel raising machines are already set up for the ordinary stock raisings, but in most mills, the detail work is done on a variety moulder. If the panel is laid flat on the table of the machine and extended up to the cutters, it would be a scraping cut, particularly if the raise was a wide one as shown in Fig. 1. So I have found a very good thing in the

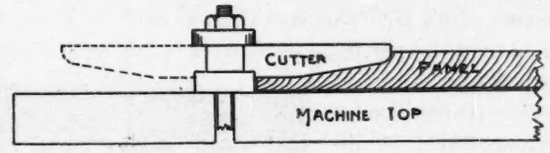


FIG 1

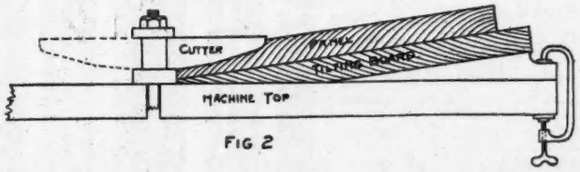


FIG 2

shape of a tilting board, as shown in Fig. 2, with which a shorter cutter can be used, which means less danger and less power and at the same time gives a smoother cut. Of course the cutters have to be made differently for this way, but once made, they will stand for years under ordinary usage.

Grinding Under Difficulties: I know a German cabinet maker who tells the following story:

When working on a building in the old country, the boss would not furnish a grind stone for the use of his men in grinding planes, chisels, etc., so when a wagon came along, they would go out and hold their chisel or bit on the tire of the wheel, follow the wagon for a quarter of a mile or more, then catch another wagon coming back and do the same thing on the return trip. How is that for grinding?

Can Vouch For This One: I once knew a machinist who used to have the job of turning down, or better, trueing up, the grind stones in a cuttlery works. He died very suddenly and the post mortem disclosed a ball of sand as big as a hen's egg in one of his lungs, the accumulation of years.

Putting Things to Odd Uses: I knew a man who took an old square piano apart in order to get fancy wood enough to make a small cabinet, and the part of the frame work he did not use he found so well put together that he took it home and used it for constructing the frame work for a back porch floor to his house.

Preparing for an Attack. Here is a wrinkle that was new to me, and in fact many others; like a patent, it is simple enough after you have seen it. I knew of a carpenter that woke up in the middle of the night, imagined he was going to be attacked, took a screwdriver, removed the pockets from a window frame, took out two sash weight, put them under his pillow and found them next morning. That is some nightmare.

A Blind Story. Let me give you a true story on blinds (window of course). I have a brother who has charge of a sash and blind shop. Many years ago he made the blinds for a house; after they had left the shop he was looking over his rod and found he had made each pair 2½ inches too narrow. He knew there would be trouble, so he doctored up the following story. Fortunately (for him) the Owner-Builder was not a practical carpenter, merely a handy man who was finishing his house alone. Anyway, in due time, my brother received a note from the office to take a trip over to Mr. S.; something the matter with Mr. S. blinds.

(Brother on the job.) Mr. S. "See here young man, these blinds are about 2½ inches too narrow." My brother said: "No, Mr. S., those blinds are made as all first-class window blinds of to-day are made, so that a 1¼-inch piece, or stop, can be nailed on the outside stile of each blind, to fasten the hinge to; that is in case the wind blows the blinds back hard, or off, the hinge does not tear the stile loose, which means a new blind, perhaps. You see the strips are of no cost to make or repair, and that is the only modern and scientific way, etc. When the blinds were sent you, the shipper forgot the strips."

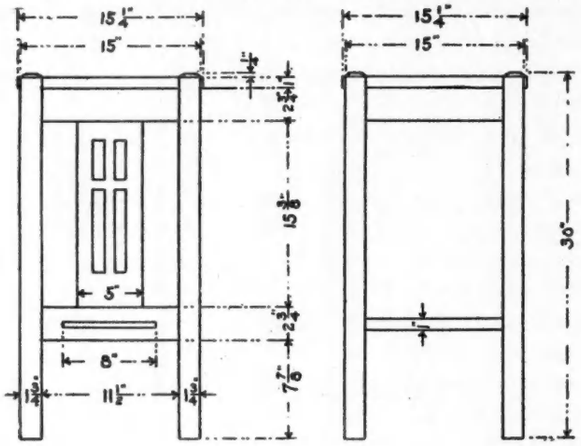
Mr. S. took the bait like a good little fish. My brother came back to the shop and got the strips and sent them over. That was much easier than making the blinds over again. Such a stunt is not always able to hold water. I hope Mr. S. does not see this article; if he does, he will say: "Well, there, the AMERICAN CARPENTER AND BUILDER is where I learned something." That's what they all say!

How to Make Some Mission Furniture

COMPLETE DETAILED DIRECTIONS FOR MAKING A TELEPHONE STAND AND A LIBRARY TABLE

By Ira S. Griffith

WITH the passing away of the wall telephone and the use of the desk phone has come a demand for a small but suitable table or stand, upon which to place the phone when used in the home. Such a stand is shown in the accompanying picture and detailed in the working drawing. It is simple in construction and sufficiently small that it



TELEPHONE STAND.

may be moved about as desired when house cleaning. The original from which the picture was made was builded of black walnut as also was the table which is described. Both pieces were built by Mr. W. F. Devore, Cleveland, Ohio.

STOCK BILL FOR TELEPHONE STAND.

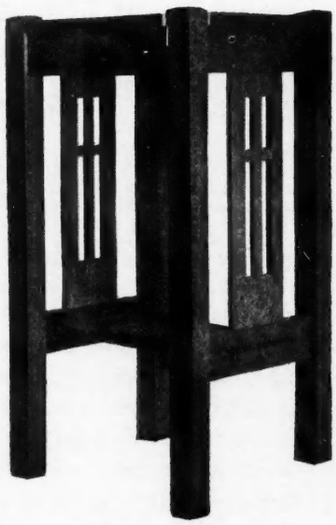
Posts, 4 pieces, 1¾ by 1¾ by 30½ inches, S-4-S.
Rails, 6 pieces, ⅞ by 3 by 13½ inches, S-2-S.
Top, 1 piece, 1 by 16 by 16 inches, S-2-S.
Stretcher, 1 piece, 1 by 9 by 15½ inches, S-2-S.
Panels, 2 pieces, ⅜ by 5¼ by 16½ inches, S-2-S.

The posts are specified mill planed on four sides, so that work on them will necessitate only the squaring of their ends to proper length and the laying out and cutting of the mortises. Both top and bottom of each leg are to be chamfered slightly, the top for looks and the bottom to prevent its slivering through use.

That there may be no mistakes in locating the mortises, set the posts upright in the positions they are to have relative to one another, and mark roughly, as with penciled circle, the approximate locations of the mortises. After this has been done they may be laid prone upon the bench top, the upper ends evened by means of the trysquare and the exact locations of the ends of the mortises knifed. Next, the posts may be taken up and the sides of the mortises gauged and cut.

Lay out and work the tenons on the ends of the rails after having squared them to the proper width. Being mill planed to thickness the broad surfaces on pieces so small as these seldom need more than a smoothing to get off the millmarks. If the wood is badly in wind it will be necessary, of course, to prepare a working face or face side as it is frequently called.

The side rails will have to be mortised to allow for the reception of the panel. The easiest way to get a good piece of work here is to make mortises of a size sufficient to receive the whole end of the panel—in other words, house the end of the panel. A quarter of an inch will be sufficient depth. To make the mortise deeper is to weaken the sides and possibly cause a split.



Telephone Stand

The panel has an ornamentation in the form of pierced work. Some ten years ago this style of ornament was quite common. Like a good many other good things, however, it was overdone, resulting in the fancy, ornate designs on cheap furniture and also in the freakish brackets in gable and on porch work. As a result people of good taste began to shun it altogether as a sign of products of little worth. Now that the feeling against these extreme forms is forgotten, a more sensible treatment is coming back. The panels of this telephone stand show the pleasing effect

of a rational treatment of pierced ornamentation. Simple it is, yet thoroughly well done and in good taste.

The stretcher is to be through tenoned into the rails and allowed to project a quarter of an inch each side. One-half by eight inches will be the size and the ends of the tenons should be suitably chamfered.

The top of one-inch stuff should be squared to size and fitted after the frame work has been assembled and glued.

In assembling, put the panel into the rails and then clamp up those sides. After the glue has set on these the clamps may be removed and the other rails placed and clamped. In all this clamping make certain that the frames are out of wind and that the diagonals of the frame measure the same when the final clamps are applied. The top is to be fastened by means of screws inserted through the top rail from the under side.

How to Make a Library Table

The library table is constructed in a manner very similar to that of the telephone stand. It should be noted that the apparent thickness of the top is obtained by fastening to the under side of the seven-eighth-inch top enough stock to make an inch and a half. This top may be covered with leather or the joint may be neatly made and the whole allowed to stand that way. In black walnut the grain is so inconspicuous that the joint will show but little.

STOCK BILL FOR LIBRARY TABLE.

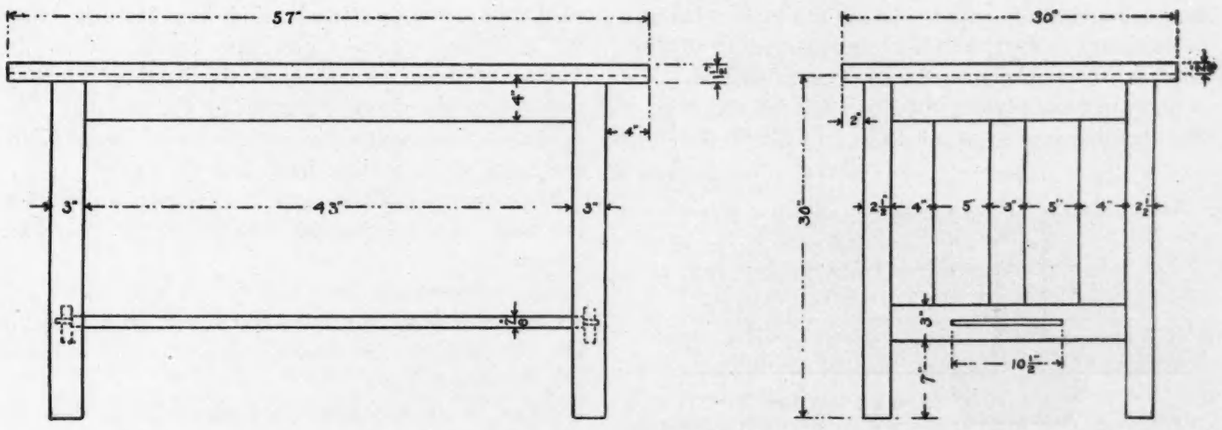
Side rails, 2 pieces, ⅞ by 4 by 46 inches, S-4-S.
End rails, 2 pieces, ⅞ by 4 by 24 inches, S-4-S.
End rails, 2 pieces, ⅞ by 3 by 24 inches, S-4-S.
Stretcher, 1 piece, ⅞ by 10½ by 50 inches, S-4-S.
Top, 1 piece, ⅞ by 30 by 58 inches, S-4-S.
Posts, 4 pieces, 2½ by 3 by 30½ inches, S-4-S.
Panels, 4 pieces, ⅜ by 5 by 20½ inches, S-4-S.

How to Finish the Black Walnut Pieces

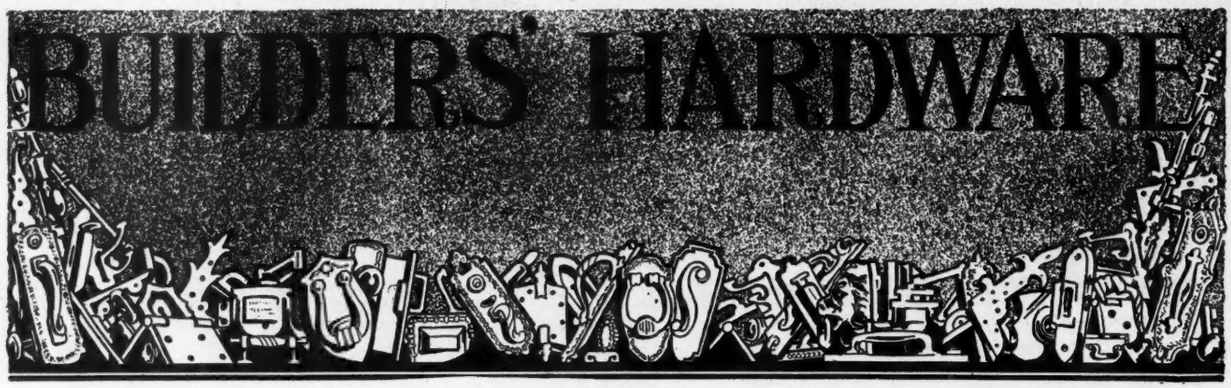
If these pieces are made of black walnut, the following finish will be suitable:

Thoroughly scrape the different parts and remove all surplus glue, then sandpaper. Apply a coat of linseed oil. It should be boiled, and if applied hot will penetrate the pores better. With a cloth wipe off the surplus liquid from the surface. Allow this to dry for forty-eight hours. If the worker has plenty of time for his finishing, this operation may be repeated for five or six times. The oil alone will give a fine finish with repeated rubbings. Most workmen, however, do not like to wait so long. For these the following directions are given: After the first coat of oil has dried sandpaper it lightly with number oo paper and apply a thin coat of shellac. Allow the shellac to harden over night, then sand it lightly with fine paper. On this shellac apply successively several coats of a floor wax, polishing each as the directions given therewith specify. The result will be a soft, velvety appearance in which the natural color of the walnut has been enriched by the oil.

Library Table of Oak or Black Walnut



LIBRARY TABLE



How to Detail Doors and Windows to Fit Standard Hardware

ADDITIONAL MILLWORK DETAILS DRAWN THE WAY THE BUILDERS HARDWARE MEN WANT THEM—SATISFACTION IN FRENCH AND CASEMENT WINDOWS

By Our Hardware Expert

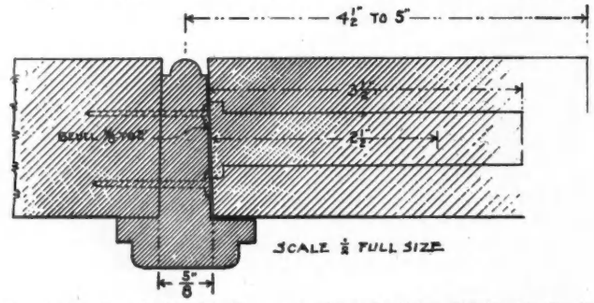
IT is very evident—needing no argument—that all doors and windows should be so constructed that the standard hardware fixtures can be used on them with good results. This series of details gives best recommended practice; and it is hoped that architects, millmen, and carpenters will adopt them for their work.

The hardware editor refers his readers back to the February number, Detail Number 5, and his remarks pertaining to same. He suggests that the hardware trimmer and architect consult with the owner whether these French windows are to be opened 90 degrees or are to swing around against the wall. This is a serious question where these windows occur in a dining room.

These French windows many times are nuisances if they cannot swing 180 degrees, especially in a room which contains a table and other furniture.

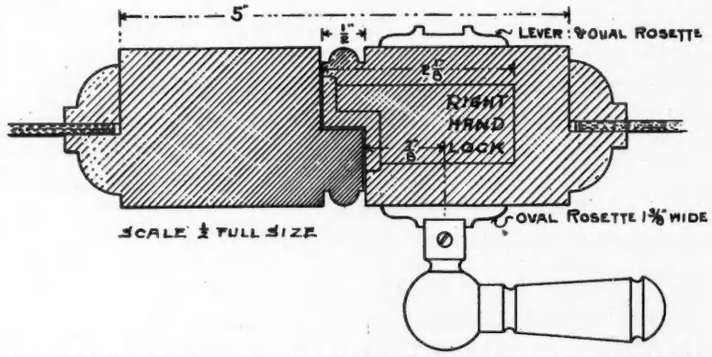
It is the practice of the draper to apply a double lace curtain rod and the Hartshorn shade to the upper stile of the sash.

The projection of the brackets for double lace curtain rod and shade roller is about 1¾ inches, hence it is necessary to apply a butt of sufficient width to allow the sash to swing the 180 degrees if desired. The writer suggests placing the flush bolt on the edge of the standing leaf so as not to interfere with the draper's placing the lace curtain and shade roller brackets in the proper location.



Detail No. 7. 1¾" Double Door on which Regular 3½" Inside Lock is Used.

Detail Number 7 shows a regular inside panel door having T astragal and a regular inside bit key lock applied. The backset of the lock is usually 2½ inches and a 2¼-inch regular knob is universally used on same. All of the inside locks are now made so they can be reversed by the carpenter on the job, hence the T astragal now is in almost universal use.



Detail No. 8. 1¾ Double French Window Having Rabbeted Lock, With Bit Key or Thumb Bolt

Some architects will not allow the use of T astragal on double doors or French windows. Here is where the hardware trimmer gets into trouble; even the Yankee trimmer cannot guess the hand of the lock required on the doors furnished by the millman.

The architect will show a duplicate of Detail Number 8, in which a right hand lock is applied.

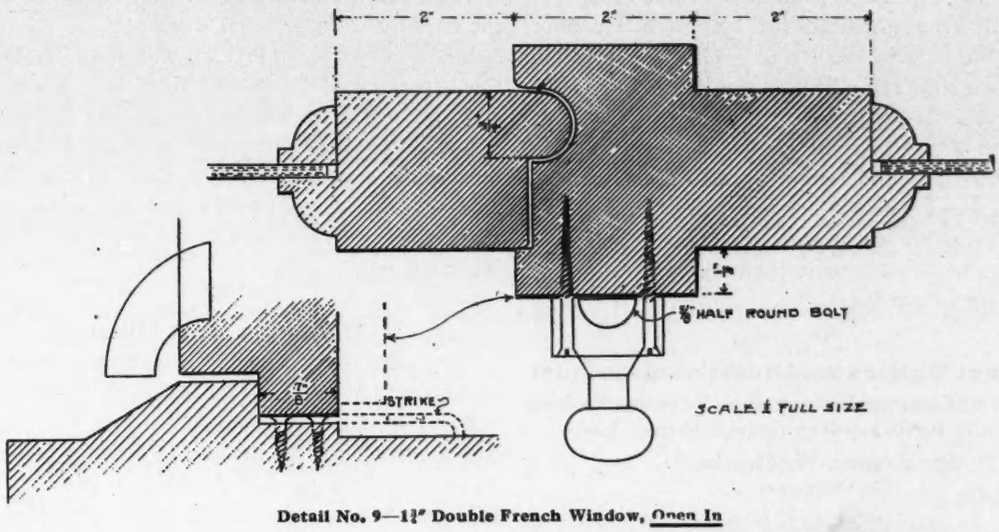
There seems to be an imp of darkness in control at the mill who delights in tormenting the hardware trimmer.

The rabbeted bit key lock is not reversible; and about one-half of the locks furnished on this detail are returned to the dealer, because those supplied are the wrong hand.

Some of the manufacturers who wish to ease the path of the trimmer now make a rabbeted thumb bolt lock for this detail.

A right-hand lock has the thumb knob below the lever. The carpenter can apply this lock to a left-hand door by turning the lock bottom side up, if there is not a serious objection from the architect or owner.

This rabbeted detail for French windows opening in an extra flush bolt must be applied to the leaf closing first or this latter leaf will warp out and allow wind or snow to enter. This same trouble is encountered if Cremorne bolt is applied in the same manner to Detail Number 8.



Detail No. 9—1¾" Double French Window, Open In

will not allow of the placing of the flush bolt on the edge of the door, hence same must be placed on the face of the standing leaf. This interferes with the proper placing of the brackets by the draper. If a flush extension bolt is applied to the face of this leaf, the boring of the hole for the rod of the bolt weakens the tenon where the top and bottom stiles are joined to the middle stiles.

Details 5 and 8 are in general use where free access is desired from the outside.

The use of the Cremorne bolt is becoming popular on French windows where free access is not desired from the outside.

It is also good practice to use same on large double casements.

The use of the Cremorne bolt is not good practice, unless it is applied to a detail which is made especially for it. *Detail No. 9 is the only practical detail* to which a Cremorne bolt can successfully be applied. *This is a fact.*

Tte writer makes this emphatic statement because an experience of twenty years has shown him that all other details for use of Cremorne bolt are wrong.

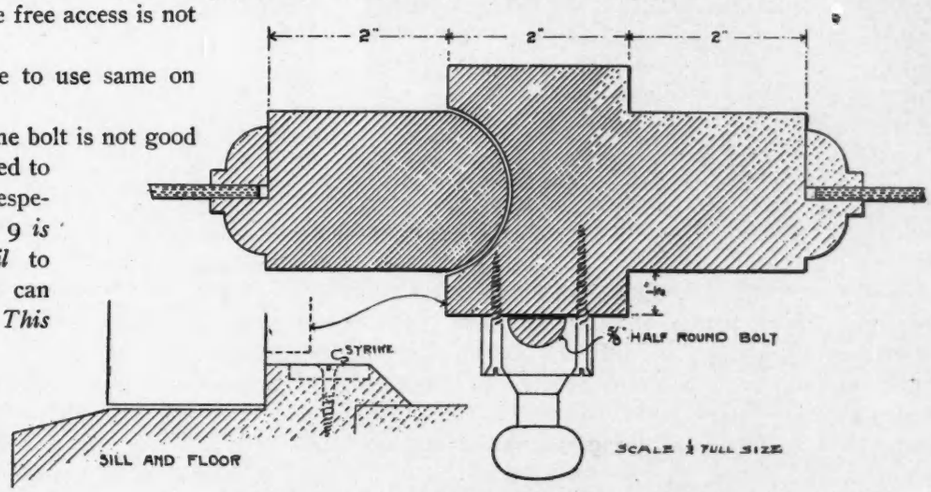
Owners and architects are partial to Cremorne bolts but they claim that same do not do the work claimed for them.

If this bolt is applied to the proper detail it cannot be abused and put out of commission. If you apply this bolt to the leaf closing last on Detail Number 5,

The draper objects to application of this bolt on both of these details, because he cannot apply the curtain brackets in their proper place.

The writer once had the confidence of youth; he now has the confidence of age and feels sure that he can convince his readers that Detail Number 9 is the *correct thing.*

Note: The Cremorne bolt on this detail is placed equal distance between glass. This appears better than if shown otherwise; it does not interfere with the drapers' placing the curtain brackets.



Detail No. 10—1¾" Double French Window, Open Out

Note the tongue and groove; one leaf cannot warp away from the other leaf; it is wind and snow proof. The placing of this tongue and groove in line with the outside of the sash allows plenty of wood; long screws can be used to fasten the bolt. The tongue and groove of this size and location allow the use of butts of sufficient width to swing the sash around against the

wall; a tongue and groove wider than here shown will loosen the butts from sash and jamb.

Note that the sill must be rabbeted so that when the window is closed with a slam and the knob or lever twisted to throw the bolts, the bolts will enter the holes in the strikes at top and bottom at the same time.

If the sill is not rabbeted the bottom bolt cannot freely find the hole in the strike. This is the prime cause for complaint and why so many bolts of this type are put out of order.

The writer hopes that the above statements are so lucid that they are understood by all of his readers. If there are some who still are not convinced that this is the best detail for Cremorne bolt applied to double French windows or casements opening in, he would be pleased to hear from them.

✣

The Cement Walk as an Advertising Medium

Possibilities of Concrete Sidewalks as Revenue Raisers Successfully Demonstrated in an Arkansas Town

By James W. Beebe

Civil Engineer

Recently, in the town of Hope, in Arkansas, a park owned by the municipality was opened, improved, and prepared for use as a County Fair Grounds. As the parks was some three blocks from the end of the sidewalk, the committee in charge decided to extend the concrete walk to the park gate. Having no funds for this purpose, they solicited advertising from the various firms in town.

A plat was made of the walk, showing it divided into numbered squares, these squares being the width of the walk. On several was placed a short history of the town, giving names of prominent men, various industries, population at different dates, and the names of the county and city officers at that time. The space on the other blocks was sold for advertising purposes, a sufficient sum being realized to construct the walk.

In some cases the advertising was done by making imprints in the top coat before final set. A few of the advertisers, however, furnished aluminum letters and numerals, about 3 inches high, such as are frequently used on the front of residences to give street names and numbers.

This walks is now over two years old, and shows no sign of wear; the outlines of the various imprints are as clear and perfect as when first made. The advertisements are almost all put on to be read as one goes from town toward the park. It seems now that a better arrangement would have been to have put more reading from the park toward town.

The advertisements are all very readable, especially the ones made from metal letters.

While no colored mortar was used in this work, the letters could have been filled, while the concrete was still soft, with some of the different colored mortars, a dark blue slate color, for example, being made by adding 4 pounds of lampblack to 100 pounds of cement; and a light brick red by using the same amount of red iron ore; or a light pink, by using Venetian red.

✣

Damages from Blasting

The casting by blasting operations necessary for the construction of a railroad, of debris upon the remaining land of one from whom the corporation has acquired a right of way, is held in Langhorne v. Turman (Ky.) 34 L.R.A. (N.S.) 211, to render it liable in damages for the trespass, regardless of the negligence or skill with which it did the work.

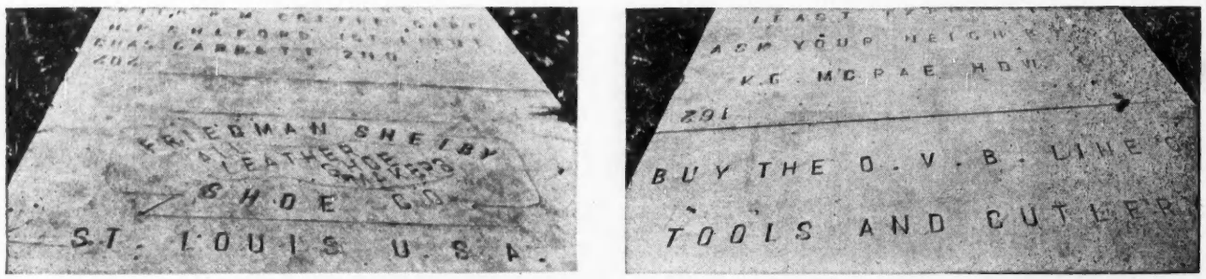
✣

Painting the Roof

This work ought to be done by the tin roofer, says *"The Arrow."* He is responsible for the roof, and it is to his interest to see that the right kind of paint is used and the work done properly. The tin should always be painted one coat on the under side before it is applied to the roof. The upper surface of the tin roof should be carefully cleaned of all rosin spots, dirt, etc., and immediately painted. It should be bone-dry when the paint is applied.

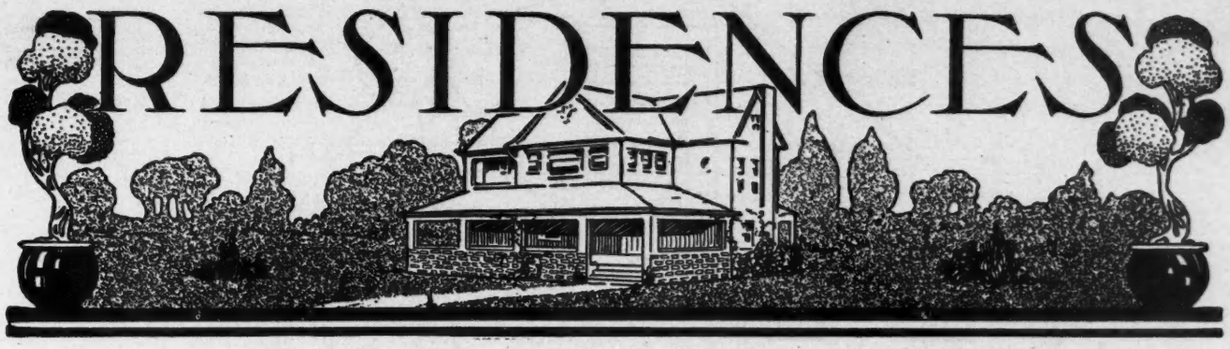
The approved paints are metallic brown, Venetian red, red oxide and red lead mixed with pure linseed oil. Slow drying paint is desirable, so little or no patent dryer or turpentine should be used.

All coats of paint should be applied with a hand-brush and well rubbed on. Apply the second coat two weeks after the first. The third coat should be applied one year later. The roof can then go for four or five years or more before further painting is necessary. If the roof is steel, so that the surface is washed clean with every rain, painting will be necessary only at long intervals.



