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WM. A. RADFORD, *President, Treasurer and Editor-in-Chief.*
E. L. HATFIELD, *Vice-President and General Manager.*
BERNARD L. JOHNSON, B. S., *Editor.*
ROLAND D. RADFORD, *Secretary.*

DELBERT W. SMITH L. H. REICH.....} *Advertising*
C. R. W. EDGUMBE E. B. WOLFROM.....} *Staff*

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Radford Building, 1827 Prairie Ave., Chicago

TELEPHONE: CALUMET 4770

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