ADVERTISING SIGNS IN CEMENT SIDEWALKS

A novel method of advertising developed by the Council Committee on Ways and Means in the town of Hope, Arkansas



Complete Plans for Model Brick Bungalow

ARCHITECT'S DRAWINGS REPRODUCED TO SCALE SHOWING ARRANGEMENT AND CONSTRUCTION OF THIS ATTRACTIVE SIX ROOM BUNGALOW

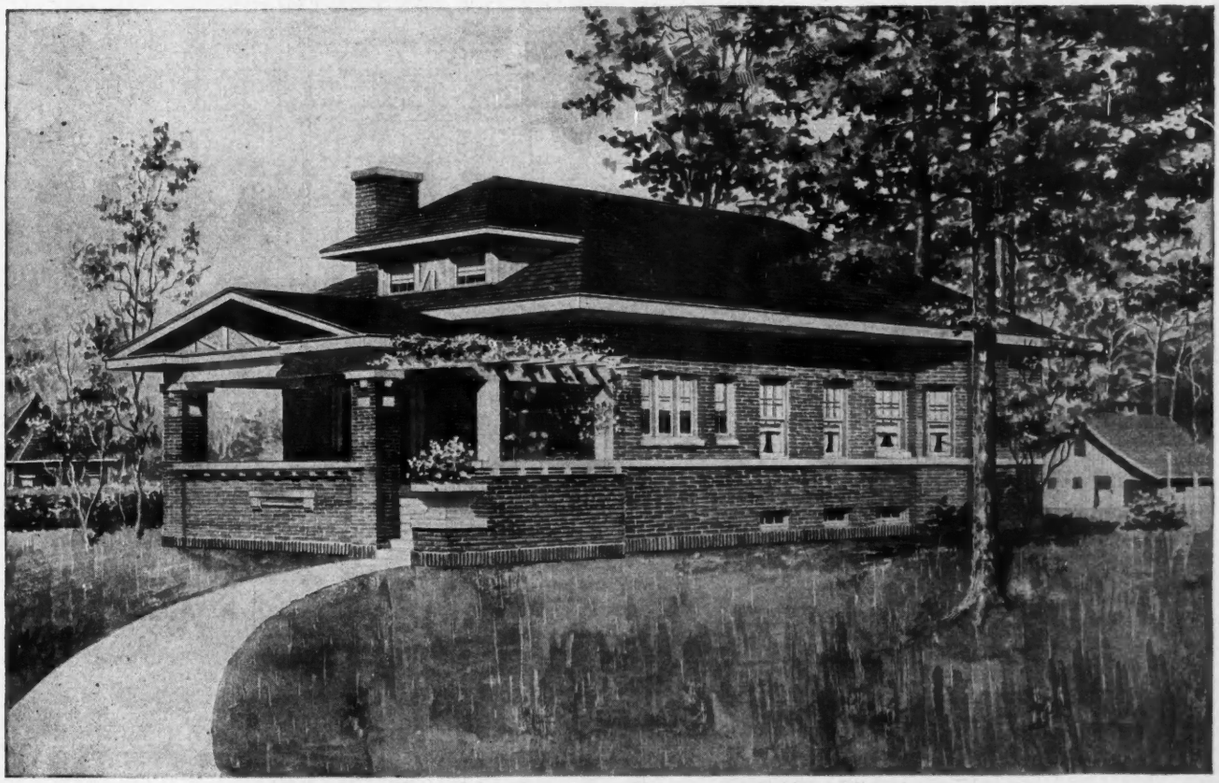
THERE is being constructed in Chicago for Mr. H. J. Smith, a most pleasing six-room bungalow style home. We reproduce herewith perspective sketch of the house, and on the following five pages complete working drawings—plans, elevations, and details of finish—from which this attractive home can be built.

Contractors and builders, with clients proposing to build, can well call their attention to these plans. They embody not only substantial construction but a practical and inviting design—one that can not fail to create a satisfying effect.

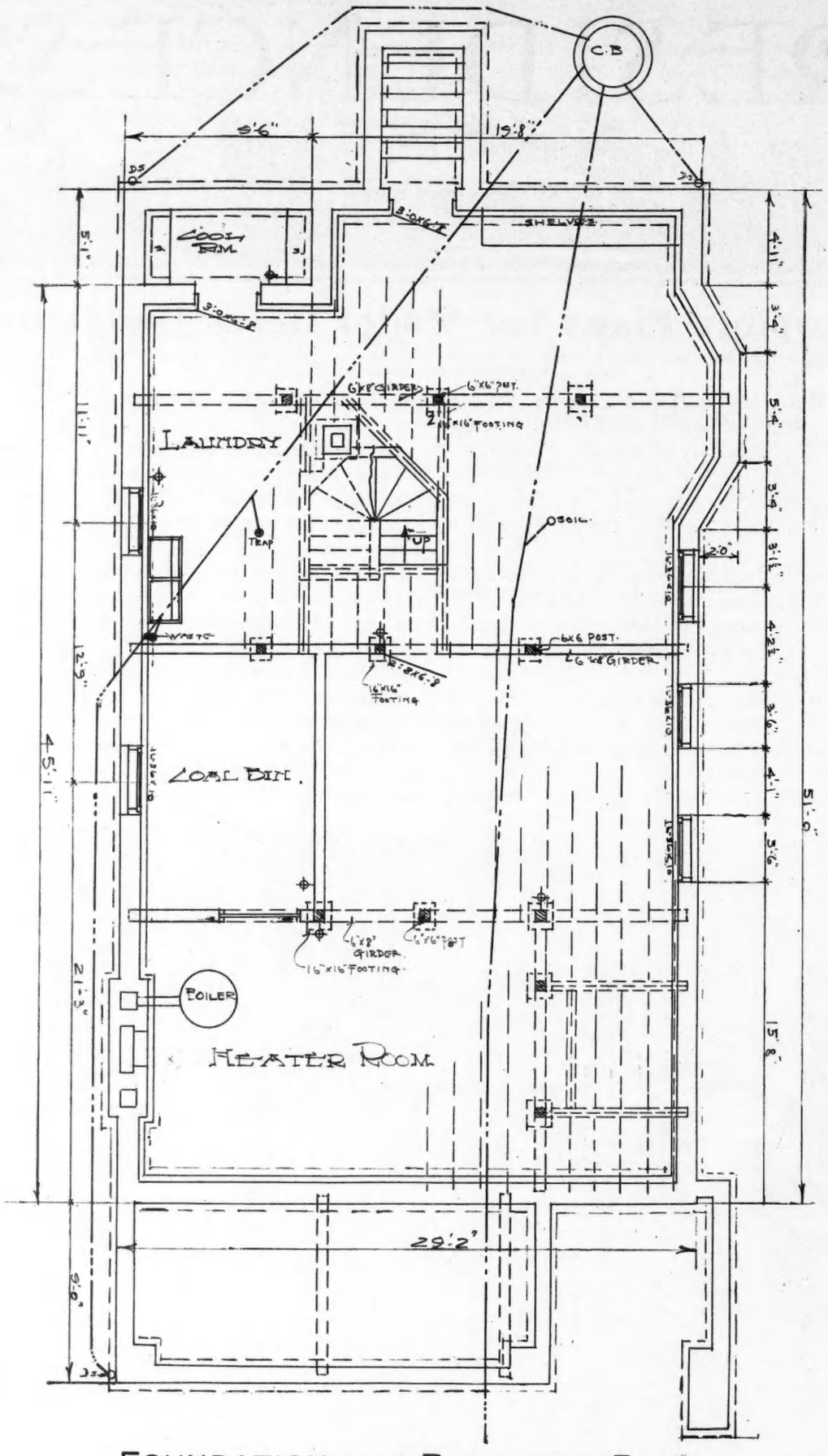
To the left of the ample porch and before the front door, the pergola idea is employed. The interior arrangement provides that each room will be of spacious size; suitable window provision is made. Worthy of special notice is the extra large living room. Throughout the house every conceivable convenience is provided for.

One feature which might allow of improvement would be in using the front bedroom, which opens from the dining room, as a library. As it is, to reach either of the back bedrooms from the front part of the house, it is necessary to pass from the dining room through either the front bedroom or kitchen to the back hall, thence to the bedrooms. A direct connection from the dining room to the back hall would be preferable, especially if the front bedroom was used as such. This could be done with but minor changes in the plans.

Reference to the basement plan will show an excellent laundry arrangement, also hot water or steam heating system. The second story remains in the rough, and is intended for storage service. Room elevations indicate the style of interior finish used.

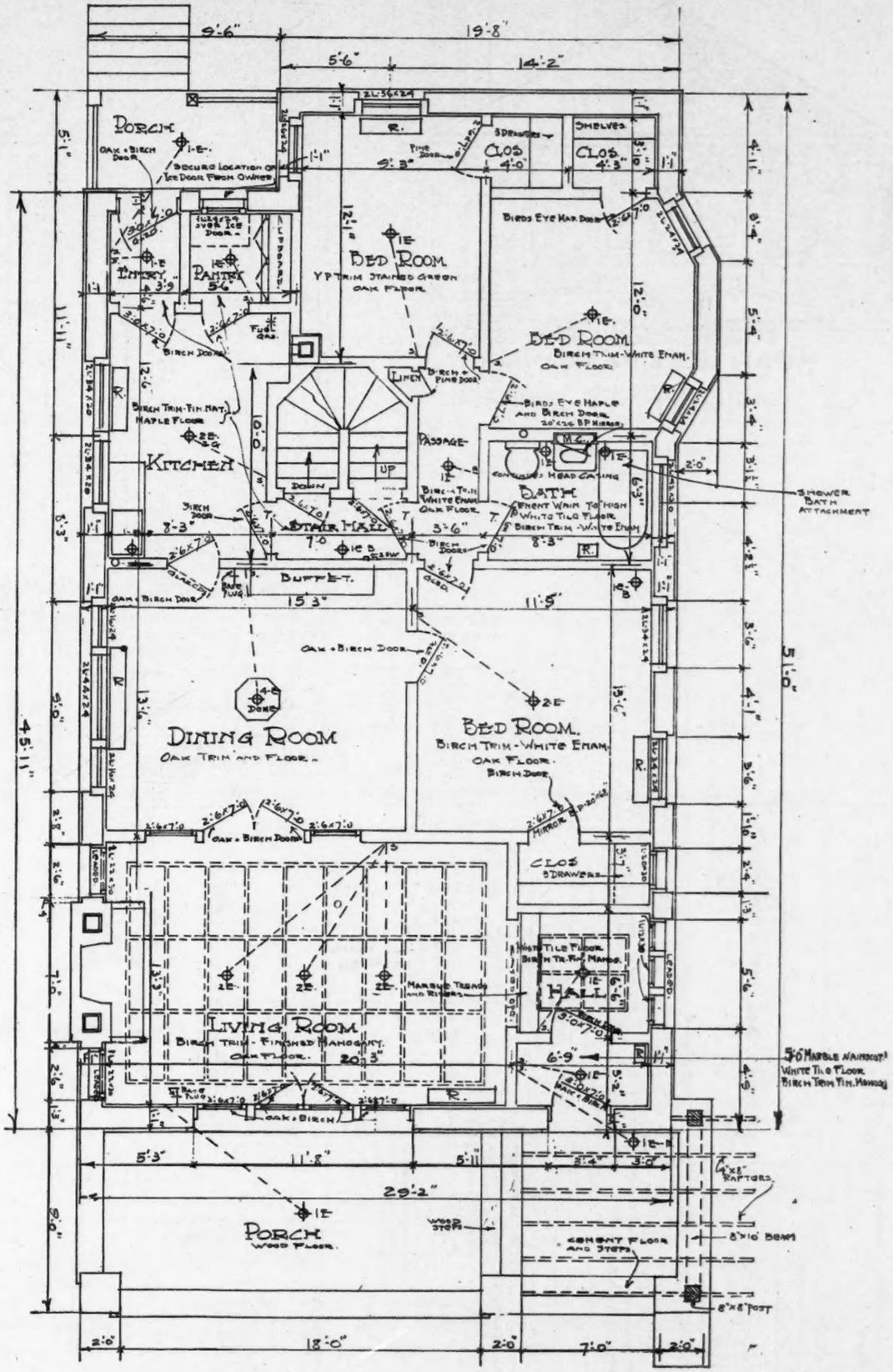


Modern Brick Bungalow; 30 by 50 Feet; Six Rooms; Designed for H. J. Smith, Chicago
COMPLETE WORKING DRAWINGS FOR THIS HOUSE ARE PRESENTED ON THE 5 PAGES FOLLOWING



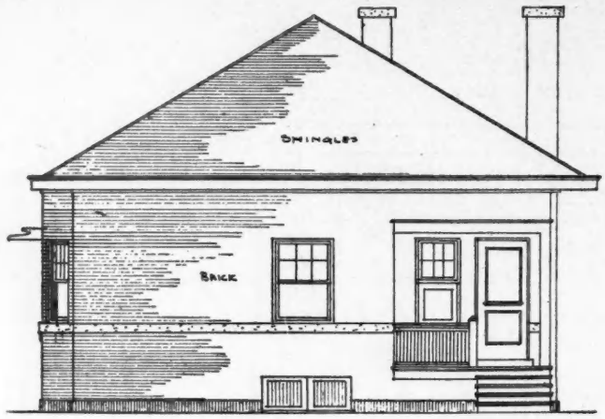
FOUNDATION AND BASEMENT PLAN

(Brick Bungalow Shown on Page 61)

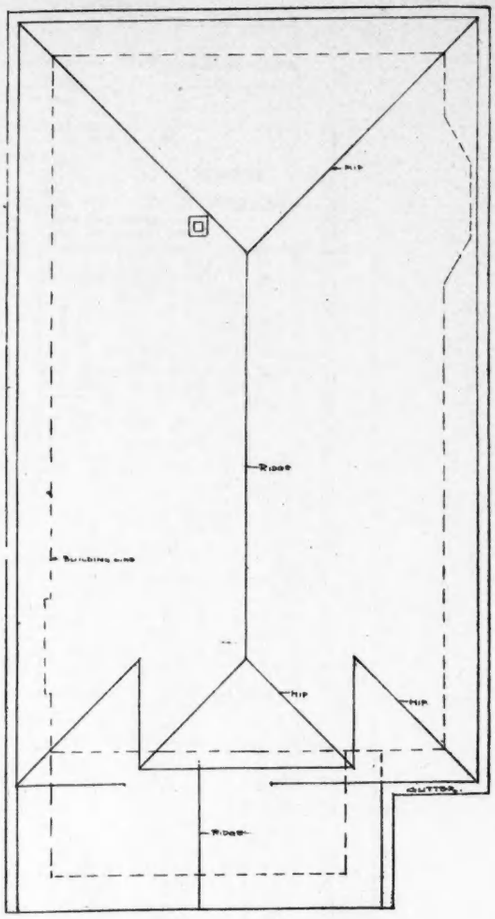


FIRST FLOOR PLAN

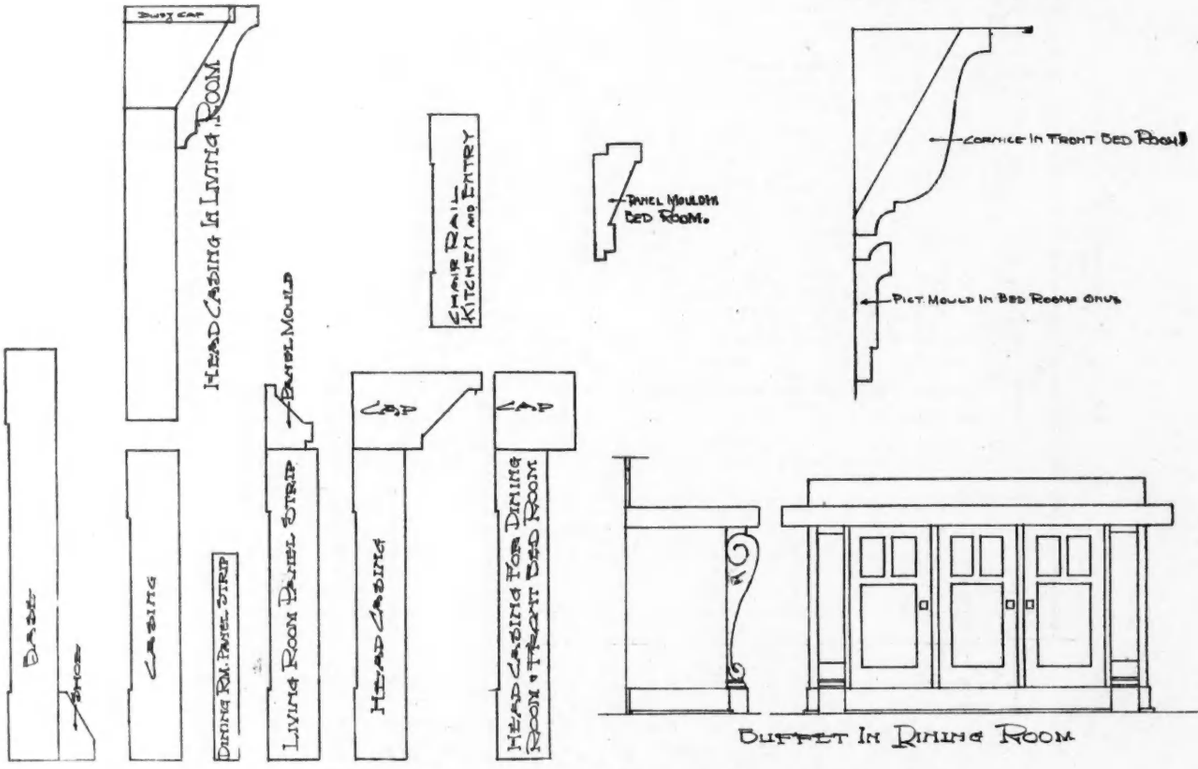
(Brick Bungalow Shown on Page 61)



REAR ELEVATION

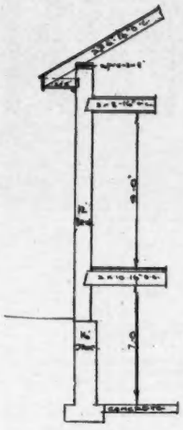


ROOF PLAN

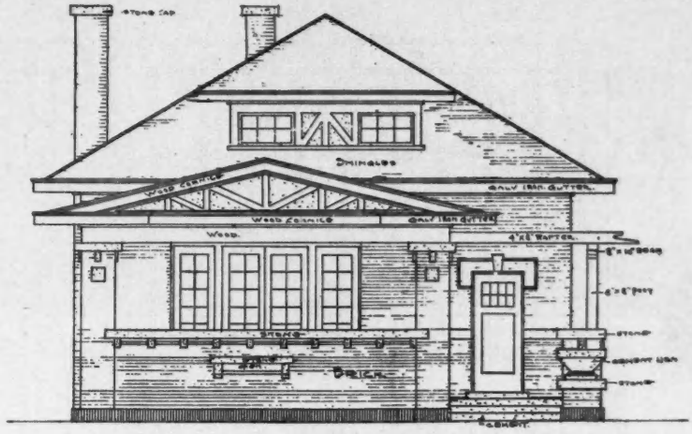


DETAILS OF INTERIOR TRIM

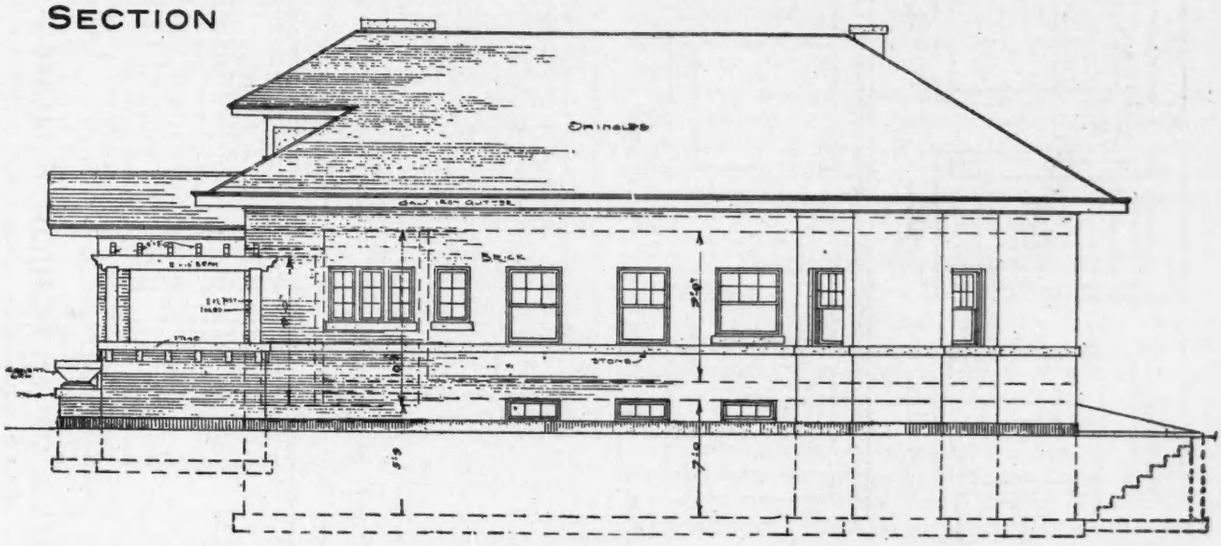
(Brick Bungalow Shown on Page 61)



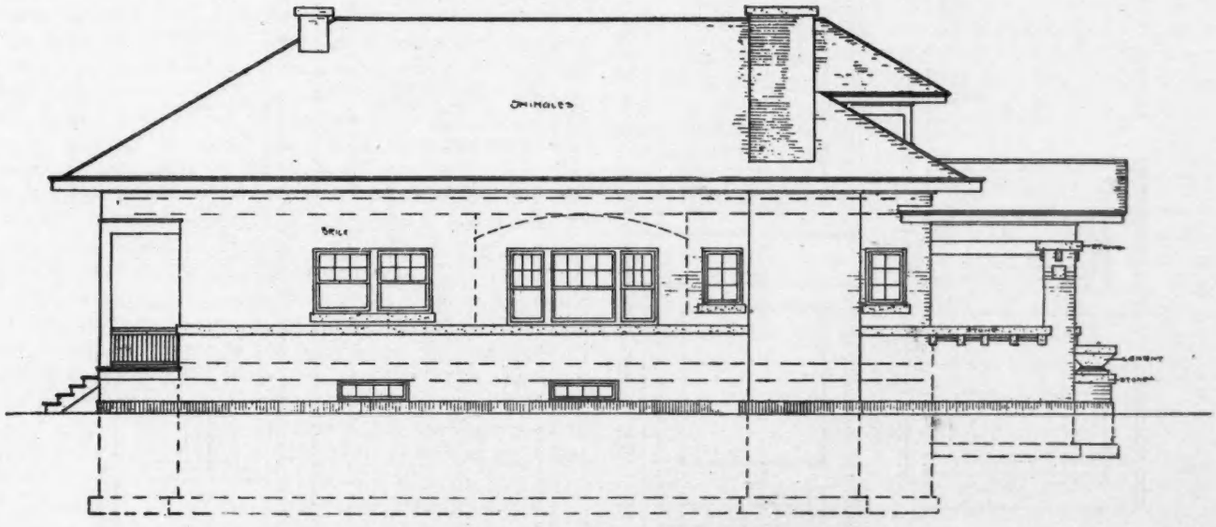
SECTION



FRONT ELEVATION

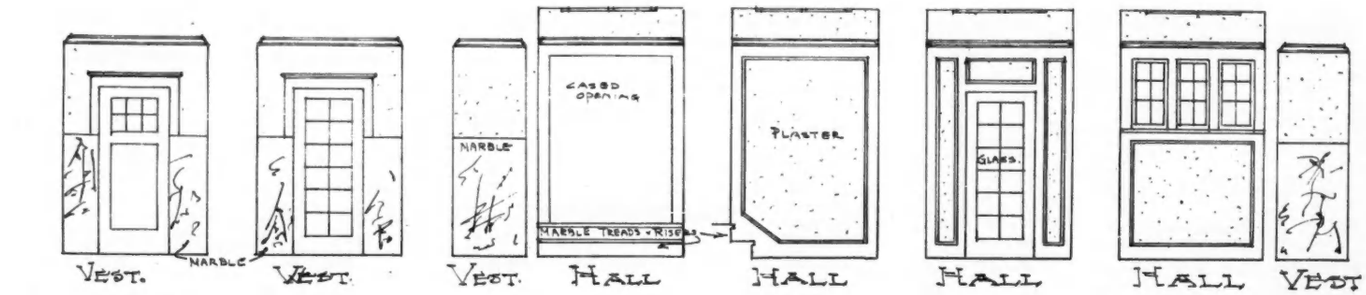


RIGHT SIDE ELEVATION

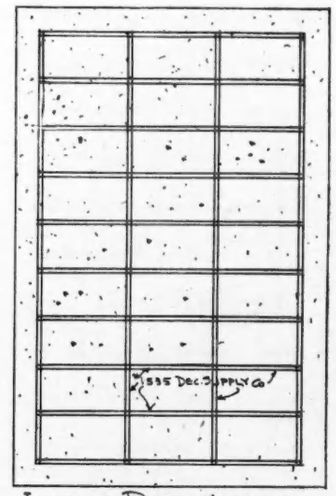


LEFT SIDE ELEVATION

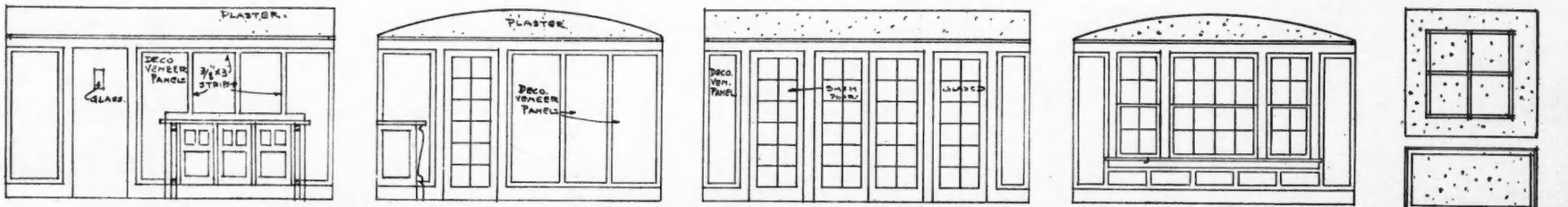
(Brick Bungalow Shown on Page 61)



ELEVATIONS OF FRONT BED ROOM WALLS

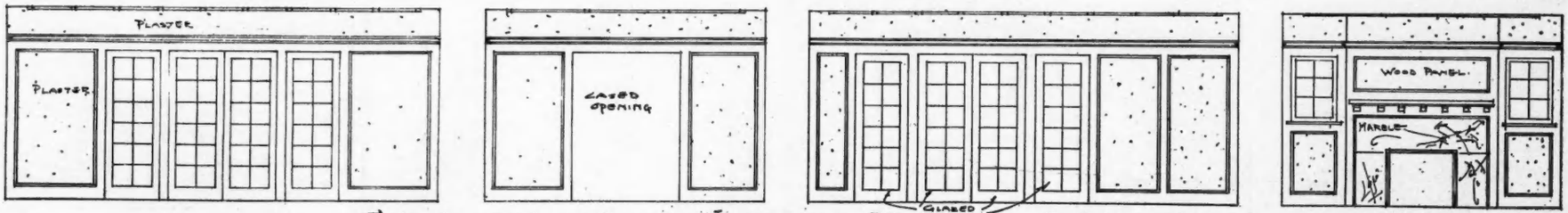


LIVING ROOM CEILING



ELEVATIONS OF DINING ROOM WALLS

HALL + VEST. CEILINGS



ELEVATIONS OF LIVING ROOM WALLS

DETAILS OF INTERIOR FINISH

(Brick Bungalow Shown on Page 61)

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

Mere Carpenter Has Poor Chance

To the Editor: St. James, Minn.

In the December number of THE AMERICAN CARPENTER AND BUILDER, there appeared an article entitled "The Boy and the Hammer." As a rule the boy and the hammer are very good friends, and that is all very well as long as the boy is small, and the shingle nails are plenty. But when the boy has grown up and starts out in this world, he should drop the hammer and never stop to look where he dropped it.

If the boy wants to learn a trade, let him learn a trade that will bring him on the level with the rest of the world. And almost any other trade will bring better results than the carpenter's trade.

There are very few carpenters, if any, that are able to lay aside anything for old age. At the very best they may own a small home. But a bank account to fall back on in case of hard times, or during the later parts of life, when they by right should enjoy a well earned rest, is out of the question. The carpenter must peck away early and late for a small wage, while the work lasts, in order to supply the necessities of life for a long winter when there is absolutely nothing to do but pay out your summer's earnings to the coal dealer, while you are looking for another season to open up.

If one should chance to meet a well-to-do carpenter one can rest assured that such a man did not make his money with the hammer; that man has either inherited a rich uncle, who was not a carpenter, or else he has had good luck in some speculation where it did not require much money to invest.

In speaking of carpenters I do not refer to the man who carries a silver lined ivory rule in his pocket, and a roll of blue-prints under his arm, posing as a contractor. For as a rule this man with all his pretended knowledge about building construction, could not frame common four-hip-roof, nor hang a door. I refer to the man that actually uses his tools, and who has spent years at learning the trade, and hours at hard study of the problems that he is confronted with. This man is the contractor's tool, and he is the one that the contractor must put his foot on and hold down, and make him believe that he is only a carpenter and should not try and raise himself above that level.

The delivery boy at the general store is given all the chance in the world for advancement, and in course of time he will find himself manager, or member of the firm; and the boy that started in as a messenger boy at the railway office has a chance for the superintendent's job. But what chance has the poor boy with the hammer? He has the chance to work for a contractor for a small wage as long as he is able to do a day's work, and when he is unable to do a day's work he loses his job, and the only one that has gotten rich off from "the boy and the hammer" is the contractor.

A. W. WARNER, Architect and Builder.

Answer:—We grant the truth of all this; yet it is nothing to dishearten our young carpenters. To every journeyman carpenter we will say—if your future as a journeyman carpenter is not to your liking, get ambitious and climb out of the ranks! You have the broad basic practical knowledge of carpentry construction on which to build and rear your superstructure of future success as building contractor or architect. Get busy and get ambitious. Study will put you ahead.

So many carpenters have told us in the past two years of the great help that the study of "Radford's Cyclopedia of Construction" has been to them in increasing their earning powers that we feel entirely justified in recommending this set of practical books to all ambitious builders. EDITOR.

✣

Teach the Apprentice Boys

To the Editor: Fort Huachuca, Ariz.

As I am still young in membership on the roll of subscribers to your valuable paper, I feel backward in butting into the correspondence; but the more I think of the article that appeared in the December number headed "The Boy and the Hammer," the more I feel like pushing it along.

It is impossible, in my estimation, for anyone to become a carpenter unless he has mastered mathematics far enough to thoroughly understand square root, circular measure, and a fair knowledge of elementary geometry. I believe the mechanics who apprentice these young men should teach them these principles of mathematics, if they do not already know them; before they try to teach them to lay off any kind of work. I think it just as important for the young man's success as it is to teach him to saw a board or drive a nail. How many men that call themselves carpenters can take a set of plans and sit down with nothing but pencil and paper and figure out the lengths and cuts for every timber in the building—and then go on the job and lay it off with his square and have it all go up O. K.?

I believe that if we all would see that apprentices got this knowledge we could get rid of almost all of the "would-be's" or as are commonly called hammer and saw men; and it would elevate the quality of the work. I think that the mechanics are all in favor of the quality but these would-be men are the ones that have caused (what I call), cheap John jobs. After they work a short time with a man who knows his business they will try to contract and will do the work any old way. J. C. JETMORE.

✣

He Speaks Up

To the Editor: Omaha, Neb.

That letter from C. H. Cornell about the carpenter's chance in life is so interesting that I can't help but speak up.

I think there is big enough incentive for any boy to learn the carpenter trade if he is so inclined. Men succeed best at the work they like best to do. If the boy is inclined to

be a carpenter it is far better than no trade. A trade has helped many a one to live at times when they would otherwise starve and freeze. A trade is a resource that no young man should be without.

While it is true carpenters never get rich I can hardly see how the trade can be condemned for it. There are probably reasons for it. Some carpenters get to be experts and do draw good pay, and do have work most of the time. The skilled have the most work at the best pay—which is an incentive to climb to the top in the trade. It is not so much what we earn as it is what we save that enables us to rise financially. If a carpenter receives $4.50 per day and spends $4.00 a day he will not be able to buy automobiles.

As to millionaires; no man has ever lived long enough to become a millionaire by days' labor. That is a feat that can never be accomplished in that manner. The man who gets immensely rich is the man who gets his profits off the labor of others by speculation, or by getting a corner on something where he can set his own price to the people who have to buy. That is the way millionaires are made, not by the days labor like the carpenter.

Again the carpenter has to furnish the brains for the whole push of mechanics that come on the job from the starting of the foundation by the masons to the finishing by the painter. The bricklayer, the plasterer, the tinner, the plumber, the painter, the furance man, and the electrician—all of these he has to wait on and assist from time to time; and if he did not have to use his brains and tools so much to help out these fellows, he might work his brains a little more for himself and possibly could afford an automobile of his own once in a while.

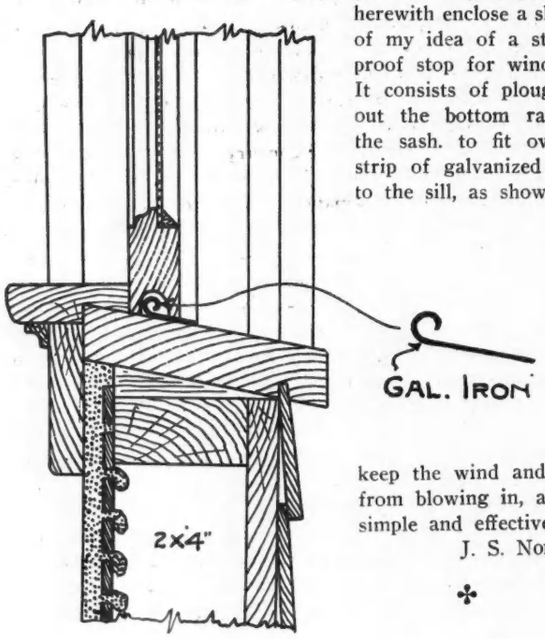
I. P. Hicks.

✣

Storm-Proof Sash

To the Editor: Loveland, Colo.

I am a charter member of your most excellent paper and herewith enclose a sketch of my idea of a storm-proof stop for windows. It consists of ploughing out the bottom rail of the sash. to fit over a strip of galvanized iron to the sill, as shown, to keep the wind and rain from blowing in, and is simple and effective.



J. S. Noble.

✣

A Correction

To the Editor: Grinnell, Iowa.

In regard to my article on porch soffit which appeared in the February number will say you have me slated as Silverton, Ohio. This is an error; should read Grinnell, Iowa, please make a note of correction in March issue.

G. J. Shuster.

Old Men Carpenters

To the Editor: Shelby, Neb.

I would like to contribute a few lines in answer to brother Warren Riley. I can readily see that he is grieved because the younger generation is getting the trade. I am a carpenter of good standing and will agree that the public is too willing to employ would-be mechanics for a saving of a trifle per day; when the extra time it takes them to do the work makes it an expensive job and a botch in the bargain.

I have been contracting for about five years and I find that the old carpenters, as a rule, are not keeping up to date. They are too quick to get into an argument as to methods of doing things. They don't want to give up their old ideas and as a rule a carpenter of fifty or sixty years working in a crew of men twenty years younger than himself will be in a conflab with some of them all the time and thinks that they all ought to give in because he is their senior.

There has been a great change in methods along all lines in the last twenty or thirty years and no matter what line one is on if he is not willing to accept modern improvements in methods he will be looking for a job.

We have several classes of old mechanics. The first and most preferred is the one that has been careful and saved up a little for a rainy day and doesn't have to rough it with the young fellows, but can take it easy if he wants to. But there aren't many in that class, as mechanics, as a rule, are a happy go lucky set and don't make much effort at saving.

The next class is the man that has advanced with the times. He is either holding a good job as foreman, or else he is contracting for himself, or has become so competent that he can get a preferred job at good wages and light work.

And next comes the old half worn out carpenter who can't do more than half as much work as a young man, and you seldom find one that will admit that he isn't as good as he ever was. He has always worked at it with the view in mind of making a living; and that is all he has ever done. There isn't anything that he don't know. The first day on the job he thinks he is boss. He expects all the soft jobs, if there are any, because he is an old man and of course he has had so much more experience than the rest that he is entitled to more wages.

Now the fact is the average man of sixty or even fifty, can't do more than two-thirds as much work as a man of thirty. Another come back is eye sight. A man with poor sight can't do as good work as one with good sight. Now I have no spite at a man because he is old. My father is an old carpenter and has never got ahead very much; but he has given up climbing over buildings for an easier job that don't pay quite so well.

But a man at sixty don't have the expense of a man at thirty to fifty. His family has gone and he has only himself and his life partner to care for. Now if he has never made any provisions for old age and has gone and married some young woman and is raising a second family and has to work like a dog, then I sympathize with him for being a fool; and it is no wonder that the young man is getting the best of him. The question is, who is the mullet head?

I want to say that I am not caring to start any controversy, I always get along well with my men, old or young, and have very seldom had one quit or had to turn one off.

M. D. Thompson, Contractor and Builder.

An Implement Shed

To the Editor: Twin Valley, Minn.

We carpenters find many kinds of buildings to erect, especially on the farm. In connection with our shop we have a farm; also quite a good many farm implements, and they take room. We built our shed 30 by 50 feet so as to have room enough. By having a door on each side, one saves lugging so much machinery out of the way to get at the kind you want, which is usually the way when there is only one door. We made one door larger to admit the binder and wagon with hayrack on.

The reason I framed the roof as shown was so as to have no post inside of buildings. Posts are very much in the way in an implement shed. After building has been up—more than a year—I find, that it keeps in place pretty well, that there is no strain on horizontal rods (⅝-inch), but that the maple blocks are loose. I put the rods there to be safe, if building should ever have a tendency to spread.

Roof framing seems strong enough. We keep a lot of material on the overways, too.

If ground is not solid where such a shed is built, then the cement foundation should be wider. We have not put in any grain-bins, although studdings were placed closer to allow for it. Shed does not seem too big as it is without bins.

Fig. 1 shows plan, also cement sills, or floor plates, of the shed 30 by 50 feet with 9 foot walls. The dots on the plates indicate the ½ by 6½-inch bolts, which are set in to the cement (see Fig. 10), between every other stud.

Fig. 5 shows the way we hung the heavy pieces over openings, using a 6 by 6-inch over each of the 12-foot doors and 3 2 by 8-inch spiked together over the 15-foot door; the tops are even with and used for plates. In each corner, we nailed a 2 by 4-inch across, for inner bottom of hip rafter to rest on (see Fig. 6). Hip rafters are not doubled but hewn bevel. Had to take 10-inch hips, to get them long enough and they needed straightening. After the walls were up, we built scaffold inside, putting in two rows of studding, a little taller than plate line. To these we nailed 1 by 6-inch boards on inside of building, a little lower than plate, then we nailed boards above these, in exact line with top of plate to carry Fig. 9, which was put together first and easily raised by three men.

The ridge was cut so that rafters covered the joints. Fig. 4 shows how we used 2 by 4-inch in between the 2 by 8-inch rafters, only that we used three rafters instead of one, as shown; also two cross pieces, as the rafters are 18 feet long.

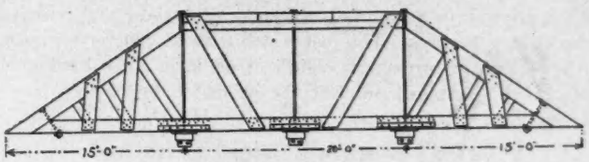


FIG 9

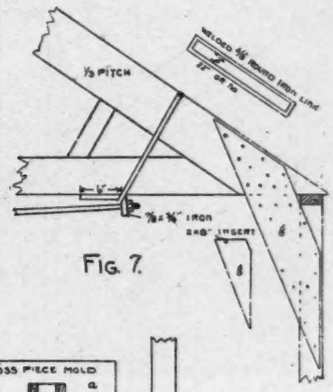


FIG. 7.

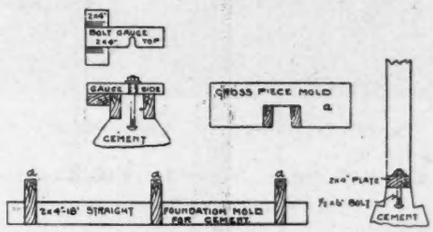


FIG. 8. FIG 10.

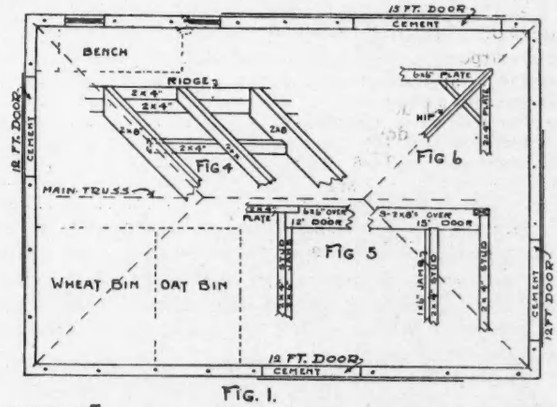


FIG. 1.

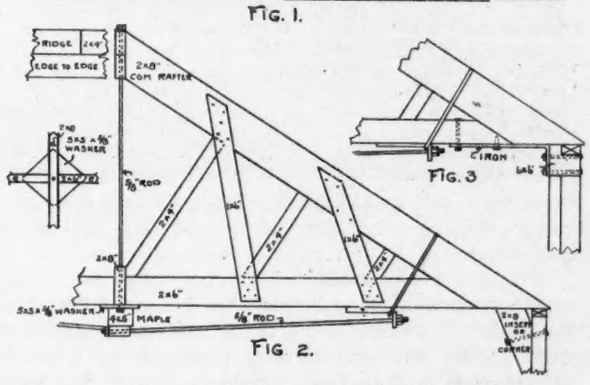


FIG 2.

Plan and Details of Implement Shed

The 2 by 8-inch rafters were 10 feet apart and we placed three rafters 2 feet apart between those.

In Fig. 7 is an insert "g," the upper end of which should come even with top of plate, to give more surface for rafter to rest on. Inserts are fastened to studding by a ⅜ by 9-inch bolt and by nailing. An 8-inch board is nailed on either side of rafter, insert and studding for a bracing, using 10 d. and 16 d. nails.

Fig. 2 shows the ⅝-inch washers, the only kind of iron handy. At "d," a 3/16-inch hole is drilled at opposite corners and a 16 d. nail driven through which holds washer in place and does not allow it to turn. By placing washer cornerwise, it gives more bearing. A. O. STIEN.

✣

Carpenter Saves $1000 in Three Years

To the Editor: Anselmo, Neb.

In reply to C. H. Cornell of Honolulu, Hawaii, I will say if he is a good steady worker and is careful how he spends his money and works up high enough to become a contractor he might become a millionaire; but don't think he would if just kept working by the day, because living expenses are almost as much as the wage scale.

But I will tell my experience. I started in at 15 cents per hour; now after three years I demand 35 and am quite a step from good wages yet. Still in those three years I have saved around one thousand dollars.

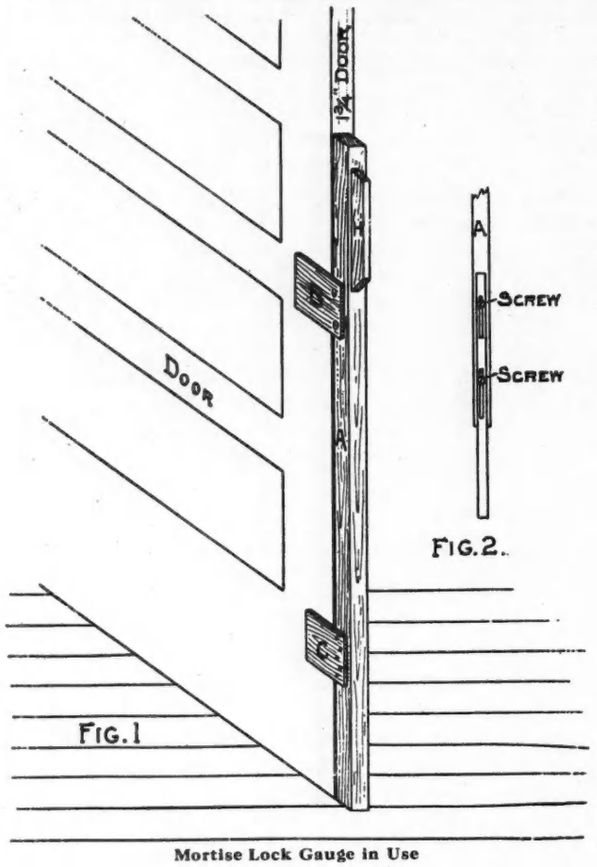
I have read your paper for two years and find it good in every way. J. A. JUDGE.

Mortise Lock Gauge

To the Editor: Oakdale, Calif.

This gauge will save five minutes on every door it is used on, and sometimes more. It requires about fifteen minutes to make, so that it pays for itself on the first three doors.

I use a piece of one inch stuff, three feet six, of any width, for "A." "C" is a small scrap about 3 by 4 inches. "B" is the same, but put on with screws. Lay out on the face of "A" for a mortise lock. Where the centers of the holes come drive three penny nails through. Pull these and re-drive them from the back. The points will then be exactly accurate. Allow them to project an eighth of an inch. The hardwood block "H" is tacked on over the heads of the nails.



Mortise Lock Gauge in Use

When the gauge is dropped to the floor, against the side of a door and given a light tap on "H," the nail points mark the centers of holes to be bored. No marking width of lock or gauging to the center of the door or anything else. Just tap your gauge and go to boring. I lay out my center line on "A" ⅞ inch from left side. When I get a 2-inch door I loosen the screws in "B" and slip in a shim ⅛ inch thick.

Figure 2 is merely a suggestion for an extension on the bottom of "A" to allow for different heights. Screws with washers through the slots will hold "A" at any desired height. However, I find little use for it here as practically all doors have locks set at 36 inches from floor to center of knob. H. J. Blacklidge.

✣

A Better Way

To the Editor: Omaha, Neb.

I am amused at the controversy about Jasbury's method of building stairs where the plastering is already in on the back. I can see how a feat like this can be done, but surely do not consider it a practical method. The risers could be quite readily wedged, but to wedge the steps it would be necessary to cut a hole through the riser, this of course, the scotia would cover up. Then again the steps might be wedged first and the riser put in after the step was wedged. If the stair was between two walls it would be necessary to spring every step and riser into the housing and the whole thing would be burdened with all manner of difficulties. I do not say that it can't be done but I do not admire the method.

There is a better and easier way. Fit the wall strings in the place they are to go; then raise them up both alike sufficiently to put in the steps and risers in the usual way with room to drive the wedges as they should be driven. When all are together let the stairs drop back in their proper place and fasten by nailing the wall strings. The job is easy. Do not crowd the wall strings for if you do you may have some trouble to get the stairs back into place.

I. P. Hicks.

✣

Piping for Hot Water

To the Editor: East Helena, Montana.

I noticed the inquiry in February number about getting quick action in hot water pipe to bath tub. If our friend will run pipe from water back top connection direct to bath tub and then to the range boiler, putting in a T at the tub to accommodate the hot water bib he will always have hot water at once if he keeps up the fire in the range. M. O. Robertson.

✣

Something About Figuring Cost of Building Stairs

To the Editor: Omaha, Neb.

In regard to the inquiry from Chas. E. Nowels of Longmount, Colo., I send the following information on the cost of the average stair in the ordinary house, material to be plain red oak:

16 risers 25c	$ 4.00
15 steps 45c	6.75
24 balusters 10c	2.40
14-foot rail 12c	1.68
1 newel	5.00
2 angle or landing newels $2.75	5.75
80-foot scotia 40c	.32
16-foot nosing 4c	.64
16-foot face stringer 7c	1.12
16-foot wall stringer 6c	.96
24-foot wall string extension 4c	.96
24-foot base mold 1½c	.36
1 round end step and riser	8.50
Total	$33.04

The above is for a plain design. Stairs vary so much that one price will never do for all designs. The contracting carpenter will have to use judgment and discretion in arriving at the cost of building stairs. If they are of some special design with panels, seat, etc., the cost may frequently be doubled.

The following is the way we estimate the labor of erecting mill made stairs at the building:

Straight runs without rail and balusters, per step	$1.00
With rail, balusters and return nosings, per step	1.40
Level rail and balusters, per foot	.30
Round end steps	2.00
Winding steps, each	2.00
Platforms, each	3.00

The above prices will make the average run of stairs figure up to $25 to $30, for the labor of setting them up in the building after they come from the mill in the knockdown.

In regard to a standard bevel for door and window frames we are of the opinion that every builder makes this as he thinks best and a pitch of ½ to ¾-inch in the width of the jamb will be the average, the ½-inch being the one most in use. I. P. Hicks.

Questions for Grain Elevator Experts

To the Editor: Barnett, Mo.

I wish to build a grain elevator this year and will need some information before I can go ahead. For instance, where should the spouts go? The engine to be in the basement; railroad scales on one side of building and wagon scales on the other side.

Should the grain be dumped in a hopper in the basement, then elevated to second floor? And how should hopper be made? How should wagon scales be located so as to be easiest unloaded?

Will be pleased for any information any of the brothers who are experienced in elevator building can give me in the next number of the AMERICAN CARPENTER AND BUILDER.

J. A. COTLEN.

✣

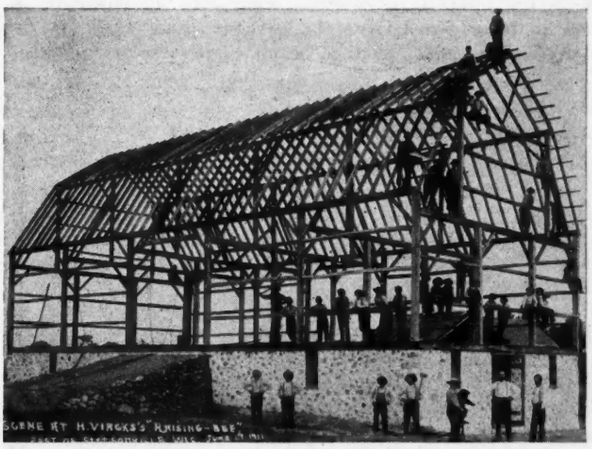
Barn Framing

To the Editor: Dorchester, Wis.

Am sending you a photo of a barn frame I built last season. The size of this building is 36 by 80 feet, and stands on a 9-ft. stone wall, and has 16-ft. posts. It is a little different from that one of Mr. Edw. Burgel, of Napoleon, Ohio. For instance, the rafters are not fitted against and on top of purlines, but are spiked together and rest on top of the purline plates. Of course, they are securely fastened to purlines with spikes. This I think, makes a stronger roof, and is also raised easier and faster than the other way.

I raised this barn in 8 hours with about 50 men; started in the morning at 9 o'clock to set the 10 posts in basement; then 2 stringers full length of barn; then joists and sills; then laid a temporary floor over all and started putting the different bents together. At 2 o'clock, they were all ready to raise, and at 6 o'clock the photo was taken.

You will see me on photo in line with basement door. You will notice that the short rafters are not shown on photo, as I leave them off till the barn is sheathed on outside. Then I put on the short rafters at main plate; put about 2 10-in. roof boards on these short rafters, or 5 4-in., if they are sawed out to form bell-shaped roof. Then I shingle on these boards; put on foot-rests (generally 2 by 4 in. fastened with shingles nailed to them and onto roof). Then I proceed with roof-boarding and shingling and in that way save putting up



Barn Raising Bee Headed by Our Subscriber, John P. Kramer

the stagings. I have yet the first staging to put up on a barn for shingling.

You will also note the 2 by 2 in. lookouts on end of barn. These are surfaced on 3 sides and mortised into first set of rafters and butted against second set and firmly nailed. Then I take a good grade of lumber and put it on surfaced side down, up and down on the lookouts, commencing on center of outside rafter to width of cornice. Then I put on a 4 or 5 in. fascia, and it is ready for shingles, or whatever roofing is preferred.

These lookouts also make a substantial ladder for nailing top end of outside sheathing. For frieze board I generally use 8-in. boards. These I mortise out for lookouts and put them on before I put the rest of cornice on. When finished this makes an attractive looking cornice, can be painted nicely, and last but not least, there is no place for birds or mice to build nests, and that is one thing that any up to date farmer will appreciate.

JOHN P. KRAMER.
Contractor and Builder.

✣

Greeting from Thomas, Okla.

To the Editor: Thomas, Okla.

I am sending you herewith a photograph of a house I recently built for Dr. T. H. Hueseon in this place. I also have

Gutte and His Gang—And House They Have Just Completed

two more houses under construction. All of our gang read the AMERICAN CARPENTER AND BUILDER."

J. F. GUTTE.

✣

Carpentry an Honest Worth-while Calling

To the Editor: Prattsburgh, N. Y.

In the February number of your magazine I notice that Mr. C. H. Cornell of the Hawaiian Islands wants to know what incentive there is for a boy to learn the carpenter trade. I would say there are several things we might mention. In the first place it is an honest calling and worthy of any progressive boy's consideration. Then the brighter the boy and the more ambition he has, the greater his success. Then it is easier to work and accomplish something that is of some use and a benefit to yourself as well as to those around you, than it is to work hard to keep out of work, and be a burden on somebody else.

Millionaires do not belong to the craft, they would be very much out of place with us and we would be as uncomfortable as they if they were with us. There are a multitude of reasons why, but we must not linger on that subject too long, we want to just mention one or two other subjects we see in THE AMERICAN CARPENTER AND BUILDER of this month.

Those who think as I do would say to Mr. R. Lee Ehmer to replace the rubber roofing with good shingles, slate or some good metal material or tile, at least to get rid of the present roofing.

If I were Mr. Alex. Pagan I never would twit anybody else of fast shingling, he speaks of the quality of work considered, but fails to say whether it was good, bad or indifferent, but evidently thinks we ought to know without being told.

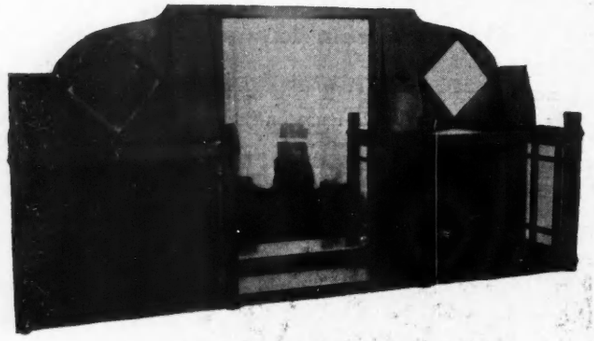
J. W. GELDER, Contractor and Builder.

A Home-Made Mirror Shelf

To the Editor: Detroit, Mich.

This unusual mirror shelf cost less than one dollar to make, but probably would have cost twenty-five times as much if it had been purchased from a furniture store. It could hardly have cost more than five dollars if the material had all been purchased ready prepared, but most of the material was already available in a pile of kindling from a furniture factory. The three mirrors are part of a broken mirror purchased from a second-hand store for half a dollar and cut to shape.

Aside from the mirror, the only material purchased was one board, 1 by 6 inches, 9½ feet long, and another 1 by 8



Home-Made Mirror Shelf

inches, 3½ feet long, costing another fifty cents. These two pieces were cut into seven lengths.

Four square slats 1 by 1 by 12 inches, were chosen from the kindling pile and planed smooth. Then one length 42 inches, was cut from the narrow board, and a ½-inch notch cut in at the corner to take the end of one of the square pieces. The other two square pieces were nailed into similar notches 13 inches from each end of the board.

Then 2 14-inch lengths were cut off the same narrow board and nailed to the four upright posts 1¼ inches from the top. The remaining 40 inches of the narrow board was then cut in half and nailed, one piece at each end, against the back of the two shelves. Then the wider board 8 inches, was cut in two, making two lengths 21 inches long, and was nailed against the edge of the other two back boards, completeing the back of the shelf and giving it the appearance shown in the photograph, less the mirrors and trimmings.

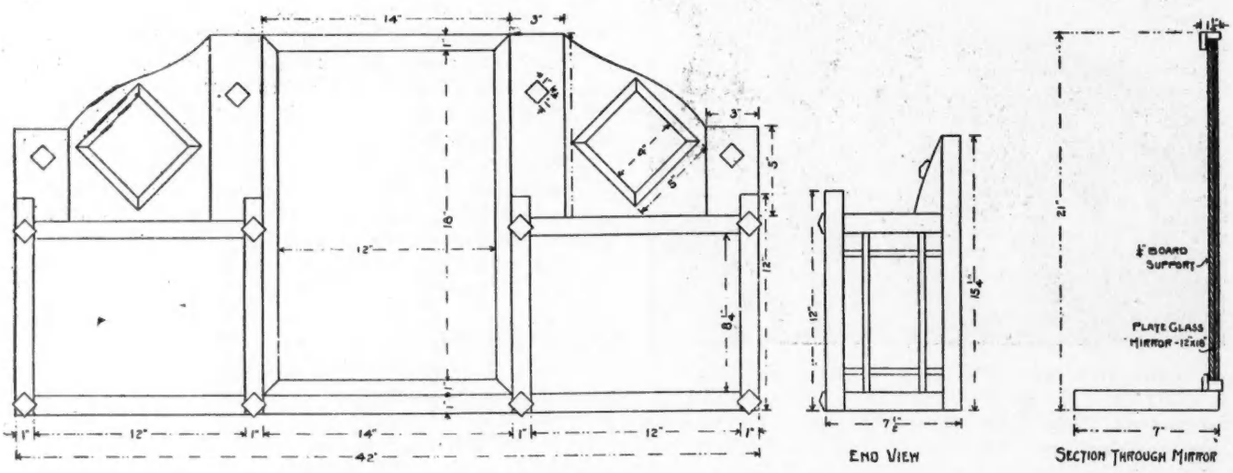
A frame was made for the large mirror of other slats ¼ by 1 inch, as shown in the elevation plan. Against the back of this frame was nailed another frame, flush with the outer edge, made of slats ½ by ¾ inch, which made a complete frame with a shoulder to hide the edge of the mirror. This was nailed into position between the back corners of the shelf boards, as shown, and the mirror fitted in. Three thin boards from an old box made a nice back for the mirror.

In a scrap pile was found four buttresses, three inches wide, with a curved taper front from 1½ inches at the base to a feather edge at the top. One of these 10¼ inches long, was nailed at each side of the mirror, as shown, and the other two were cut to 5 inches high and nailed against the back board, above the top shelf, at each end. After marking a satisfactory curve on the back board top, with a pencil, it was sawed to as near the shape shown as possible and then finished with a wood rasp and dressed with sharp glass used as a plane.

The two diamond mirrors were fastened to the flat back by tacking ¼-inch square strips in the shape indicated and then, after placing the mirrors in position, tacking other strips, in the shape of the frame as shown ¼ by ½ inch, on top of the first strips, letting the extra quarter inch extend over the edge of the mirror to hold it The thick glass, where it was cut, reflected and looked ugly, but a coating of oak stain on the rough edge remedied that.

Over the nail heads which hold the square front posts and the buttresses were glued wooden buttons, made by rounding the corners of another square slat with a wood rasp and sawing off the end, ¼ inch thick. These square buttons, set diamond shape, not only hide the nails, but add much to the appearance of the shelf, doing more, perhaps, than any other thing to keep it from looking home-made.

As is shown in the end view, and in the photograph, the whole was much beautified and still further removed from the objectionable home-made appearance, by fitting four ⅜ inch square slats to form four crosses in each end of the shelves. These slats were easy to fit in place and fasten with glue. Against the inside of this little extra frame was fitted a thin sheet of glass, obtained by cleaning the film off 4 discarded negatives used in photography. Glass could have been purchased of the size needed for about 5 cents a piece. The edges of the glass needed to be hidden, and this was accomplishd by cutting a little channel into the corner posts and the top, bottom and back of the shelf. The same effect, not quite as neat, could have been accomplished by tacking other small slats against the inner wall of the shelves. The front could be beautified by similar treatment,



FRONT ELEVATION END VIEW SECTION THROUGH MIRROR

Working Drawing of Home-Made Mirror Shelf

making dust-tight shelves, but it would be necessary to provide hinges and it is not so easy to make a door of slats that will stand usage.

A couple of tiny square strips, visible in the photograph, were tacked to the bottom shelf to keep plates set against the back wall from sliding down, and hooks were screwed into the under side of the top shelf to hang cups on. The diamond mirrors back of the top shelf reflect glassware and set it off to good advantage.

The whole was stained mission style by applying a bog oak stain. The makers of each kind of stain furnish instructions for its use.

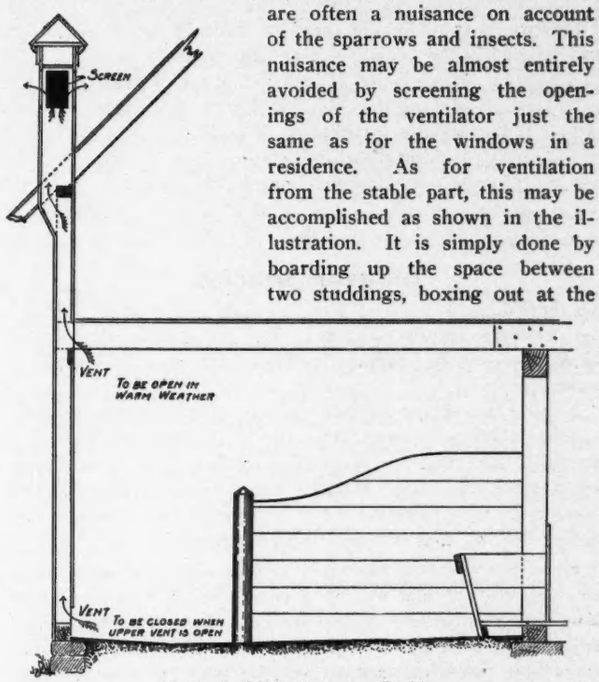
CHARLES CLAUDE CASEY.

How to Ventilate a Barn

To the Editor: Breese, Ill.

I have a barn to build which is 30 by 42 by 18 feet high, and the farmer who is building the barn wants it ventilated. Could you please tell me how, or could you tell me where to get any information? BEN. J. HORSTMANN.

Answer: Systems of ventilation are in demand for large barns, without putting on the common roof ventilators, which are often a nuisance on account of the sparrows and insects. This nuisance may be almost entirely avoided by screening the openings of the ventilator just the same as for the windows in a residence. As for ventilation from the stable part, this may be accomplished as shown in the illustration. It is simply done by boarding up the space between two studdings, boxing out at the cornice to clear the plate, and finishing with turret effect on the roof with screened openings on all sides. The interior openings should be as shown, provided with side shutters. One of these vent shafts should be placed about every eight feet, or opposite every other stall. EDITOR.



Method of Ventilating a Stable

To Patch Rubber Roof

To the Editor: Ellsworth, Kans.

In regard to the question of R. Lee Ehmer, I submit the following as a good way to repair rubber roofing that is leaking. Just take a thin piece of cloth; tar the place that leaks with roofing tar; put on cloth and tar again. I think this is better than tin, for no nails are used.

What is the best way to remove paint from window lights?

Which is best for painting, raw linseed oil or the other kind?

Which is the easiest way to find the bevel of the staves of a round tank—say a tank eight feet in diameter?

R. T. KASTEN.

Says the Lumberman Gets It All

To the Editor: South Amboy, N. J.

Being a charter subscriber to the AMERICAN CARPENTER AND BUILDER who looks forward to every issue of the magazine because of the many things to be learned from its pages, and being highly interested in all things pertaining to building, I would like to see my name signed at the end of a few remarks as to the high cost of building as given by Mr. J. R. Moorehead, in the February number.

Mr. Moorhead seems to be under the impression that the lumber bill cuts no figure in the extra cost of building, and in figuring the difference in cost, he switches off and figures in the different conveniences that are put in houses now that were not used twenty-six years ago, in about the same fashion that a sleight-of-hand performer would hand you a barrel of stuff out of a number seven hat.

Now, from the standpoint of one who jumped out of the cradle to the carpenter shop, and has been there ever since, I would like to inform Mr. Moorehead that the lumber question occupies no back seat at the opera, but rather a box seat with six chairs paid for and only one occupied.

Now, for an example, we will take a house that cost $3,000 to-day without improvements and the same kind of a house 26 years ago. That house would cost exactly $500 for carpenter labor to-day, which represents 1,191 hours work at 42c per hour. Twenty-six years ago 1,191 hours work at 25c per hour would amount to $297.75, an extra cost on carpenter labor of $202.25.

Extra cost on 15,000 brick, $30.00

Painters only get about $15.00 more for the same job.

Tin work cost $25.00 more; used to be 5c per foot, now it's 10c.

Most people would excavate their own cellars; now it goes into the contract, and that costs $30.00 more.

Altogether the above items figure up to $302.25.

Now comes the lumber:

	1886 Per M.	1912 Per M.
Hemlock timber	$14.00	$30.00
Shingles	4.00	6.00
White pine	30.00 same grade	70.00
N. Y. flooring	25.00 same grade	40.00
Mason lath	2.25	4.75
Panel doors	1.25	2.50
Nails	1.80	3.50
Sash	1.00	1.90

Enough said. This goes to show that the lumber bill is double what it was 26 years ago. In other words, the lumber for the above mentioned house would cost to-day, including hardware, $1,300, and could be bought 26 years ago for $650.00, showing an extra charge by the lumber dealer of $650, which is $347.75 over and above all the other extras combined.

Who gets the money? It looks to me as if the lumber man gets it all.

WM. L. MUNN,
Contractor and Builder.

Wants Suggestions for Placing Heavy Trusses

To the Editor: Wild Rose, Wis.

Having a church to build which is 40 foot wide and has four heavy wooden trusses composed of two 8 by 12 and four 4 by 12 timbers (about 30 feet long) respectively, would ask some one through your valuable paper who has had experience for a method as to placing them in position.

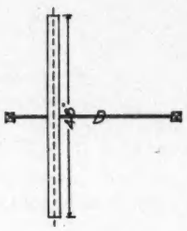
C. M. RADLEY.

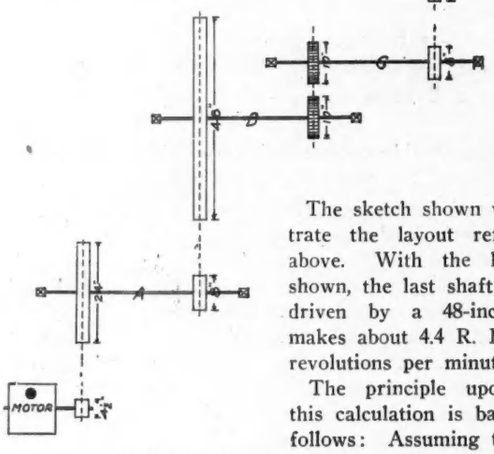
Proportioning Pulleys

To the Editor: Zanesville, O.

I have a question I wish to ask. It is this: How do you figure the speed of pulleys for high and low speed? For instance, I have a pulley that is 8 inches, works on a 48-inch pulley and the motor is a 2 H. P., and makes 850 R. P. M. The pulley on the motor is 4½ inches in diameter. There is a 4-inch belt running from the motor to a pulley that is 24 inches. On this shaft is an 8-inch, and this belt runs to a 48-inch pulley. And on this shaft is a 10-inch sprocket that runs to a 10-inch sprocket. On this shaft is an 8-inch pulley which works on the 48-inch wheel that is referred to in the beginning, and this is the one (48-inch), that I want to reduce the speed on. Please give this to me all worked out so that I may keep it for future reference, so if I have another machine to set up I can figure out the speed of each and every pulley. This is the question that I would like to have you figure out in plain figures. C. A. HANDSHY.

Answer:—The following treatment may be of interest in regard to figuring the sizes of pulleys for a given number of revolutions of shaft, or conversely having given the sizes of pulleys located on a number of shafts, to determine the number of revolutions per minute, resulting for each shaft.





The sketch shown will illustrate the layout referred to above. With the layout as shown, the last shaft which is driven by a 48-inch pulley makes about 4.4 R. P. M., or, revolutions per minute.

The principle upon which this calculation is based is as follows: Assuming that there is no slip in the belt as it runs over the surface of the pulleys, one revolution of the motor pulley would pull along from its original quiet position a length of belt equal to the distance around the circumference of the 4½ inch pulley. or 3.1416×4½ inches, which equals 14.14 inches. Or, in other words, it would take a number of turns of the 4½ inch pulley equal to the distance around the 4½ inch pulley in order that the 24 inch pulley may turn through one complete revolution. Since these distances are proportional to the diameter we can use the diameter in this calculation without bothering to compute the circumferences; 24÷4½=5.3 turns.

Then if the motor shaft makes 850 revolutions per minute, the shaft on which the 24 inch pulley is located will make only 850 ÷ 5.3 = 160 revolutions in the same time.

The 8 inch pulley located on this same shaft would make the same number of revolutions per minute as the 24 inch pulley. Applying the same reasoning to the 48 inch pulley which is driven by the 8 inch pulley on this first shaft (lettered A in figure,) it will be seen that it will require 48 ÷ 8 = 6 turns of the shaft A in order that the 48 inch pulley on shaft B may turn around once. Or, for 160 revolutions of the shaft A and its 8 inch diameter pulley, the shaft B and its 48 inch pulley will only turn 160 ÷ 6 = 26.67 revolutions for the same time.

Since the 10 inch sprocket on B turns 26.67 times per minute, the 10 inch sprocket on shaft C will also turn the same number of times, assuming that the number of teeth is the same on each. Also the 8 inch pulley on C will turn 26.67 times per minute.

Applying the 10 inch sprocket to the 48 inch pulley on D, we should find that the shaft D makes about, 48 ÷ 8 = 6, 26.67 ÷ 6 = 4.4 revolutions per minute.

A careful examination of this reasoning will show that by decreasing the diameter of any of the driving pulleys, or by increasing the diameter of any of the driven pulleys, there will be a change in the number of revolutions of all shafts and pulleys ahead of the changed pulley. That is, if the 24 inch pulley should be changed to a 30 inch pulley, the shaft A and all others, B, C, and D would be slowed up by the change, providing that the number of revolutions of the motor, and the 4½ inch pulley remained the same.

In such a case as this, the new speeds of A, B, C, and D would be as follows:

A=127½ R. P. M.
B= 21 2/10 R. P. M.
C= 21 2/10 R. P. M.
D= 3½ R. P. M.

Therefore, changes in the speed of shaft D, speed of motor and 4½-inch pulley remaining constant, might be made by

(1) Making the 24-inch pulley on A larger.
(2) Making the 8-inch pulley on A smaller.
(3) Making sprocket on B smaller.
(4) Making 8-inch pulley on C smaller.
(5) A combination of any of the above.

EDITOR.

✣

Baluster Spacing

To the Editor: Cleveland, Ohio.

I was very much pleased to see the details of Colonial book case in the January number. It was just what I wanted.

Now, I am going to ask for some information upon a subject which sometimes gives me no end of trouble and I am quite sure many of my fellow carpenters are sometimes up against the same thing. The question seems simple enough at first thought, but it is one of those things that bother fellows that are not up in mathematics.

Here it is; suppose the foreman tells one of his men to go to a certain job and put up a porch rail, let us say, 8 feet long with 24 balusters equally spaced. Most carpenters would say, "that's a dandy little job," as the fellow gathers up his tools; but when he arrives on the place of business and when ready to use his dividers for the spacing of the balusters, he discovers that they are not in the box.

Now the question is, how is he going to properly space off the required number of balusters? Any carpenter can space them off with a pair of dividers, but without this useful tool, what then? Well, it means quite a bit of figuring, that is all. Then there is the baluster with the large swell in the center, which I would also like to know the correct way of spacing, so that the end spacing would show the same as the other spacing.

I would like to see the answer published, as I am quite sure there are many of my fellow carpenters who would be benefited by it. C. D. C.

Answer:—Yes, a man caught in that kind of a predicament would be thrown on his own resources as a mathematician; and we are inclined to think in most cases of this kind, that it would be a benefit to him, if it will only cause him to resort more to figures.

The great trouble with most men is that they do not use their heads enough. The dividers, or compass, is a handy

and a most useful tool, but it is an awfully good thing to have a top noddle filled with at least the common school branches of education. It is assumed that all native born mechanics, under our free school system, have at least that much; but the great trouble is, they avoid making use of it whenever they can. And when forced to fall back on figures, from lack of practice they have allowed themselves to become rusty, so to speak, and cannot readily apply even some of the simple things they once knew. It is a good thing to keep in touch with lower mathematics; and there is only one way to do it and that is, stick to it. These long winter evenings are an ideal time to get busy.

If you are rusty on your arithmetic get next to the school children (if fortunate to have them), and live the old days over again. You will see the practical use of that which you never saw before, besides giving the children a wonderful boost in seeing the interest taken in the work by the old man. You might cut out some of the lodge business and places of questioned amusement in favor of home fireside. In the long run it would be dollars in your pockets instead of the other fellow's and we will wager our last summer's wages (what's left) that the women folks will join in the movement and help to make it more than a success from any point of view.

But say, let us back up a little; we almost forgot the propounded question, viz., how to space twenty-four balusters in a space of 8 feet or 96 inches. Now, suppose the balusters are 1⅛ inch square; that would be 24×1⅛=27 inches, which is equal to the amount of space taken up by the balusters and this taken from 96 inches is equal to 69 inches to be divided up in spaces, and since there is always one more space than the number of balusters, 69÷25=2 19/25 inches for the openings.

In case there is a swell in the middle of the baluster, then calculate at that point for the width of the baluster. Suppose it is three inches; then 24×3=72 and 72 from 96 leaves 24 inches for the spacing to be divided up into 25 parts, which would leave them at the closest point practically 23/24 of an inch apart; and the spacing for the center on the rail for the first one would be equal to one space and one-half of the diameter of the baluster while the others would be equal to the diameter and one space.

A. W. Woods.

✣

Carpenters Worthy of Respect

To the Editor: Lomax, Ill.

Mr. C. H. Cornell wishes to know what incentive there is for a boy to learn the carpenter's trade? Says he knows of no one working at the trade who has ever accumulated anything thereby financially. Well, neither have I, and if any one learns any trade with the expectation of either financial or social success, he will be sorely disappointed.

I am 57 years old; have worked at the trade all my life. I have built quite a good many houses, and by so doing have the joy of feeling that in this way I have helped quite a number of men to provide homes for their families and thus have contributed quite a good deal to humanity, yet I am too poor to associate with them; for society measures all men by a money standard. Yet I would rather feel that I have been useful in the world than be a useless rich man.

If a youth desires to be of any consequence in the world, he must learn to do something so that he may become a producer; for it is production that increases value, and not the exchange of money. If one wishes to accumulate money and cares nothing about giving value received for it, he might keep a billiard hall, pool room, saloon, or a play house; but, that would produce nothing, would contribute nothing to humanity. And the feeding of non-producers is one source of hard times.

The carpenter trade is the oldest and one of the most useful trades there is; but there are other trades which are productive of good results. I would advise all youths to learn to do something, though they spend their lives in poverty. Unless one has a desire to do something for the betterment of humanity he may fail in his trade, and the more one is interested in his trade the more likely he is to be a poor man. The only way to make a trade successful is by taking interest in it and that is what makes it expensive and unprofitable.

People do not scorn a man because he learns how to do a thing, but because he does it, and it maters not what a man works at, but it is his working at all which causes the rich to treat him with scorn. But the plain people are the ones from whom we receive respect.

Geo. F. Moore, Carpenter and Joiner.

✣

Wants to Buy Cement

To the Editor: Volga, So. Dak.

Although a charter member this will be the first time that I write to you. I enclose a photo of myself and crew during the season of 1910. It represents us during leisure hours in camp as I furnish the "Bunk House," wherever we are working.

I have been contracting for several years and always have had plenty of work for myself and several men. I have

Contractor Lee and His Crew—All Readers of the American Carpenter and Builder

always found it the best policy to do the work as good as a person can even if a person sees he is the loser on the job, since in that way people get more confidence in a man's honesty and ability.

Would some of my fellow contractors and builders give me through the paper the address of some manufacturer of cement or plaster that sells direct to the contractor. in carload lots or less.

I have been a constant reader of The American Carpenter and Builder for seven years and think its the best magazine of its kind I have seen.

J. Selmer Lee.

✣

Good Work the Only Kind That Pays

To the Editor: Summitville, Ind.

I see in your February journal, page 68, a report of some very rapid shingling.

I used to be a contractor and employed several hands. It was never so much of a question of how many shingles one could put on as it was how well he could do it. Some men are quicker and do more work in a day than others no matter whether the work is done well or poorly. Some men will do much more work and do it better than others, depending on amount of skill. A large number of

the men who do an unusual amount of work in a day do not, as a rule, do it well.

My way of having shingling done was first to use a good shingle and drive the nails in each separate shingle not more than 4 inches apart in wide shingles and never less than two nails in any shingle, if it was not more than 1 inch wide. It was also my custom to place the nails two-thirds the length of shingle from lower end. The object in this was to place the nail high enough so it would seldom, if ever, get wet, and then the heavy end of shingle would get wet, swell and shrink, it would not draw the nail or crush the fiber of wood so that decay would soon set in. Some yellow poplar shingle roofs put on 38 years ago in this way are in good condition yet. The shingles were full ½ inch thick.

This method requires a little more time and a few more nails but it is economy and pays well to do it. Better to be an honest John, rather than a rapid and cheap John (no reflection intended). One should do a reasonable amount of work and do it well, no other kind will create a demand or promote a man to continued work or better wages.

My notion has always been that the man who feels no further interest in his work than the actual dollars and cents he gets out of it, is not the man who is in greatest demand. There appears to be no end to what can be said so will quit. J. B. PHILLIPY.

✣

Unique Bronze Doors

To the Editor: Austin, Texas.

One of the most unique and attractive features of the new American National Bank building that was recently erected in Austin, Texas at a cost of $550,000 is the solid bronze double doors that form the main street entrance to the bank. This building was erected by Major George W. Littlefield, one of the wealthiest cattle men in Texas, his ranch possessions aggregating 460,000 acres of land, all of which is well stocked.

$4,000 Bronze Doors Executed by the Tiffany Studios for the American National Bank, Austin, Texas

The double doors were made by Tiffany's studios of New York upon a special design roughly outlined by Major Littlefield. The doors are divided into three panels each, and upon each panel are delicately cast ranch scenes which were taken direct from photographs. By this method there has been preserved in bronze scenes of the old time ranch which through the advance of agricultural development is rapidly passing away. The two upper panels of the doors show the cowboys in their picturesque habiliments. The scenes upon the middle panels represent a typical cattle round-up upon the Yellow Horse ranch. The lower panels show a cattle grazing scene upon this ranch. In place of ordinary door knobs each door is equipped with the head of a steer with a rope around its neck. These heads as well as the rope are also of bronze. The doors weigh 1300 pounds each and cost $4,000.

W. D. HORNADAY.

✣

Light Chest for Tools

To the Editor: East Helena, Montana.

Seeing inquiry from a Minn. brother carpenter about light tool chest, will say some 25 years ago, wanting a light chest; I sent to a trunk factory in Minneapolis and had one made, giving inside dimensions and putting slides and sills to suit myself.

It was made of ½-inch bass wood and covered with thin sheet iron nailed with clout nails about every 1½ inches square, well clinched on inside. Then the outside reinforced with oak strips and corner irons similar to a sample trunk carried by commercial travelers. The inside is covered with a light canvas or cambric well pasted on. It is still about as good as when purchased; is light and convenient.

M. O. ROBERTSON.

✣

Fitting Porch Columns

To the Editor: Hillsdale, Mich.

William Vreeland, of Durand, wanted to know how to scribe a round column to a porch floor with 3 inch drop in 8 inches. That is too much. It might do for a deck. I would give the floor 1 inch drop in 8 inches; then bevel my base block and the column will fit as they are turned equare top and bottom C. A. MCKIE.

✣

Warm Air Furnace for Dry Kiln

To the Editor: Omaha, Neb.

In regard to the 10 feet wide by 10 feet high by 18 feet long dry kiln. I believe one could be operated very successfully with a hot air furnace and also at small cost. Some real science ought to be used in the arrangement. It is my opinion that the furnace should sit below the kiln with two inlets for the hot air, each about 4 feet from the end floor registers. The return air shaft should be in one of the side walls near the middle and set with the bottom of it on the floor line of the kiln. The lumber should be set on a rack at least 20 inches above the floor racked up with ¾ inch strips between the boards. It might be that side wall registers would be as good as the floor registers but they should be set near the floors as the warm air always rises. For the reason that the cool air always comes down the return to the furnace should be at the bottom of the floor line. I feel sure that this would make an ideal dry kiln, and that the best results would be obtained with a steady moderate heat.

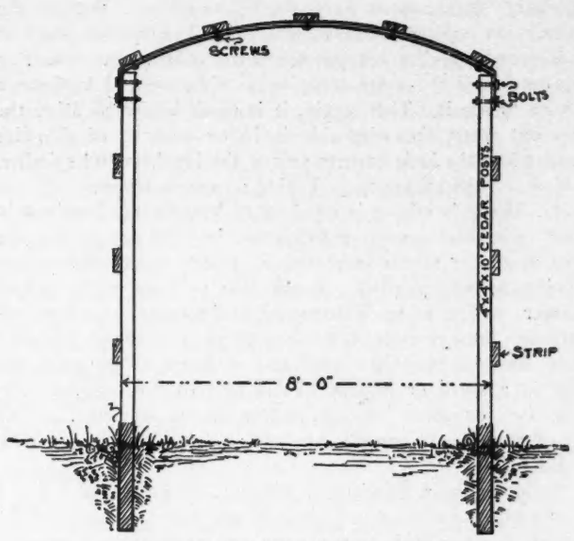
I. P. HICKS.

A Substantial Grape Arbor

To the Editor. Silverton, Ohio.

I am sending herewith a sketch of my grape arbor that I built some five years ago. It has been praised by all who have seen it; and as I have not seen anything like it published, I thought it might be of some interest to brother readers of the AMERICAN CARPENTER AND BUILDER.

Instead of wooden arches, I used old wagon tires, bent to the desired shape. I made a wood pattern for the blacksmith to work to and had holes drilled in the iron through which to fasten the strips, using 1¼-in. screws, and put in



Cross Section through Grape Arbor

from the under side. The iron is bolted to the posts, as shown. I coated the posts with tar, so that the same came to about six inches above the ground after they were set.

LEWIS SPEYER.

Porch Columns on Slanting Floor

To the Editor: Calais, Ohio.

In response to Mr. Wm. Vreland's question as how to scribe the base of a round column standing on an incline, I will give my way of doing it. He says the floor has a fall of three inches in 8 ft., which would be a pretty heavy fall to my notion, but no heavier fall than one would be likely to get in stepping out onto a floor of this slant in a right icy time like the present.

But nevertheless the fall would cut no figure in getting the cut on the column. I would first place the base in its proper place on the floor, and fasten. Then place the column on it plumb and stay it temporarily both ways. Then with the dividers properly set, using the projection of the base as a guide for one wing of the dividers, scribe around the column. Remove the temporary braces; take down and saw to the mark thus made. Replace and you have a fit.

I think this a better plan than the mitre box. Especially in the case of very large columns, which would necessitate such a large box; and the column being round and tapering, it would be a little like Mr. Woods said about the degree system in comparison with the steel square in getting the cuts for the different polygons—it would be a little unyielding.

I noticed Mr. Wilson's diagnosis of the polygons by the degree route; which is very good in the absence of the steel square. But it takes one too far around and comes in at the back door, so to speak; while with the steel square in his hand, Mr. Wilson could have gone in at the front door and taken a seat in the front row next to the speaker.

I am a firm believer in the steel square. I use it for almost everything pertaining to the different cuts. While I do not profess to be an expert with the steel square, I expect to acquaint myself more thoroughly by reading Mr Wood's articles on the same, from time to time. These are among the best features of the AMERICAN CARPENTER AND BUILDER, if it be possible that there is any best, as they are all so good. We all can be benefited by reading the AMERICAN CARPENTER AND BUILDER each month. I think it one of the best trade journals in existence. I am a charter member, and have read every issue from the beginning, and think it grows better with each month.

I think we all should contribute more liberally to the correspondence column, as we can all be benefited by exchanging our views through the columns of this journal. Now boys, let's all go in for a more liberal correspondence department.

C. T. EVERETT.

Three Questions Answered

To the Editor: Cincinnati, Iowa.

Answering the query of Wm. Vreeland (page 81, Jan. number), will say I find it less work to put the column in place and prop it upon wedges to get it plumb; and then scribe the base to the floor with a pencil divider. It is much quicker, and I have found it better than making a box to cut the base in.

If E. S. McKeel (page 82) will order his next sliding doors with friction mould, he will not have to cut away, as he says, for escutcheons. Or if he will put the friction moulds on the doors he has, that will overcome his trouble. If he cannot get the regular moulds, a common o. g. window or door stop will do; but of course he will need a wider throated astragal if his doors are double.

Referring to R. N. Allen's question (page 78), about whether to hang the putty side of doors in or out, will say I have found that it is a great deal a matter of opinion. In some localities the mills put the tables and caps on the putty side, while in other localities it is just the opposite.

Where there are tables and caps or other ornamental work the custom is to hang that side out, regardless of the putty or glass mould side. Aside from this condition, it would be proper to put the putty side out, for the reason that if water ran down between the glass and putty or mould, it would run outside the door; if the other side of the door were hung out, the water, if any leaks showed up (as they nearly always do, sooner or later), would run on the inside.

SANFORD BUCK,
Contractor and Builder.

Is there a Heat Proof Mortar for Fireplaces?

To the Editor: Hammond, La.

In this climate the atmosphere is generally very damp, and from day to day the temperature varies. Sometimes it will be damp and cool, while the very next day it is likely to be warm and dry. This state of the temperature tends to work a hardship on plaster, the expansion and contraction taking place so rapidly. If you have had any experience in handling patent plasters or plaster boards, I would appreciate a few words as to the result. The greatest objection to plaster boards, of course, is the fact that it is next to impossible to get an absolutely smooth surface on the walls and ceiling, so that the same could be painted.

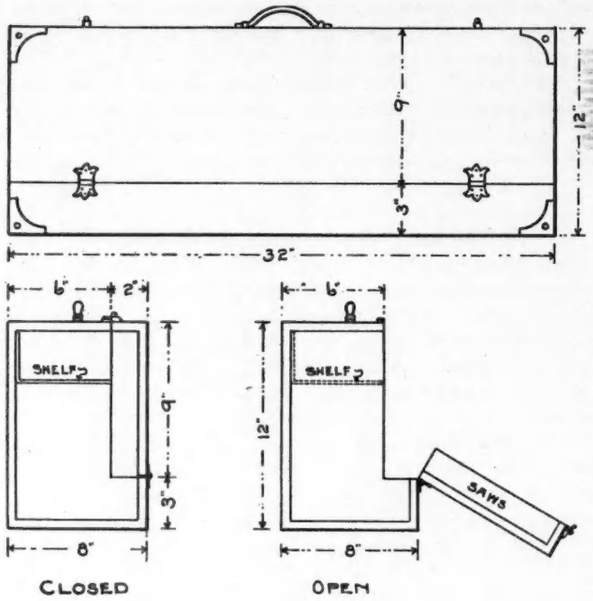
Another obstacle found in building in this section is found in the construction of fireplaces. Do you know of any ingredient that could be mixed with the mortar and cement to prevent the same from crumbling from between the bricks when the fireplace has been subjected to hot fires for some time? Do you think fire clay or coarse salt mixed in the mortar would tend to lengthen the life of the masonry?

L. J. MCGEE.

Handy Tool Box

To the Editor: Sunny Side, N. J.

In answer to Brother Clark's letters in the January issue, I am sending a rough sketch of a light tool box, which can be carried the same as a suit case. It is made of ½ or ⅝ inch boards, 12 inches wide for back and front. Rip 9 inches off front, which is to be the lid. Next make the ends 8 by 12 inches and saw out a 2 by 9 inch piece, which forms the



ends for the lid. A two inch piece ripped from the top board will complete the pieces, for the lid, which I always put my saws in, blades opposite. Next, nail back, top and bottom to the ends and hang the lid, which can have a small chest lock and also two suit case catches, one on each end; and with a chest or suit case handle complete the outward appearance. A shelf on the inside is arranged, as shown.

By using round headed screws and brass corner plates, much is added to the strength and appearance.

A square with an angle over 12 inch will not go in the case, but by cutting a notch out of one end of the lid at crack to allow the tongue to project it will work very nicely.

F. L. Compton,
Carpenter and Builder.

✣

Correct Except about Circassian

To the Editor: Equality, Ill.

It has been something over three years since I added my little "spiel" to the Correspondence Columns of the American Carpenter and Builder, and in that time I have enjoyed myself, and profited at the same time, by sitting back and reading what the brothers have to offer in these columns. Right here I want to say it is the first thing I read when I get my new journal.

I am a charter member, and have on file a copy of every number published of this unequaled trade journal, and every carpenter and builder (no matter what his standing in the trade) will find something therein that will be of interest as well as of practical benefit to him.

Allow me also to say a word in behalf of "Details in Building Construction" to those to whom it cannot speak for itself. I received a copy last spring and must say that I would not be without it for many times its cost.

Now, I will call attention to a few articles appearing in the Correspondence Columns, beginning with August number, page. 63:

As to which side of a screen door to put out, I will say that, although it is a much disputed question among builders and architects as well, for me there is only one answer. I see no well founded reason for putting the wire side out, while I have some (to me) very good reasons for putting the wire on the inside.

First, the side opposite the wire is always the best looking side of the door, and what carpenter will not put the best looking side out? Screen doors are made to be kept closed, and looking toward a screen door from the inside toward the light, they appear very much the same. But on the outside the matter is quite different. The corner brackets and turned spindles are put there for ornaments. Then, as the outside is the most conspicuous side, why look through a wire to see it. Then again, it is much easier to drive the flies out when the wire side is in on account of the flies getting into the little corners among the brackets and spindles.

Now, on the same page. Truing an emery wheel.

Mr. Mozley's advice is good as to keeping the bearings in good order and preparing to do the job, but are behind the time as to the means employed to do the work. Every one owning an emery wheel should also own an emery wheel dresser, which is an inexpensive little tool made for this purpose, consisting of a number of small star wheels with plain washers between them, and working on an axle, and held in a stock or handle. Total cost of the complete tool with two or three sets of cutters, about 40 cents. (One set of cutters will entirely cut away a 1 by 6 emery wheel in a short time.)

As to truing a grindstone, will say, that the best thing I ever used is an old rusty piece of gas pipe, the thinner the better. Simply hold it on a solid rest against the stone and see the sand fly. Keep turning it all the time so as to present new edge to the stone; and if you have never tried it, you will be surprised.

Now, to December number, page 60; to Mr. W. E. Ware: If your door is not too badly warped, and is hung in a stop frame, you may remedy it by adjusting the stops. For example, if the door stands out at the bottom, you may move the stop out at the bottom, so the door will strike the stop before it latches. This will throw it in at the top. This is one of the advantages of stop frames over rabbeted frames, as quite a number of doors nowdays spring somewhat, and, if the frames are rabbeted, they cannot be adjusted to the doors.

Red gum can be had in the Tennessee markets, and is of a much better grade and softer than any other I have ever seen. We use considerable of it here for siding, and I prefer it to poplar for siding. Nothing will hold paint better, and it is much cheaper than poplar and will last as long. For siding we pay $12.50 to $20.00 per M, according to grade.

Circassian walnut I know nothing about, but think it a fancy name for some other kind of wood. If any brother knows to the contrary, I would like to hear from him.

J. H. Godfrey.

✣

Wants Automatic Farm Gate

To the Editor: Fort Reno, Oklahoma.

Enclosed please find $2.00 for renewal to American Carpenter and Builder. I am highly pleased with your paper, and can say the same about "Radford's Cyclopedia of Construction," of which I have a set.

I would like to see published in the American Carpenter and Builder, working drawings for an automatic farm gate. One that can be operated by a driver without leaving his seat on a wagon—either by pulling a rope or by some other device. Any suggestion you may have will be greatly appreciated.

Joseph Lipskey.

Squaring a Foundation

To the Editor: Huntington, Pa.

In the November number of the AMERICAN CARPENTER AND BUILDER, there appeared an inquiry from Wyoming, relative to "How to Square up a Foundation."

In the same number A. W. Woods gave the standard rule of 6, 8 and 10, as well as the diagonal method of proving the former. Considering the importance of this rule to the mason, carpenter, superintendent and in fact to all building tradesmen, I will elaborate on this rule.

Realizing that knowledge directs, the industrial schools endeavor to instruct the principals of geometry, and the geometrical theorems pertaining to a particular avocation of industry, hence we have the following:

The geometrical theorem upon which the rule of 6, 8 and 10 is based, I very often give in lecturing before industrial schools, as this rule when properly understood, is of vital importance to the tradesman in other applications also. It is a rule that is pregnant to the farmer in squaring fields, in laying out orchards and even in systematic gardening.

I therefore submit the following theorem: "The sum of the squares of the two legs of a right triangle is equal to the square of the hypotenuse."

Let A B C be a right triangle with its right angle at B.

To prove $AB^2 \times BC^2 = AC^2$.

Proof. Draw BF perpendicular to AC.

Then $AB^2 = AC \times AF$ and $BC^2 = AC \times CF$.

By adding $AB^2 + BC^2 = AC(AF + CF) = AC^2$ *Quod erat demonstrandum* (which was to be proved).

Hence we apply the rule 6, 8 and 10 and we have the following:

The square of the one leg of the right triangle is $6 \times 6 = 36$.

The square of the other leg of the right triangle is $8 \times 8 = 64$.

The sum of the squares of the two legs of the right triangle is $36 + 64 = 100$.

The square of the hypotenuse is $10 \times 10 = 100$.

Therefore the sum of the squares of the two legs of the right triangle is equal to the square of the hypotenuse, or $100 = 100$.

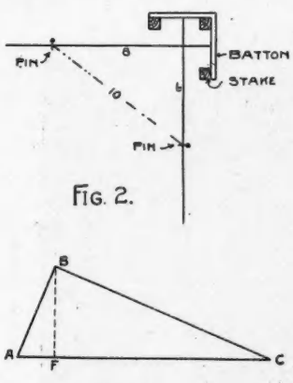


FIG. 2.

FIG. I.

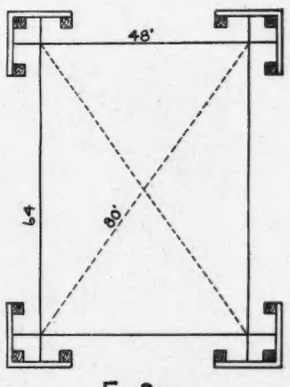


FIG 3.

The one line of the building must be assumed, and from this line the second line squared, by measuring off 8 ft. on the assumed line and 6 ft, on the line to be squared to the assumed line. A common pin can be placed in the two lines at these measurements, and if the hypotenus or diagonal measurement from these two points is 10 ft., then the corner is square.

New measurements should be taken after each time the line to be squared is moved, and after one corner is squared, the other three corners can be squared by measurement. For instance if the building is 64 ft. long and 48 ft. wide, these measurements are taken on the two lines already established, and the other two lines are measured with a steel tape from these points, the tape to be kept level.

The diagonal method of squaring a building in Fig. 3 should be used to prove that there has been no mistake made in the first method. This is based on the same theorem and with the measurements given above, the hypotenuse or diagonal measurement should be 80 ft., always remembering the theorem. Hence we have the square of 64 or $64 \times 64 = 4096$ and the square of 48 or $48 \times 48 = 2304$. The sum of these squares is 6400 and the square of the hypotenuse 80 is $80 \times 80 = 6400$. Therefore the building is square.

To simplify the method remember that the square of the length and the square of the width added together will always give the square of the desired diagonal measurement.

The numericals in the rule of 6, 8 and 10 have been established, due to the fact that all are retained in the much used unit of measurement, namely, a 10 ft. pole and are easy to remember, being whole numbers.

Perhaps this reply to the inquirer and the average reader is too technical, but the author realizes the importance of this rule, and the principals upon which it is established.

The masses, in other words the mediocrities of the industrial workers, have not had the opportunity to acquire this knowledge. And as I very often use this as well as other theorems in imparting knowledge to my boys at the Pennsylvania Industrial Reformatory, I very humbly submit it to the readers of the AMERICAN CARPENTER AND BUILDER.

PROF. JNO. R. BELL.

✣

Puts Putty Side Out

To the Editor: Dinuba, Cal.

I see in January issue a man by my name writing from "Cove, Oregon." As to which is right, "put putty inside or outside in hanging a sash door?" I say, put it outside, then it will correspond to the windows, water does find its way in more readily when putty is inside, and discolors the door quickly, also decay begins sooner.

R. N. ALLEN.
Contractor and Builder.

✣

We Acknowledge the Mistake

To the Editor: White Plains, N. Y.

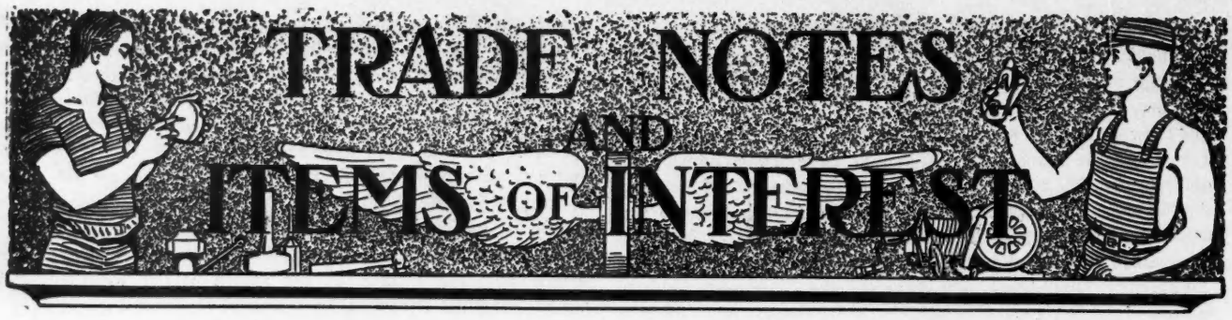
Allow me to take objection to article in your January issue page 62, relative to getting out stairs by Wm. C. Jasbury. It is impractible, misleading and impossible to do work that way. If one has two walls plastered with rough string in place, plastered on under side, take your measurements between walls, deduct ¼ inch, make your stairs and slip them in place, and the moulding which goes on top of stair string will cover any little defect which may be between finished wall string and plaster. This could be done in this manner at one half the cost of the method described.

What I see harm in is the effect such articles have on a young carpenter looking for information and not knowing what way is correct to do certain work regarding the trade. Now this leads to another phase of things namely, that if one who is well up in our trade sees such articles printed and knows they are wrong, how is he to judge of the correctness of articles bearing on things he is not well versed in?

What we want today is short practicable ways of doing things given in a manner easy to remember. Your magazine is a credit to our trade, and in my mind is the best. It is hard I know, to suit everybody, and not make some errors, and I only write this for your own good, and to express my feelings and those of many first class mechanics I have discussed this article with.

I might add that I enjoy reading Mr. Jasbury's articles, and write this with only kindly feelings towards him.

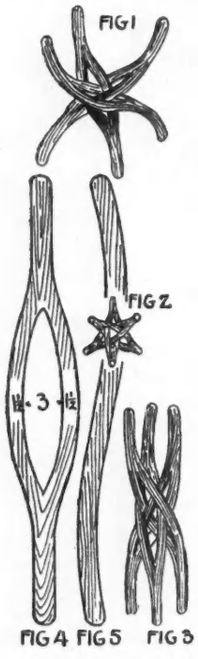
H. E. PEMBER.



A Russian Folding Stool Cut from a Solid Stump

Only when we get off the track of modern civilization do we realize how many useful things of life civilization destroys, says John Y. Dunlop in presenting this subject in *Woodcraft*. This stool, Fig. 1, from which this drawing has been prepared was the genuine product of Russia and in all probability was made by the peasants during the long winter evenings when the snow lies deep round the cottages of the little villages and when the hungry wolf still howls in the forest near by, and sometimes is heard even in the village itself.

The stool is formed of three looped legs, each cut out of the solid, and the whole linked together by one arm of the other two passing through the loop of the remaining leg.



Details of a Russian Folding Stool

To have this done means that the stool would require to be cut from the trunk of a small tree about 12 inches in diameter.

Fig. 3 shows the arrangement of the legs of the stool when folded up and this would certainly be the position of the legs when first cut from the block.

Perhaps the most interesting part in the making of this piece of furniture would be the marking off of the job. Fig. 4 shows the face mold of the leg, and Fig. 5 is the side, but these are of very little use to us meantime in studying out the workman's methods.

What we want to do just now is to practically condense some ideas of how to set out the group of legs in a practical way.

If we examine Fig. 2 we will find that the top of each leg is in the corner of an equilateral triangle and that the lower point of the leg is contained by another triangle of the same size. The upper and the lower triangle intersect to form a six-pointed star.

This, then, is the method we will have to adopt: Cut both ends of the block square and set off the triangles to contain the upper and lower points of the legs. The shape of the legs will now be easily traced and the cutting begun accordingly.

Very little of the work at the beginning can be cut with the saw as the rough shape of the interesting leg will require to be hewn out.

The cutting out of the loops is another part which must have been carefully dealt with.

This form of stool from the moment I saw it delighted me very much and although I have never been able to make one with the same individuality, on the whole I have made a good substitute.

Last winter I had three legs cut and finished, as shown at Figs. 4 and 5, in teak wood. I then split off one side of the loop of two of them, grouped them in position as shown at Fig. 2 and glued the broken part in position. Certainly I must admit that this method of mine is of a machine-made civilization and lacks the remarkable pioneer individuality of the peasant's work.

✣

A Paint Bucket Kink

When a painter dips his brush into his paint bucket he always wipes it off on the edge, which after a time covers both outside and inside with paint. He also splashes some over the edge, and if doing inside work he must take extra care not to do this. To cure all this the *Scientific American* suggests that he place a small piece of wood or wire across the bucket. Upon this the brush is wiped, and if any paint is splashed it will fall back into the bucket again. After the stick is full of dried paint it can be thrown away and another substituted.

✣

A Strange Face in the Lumber Business

The accompanying illustration requires little explanation. It is a photograph of a remarkable figure which revealed itself in sawing a poplar burl from the Cumberland River district and is an actual photograph, just as the face appears in the board, on exhibition at the Cincinnati office of the Wiborg & Hannah Co., of Cincinnati. It was loaned to the "*American Lumberman*" by H. P. Wiborg and W. C. Bartlett of that company.

A Wooden Face—Natural Grain

Shingle Staining Advantages

One of the strongest claims made by the North-western Manufacturing Company of Indianapolis, Indiana, for their Superior Shingle Stain, is that wood coated with this stain will never decay with dry rot. Neither will insects attack wood which has been stain treated. A big feature in the use of shingle staining is the fact that it requires just about one-half the time and labor to apply as does paint. And the cost of staining is further proportionately less than paint. This treble saving combination is a strong inducement for the use of staining.

The Roof—the "Most Prominent Part of the House"—Pleasingly Finished with the Northwestern Mfg. Co.'s "Superior" Shingle Stain

The Northwestern Mfg. Company say their Superior stain is made from only the very best of chemically pure colors and the best elastic and preserving oils, these being thoroughly mixed. Superior staining will neither crack, scale, peel nor flour as will paint.

Many fail to realize that a stain will penetrate the pores of the wood very deep, much more so than a paint, as it is quite thin.

The covering capacity of the stain is placed at 150 square feet for each gallon, when a brush is used. Two to 2½ gallons are required for dipping 1,000 shingles.

The Northwestern Mfg. Company, 135½ So. Illinois St., Indianapolis, Ind., will mail their little booklet and other information on Superior Stain to all asking for same.

Terra Cotta Company in Annual Meeting

At the annual meeting of the stockholders of the Federal Terra Cotta Company, held January 29th, 1912, the following were elected directors for the ensuing year: John E. Berwind, Alfred H. Bond, Wm. B. Dinsmore, Stuyvesant Fish, DeForest Grant, Madison Grant, Wm. Manice, Lewis R. Morris, Schuyler, Schueffelin, Dwight W. Taylor, Edwin Thorne. and at a subsequent meeting of the directors, the following officers were elected: DeForest Grant, president; Edwin Thorne, 1st vice-president; Wm. Manice, 2nd vice-president; Wm. B. Dinsmore, treasurer; Dwight W. Taylor, secretary and assistant treasurer.

Ubbink Steel Sidewalk Forms

Contractors and builders everywhere having any cement walk or curb work whatever to do will be interested in the Ubbink Steel Form Company's sidewalk, curb and combination curb and gutter construction steel forms.

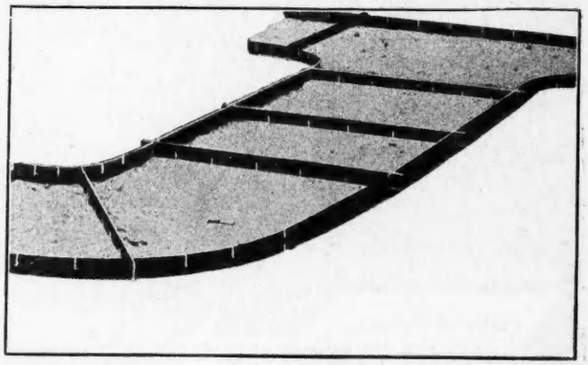
Their sidewalk outfit for the average contractor consists of 10 rigid side pieces, 10 feet long; 2 rigid side pieces, 4 feet

Joe Ubbink, Inventor Ubbink All-Steel Adjustable Sidewalk Forms

long; 2 rigid side pieces, 6 feet long; 2 flexible side pieces, 4 feet long, 2, 6 inch radius curves and 15 cross pieces. All cross pieces are adjustable at 6 inch intervals from 2 feet 6 inches up to 6 feet.

The Ubbink company do not hesitate to claim that their sidewalk equipment will pay for itself in the laying of 500 running feet of six-foot walk. These form are adaptable for any kind of cement sidewalk work. materially decrease the cost and increase both the profit and volume of business.

Of course the use of this steel laying outfit does entirely away with the use of any timber whatever. And this means a great saving. Further, the saving of time and labor through the use of this equipment is a big item. They point out that any one can lay the first square of this steel frame work and easily true this square with an ordinary carpenter's square. The alignment of the rest of the form is then automatic.



[Showing Section of Curved Walk Set Up. Any desired angle in walks can be accomplished with the Ubbink Forms

Filling the first square with cement holds the whole form securely in place. No measuring and sawing of expansion boards—no nailing or bracing of forms—no pulling of stakes is required.

This company also manufacture curb and combination curb and gutter forms. The use of these forms in that work will effect a positive saving in time, labor and money. They are easily set up and it requires no skill to use them successfully from the first.

The Ubbink company are offering to all contractors and builders a 52-page handbook, *"Concrete Sidewalk Construction."* This is a booklet which ordinarily sells at fifty cents, but the Ubbink company are now sending it out free to those who will write them for it. It contains much information and useful usable hints and explanations concerning cement sidewalk, curb and gutter work.

American Carpenter and Builder readers, by addressing the Ubbink Steel Form Company, at 214-216 Pier Street, Port Washington, Wis., will be forwarded a copy of this valuable Hand Book free of charge.

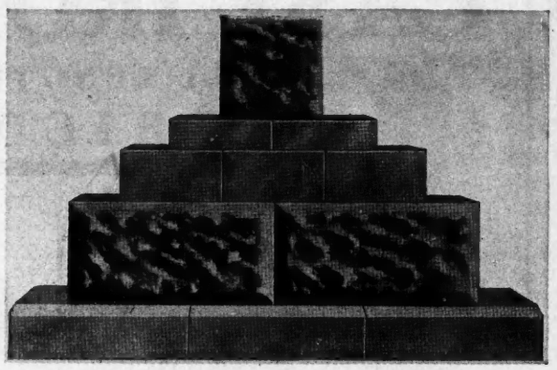
✣

Wet-Process Bricks and Blocks for Contractors and Builders

A concrete brick and block machine which will successfully handle a thoroughly wet concrete mixture always finds favor with contractors. Architects and builders frequently call for wet-process bricks, and the contractor who can supply this demand is the man who gets the business.

In choosing a brick or block machine, the different advantages of various types of machines are always to be considered. As an example of the work of the wet-process type of machine, we illustrate cement bricks and blocks made by the Sterling Machinery Co., La Crosse, Wis., The machines of this company are endorsed by the U. S. Trade Reports, and are spoken of in the highest terms.

Some of the advantages claimed for their machines by the Sterling Company are: The use of a wet mix of concrete; no need for a waterproofing compound; high speed of operation of machine, thereby giving a maximum output per day; perfect condition of product—that is, no broken bricks or



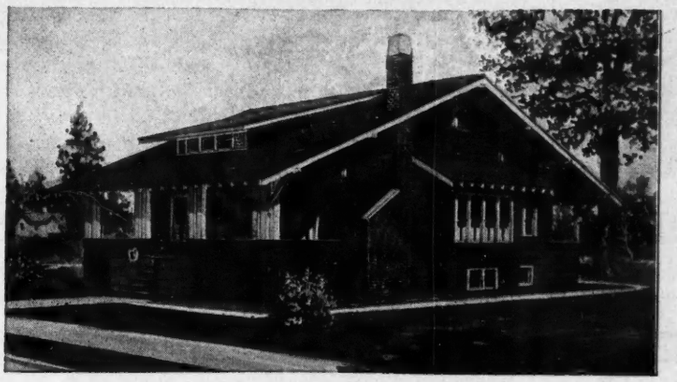
Different Forms of Brick Made on Sterling Brick Machine

blocks; durability and simplicity of machine; easy adjustment for different sizes of product; only one size of pallet needed for all sizes of product; used for both plain and ornamental work; continuous air-space blocks; and low price of machine.

An example of the possibilities of the Sterling machine is shown in the cut illustrating different forms and sizes of blocks and bricks made by the machine.

The Sterling Company invite correspondence in regard to their machines, and will be glad to furnish literature and special information to those who are interested. If you are buying a brick machine, a postal card will bring you some good solid facts. Try it, and see.

BUILD NOW—SAVE MONEY



Write today for our Sensational Rock bottom price on material for this charming bungalow. Large dining room with buffet—plenty of closet room—superb colonnade—beautiful art glass. Strictly up-to-date and practical in every respect. Send coupon today and investigate this and our other smashing bargains.

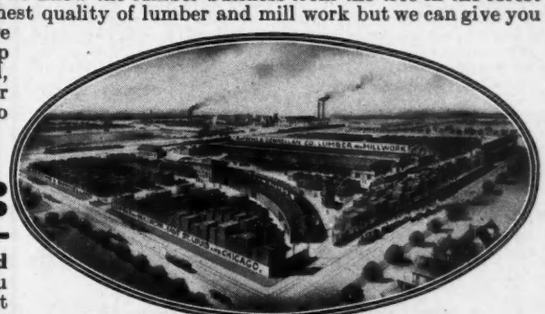
If you have any idea of building this season it will pay you to do it now, while you can get all the material at our amazing rock-bottom prices! Tremendous Saving! Send coupon today for our Special Price on material for this beautiful bungalow and hundreds of other smashing bargains. IT PAYS to deal with practical lumbermen. We do not claim to know anything but lumber—lumber and mill work. We handle nothing else—but in *lumber* and *mill work* we are *experts*, and we can give you material of selected quality at rock-bottom prices, that even to the closest buyers are *simply amazing*. Send the free coupon today and investigate.

SMASHING BARGAINS In Lumber and Mill Work

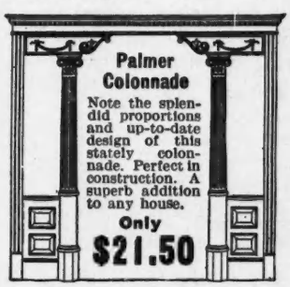
Don't put off building another day when you can get the choicest lumber and selected up-to-date mill work in all the popular styles on our **smashing rock-bottom offer.** Conservative lumbermen simply paralyzed by our **startling bargaings.** They can't see how we do it! But we know the lumber business from the tree in the forest to the finished house. We not only know how to select the highest quality of lumber and mill work but we can give you just what you want at prices **never before heard of.** We have cut out the middleman. And when you deal with us—you keep his profits in your pocket. We have the experience, the capital, the organization and a tremendous stock of high-grade lumber and mill work at prices that will amaze you! Don't fail to send the free coupon to investigate our **big list of bargains.**

Our Big Offer:

We will positively ship lumber and millwork to you in **carload lots** before you send us any money. You just tell us what you want. We ship it to you. You unload the lumber to see if it comes up to grade, and if it does you take it—if not, you send it back and we pay the freight both ways. That's our offer—and it is the most liberal offer ever made. Send coupon today for our free catalog and let us tell you more about this big offer.



Nearly 10,000,000 Feet in Sight.—This cut shows our Big Southern Illinois plant at East St. Louis, situated where 27 Trunk Lines and 3 Interurban and Traction Systems have their terminals. Our customers get as prompt service as they could from their home lumber yard, and many other advantages which the local yard cannot offer them.



Palmer Colonnade

Note the splendid proportions and up-to-date design of this stately colonnade. Perfect in construction. A superb addition to any house.

Only $21.50

Look at These Bargains

Hundreds of others just like them—but these are enough to show you the values we are giving. We are so certain the quality will suit you that we prefer that you see the lumber you buy before you pay for it. We believe in doing business with you just as if you came to our yards. So, if you are going to need any lumber or mill work right now or in the near future—don't fail to send for our big bargain catalog. Clip off coupon—mail today. **Get this list of bargains now.**

65c Two Light Check Rail Windows Here is but one of hundreds of bargains that we are now offering. It will pay you to investigate them. Send for free catalog.

35c Two Light Cellar Sash Here is another of our money savers for you. Just think of it, only 35c for this cellar sash complete. Don't fail to take advantage of these startling offers. Our catalog is full of them. Send for it today.

Only $1.70

Patent Lock Joint Colonial porch column. A beautiful addition to any home. Such columns make a splendid investment when you get them at our rock bottom prices.

We Make Estimates FREE

No matter what you are going to build or if you are not ready to build just now, write to us anyway—and let us give you a Lumberman's Delivered Estimate—positively free. In fact, you can always save time and money by using the stock that we carry, but if you need any special work, we give you the benefit of our expert estimators absolutely free. An expert estimate means that you can save in building at every point. Send coupon today and learn how you can have this **expert service free.**

SEND FREE COUPON NOW

For Our Big Book on Lumber and Mill Work

This free coupon will bring you our great free catalog. It is the most valuable book you can have in the house if you are thinking of building or repairing. A book of mill work and lumber bargains—bargains in doors, in windows, all kinds of sash, porch columns, newels, spindles, brackets, stair rails, grilles—everything, positively everything, and right down at the rock-bottom prices. Get this book TODAY—at once. **Send the Coupon NOW.**

BARROWS & DONNELLAN LUMBER COMPANY
Dept. 2663, 503 Trude Building, Chicago, Illinois

Free Coupon

Barrows & Donnellan Lumber Co.
Dept. 2663
503 Trude Bldg., Chicago, Ill.

Gentlemen:—With the understanding that I am not buying anything nor paying anybody for anything, you may send me free and prepaid your lumber and millwork catalog. You may also send free and prepaid your great no-money-down offer on lumber and millwork.

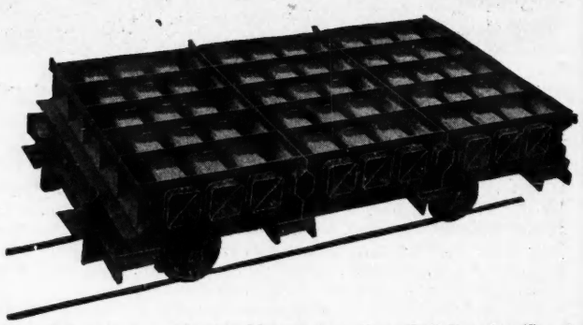
Name_____

Address _____

Block Moulds with Steam Curing Device

The Zagelmeyer Cast Stone Block Machinery Co., 406 Crump Ave., Bay City, Mich., have just issued their new catalogue for 1912. It contains 32 pages, and thoroughly illustrates and describes their very successful system of casting hollow cement building blocks in steel moulds. The catalogue also contains facsimiles of some very flattering testimonials from users of their system. It also shows a new way of mounting their moulds on a stationary bed, with steam coils enclosed. in addition to their usual way of mounting them on iron roller-bearing trucks. By turning steam into the coils, the setting of the cement is hastened. so that the moulds can be used from three to four times in 24 hours, while the cost of producing the heat amounts to less than one-tenth of a cent per block.

Their slogan is "They cost less, they sell for more, and you sell more of them." This company certainly has the process



Set of Zagelmeyer Moulds Mounted on Iron Ball Bearing Truck

of casting concrete in moulds down to a science; and their moulds are marvels of simplicity, accuracy, and efficiency.

The Zagelmeyer System uses a slush concrete for body of block and a patented process of applying the facing, which gives the block what is said to be the most natural stone effect of any block made. Blocks made by this system are guaranteed absolutely waterproof.

20 Year Guaranteed Roofing

Old Father Time has little effect upon the Tamco Roofing manufactured by the Tiffin Art Metal Company of Tiffin, Ohio; and consequently the way they illustrate their roofing as defying this "old gentleman" is quite effective.

Father Time and "Tamco" Roofing

This company guarantees their Tamco roofing for a period of 20 years, and they further agree to supply a new roof free of charge if a defect occurs during that time.

The Tiffin Art Metal Company, Tiffin, Ohio, will quickly respond to AMERICAN CARPENTER AND BUILDER readers' requests for printed matter covering their roofing lines.

BUILT AT A BIG SAVING

SAVED $500.00.

York, Neb.

Sears, Roebuck and Co., Chicago, Ill.

Gentlemen:—We were more than satisfied with everything we received, as we failed to find even a piece of poor material in the entire bill. We have saved fully $500.00 on this building, besides having better material than we could possibly have gotten at our home town. We were greatly surprised, too, at the manner and promptness in which our order was handled.

Very truly yours,
J. P. BERCK.

SAVED $1,000.00.

Cohoes, N. Y.

Sears, Roebuck and Co., Chicago, Ill.

Dear Sirs:—I am sending you a photograph of house built from materials shipped from you and according to your plans. I am pleased to say that I was pleased and satisfied with quality of materials and your prompt shipments. Your plans are a great help to anyone that wants to build. After a close estimate I can say that I have saved $1,000.00 on this property.

Very truly yours,
FRANK CHAMBERLAND.

SAVED $450.00.

No. 1037 East Ash Street, Salina, Kan.

Sears, Roebuck and Co., Chicago, Ill.

Gentlemen:—I am sending you a photograph of my new house built with material ordered from you and after your plans. I saved $450.00 and the material is better than I could buy here.

Respectfully yours,
JNO. HOLZENBERG.

SAVED $200.00.

Grafton, Mass.

Sears, Roebuck and Co., Chicago, Ill.

Gentlemen:—The lumber and finishing material are much better than I could have gotten here. My contractor tells me that I have saved about $200.00 on the whole. I am living in the house this winter and like it very much and will say right here that Sears, Roebuck and Co. are perfectly fair and square and have done everything that they agreed to do.

Yours very truly,
D. S. CHASE.

BETTER THAN EXPECTED.

No. 107 South Sixth St., Fulton, N. Y.

Sears, Roebuck and Co., Chicago, Ill.

Gentlemen:—I was very much pleased with the building material bought of you. It was far better in every respect than I expected to get for the low price paid. The doors are fine; in fact, everything is the same. Everything came in good condition.

Yours respectfully,
I. S. JENNINGS.

QUITE A SAVING.

New Haven, Conn.

Sears, Roebuck and Co., Chicago, Ill.

Dear Sirs:—I am sending the photograph of our cozy Sears-Roebuck house. I bought all the material from your firm at quite a saving and I certainly advise our friends where to get their goods.

Very truly yours,
LOUIS STREITLEIN.

Write for Book of Over

One Hundred Modern Homes and Barns

MAILED FREE

RESIDENCES, BUNGALOWS, COTTAGES AND FLAT BUILDINGS. BEAUTIFULLY ILLUSTRATED.

FREE PLANS FOR ANY OF THEM.

In our Book of Modern Homes we illustrate over one hundred different styles of houses adapted for city dwellings, suburban homes, country houses, farm houses and barns, ranging in cost for building from $500.00 to $5,000.00. On this and the following page we show a few of the many houses which have been built according to our plans and with material purchased from us.

Read what the builders of these houses say about the saving they made and the high quality of the material.

This book shows a number of beautiful illustrations in color. The living room, dining room, kitchen, bathroom and bedrooms as well as the exterior of a model home are all illustrated in full color. Other houses are illustrated with beautiful halftones with first and second floor plans in reduced size, with number of rooms, sizes, etc., plainly marked, and our cost for all the materials printed with each illustration. Remember, our costs are not guesswork. They are positively accurate. We prove them by giving you a typewritten bill of materials, specifying every item of building material, showing the price for which we agree to furnish this material. The price at which these houses can be built includes all of the material. Don't break ground or sign a building contract before you get a copy of our Book of Modern Homes. We can positively save you one-third or more in the cost of your home. You will get better results out of our building plans, which cost you nothing, than you will get out of building plans you pay other architects $100.00 or more for.

Whether you are a contractor and builder or intend to build your own home, you positively cannot afford to be without this Book of Modern Homes. Write for it today.

OUR $100.00 BUILDING PLANS COST YOU NOTHING

Our $100.00 building plans for any of the houses shown on this page or any of over one hundred styles of houses illustrated in our free Book of Modern Homes described below **will cost you nothing.** If you intend building any kind of a house, be sure to write for our Book of Modern Homes. It will mean a saving to you of fully one-third the entire cost of your building. The original set of each one of these plans cost us from $100.00 to $150.00 per set to produce (but cost you nothing). The high grade materials we furnish at wholesale prices enable you to make such savings as the following: **We save you $500.00 on a $1,500.00 house, $650.00 on a $2,000.00 house, $1,000.00 on a $3,000.00 house, $1,500.00 on a $4,500.00 house.** Such are the savings we make you on every house illustrated in our Book of Modern Homes. The letters printed directly below the houses shown on this page will give you some idea of our ability to save you all we claim. We are receiving letters every day from grateful customers telling of the high quality of the materials received, of the big saving they made and thanking us for enabling them to put up homes at a reasonable cost.

Our building plans, specifications and bill of materials, which cost you nothing, as explained below, include the following:

1—A complete set of blue prints, with all details and dimensions plainly marked, drawn to the scale of one-quarter inch to the foot.

Front Elevation, showing the front view of the house.

Right Side Elevation, showing the right side view of the house.

Left Elevation, showing the left side view of the house.

Rear Elevation, giving a back view of the house.

Longitudinal Plans, showing cross section.

Foundation Plans, giving information with reference to excavation, foundation, etc.

First Floor Plans, with sizes of rooms, partitions, doorways, windows, etc., given in detail.

Second Floor Plans (if a two-story structure), giving size of rooms, partitions, location of windows, doors, etc., in detail.

Detailed Drawings of Materials, showing stair finish, balusters, style of window trimmings, hardware, porch finish, cornice finish, and all the material necessary to give style and character to the structure inside and out.

2—Complete specifications of material and labor, outlining all the conditions under which a contract may be let, enabling you to protect your interests perfectly, if house is to be built by contract.

3—Complete bill of materials and labor, itemizing the quantity and dimensions of timbers required, also the quantity and kind of exterior finishing lumber, porch work, roofing, window and door frames, doors and windows, inside finishing lumber, including all molding, stairwork, etc., building hardware, such as door locks, hinges, cupboard catches, drawer pulls, sash locks, gutters and eaves troughs, glass, paints, varnishes and fillers for outside and inside painting. In addition to all these details, we will furnish you on request, when we receive your order, absolutely free of charge, a complete set of heating plans and plumbing plans.

Our plans are the work of the best known licensed architects specially engaged by us for this service. They fully investigated the requirements of home builders everywhere in the United States and have embodied in our plans the very latest ideas of the best posted contractors and builders in this country, as well as the very best architects, giving us a variety of houses specially adapted for city, town or farm homes. Ideas and suggestions impossible for you to secure eleswhere at any price.

Our Plans and Specifications Call For the Highest Grade Materials and Labor

We specify the best grade of mill work, dimension lumber, hardware and paint, as well as the highest grade workmanship throughout. Our estimates are accurate. We prove them by giving you exact figures on every item. We send you a typewritten bill of materials with our blue prints and specifications. We guarantee our prices on mill work such as windows, doors, interior trim, flooring, siding, hardware, paint, mantels, plumbing and heating. On these we save you nearly one-half. We make a very liberal allowance for all labor such as carpentry, masonry, painting, excavating, lathing and plastering. The cost of it all is included in our estimate. Our estimates are absolutely reliable. You can tell within a dollar or two the exact cost of your finished dwelling before you start to build. Write and get our Book of Modern Homes at once.

SEARS, ROEBUCK & CO., CHICAGO, ILL.

YOU CAN DO THE SAME

SAVED $150.00.

2736 Meredith Ave., Omaha, Neb.

Sears, Roebuck and Co., Chicago, Ill.

Gentlemen:—I am sending photo of my new house built according to your plans and with material purchased from you. I could not have been better satisfied as to the quality of the material, the promptness of the shipments and the way I was treated. I saved about 25 per cent on the material as compared with local prices. My carpenters said it was the best grade of lumber they had ever used.

Yours truly,
R. L. GILCHRIST.

"FIRST CLASS IN EVERY RESPECT."

No. 822 Baltimore St., Waterloo, Iowa.

Sears, Roebuck and Co., Chicago, Ill.

Gentlemen:—I am sending photo of my house, which looks fine, but the interior is finer. The material I bought from you was first-class in every respect and many contractors here, after seeing it, said the lumber and mill work could not possibly be duplicated here.

Very truly yours,
C. A. BARTELL.

SAVED OVER $1,000.00.

Dixon, Iowa.

Sears, Roebuck and Co., Chicago, Ill.

Gentlemen:—The lumber and mill work that I bought from your firm is satisfactory in every way. I saved from $1,000.00 to $1,200.00 on the house that I put up last summer.

Very truly yours,
CHAS. J. DAHMS.

The letters shown on these two pages are but a few of the many we receive from satisfied home builders. When writing any of these people enclose a two-cent stamp for their reply.

NEVER SAW AS FINE OAK DOORS.

DOYLE SHEEP COMPANY,
Douglas, Wyo.

Sears, Roebuck and Co., Chicago, Ill.

Gentlemen:—The material I bought of you for house No. 132 was satisfactory in every way and especially the inside finish. I never saw as fine oak doors. Thanking you for your fair dealing, I am,

Yours respectfully,
G. N. DOYLE.

SAVED $225.00.

The above is a picture of our Modern Home No. '47, with some alterations, built at Mandan, N. D., by Mr. Arthur Witherow. He says: "The material was fine, and I could not wish better. I saved about $225.00 after paying freight."

SAVED $140.00.

Bay Shore, Long Island, N. Y.

Sears, Roebuck and Co., Chicago, Ill.

Dear Sirs:—I was very well pleased with the quality of material sent by you. The red oak trimming was the prettiest lot of mill work I ever saw, and the carpenters did not have to sand it or dress it in any way before using. Your columns were of the best, also your doors and sash cannot be excelled at twice the cost. I saved at least 30 per cent on the material.

Yours very truly,
S. J. SMITH.

Successful Building.

A Book Written By Our Customers.

If you will write and ask us for our Successful Building Book No. F6366, containing testimonial letters written to us by our customers, we will mail it to you at once, free and postpaid. It will give you facts you ought to know regarding the building and will explain how you can get $1.50 value for every $1.00 you spend. In our Building Material and Mill Work Catalog and in our Book of Modern Homes we show the big money savings we can make you on lumber and building materials. We receive letters daily from every state in the Union telling us of savings such as are shown on this page. Very likely the book illustrated above contains letters from friends of yours in your own town, at least in your state. This book will give you conclusive proof from the lips of our customers, as the letters published in it are from contractors, carpenters, builders, professional men, farmers, mechanics and others who have sent us their orders. These letters prove all our claims and will satisfy the most skeptical person. **Send today for this book.** Ask for our Successful Building Book No. F6366. It will explain to you the secret of building at a saving of fully one-third.

THE PICTURES reproduced on these two pages were made direct from photographs furnished by customers, who have built with our materials and according to our plans.

SAVED $800.00.

Roselle Park, N. J.

Sears, Roebuck and Co., Chicago, Ill.

Gentlemen:—Am very glad to say that whatever I purchased from you for my house, which I think amounted to $800.00 or $900.00, has been found to be very satisfactory. I know that I could not have obtained the some material here for less than about twice the amount, considering quality. I shall certainly favor you with as many orders as I can.

Wishing you continued success, I remain,
Your customer,
JOHN C. JOHNSON.

SEARS, ROEBUCK & CO., CHICAGO, ILL.

Money in Making Cement Brick

Great Opportunity for Builers

By C. J. Helm

Sec'y. and Mgr. of the Helm Brick Machine Co.

I want to say just a word to the readers of the AMERICAN CARPENTER AND BUILDER to call to their notice what I firmly believe to be a worth-while, money making line of work—or side line, if you will—for them:—The manufacture of cement brick.

I feel so confident that the wide-awake carpenters and builders who read the AMERICAN CARPENTER AND BUILDER will be interested in this opportunity and will want to study into it, that I have had prepared a special Hand Book on Concrete Block and Brick Making, which explains fully—and in a most interesting way—everything a prudent man would want to know about a business before launching into it; and this "Hand Book" I will gladly mail to any reader of the AMERICAN CARPENTER AND BUILDER on request.

I have watched the cement brick business pretty carefully for a long time; and two things have been demonstrated very clearly to me about it. First, cement bricks compete successfully in practically every locality with the best pressed brick of burned clay. And second, building contractors are exceptionally well fixed to make good money manufacturing cement brick as a side line to their regular building practice.

Let us consider the second of these counts first.

A contractor and builder, in the course of his career, gathers around him a picked group of workmen whose ability he is sure of and on whom he can absolutely depend. He wants to keep these men busy even through the slack season. He can't afford to let them go. Neither can he afford to let them sit idle the days and often weeks when active building operations are impracticable.

If such a contractor would only fix up a small cement brick making plant—a Helm Brick Machine and a lean-to-shed to operate it in would be all required to start—he could keep his crew busy at odd times and at the same time make enough high-grade brick to supply all his needs on his several jobs.

Almost every building these days needs *some* cement brick—for chimneys, or porch piers, or porch rails, or basement walls or area flooring, or for a dozen other miscellaneous uses. Then there are the houses—and attractive, substantial buildings they are too—which are made all of cement brick.

The shrewd contractor and builder will readily see the money in it for him, both of taking the contract for a building and also of making himself the materials of which the building is put up. There is a double profit, not only the contractor's profit, but also the manufacturer's profit. And the contractor and builder can have them both, simply by the small investment needed to put in a good cement brick machine and there keeping his gang busy during odd times working it—turning out pressed brick in quantities which easily sell at from $10 to $20 per thousand. competing successfully with face brick of burned clay.

Why, I have seen successful builders doing a prosperous contracting business, take up cement brick making as sort of a side line—thinking to make just enough brick to satisfy their own needs—and after a year or so devote their entire energy to cement brick making and selling—there was so much more money in it for them than in their former regular work!

As to the quality and appearance of cement brick, I need only to call attention to the fact that cement brick are increasing in popularity every day. They are being used in large important work. The architects favor them. Brick masons lay them without prejudice.

The following letter, written to the Belknap Cement Prod-

uct Co.. of Greenville, Mich., is interesting in this connection. This is a prosperous cement brick manufacturing concern, their equipment consisting of a Model 5 Power Helm Press having a daily capacity of 15,000 brick.

Belding-Hall Company
Manufacturers of Refrigerators
Belding, Michigan, Dec. 23, 1911.

Belknap Cement Product Co.,
Greenville, Mich.

Gentlemen:—We purchased of you a couple of years ago a quantity of brick in building an addition to our plant, and this year we have used another quantity in the construction of a warehouse and in connection with this wish to say that we much prefer the cement brick to any other kind.

We have had difficulty in years past with clay brick disintegrating and these seem to stand the weather and exposure better than any brick we ever used, and if were to construct another mill or plant at the present time we should specify that the building be constructed with cement brick.

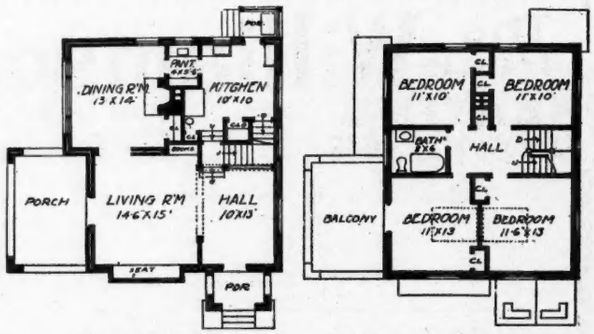
Yours very truly,
BELDING-HALL CO.

I want to mail a copy of this "Hand Book on Concrete Block and Brick Making" to every reader of the AMERICAN CARPENTER AND BUILDER who is interested in this subject. Address Helm Brick Machine Co., 473 Bank Bldg., Traverse City, Mich.

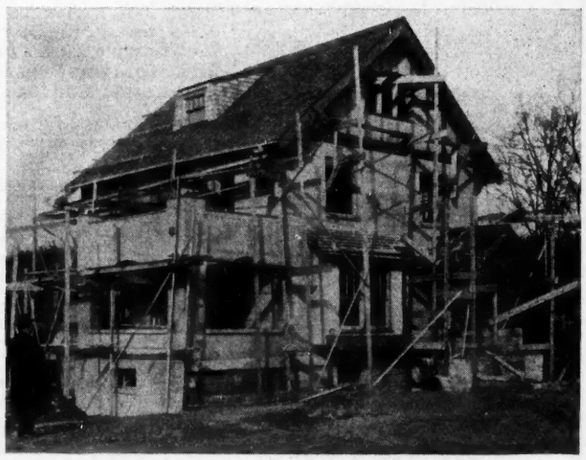
✣

Carpenters Most Successful Builders of Van Guilder Hollow-Wall Houses

"You may think it is strange," said Mr. W. H. Van Guilder of the Van Guilder Hollow-Wall Co., in a recent talk with the Editor, "but we've found it to be a fact that carpenters develop into the best operators we have of hollow-wall machines. They are so familiar with construction problems—know just where



First Floor Plan **Second Floor Plan**



Concrete House Under Construction at New Rochelle, N. Y., for Lorillard Wise, Architect. Van Guilder Hollow-Wall System Used

doors have to be framed, etc.—that they are able to go right ahead building up the hollow-concrete walls with the Van Guilder machine without having to stop and figure, and even then get it wrong, as do the ordinary cement workers or building laborers.

"In the majority of cases the carpenter is familiar with the requirements of all the other trades employed on the job; so when he branches out and takes up concrete house building through the use of the Van Guilder Hollow-Wall Machine, he makes no mistake, but pushes the work right ahead. One experienced carpenter builder to handle the machine with two or three helpers (cheap men) to mix and tamp the concrete, will put up these strong substantial hollow-wall concrete houses in quick time.

"Every year more and more of the carpenters are taking up this work. They find that it pays. It not only gives them the finest class of building to do; but also puts them beyond the reach of competition."

We might add in this connection that the Van Guilder is among the foremost of the hollow-wall systems of concrete construction, either plain or reinforced. It has now successfully stood the test for four years' practical experience. The adjustable and very easily operated machine for building houses under this system, can be obtained only from the Van Guilder Hollow-Wall Company, 717 Chamber of Commerce Building, Rochester, N. Y. The descriptive literature which the company will gladly send free on request to intending builders, contains actual photographic reproductions of many residences and other structures built under this system, which have given perfect satisfaction to their owners. The names and addresses of the architects are given, and prospective builders may refer to them for their opinion as to the possibilities and advantages of the Van Guilder Hollow-Wall System.

An Engine for Every Purpose

That is the claim made by the Novo Engine Company, Lansing, Michigan, regarding their Novo engine. This company have but recently issued a booklet describing the features of this engine, among which we note their no tank, no fan, no freezing troubles claim, and the many advantages of the Novo for hoisting or general contracting work.

This Novo engine occupies but small space and is easily movable. It requires no wiring. All working parts are enclosed against dirt. A splash oil system is used, so that all working parts, including the main bearing, are constantly lubricated. The cooling system is self contained.

These engines are built in from 1 to 10 H. P. types. Are simple, reliable, economical and compact.

The Novo Company's line of contractors' outfits include Novo engines and trench pumps; hoists, etc.; and centrifugal pumps. These can be furnished with either a direct or belting connection. For the complete details of their field and products, write the Novo Engine Company, 236 Willow Street, Lansing, Mich., to mail you their equipment catalogue.

✣

Monthly Roofing Paper Free

The February issue of the "Cortright Metal Shingle Advocate" has just arrived. This little magazine is issued by the Cortright Metal Roofing Company, 50 N. 23d Street, Philadelphia, and is brim full of information for those intending to build or remodel their buildings.

It has a circulation of 35,000 each month, all sent free, the only qualification necessary for you to receive it regularly each month is to write the Cortright Company, stating that you are interested in knowing more about roofing and building problems, and they will be glad to add your name to the list. Do it now before you forget it.

The "ABC" of Beaver Board Construction

The third of a series of twelve monthly talks to carpenters about the practical use of *Beaver Board*, the pure wood-fibre wall and ceiling material that is durable, economical, artistic; has none of the disadvantages of lath, plaster and wall-paper; and is appropriate to any type of building new or old.*

Beaver Board is essentially a proposition for Carpenters and Builders.

CHAPTER III

BEAVER BOARDING STORES

Here's an almost unlimited field for the carpenter who'd keep busy no matter what the weather or season.

And this field is growing at a tremendous rate.

It's because *Beaver Board* has so many advantages for this work.

Instead of cracked, dingy plaster and unsanitary wall paper it means pure-wood-fibre panels, handsomely painted and stenciled—quickly and easily put up.

A clean, light, artistic interior helps to sell the goods. It has every advantage over heavy, expensive, ugly metal ceilings.

You can get frieze and panel effects, wainscotting, cove-work, arched, beamed or mullioned ceiling affects easily.

Beaver Board makes attractive backgrounds for show windows.

It's just the thing for partitions—the floor space can be quickly and economicaly partitioned off to suit the tenant.

You can't get away from all these merits—and they mean more work for you. It's a carpenter and builder proposition and has more profit and reputation-buying possibilities than any you ever tackled.

We'll Plan the Whole Job for You

We maintain an expensive Architectural Department for your benefit. For the asking, we'll plan the whole job for you and give you estimates also.

Your problem, if it is only that of Beaver Boarding a 10x12 candy store will be given just as thorough attention as the other fellow's 12-story office building job.

It's very Simple, Applying Beaver Board

If the directions which come in every bundle, are followed intelligently, putting up Beaver Board is as simple as assembling the simplest of knock-down furniture.

These are some of a *very few things* you must be careful about in putting up Beaver Board.

Don't nail Beaver Board closer than ½ of an inch from the edge of the panels.

Don't place Beaver Board before using where it will absorb moisture.

Don't put up Beaver Board until all necessary headers and furring strips have been set in between the studs and rafters.

Don't paint Beaver Board until it has been well sized

Here's Beaver Board's Case in a Nutshell

Beaver Board is economical, easy to handle suits any kind or sort of building, retards heat, cold and sound, doesn't crack, check or deteriorate with age.

Beaver Board's endless possibilities for all kinds of uses are fully described in our free booklet "Beaver Board and Its Uses" with many pictures of different interiors. Write for it today.

**These chapters began in the January number. If you missed back chapters, write us—we'll mail them to you.*

The Beaver Company of Buffalo

433 Beaver Road, Buffalo, N. Y., U. S. A.

The Beaver Company, Limited

373 Beaver Avenue, Ottawa, Canada

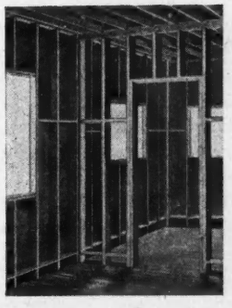
BEAVER BOARD

PURE-WOOD-FIBRE

WALLS & CEILINGS

BEAVER BOARD PURE WOOD FIBRE

Look for this trade-mark on the back of every panel.



Room ready for Beaver Board construction, studs evenly spaced and headers in correct position to suit panel designs adopted.

Nailing up panels, using flat-head nails ¾" from edges, 3" apart and bung-head nails 6" apart for centers.

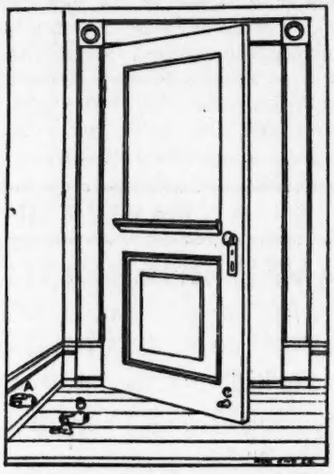
A sample of Beaver Board, showing its pebbled surface, which so well lends itself to painting.

Wickham & McCarthy, who have used Beaver Board in this attractively designed barber shop, find that it elicits comments from owners of commercial buildings of all sorts

A Device to Prevent the Banging of Doors

It is small but solid and performs a most useful function. All—whether their nerves are completely shattered or they simply give vent to their feelings in the muttering of a few firey words at the slam banging of a door—will welcome this preventative for those annoying occurrences.

This little device is put out by the Adele Manufacturing Company of Brooklyn, N. Y. It is simply constructed, neat in appearance and is durable. There are no working parts to wear out. It has a compression spring set across the tail



A—Swing stop attachment for base board. B—Showing stop attached to floor. C—Knob, which is always easily attached to door

piece working on the rear end of the two jaws. It is strong enough to hold the door against any closing device now on the market.

It replaces the old wooden door stop and such instruments as chairs, bricks, weights, hooks and many various others used in holding back doors. It works automatically and every time Catches door when thrown backward and holds it fast—door can not hit anything nor rebound and slam. This Adele automatic stop and holder absolutely prevents the door from either striking anything behind it or banging shut. It does not in any way interfere with closing of door which it is holding. Made for both floor or wall attachment and can be fastened with equal ease upon wood, marble, stone or tiling. Effective upon both doors with and without spring attachments.

Its manufacturers—the Adele Manufacturing Company, 313 Grand Avenue, Brooklyn, N. Y.—have an attractive proposition to offer carpenters and builders to represent them locally.

Johns-Manville Illuminating Specialists

The H. W. Johns-Manville Company, already well known in the lighting field by reason of their "J-M Linolite" system of illumination, have acquired the sole selling agency for the entire products of I. P. Frink.

"Frink" reflectors and fixtures need no introduction to the lighting trade and consumers throughout the country, and this arrangement means that the H. W. Johns-Manville Company will be in position to design and sell lighting systems for every known form of artificial illumination.

The standing of these two respective ccmpanies throughout the country, places the stamp of merit on this combination, and undoubtedly all interested in artificial illumination will be benefited by the uniting of these forces, as the Frink Company have been following this particular line of work for the past fifty consecutive years.

An engineering department will be maintained along very extensive lines. This department will maintain a corps of engineers throughout the United States and Canada, and be equipped to place data and recommendations in the hands of all interested in any subject pertaining to illumination.

The Majestic's New Coal Chute

An original and clever idea has been embodied by the Majestic Furnace and Foundry Company of Huntington, Indiana, in the manufacture of their latest coal, wood or vegetable chute, which is particularly adapted for use in store buildings or any other buildings having grade line, sidewalk, or floor on the same level.

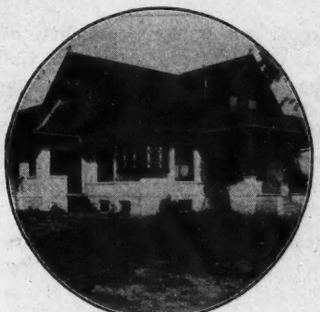
The using of this chute will do away with the necessity of an areaway surrounding the basement window—which has always been an unsightly, unsanitary nuisance.

In this new Majestic chute but a four-inch projection from the wall line is required, yet the chute has a coal opening 16 inches deep and 22 inches wide. Other specifications are: Size of door opening, 22 inches wide, 20 inches high; height above grade, 23 inches; steel body in wall, above grade, 24 inches wide, 12 inches deep. Steel body in wall, below grade, 24 inches wide, 16 inches deep.

The door and frame of this chute are of heavy cast iron and slotted hinges permit of the door being thrown open and back, affording complete protection to the building any time the chute is in use. A heavy self-closing gravity latch is also provided, allowing for the convenient operation of the door by means of chain and pulley from inside. It is inside locking and absolutely burglar-proof.

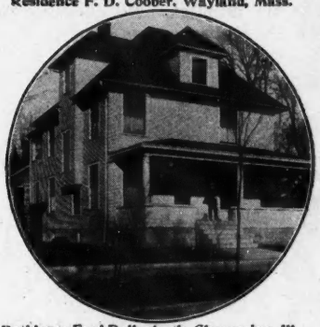
Twelve-gauge steel is used in the making of the hopper, which, when not in use, swings into the body of the chute. This hopper is easily removable and delivery can be made by wagon chute. With bag, basket or wheelbarrow delivery hopper is necessary.

New Majestic Chute Placed in Wall



Residence Chas. M. Lamson, Grand Rapids, Ohio.

Residence F. D. Cooper, Wayland, Mass.



Residence Fred Dollenbach, Champaign, Ill.

Stucco House at Waukesha, Wis.

Do You Use Kindling Wood for Roofing

Thats' what the use of wood shingles means. Did you ever stop to think that matches are made from the same thing as wood shingles, so they will light easily and burn well?

Did you ever stop to consider that wood shingles are stacked upon a building just about as you pile wood to make a quick fire?

Did you know that wood shingles are made from stumpage, fallen timber and any kind of stuff that's not good for anything else—Do you know

The Winthrop Tapered Asphalt Shingle

Guaranteed for 10 Years

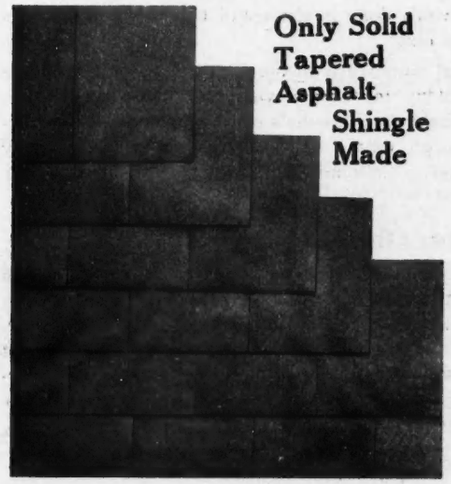
Will pave your roof with ashpalt nearly an inch thick for the same money that you must spend for a hopeless wood shingle? This asphalt is the same as the pavement you know about—that carries heavy traffic and must stand the coldest as well as the hottest exposure and under terriffic traffic wear all the time.

Red, Green and Slate Color

We make the Winthrop Shingles in the above colors and the colors are absolutely permanent and non-fading. The colors are genuine slate-pebbled and incorporated in the asphalt—actually a part of the shingle, rolled in and buried in the asphalt.

Cheap as Wood Shingle

Because there are no culls—every shingle perfect.
Because they are uniform in size.
Because they are eight inches wide and lay faster.
Because they last a life time.



The Winthrop Asphalt Shingle is PATENTED and cannot be made except under our patents.

SEND FOR YOUR FREE SAMPLES

The Winthrop Asphalt Shingle Co.

No. 8 61st Street ARGO, ILLINOIS

Particular attention is directed to this latest coal chute invention, which, by the way, is the work of a prominent Chicago architect, because of the fact that many cities are now aiming ordinances at both the areaway and sidewalk manhole. These are always a constant source of danger to pedestrians, etc., and proper protection against them is provided. The manufacturers of this new chute are confident it fills the requirement in every respect.

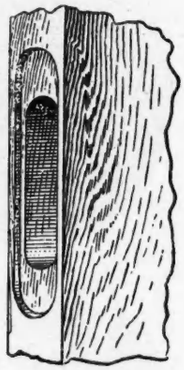
Further information on this and the many other chutes manufactured by this company may be obtained by writing them direct—Majestic Furnace and Foundry Company, Huntington, Ind.

The Universal Lock Mortiser

Contractors and builders who are looking for new and up-to-date labor and money-saving devices, will be interested in the Universal Lock Mortiser, invented and manufactured by the G. Gerlach Mfg. Co., and distributed by the Universal Mortiser Co., of 3409 Aliquippa St., Pittsburgh, Pa. This machine is illustrated herewith.

The big feature about the Universal lock mortiser is that it will not only cut an opening of any desired size for mortise locks in hard, soft or cross-grained wood of every description, but that it will also cut the proper opening for the setting in of the face plate. It is guaranteed to do this work, in any wood, in from three to six minutes. No chiseling or boring is required.

Universal Lock Mortiser



Showing Lock Mortise Cut, Including Face Plate Setting

This machine can also be used as a sash pulley mortiser; in fact it has a great variety of other uses that will readily suggest themselves to the up-to-date builder. The machine is easy to operate and the work is performed with slight exertion. In cutting for mortise locks, the machine does not mar the door; the work done is clean and true and no shavings are left to clean out.

The Universal mortiser is in use in all large cities and the company is looking for agents where not represented. Descriptive booklets and testimonials can be obtained by addressing the Pittsburgh office. Mr. Geo. O. Rogers, for many years a well known building contractor, is sales manager for the company.

Our Oldest Manufacturer

O. Christiansen, who advertises his steel screw vise in the AMERICAN CARPENTER AND BUILDER, is one of our oldest manufacturers of cabinet makers' benches (Hovelbanken), and carpenter shoulder chests. All hardware dealers would benefit by carrying his benches, chests and vises in stock. If interested, send for his catalog, which will fully describe all the goods he manufactures.

A Long Life Nail

The ordinary wire nail is the weakest part of a shingle roof, say W. H. Maze & Co., of Peru, Ill., because it is not rust-proof. This company are the manufacturers of solid zinc rustless nails. One of their strongest claims in behalf of their nails is directed toward the shingle roofing field.

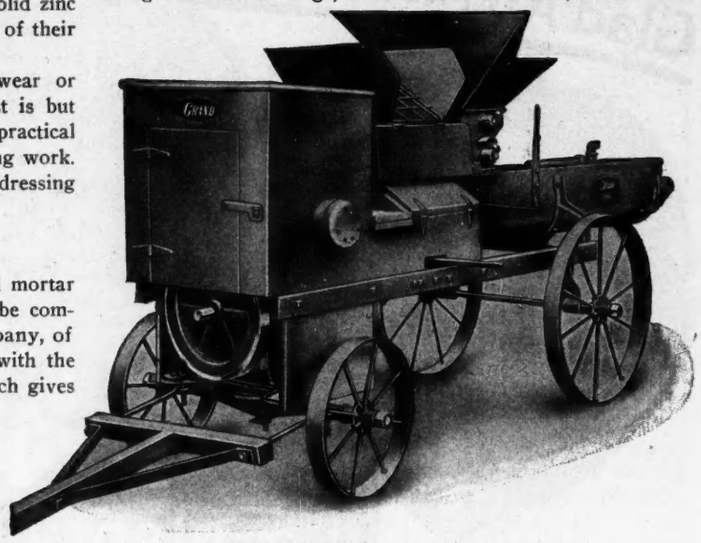
These solid zinc nails being rust-proof do not wear or break after a few years of service, and as their cost is but a trifle more than the ordinary shingle nail, it is practical economy and policy to make use of them on all roofing work.

Full particulars, prices, etc., may be had by addressing W. H. Maze & Co., Peru, Ill.

Hall-Holmes Mfg. Co. Mixers

The most extensive line of continuous concrete and mortar mixers manufactured by any one concern is said to be comprised in the output of the Hall-Holmes Mfg. Company, of Jackson, Michigan, who some time ago consolidated with the Hartwick Machinery Company of the same place, which gives them a line of mixers, in the "Hartwick" and "Grand," that enables them to fill the requirements of every contractor from the smallest block man to the largest corporation.

These two makes of machines have been on the market for the past seven years, and are in operation from one coast to the other. To meet the demand of the small contractor and builder, they some time ago perfected and put on the market a small sized machine which is known as the "Baby Grand." This machine embodies the same proportioning and feeding principles as used on the larger machines. Its "reciprocating feeding device" is a very unique feature, it is claimed, which overcomes many of the disadvantages experienced with machines using plunger and rotary cup feeds in proportioning wet materials. There is no chance for the material to arch over or fill up the pockets and vary the proportion. It is also very simple in its operation and being mounted on large, wide-tired steel wheels, makes it an ideal machine for the building contractor desiring a light, portable machine.



"Baby Grand" Concrete Mixer

Both the "Grand" and "Hartwick" mixers are made in various sizes adapted for larger or smaller work and will be shipped on a three days' guarantee trial to give satisfaction or no sale. The company's new general catalogue is now ready for distribution and will be mailed upon request.

Are The Houses You Build Really Better Shelters Than This Framework?

After all is said, isn't it true that the single word "shelter" completely covers the purpose for which any house is built? Whether you're building a detached house or an apartment, its primary requisite is that it be a **shelter**—(1) from the **public view,** (2) for the **safe-keeping** of your personal effects, (3) from the **wind, rain and snow,** and (4) from **heat** and **cold.**

(1) Curtains and blinds, (2) strong doors and locks, (3) solid walls and roofs—all do their work well. But how about **heat** and **cold?** Come, let's be frank—are your houses **really** shelters from **them?**

LINOFELT
Linen-Felt made from Flax-Fibre

in the walls you build will keep cold on one side and heat on the other just as a solid black curtain keeps light and dark separate. Clapboards, sheathing, brick, hollow-tile —no matter of what material or how thick you build the walls—they **don't** insulate against heat and cold.

This glimpse at the scientific side of it means enthusiastic customers and clients for you. To stop the passage of heat and cold demands a substance containing a countless number of microscopic sealed **dead** air-cells, with the cells separated by material of the lightest possible specific gravity.

Flax fibres meet this condition better than any other substance capable of use in building. Linofelt is a quarter-inch quilt of specially treated flax fibres bound between two sheets of building-paper—rosin-sized or waterproof. In resisting the passage of heat and cold Linofelt is **much** more effective than **38** thicknesses of building-paper.

There's the brief scientific fact. It shows you why Linofelt, used in walls and roof instead of building paper, will cut 40 per cent off your customer's coal bills every winter—and keep his house cool in summer as well.

That means **real shelters** from heat and cold. Linofelt comes in rolls 200 feet long and 3 feet wide. It will never add more than one per cent to the cost of building, and **need** not add anything.

Build with Linofelt, and make your houses faithfully serve their primary purpose; make them **genuine shelters.** Write for our special booklet and complete information today. Call upon our staff of draughtsmen for any specifying you wish. There's no corner-coupon here; we want to get into **personal** touch with you. Write us fully **now.**

"Line Your Houses with Linofelt"

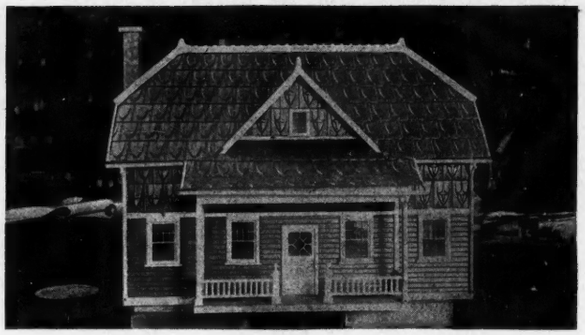
UNION FIBRE COMPANY,

32 Union Avenue,
WINONA, MINN.

Milwaukee Corrugating Co. Exhibits

These photographs are of the exhibit of the Milwaukee Corrugating Co., at the convention of the Wisconsin Retail Hardware Association which was held in the Auditorium at Milwaukee, February 7th to 9th inclusive.

The large booth was 14 by 18 feet, constructed of galvanized sheet metal, the roof being covered with "Titelock" metal shingles, some of which were galvanized, some painted tin and the balance stamped from 14-ounce rolled copper. The round pillars and railing were made of sections of conductor



Toy House of Metal Products Which Made a Big Hit at the Conventions

pipe and the square towers of galvanized rock face stone corners, surmounted with "Nuair" ventilators.

The other cut shows a miniature bungalow entirely constructed of steel, the roofing and gables being covered with miniature "Titelock" shingles. The outside dimensions of this little house were 24 by 38 inches and 30 inches high. It attracted a great deal of attention and will be used by the Milwaukee Corrugating Company at the various hardware conventions throughout the west.

A full line of samples of eavestrough and conductor pipe trimmings were shown in galvanized steel and copper. The exhibit as a whole was, without a doubt, one of the finest ever seen at a hardware convention and deserved all of the praise and attention which was given it.

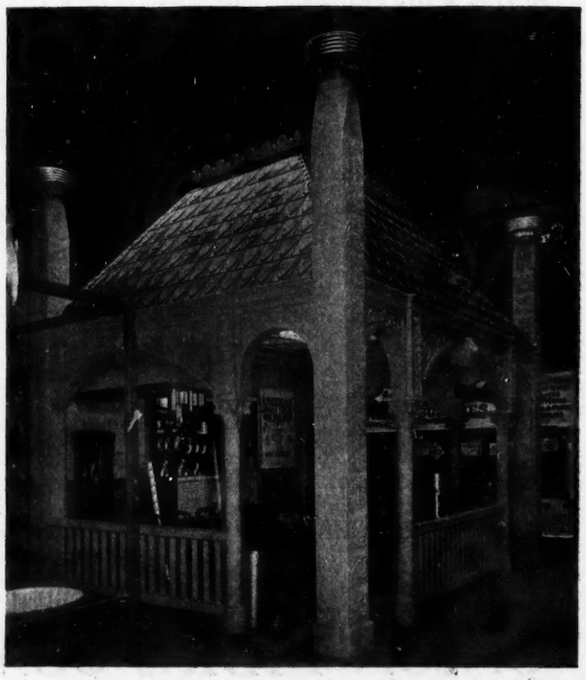
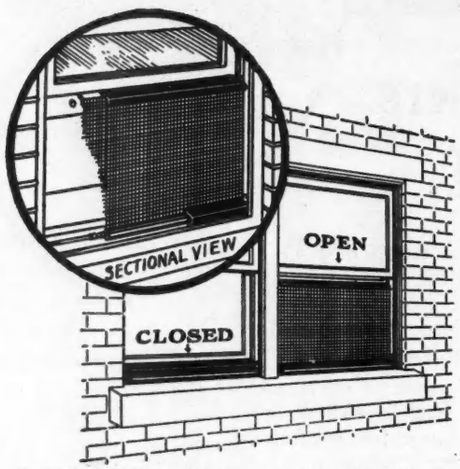


Exhibit of the Milwaukee Corrugating Co. at Wisconsin Retail Hardware Dealers' Meeting

A Practical Window Screen that Rolls Up

"A boon to all who have anything to do with the installing of window screens in the late spring and their removal in the early fall, the housewife, the contractor, the builder—in fact, we don't know who to except;" is the word the Rust-proof Roller Window Screen Company, of Clyde, Ohio, give us concerning their new rust-proof screen.

Doubtless everyone who has ever had occasion to put on,



New Style Screen Works on Automatic Roller

or remove, the old style frame screen will greet this newcomer with enthusiasm, as it is manufactured and intended for year round use.

This new roller screen is made entirely of metal, will effectively screen any screenable open space, and is neat, compact, rust-proof and practically indestructable.

The operation of the screen is simple. With the raising or lowering of the window the screen automatically rolls within the cylinder, a waterproof metal box that rests on the sill outside, if for the lower sash, or inside at the top of the window for the upper sash. They are easily detachable from the sash and catch automatically when window is closed.

The claims made for the new screen as against the old style type are that the latter are always before the window gathering dust, dirt, soot and cobwebs; that they obstruct the view and keep out the light whether window is closed or open; that they are made largely of wood and the frames shrink, swell, twist, decay and come apart at the joints; that they are awkward to handle, dirty the window, are bulky and consume considerable storage space during at least six months of the year.

All of these faults this new roller rust-proof screen does away with. The Rust-proof Roller Window Screen Company, of Clyde, Ohio, will furnish all AMERICAN CARPENTER AND BUILDER readers addressing their Dept. B. with full details of this new screen.

The Big Disston Campaign

Henry Disston & Sons of Philadelphia—the large saw, tool and file manufacturers—have recently inaugurated a wide publicity campaign which will thoroughly cover the country and all classes of buyers. Two of their recent appearing advertisements are unique in their subject matter. One illustrates and is descriptive of the wall enclosing their big Philadelphia plant—a wall made from the grindstones worn down in the Disston works. This wall, seven feet in height and one and a half feet thick, is over 2000 feet in length. The other advertisement deals with the service of twenty-one men who have been in the Disston employ for over fifty years.

These advertisements, remarkable in their way, are but monumental evidence of the integrity, substantiality and progressiveness of the Henry Disston and Sons company.

Generous Samples FREE

To Builders, Architects, Contractors

LET us send you free samples of Johnson's Flat Wood Finish and Johnson's Wood Dye, also a copy of our Instruction Book. Architects, Contractors, Painters and Home Owners are enthusiastic over the results obtained and the bigsaving made possible with them.

Johnson's Wood Dye

is made in 15 popular shades as follows:

No. 126 Light Oak	*No. 128 Light Mahogany*	*No. 121 Moss Green*
No. 123 Dark Oak	*No. 129 Dark Mahogany*	*No. 122 Forest Green*
No. 125 Mission Oak	*No. 130 Weathered Oak*	*No. 172 Flemish Oak*
No. 140 Early English	*No. 131 Brown Weathered Oak*	*No. 178 Brown Flemish Oak*
No. 110 Bog Oak	*No. 132 Green Weathered Oak*	*No. 120 Fumed Oak*

Gallons $3.00—Half-Gallons $1.50

Test samples on any work you have in hand. Note how quickly Johnson's Wood Dye dries, so that dust and dirt have no chance to settle in the finish. Observe how it penetrates and brings out all the beauty of the grain without raising it in the slightest degree. In addition to this, the fastness of color, ease of application and practical economy will also appeal to you.

Johnson's Flat Wood Finish

is a liquid—an easy spreading preparation, manufactured especially for finishing interior woodwork of new residences and buildings—as well as furniture—and equally valuable for refinishing old surfaces.

This flat wood finish opens a new field for the contractor and builder. By the use of Johnson's Flat Wood Finish, you can make estimates on hand-rubbed effects that will land the contract every time—give your customer perfect satisfaction—and make you a good profit besides.

Don't fail to secure Instruction Book No. A. C. B. 3 and samples at once. If your dealer isn't supplied, write us and we will send them direct on receipt of postal or coupon.

S. C. Johnson & Son, Racine, Wis.

"The Wood Finishing Authorities"

S. C. Johnson & Son, Racine, Wis.

Please send me free samples of Johnson's Flat Wood Finish and Wood Dye Shade No. ..... Also Instruction Book A.C.B.3

My Dealer's Name is.....

His Address.....

My Name.....

Address .....

.....

Three Excellent Products of The Gilbert & Bennett Mfg. Co.

The Gilbert & Bennett Mfg. Co. have occupied a leading position as manufacturers of wire cloth, netting, fencing and wire goods ever since the year 1818. Beginning in a small way in the early days of this Republic, the Gilbert & Bennett Mfg. Co. have grown up with the country. Today they have two immense manufacturing plants—one at Georgetown, Conn., serving the East, and the other at Wireton, Ill., serving the West.

Builders make use of practically every item shown in the complete catalog of products of the Gilbert & Bennett Mfg. Co. Three lines, however, will be found especially interesting and worth while investigating, viz.: "Pearl" wire cloth for door, window and porch screens, wire lathing, and window guards.

"Pearl" wire cloth screens are known as "The Screen that Can't Be Seen." They give satisfaction; and builders should use them and recommend them to their clients for that reason. The claim is made that 'Pearl" wire cloth makes a screen that wears well and is dust-proof—that won't break away—that won't intercept your vision—that after a few weeks' use becomes nearly invisible—a screen that lasts. It's identified by two copper wires in each selvage. This screening is made of selected steel wire of remarkable hardness. It is protected by a pearl-colored metallic coating, which makes it both beautiful and durable.

Wire lathing, both in the plain and galvanized wire, is an important line with the Gilbert & Bennett Mfg. Co. The use of wire for lathing in place of other materials is becoming very general, owing to its many advantages. The meshes allow the mortar to pass through and unite on the back as well as front, making it an impossibility for the coating to crack and peel off, thus producing a finish which is fire-proof and impervious to moisture. The latter feature is an important one where the walls or ceilings are to be painted or frescoed. Their Standard wire lathing is woven 2½ mesh of No. 20 wire, and is stocked in rolls 150 feet long by 36⅜ inches wide. The plain lathing is usually sold for ordinary purposes, but the galvanized is preferable where absolute protection from rust is desired.

Builders are often at a loss to know where to obtain the steel window guards that are wanted for basement and first floor windows, etc. These may be plain diamond mesh wire, wrought iron bars or ornamental steel grilles. The Gilbert & Bennett Mfg. Co. make quite a special feature of window guards. Their catalog illustrates many styles.

Every reader of the AMERICAN CARPENTER AND BUILDER should have a copy of this catalog. It is No. 151. Builders are constantly in need of wire goods and will find this a valuable reference book on the subject. Ask the Gilbert & Bennett Mfg. Co., 942 First National Bank Building, Chicago, for a copy.

Interesting Products of Hydrex Felt & Engineering Co.

A line of ready roofings, building paper, insulating and deadening felt, and preservative paint. with many original features of interest to carpenters and builders everywhere, is now being sold under the trade name of "Hydrex" products, manufactured by the Hydrex Felt & Engineering Co., 124 Liberty St., New York. These products are "Pluvinox" roofing and siding, "Pluvinox" Reinforced roofing, "Novento" waterproof building paper, "Hydrex" preservative paint, and "Saniflor" deadening and insulating felt.

"Pluvinox" roofing and siding is said to be unequalled as a strong, serviceable and low-cost material. It is especially adapted for farm buildings, poultry houses, etc., where a

Judge A. S. Tompkins' Residence, Nyack, N. Y. "Saniflor" Sanitary Deadening Felt Used Between Floors. "Hydrex" Waterproof Felt Under Stucco. Chas. Barton Keen, Architect

strong, inexpensive roofing or siding is required. This roofing is first thoroughly saturated with a heavy waterproofing compound; then it is heavily coated on both sides so that air or water cannot get through the surface, finally a layer of soapstone is placed on both surfaces. "Pluvinox" Reinforced roofing is designed for factories, warehouses, foundries, railroad buildings, etc, where a stronger and heavier roofing is needed. It is made to withstand severe conditions, and is built up of several layers of felt, with a waterproof compound between each layer.

"Novento" waterproof building paper is a sturdy, heavy, saturated through and through, coated, air and watertight building paper for lining under clapboards, tile, slate, stucco, tin, etc., especially where a low-cost lining is wanted. "Novento" contains no coal tar, to injure tin or nails in slate. All tin makers warn against using tar paper under tin.

Hydrex preservative paint is a high-grade, thick, black paint for preserving structural iron and steel, bridges, roofs, smoke stacks, exposed wood and metal in battery rooms, etc. Also extensively used for damp-proofing walls above grade—the interior surface of exterior walls, and also the outside of hollow terra cotta tile walls to be covered with stucco. Plaster strongly adheres to it.

"Saniflor" sound-deadening and insulating felt is a waterproofed non-conductor of sound, heat and cold for walls, floors, roofs, etc. The most serious defect in the old-style deadening felts is the lack of protection against moisture, water, vermin and odors. Such felts are not only nesting places for vermin, but absorb and hold moisture, water and odors. They are not hygienic. "Saniflor" has a shell-like flexible coating or veneer on both surfaces, which hermetically seals in the dry felt and perfectly waterproofs its two surfaces, so that it cannot absorb moisture or odors and also makes it obnoxious to mice, moths and other vermin, which can not eat the coating. "Saniflor" is ideal as a warmth-giving blanket under clapboards.

The illustration herewith shows the residence of Judge A. S. Tompkins, at Nyack, N. Y., in which "Saniflor" felt has been used.

Samples of any of the above products, further literature and prices can be obtained by addressing the Hydrex Felt & Engineering Co., 124 Liberty St., New York. This company is also looking for local representatives everywhere.

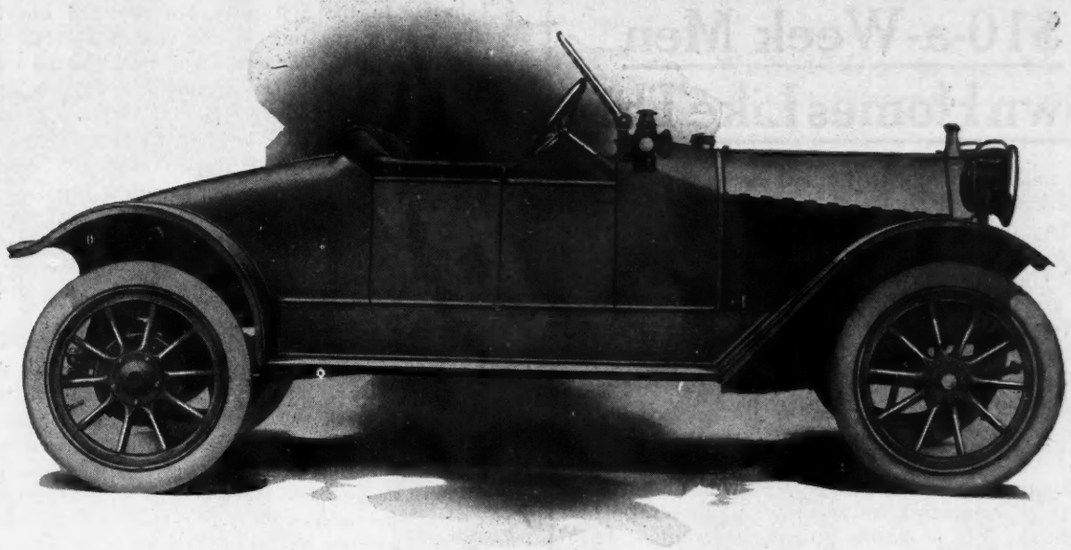
The Modern Wall Lining

The contractor in any city who is known to handle only the best of material has a prestige that nothing else will give him. He may be known as a good workman, known to do good work reasonably; but if he does a job and through no

"Long-Stroke" *Means* Long-Stroke

in the new

Hupmobile



Long-Stroke "32" Roadster—$900

F. O. B. Detroit, including equipment of windshield, gas lamps and generators, oil lamps, tools and horn. Three speeds forward and reverse; sliding gears. Four cylinder motor, 3¼ inch bore by 5½ inch stroke. Bosch magneto, 106-inch wheelbase, 32x3½ inch tires. Color, Standard Hupmobile blue

No one outside the factory has realized better than the motor car dealer himself that we have figured always that it was the wisest kind of enlightened selfishness to give more than the public expected.

And no one appreciated better than the dealer, how far we have gone in this direction in the design and construction of the new Hupmobile "32".

Thus, only one motor in America has a longer stroke than the engine in the new Hupmobile "32".

And the car which shares this distinction with the Hupmobile sells for several times the Hupmobile price of $900.

The relation of stroke to bore in the new Hupmobile is the mean average of the best and latest European practice.

But we did not stop with this positive assurance of greater pulling power.

The cylinders are cast en bloc and the crankshaft, of special drop forged high carbon steel, equipped with three especially liberal bearings, instead of two.

Note these evidences of extra-generous construction, one at a time, please; compare them with other cars at the Hupmobile price and judge their power in making sales.

Observe that the valves, for instance, are not only all at one side—an admirable advantage—but completely encased, yet instantly accessible and oil-tight and dust-proof.

You will also note the advance in construction that we have made by casting together, from the highest grade of aluminum alloy, the upper part of the crank case and the entire transmission case, and making the lower part of the crank case from pressed steel.

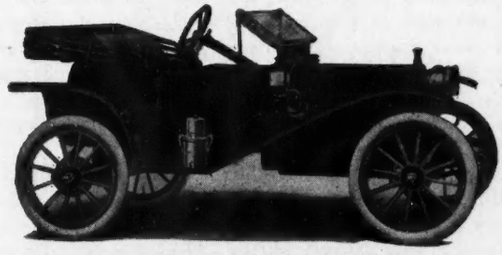
You will see in this engine and transmission unit a triumph of mechanical adaptation, which makes for increased efficiency and space economy.

The full-floating rear axle is, in itself, a work of high degree, which places the Long-Stroke "32" in an exclusive class.

You can ascribe all these constructive advantages to the fact that the Hupmobile organization has always been held practically intact since the first Hupmobile was built.

The chief engineer, R. A. Nelson, is the same man who designed the original Hupmobile Runabout—whose priority in its own class has never been seriously disputed.

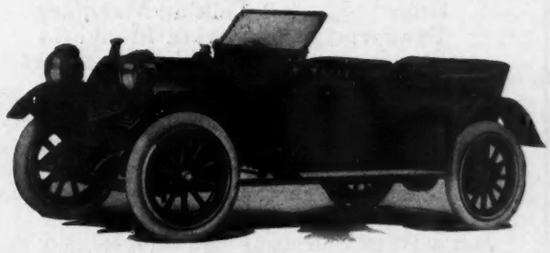
The department heads who have been associated with Mr. Nelson and the skillful workmen who have executed his designs, have remained with us in our progressive development.



Standard 20 H. P. Runabout, $750

F. O. B. Detroit, with same power plant that took the world touring car around the world—4 cylinders, 20 H. P., sliding gears, Bosch magneto. Equipped with top, windshield, gas lamps and generators, oil lamps, tools and horn. Roadster, $850. Coupe, $1100.

A recent exhaustive report of the efficiency of the Hupmobile Runabout in nearly a year of army service is contained in a booklet entitled "A Test of Service", which we will gladly send on request.



Hupmobile Long-Stroke "32" Touring Car, $900

F. O. B. Detroit, including equipment of windshield, gas lamps and generator, oil lamps, tools and horn. Three speeds forward and reverse; sliding gears. Four cylinder motor, 3¼ inch bore and 5½ inch stroke. Bosch magneto, 106-inch wheelbase. 32x3½ inch tires. Color, Standard Hupmobile blue.

Hupp Motor Car Company 1255 Jefferson Avenue Detroit, Mich.

When Writing Advertisers Please Mention the American Carpenter and Builder.

fault of his that job is unsatisfactory—the fault lying in the material—he gets the blame every time. This may not be just, but, it is, nevertheless, an indisputable fact. Now getting down to brass tacks, let us ask you a straight question: "Have you ever known of a house, whether built by you or anyone else, that has been lathed and plastered, say ten years ago, that has not required a good deal of patching?" We think that you have not.

Compo-Board manufactured by the Northwestern Compo-Board Co., Minneapolis, Minn., is a modern wall-lining, that has every advantage of lath and plaster and innumerable advantages that lath and plaster never have had or never will have. In the first place Compo-Board can be used equally well at any time of the year and in all kinds of weather. This fact alone means a whole lot to the contractor. Compo-board is a business getter and a business holder. Compo-Board as the name implies is a composition board, built up of three separate and distinct parts. Both surfaces are of heavy paper and the core cement and wood. This paper is extra hard, is non-porous and a non-conductor of heat. The cement is of very great strength and permanently holds the paper to the core, which is made of thoroughly dried one inch wooden slats. Compo-Board will not warp. Warping is prevented, inasmuch as these slats are put together with the grain running in all directions.

Did you ever stop to think how often you are asked to hurry up a job. Nearly every job you work on it's the same old cry, hurry! hurry! hurry! Compo-Board will hurry up a job as it is much more easily put on and you don't have to be eternally waiting for this and for that. When you have put it on, the job or at least that part of it is done and you won't have to go back and patch it up after the finishers have completed their work. You also will have the satisfaction of absolutely knowing that it is on there for all time or until it is forcibly taken off.

Compo-Board will outlast lath and plaster many times over; and by it's use decorative schemes of infinite variety can be obtained. Compo-Board is sanitary too. This is worth a whole lot to the contractor as it means satisfied clients and it is a poor contractor who does not know what satisfied clients mean.

Get in touch with the Northwestern Compo-Board Co. Their address is 5777 Lyndale Ave. North, Minneapolis. Their proposition will interest you.

About the Carey Company's Flexible Roofing

Thousands of factories, mills, warehouses and office buildings, which have for years been "Carey Roofed" are offered by the Philip Carey Company, of Lockland, Cincinnati, Ohio, as substantial positive evidence of the durability of Carey's Flexible Cement Roofing. This roofing is made complete by the Philip Carey Company and requires but little time and labor to lay. That it will give permanent satisfaction for a period of at least 20 years, is the guarantee of its manufactures.

This Carey Flexible Cement Roofing is built upon a foundation of oil cement soaked woolen felt. Then a heavy flexible cement body is laid upon this woolen felt foundation and upon this is placed strong calcutta burlap. Over the burlap and imbedded in its meshes is an outer surface of asphalt compound. Particular features of this roofing are: the extensioning of the burlap covering the nails along the joints, which prevents them from rusting or working loose and the cementing down of the lap with an asphalt compound, making the joints absolutely watertight and permanent and the roof a solid sheet.

This form of roofing construction is claimed by the Carey

company to be the highest type extant. The roofing does not dry out, crack or deteriorate. The cement body of it is protected from any action of the elements; the wear coming upon the outer surface of heavy asphalt compound.

This company, beside their extensive roofing manufacturing are also producers of standard hair felt; mineral wool; furnace pipe, steam pipe and boiler coverings; millboard rope and wick packing and asbestos covering and paper.

Their mineral wool is a mineral substance in fibrous form, extensively used for fire-proofing buildings and deadening sound. It is light in weight and absolutely rat, mice and vermin-proof.

Their standard hair felt is made of carefully selected hair in all of the regular thicknesses and is used extensively for lining and insulating purposes in the construction of mattresses, general upholstering work, etc., etc. It is further a most excellent protection for gas and cold water pipes during the sieges of winter.

AMERICAN CARPENTER AND BUILDER readers, by writing direct to the Philip Carey Company, 58 Wayne Avenue, Lockland, Cincinnati, Ohio, for their general literature, will, through it, receive the complete details of their extensive lines.

Ornamental Iron and Wire Work

The Mack Iron and Wire Works Company, of Sandusky, Ohio, are general manufacturers of ornamental, architectural and structural iron, steel and wire work.

Some of the feature work of their extensive line includes fire escapes, outside stairs, jail cells, fencing, lawn seats, shutters, grates, railings, etc., etc.

They issue a catalogue describing completely the scope of their manufacturing, and will gladly supply all AMERICAN CARPENTER AND BUILDER readers writing them, with it.

Take in the Clay Show

The purpose of the Permanent Home Exposition and Clay Products Show to be held in the Coliseum, Chicago, March 7th to 12th, is to demonstrate to the country at large, architects and builders, the advance made in fire-proof construction methods and in the production of burned clay materials, which lend themselves to all the requirements of the present new era of better construction methods. Much interest is being shown in this exposition by architects throughout the country, and this was evidenced by the recent competition among the architects for the best design for a brick bungalow, conducted by the *"Brickbuilder"* of Boston. At the close of this contest 650 designs had been submitted. The Clay Products Exposition Company offered $1,000 in prizes in this contest. The prize winning design has been forwarded to Chicago, and from this a full size, complete brick bungalow will be constructed on the floor of the Coliseum. This will be one of the interesting features of the Show. All of the 650 designs will be displayed in the architectural section of the exposition. Among the other features of interest will be the markedly beautiful display of architectural terra cotta, including a structure 27 ft. in height especially made by the Northwestern Terra Cotta Company for this occasion at a cost of about $10,000.

Some 600 different exhibits of brick, terra cotta and other clay products will be made at this Show, and the structures erected will be of an interesting and elaborate character from an architectural viewpoint, giving an opportunity never before offered to see in actual use the immense variety now produced in this country in burned clay effects.

A representative of a large terra cotta company recently made a trip through Ohio, and of the one hundred and eighty architects and building contractors called upon, at least 50 per

TRINITY Methodist Church, Lincoln, Neb., built of white and granite faced brick. **One Peerless Machine** made them faster than the workmen could lay them. Brick made by Lincoln Stone & Supply Co.

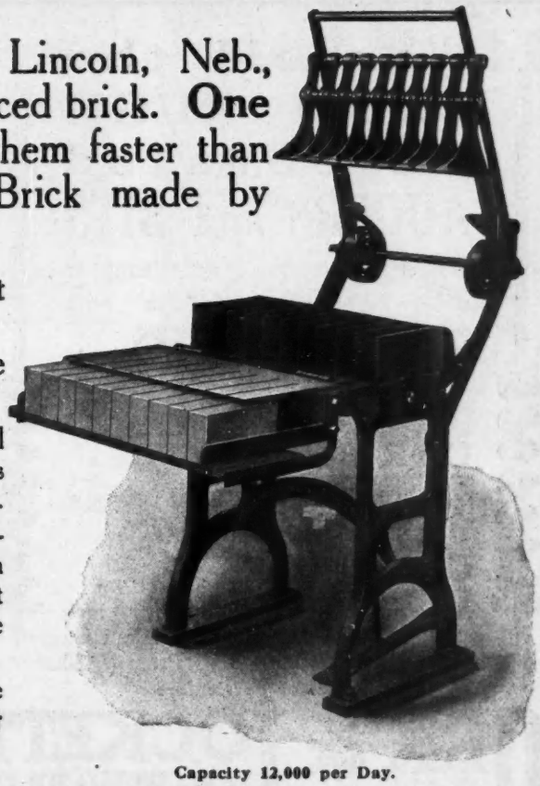
The above is an example of the work that the Peerless is doing every day.

In quality and quantity of product the ***Peerless*** has no ***equal.***

The Peerless is made of high grade carbon steel and heavy malleable iron; it can't spring out of alignment as will sheet steel and angle iron and will outlive its owner.

We guarantee its construction in the following unparalled guarantee: If machine is broken or injured in operation we will replace any broken or injured part free of charge as long as machine is in the hands of the original purchaser. Will others do this?

Cement is at the lowest price ever known. Buy the machine that will make money for you. Write for catalogue and booklet on cement brick.



Capacity 12,000 per Day.

Peerless Brick Machine Co. **19 North Sixth St., Minneapolis, Minn.**

cent informed him that the[illegible]d to attend the exposition. A number of prominent ar[illegible]ts from the East and from the Coast expect to visit Chicago during this time, and Sunday, March 10th, has been set aside by the exposition authorities as "Architectural Day," and special social events have been arranged at that time for the benefit of the visiting local architects and building contractors.

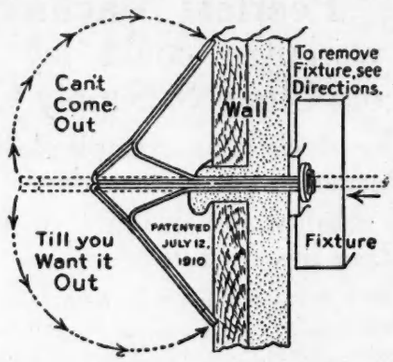
Farrand's Self-Clinching Nails

The "Self-clinching Nail" is a peculiar form of fastening device that operates in a way to anchor itself automatically while being driven in hollow walls, ceilings, and other places inaccessible from the rear. This fastener does not depend for its clinching action on something placed back of it for the purpose of turning the point. On the contrary, it operates solely by utilizing the pressure exerted by the hammer on the outer end of the nail.

As shown in the first illustration, the top of the nail consist of a "driving stem" which protrudes through and above the washer-like head. This stem also extends down through the body of the nail, and is attached at its lower end to a couple of clinching prongs.

The whole arrangement is such that when the head of the nail, in driving has reached the face of the fixture, it becomes stationary, while the stem, being movable, telescopes into the rest of the nail, and operates to force the prongs apart, reverse and clamp them tight on the rear or interior surface of whatever substance is penetrated, as shown in the second illustration.

These nails fasten direct to hollow tile and save the time,



THE FARRAND SELF CLINCHING WALL NAIL DRIVEN
The stem telescopes into the rest of the nail causing the point to split open-reverse-and clamp tight on the interior surface of the Wall

expense and anxiety of preparing fireproof walls to receive nailing grounds. They do away with the necessity of burying combustible wooden nailing blocks in the heart of the wall and afford full freedom for changing plans or correcting errors in the location of interior woodwork. Also used for attaching fixtures to all types of finished hollow walls. For full information, address Self-Clinching Nail Company, 44 N. Fourth St., Philadelphia, Pa.

Why Contracts Don't Pay

Many a contract-estimate looks like a payer—on paper—but turns out to be a loser—on the ledger.

The lumber is figured all right—so is the joiner's material—so are the metal work, nails and findings, but the time, that is the rub. How to estimate time, how to anticipate accidental delays, etc., is a sticker. Plainly, any method that will materially save time on a job, ought to receive a glad welcome from all contractors.

Sawing seems to eat up most of the carpenter's time. If he had this stuff all sawed and ripped to proper lengths, it would cut a great chunk out of his time.

The Oshkosh "Eveready" Saw Rig seems to solve this problem. It is a compact, handy frame and table of very best rock maple, air and kiln seasoned, containing a reliable 4-h. p. gasoline engine of latest improved type. Two men can load it into a wagon. Once on the job, it can be skidded anywhere, upstairs or down.

Besides one cross-cut and one rip saw, eight attachments are given free of charge:

One Jointer Head,
One Boring Attachment,
One Jig Saw,
One Sander,
One Mitre Device,
One Dado Head,
One Emery Wheel,
Two Saw Gauges.

This brings a veritable carpenter shop right out onto the job. It is said that with the "Eveready" two men can do as much sawing as twenty-five can by hand. This would effect an extremely large saving in a carpenter's time, and make the contract yield a good, solid return, that would soon pay for the cost of the rig.

The engine is easy to understand. Any carpenter can learn to operate it. Just a whirl of the wheel and it's off. It will run, it is said, for only two cents an hour.

The "Eveready" rig is guaranteed for life by a strictly reliable concern. They offer to let any one put it into actual service for six days free. If at the end of that time it isn't satisfactory, it may be returned at the manufacturer's expense. Contractors and all others are asked to write to the Oshkosh Mfg. Co., 316 S. Main St., Oshkosh, Wis., for catalog and full particulars of this free trial offer.

Coltrin Concrete Mixers

The Knickerbocker Company of Jackson, Michigan, have recently issued their 1912 catalogue on the Coltrin concrete mixer which they manufacture. This catalogue presents a pleasing combination of text matter and illustrations—done in a thorough manner.

The 10 models of the Coltrin are described in detail and records and testimonials of their performances given. The fundamental of Coltrin construction is based upon a combination of what is best in both the batch and continuous mixing types. Coltrin mixers are built in types for steam, electricity, gasoline engine, stationary and hand power operation.

The Knickerbocker Company claim especially for the Coltrin that it will at all times deliver a perfectly uniform mixture under average working conditions. That it will give as strong a mix obtainable, with a saving of at least 20 per cent in cement and at the least cost per cubic yard.

Specifications for Coltrin No. 1 are: capacity per hour, 16 cubic yards; feeder, three hopper automatic; power, 4 H. P. engine, 6 H. P. boiler; dimensions, length 12 feet, width 62 inches; diameter of wheels, front 22 inches, rear 24 inches; weight, 4000 lbs.

This Advertisement Will Bring You Business

A HOST of prospective home-builders, with ample means to buy the best of everything, will read about ***MORGAN Guaranteed Perfect Doors,*** as told in the beautiful illustration and convincing text reproduced above, in Craftsman, Country Life in America, House Beautiful, American Homes and Gardens, House and Garden, and Keith's Magazine on home Building for March.

Many hundreds of these readers will specify ***MORGAN Doors.*** Could you ask for a better opportunity than this for stimulating your business?

Write for our artistic illustrated book, "Door Beautiful," showing many handsome designs of interior and exterior *MORGAN Doors,* in all woods for every style of architecture. Write today—it's free.

Best Dealers Everywhere Sell Morgan Doors

MORGAN COMPANY Dept B7 Oshkosh, Wis.

Distributed by

Morgan Sash & Door Co., Chicago, Ill.
Morgan Millwork Co., Baltimore, Md.

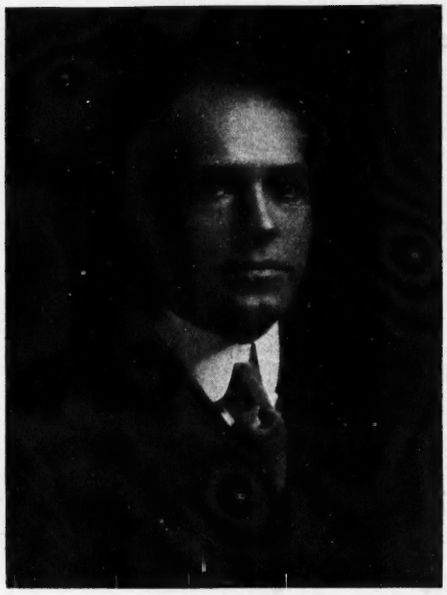
Specifications for the No. 18 are: Capacity per hour, 16 cubic yards; feeder, three hopper automatic; power, 6 H. P. gasoline engine, 5 H. P. motor; dimensions, length 10 feet, width 55 inches; diameter of wheels, front, 18 inches, rear, 28 inches; weight, 3000 lbs.

Complete details of these machines can be obtained by addressing the Knickerbocker Company at Jackson, Michigan, for a copy of their latest Coltrin catalogue.

Atkins Pioneers

The Annual Banquet of Old Employes of E. C. Atkins & Co.

Saturday, January 27, the pioneer employes of E. C. Atkins & Co., Incorporated, Indianapolis, Indiana, held their third annual banquet and sixth anniversary of the organization. Out of an entire pay roll of 176 members in the year 1886, the Atkins pioneer organization now has a membership of 122. The oldest member of the organization, John H. Wilde, entered the employ of the company in 1865, but retired from active service in 1909, and is now enjoying a pension. Of



Henry C. Atkins, President E. C. Atkins & Co. Inc.

the others, nine have been in the service of the company from thirty-six to forty years; eight from thirty-one to thirty-five years; twenty-three from twenty-six to thirty years, and seventy from twenty to twenty-five years. During the past year one of the members of the pioneers, Albert E. Meredith, died, after having been with the company for forty years.

The banquet this year was held at the Spencer hotel, Indianapolis, and following the dinner a program of toasts was carried out under the direction of Frank E. Kingsley, president of the organization, interspersed with vocal music by the Atkins quartet and Mr. Andrew Sweeney.

Away with the Thresholds

Builders who are reluctantly using thresholds in building interiors, merely to fill the under-door open spaces, will be interested to learn that The Introstile & Novelty Co., Marietta, Ohio, manufacture an automatic door bottom device which puts thresholds entirely out of commission. The company calls it the Introstile, and claim that it is a complete crack sealer, invisible and noiseless in operation, while its installation makes no perceptible alteration in the appearance of the door bottom. Another good feature of its use is that the floors are not encumbered but left smooth and unbroken.

Crescent No. 51 Woodworker

From the Crescent Machine Company of Leetonia, Ohio, comes a fresh 20-page catalogue devoted entirely to their No. 51 Crescent Universal Woodworker. This is a machine built to fulfill every requirement of the average woodworking shop; and its manufacturers claim that in this No. 51 they have put forth a machine that is thoroughly practical and efficient for every use for which it is recommended and a machine that should prove profitable and earn money for its owner.

The No. 51 Crescent Universal Woodworker combines a shaper, 26-inch band saw, 8-inch jointer, saw table, and boring machine. Its regular equipment includes resaw attachment, tenoning attachment, panel raiser, pole rounder, hollow chisel mortising attachment, disk grinder, knife grinder and emery grinder.

No. 51 requires but the small floor space area of 75 by 80 inches; and as the entire machine is driven by one main belt from motor or line shaft, the belting expense is greatly reduced.

That it fills the demand for a better equipment for small shops and will place them on an equal basis with the large factories in getting their work out quickly, accurately, and economically, is a claim of the manufacturers; and another feature that they point to is that this machine is radically different from the majority of combination machines in that it is a combination of machines each independent of the other and not simply one machine used for a combination of purposes. It is arranged so compactly as to allow of all being driven by one belt from a line or motor shaft. For example, it is not necessary to run more than one machine when only one is needed; but four machines may be operated by four separate individuals at the same time—yet each one independent of the other. Each machine is started and stopped by its own lever and no belt removing is required.

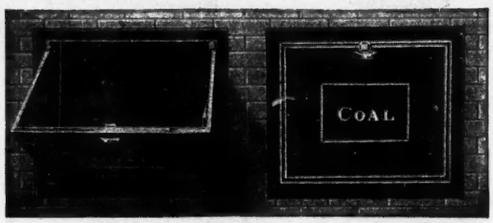
By sending to the Crescent Machine Company of Leetonia, Ohio, complete details of this and their many other machines and their full line of band saws, saw tables, jointers, shapers, planers, and matchers, disk grinders, swing saws, borers, etc., may be obtained. Ask them to mail you their 112-page booklet and bulletin on their No. 51 Woodworker.

This Chute Opens from Either Inside or Outside

A feature of the Canton Coal Chute manufactured by the Canton Foundry and Machine Company of Canton, Ohio, is that it may be opened from the outside, by a special key, when it is desired to do so. This chute in closing locks automatically and it is burglar proof.

The Canton chute is made in various sizes of high grade material. It is thoroughly durable and affords complete protection to walls, lawns and sidewalks.

Included among the other lines of this company are coal



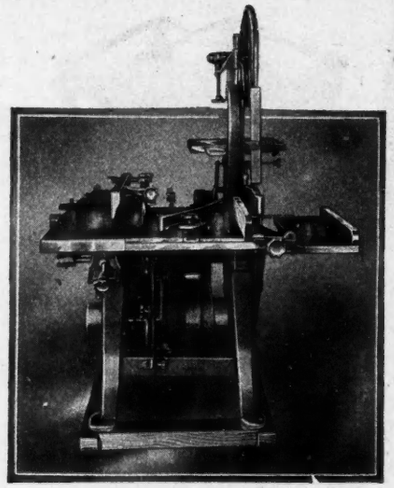
Fuel Chute of the Canton Foundry and Machine Co.

hole rings and covers, sidewalk doors—of which they make 45 different sizes, and many contractors' and builders' accessories.

Their catalogue B-I covering their complete field, will be mailed upon request.

A Complete Planing Mill for Contractors Comprised by One Machine

One of the most perplexing problems of the contractor—that of choosing suitable machinery—is said to have been solved by the advent of the "Famous" portable universal woodworker, a machine which permits thirteen different kinds of work to be done, and which can be moved around from place



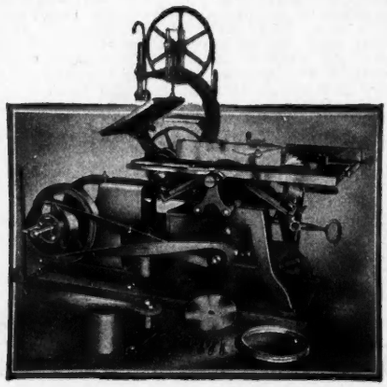
End View "Famous" Woodworker

to place without any trouble whatever. It is mounted on a wheeled truck, so that, when it is desired to move it, a horse is hitched to the truck and the whole thing carried anywhere. "A Planing Mill on Wheels," seems about the best way to describe the proposition.

This machine is a combination of a 27-inch band saw, 10-inch jointer, reversible shaper, saw table, borer, tenoner and mortiser, knife grinder, emery grinder, 10-inch power feed sander, disc sander, power feed planer, dadoing machine, and panel raising machine—a total of thirteen different woodworking machines. Any attachment can be operated independently of the others, and the construction permits of several men working at the same time.

The power is constituted by a three horse-power gasoline engine, complete with batteries and belts, so that the machine is entirely self-contained and independent of outside power. To show how good and durable it is, the builders guarantee it for life. Over a thousand are in use.

Such a machine is a fine investment for any contractor, as it enables him to get work out on time, without having to rely upon local mills, and without their high charges. There's no reason on earth why the contractor should not do his own millwork and have the profits he pays somebody else. The "Famous" is built in various sizes and styles so that



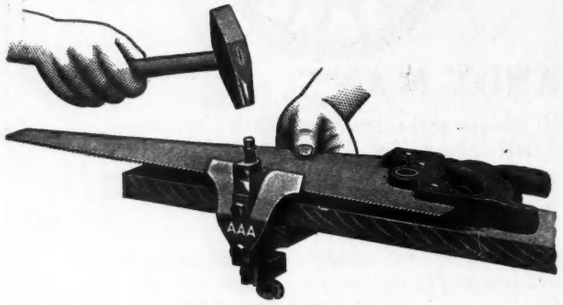
Side View of "Famous" Portable Universal Woodworker

large and small requirements can be met with equal satisfaction. All of our readers who wish to cut down or eliminate planing mill bills should get full particulars of the "Famous" Universal Woodworker from the builders, The Sidney Tool Co., Sidney, Ohio.

New Atkins Saw Set

E. C. Atkins & Co., the Silver Steel Saw people, have recently put out a new hand saw set of considerable merit.

Through the use of a plunger, the hammer blow reaches the saw tooth at a uniform angle. This insures an accurate set. There is no danger of snapping off the teeth, and as the



Atkins No. 5 Saw Set

amount of set can be regulated, a perfect job is assured. After setting each alternate tooth, the saw is removed, thus enabling the operator to complete the process without changing the position of the set.

This may be bought through your local dealer, who will order for you in case he does not as yet carry them in stock.

The Atlantic Company's Woodworker

A machine of practical economy and convenience to every builder and contractor is what the Atlantic Engine Company, of Meadville, Pa., claim their Standard Portable combination woodworker to be.

The many uses of this machine are apparent to every one appreciating the value of machine over hand labor. It comprises nine distinct woodworking machines in one. Cut-off saw, rip saw, dado head, moulder, jig saw, jointer, sander, boring machine, emery wheels. It is of equal value for use "on the job" or in the shop.

The power of the Standard is generated by a 6 H. P. gasoline engine. This engine represents the highest type of gasoline engine construction.

Certain details of the machine include: Its compactness—for with full equipment the maximum floor space required is but 43 by 40½ inches; its weight—it is easily portable, yet heavy enough to withstand hard continuous usage. It has ample table surface for work with any attachment. Attachments can be changed in one minute or less. There are no gears, cams or cogs used in driving any tool—all are fixed rigidly to the mandril. The tools used are standard; and duplicates can be purchased almost anywhere.

American Carpenter and Builder readers desiring detailed specifications of this woodworker should write the Atlantic Engine Company at Meadville, Pa., requesting catalogue A. Same will be forwarded you immediately.

Stanley's New "Bed Rock" Plane

As now constructed, the Stanley Rule & Level Company, New Britain, Conn., offer the user of high grade tools, a

plane which they claim to be the strongest and most perfect in adjustment of any plane manufactured.

The one-piece effect, and absolute solidity, is as much a fact as if the parts were all one, for the reason that the entire under-surface of the frog is in perfect contact with the solid seat cast in the plane bottom.

The new method of fastening the frog to the seat permits of the frog being adjusted either forward or backward without moving the lever or the cutter. The details of how this is accomplished are very clearly shown in a special "Red Rock" circular recently issued, which they will send to anyone interested.

A further improvement made in this plane is the change made in the design of the sides—this distinctive feature adds greatly to the strength and stiffness of the plane at the point where it is most needed, namely, at the mouth or opening for the cutter.

The shape of the knob has also been changed, the new shape permitting a much firmer and easier grip than before.

The high grade of material used, and the great care taken in their manufacture, enables them to guarantee these Planes in every respect.

Interesting Exhibit of Fireproof Materials

Of the large and diversified line of building products manufactured by the H. W. Johns-Manville Co., New York City, a number of the more important ones were shown to advantage at the New York Cement Show.

The space set aside for this exhibit was occupied in part by an artistically designed structure, showing respectively the outside and inside of a building.

One of the most skillful architectural designers in the world was employed for this work, and in attractiveness it was unsurpassed by any other exhibit in the Garden. Merely a glance at the structure served to show just how a building would appear when J-M fireproof building materials are used; and a closer examination gave an idea of their composition and how they are used.

H. W. Johns-Manville Co. Exhibit at New York Cement Show

Special interest was centered in this booth, which is shown in the accompanying illustration, by contractors, architects, engineers,—in fact, almost every visitor interested in building construction, because in addition to the J-M asbestos stucco of which the walls of the structure were built, the elaborate display of J-M asbestos products marked an innovation in the history of New York Cement Shows.

The roof of the structure was covered with three shades of J-M Transite asbestos shingles, part of which were laid according to the American method and part according to the diagonal method. These shingles are made of asbestos and Portland cement compressed under great pressure, and their successful use for years past on many of the finest houses throughout the country proves they will withstand the severest weather conditions.

The interior was handsomely decorated with J-M Transite asbestos wood panels, showing their attractiveness for fireproof partitions, wainscoting, doors, ceilings, etc.; there were also panels of J-M Asbestoside—a material largely used as an exterior siding for garages, bungalows and various other small buildings where a fireproof surface is desired.

Samples of J-M built-up asbestos roofing and J-M waterproofing liquids, felts, and fabrics were on exhibition, as well as photographs of many of the beautiful houses which have been built with J-M fireproof building materials.

Larger Quarters for the H.W. Johns-Manville Co., in Pittsburgh

The rapidly increasing demand in Pittsburgh and vicinity for the asbestos, magnesia and other products of the H. W. Johns-Manville Co., has necessitated a move from their present location in Liberty Avenue, above Ninth Street, to larger quarters.

After January 24th, 1912, the Pittsburgh Branch of the H. W. Johns-Manville Co., will therefore occupy the entire eight-story stone, reinforced concrete and steel building at the northeast corner of Wood Street and First Avenue, which has been leased by them for a term of years.

Something Unique in a Spring Hinge

Many exclusive features of construction, symmetrical appearance and unequaled durability are claims made by the Chicago Spring Butt Co., Chicago, Ill., for their "Triplex Spring Hinge."

The body of the hinge is made of one integral piece and of unique formation, permitting the use of heavy metal in the entire construction with three-ply ("Triplex") of heavy metal at the end portions between the barrels.

All bearings are arranged to reduce friction to a minimum. The tension lug operates in a hardened steel bushing, providing a broad bearing surface for the weight of the door and the spindle of the lug sleeves into a neck in the bushing, producing a perfect bearing.

Springs are made of the best tempered steel wire. The bronze and brass metal hinges have a specially constructed body of a seamless intact metal surface and interior steel construction, by which the possibility of wear or breakage is eliminated and the durability of the bronze or brass metal retained.

The disassemblement feature of this hinge is both convenient and practical.

This company issue pamphlet matter describing in detail Triplex and other hinges and will forward this literature upon request.

The Schwab Line of furnaces

The R. J. Schwab & Sons Company of Milwaukee, Wis., manufacturers of the widely known Gilt Edge Furnaces, Warm Air Furnaces and Combination Warm Air and Hot Water heaters and the Schwab Modern Method side wall registers, have recently issued attractive booklets on these lines of their manufacture. Their furnace booklet covers in detail the many features of their Gilt Edge furnaces, furnace construction and management, ventilation, draft, imperfect and perfect jointing, etc.

The Schwab Company build the Gilt Edge hard coal furnace; the Gilt Edge low down radiator, pattern furnace, with or without air blast attachments; The Gilt Edge low down furance for hard coal, soft coal or wood; the Corrugated Gilt Edge Wood burning furnace; The Combination warm air and hot water heater. Particular claims made by this company for their furnaces are ease, steadiness and economy of opera-

tion; durability; surplus heating power. Their service department is equipped to give immediate attention to inquires for plans, specifications and estimates for the installation of Gilt Edge heating equipment. No charge is made for such service.

Full details as to Gilt Edge furnaces; Side wall registers and the Schwab service may be obtained by AMERICAN CARPENTER AND BUILDER readers by writing the R. J. Schwab & Company, 295 Clinton Street, Milwaukee, Wis.

Concrete Ornamental Moulds

Never before in the history of concrete work has the use of concrete been so great for ornamental purposes as at the present time. There seems to be no limit to the possibilities in this line and concrete lends itself so readily to the manufacture of concrete articles that it proves most attractive and a very interesting line of work.

There is a satisfaction about turning out a handsome piece of work that appeals to every concrete worker, and the immense profits in this line are also very satisfactory.

You can make a vase similar to the accompanying illustration with about one sack of cement. This vase would sell for not less than $5 and every housewife wants a pair of these as soon as she sees them. This illustration shows one of the most attractive and beautiful lawn vases on the market at the present time. It is sold by the Northwestern Steel and Iron Works of Eau Claire, Wis., who are extensive manufacturers of concrete machinery of every description and their catalogue shows the largest line of ornamental moulds made.

Ornamental Concrete Vase Made in a Northwestern Mould

It will pay contractors to have a copy of this book if for nothing else than for reference. It describes everything shown in the concrete machinery line and gives valuable information of every description.

All moulds for ornamental purposes are made in four sections and are hinged so as to draw easily from the finished piece. The designs are clear cut and attractive in appearance and every contractor will do well to consider the establishment of an ornamental department in connection with his regular business.

Every article produced will prove an advertisement for his

work and every live, up-to-date concrete man realizes that he cannot do business without advertising. There are a hundred and one different ways in which articles of this kind tend to bring added sales to the business, and will increase profits to a large extent.

A Booklet of Interest

Sargent and Company have just issued an attractive vest pocket size booklet carrying suggestions and illustrations on ornamental figures and letters for dwelling, office, bank, hotel, school, church and public building uses. It is an exceedingly neat, interesting and instructive piece of printed matter. Sargent and Company will gladly supply those writing to them for a copy. Address them at New Haven, Conn.

"How to Sharpen Auger Bits", Free

The Russell-Jennings Mfg. Co., of Chester, Conn., who make the well-known Russell-Jennings auger bits, have ready for distribution some attractive literature illustrating and describing their new Precision tools, which include turned shank auger bits, bit braces with Precision or Universal Precision chucks, solid head expansive bit, and bit extension. These are all shown in the new bulletin, which gives prices for the tools individually or in sets.

A 6-page folder for distribution by dealers to carpenters and others describes in detail the new solid head expansive bit, showing the quick adjusting and non-creeping features of this Precision tool.

The Russell-Jennings Company also wish to remind carpenters and mechanics who use auger bits of the valuable information to be obtained from their booklet, "How to Sharpen Auger Bits," which may be had at any hardware dealer's store.

The Method and the Result

We are reproducing on page 140 a photograph of a church, and we want to call your particular attention to this. It is a structure that is an ornament to any town, whether this town be small or whether it be the largest city in the country. This church is built of cement brick, manufactured by a "Peerless" brick machine. This is only one of a great many buildings of like quality that we could reproduce if space permitted.

The "Peerless" machine has standardized cement brick, inasmuch as the owner of a "Peerless" machine is able to produce brick in sufficient quantities to insure him just a little bit more than a fair margin of profit. Mr. L. V. Thayer, the president of the Peerless Brick Machine Company, who probably is known to a good many thousand of our readers personally, has spent years in perfecting this machine.

The "Peerless" machine is the result of years of experiment, although the real experimental stage of the "Peerless" machine was over several years ago and for the last few years it has been recognized as a leader. Its capacity is great, thereby giving the owner a chance to produce bricks at a minimum cost.

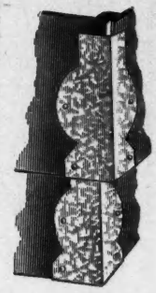
Mr. Thayer says that things have never shown up better for him. He is taxing the capacity of his plant to fill his orders. Look carefully (in their ad this month) at the photograph of the machine—the method—and the photograph of this beautiful church—the result.

Don't you think it would pay you to investigate the machine that will produce these results? Write the Peerless Brick Machine Company of Minneapolis, Minnesota, to-day.

Trinity Methodist Church, Lincoln, Neb., built of white and granite faced brick. **One Peerless Machine** made them faster than the workmen could lay them. Brick made by Lincoln Stone & Supply Co.

Metal Building Corners

What appears to be a most useful and practical construction aid is a new invention by Mr. E. J. Picard of North Platte, Neb., which is being manufactured and marketed by the F. D. Kees Manufacturing Company.



These metal corners are especially intended for use in finishing the corners of buildings where lap siding is used. They displace the corner boards, of course saving the price of them, besides most of the time required to finish the corner. These corners give the mitre effect so popular, yet so slow and expensive when it is necessary to cut and fit the mitres. They hold the clapboards securely. It is not even necessary to cut the end of the obards square at the corners for the metal extends two inches along each board.

They are a neat and ornamental corner finishing, inexpensive and easily applied. These corners are made of 30 gauge galvanized iron, formed and punched with nail holes, ready to apply. There are two sizes—for four-inch and six-inch outside corners, also in both sizes for inside corners and octagons.

The F. D. Kees Manufacturing Co., of Beatrice, Neb., will supply further details, prices, etc., upon application.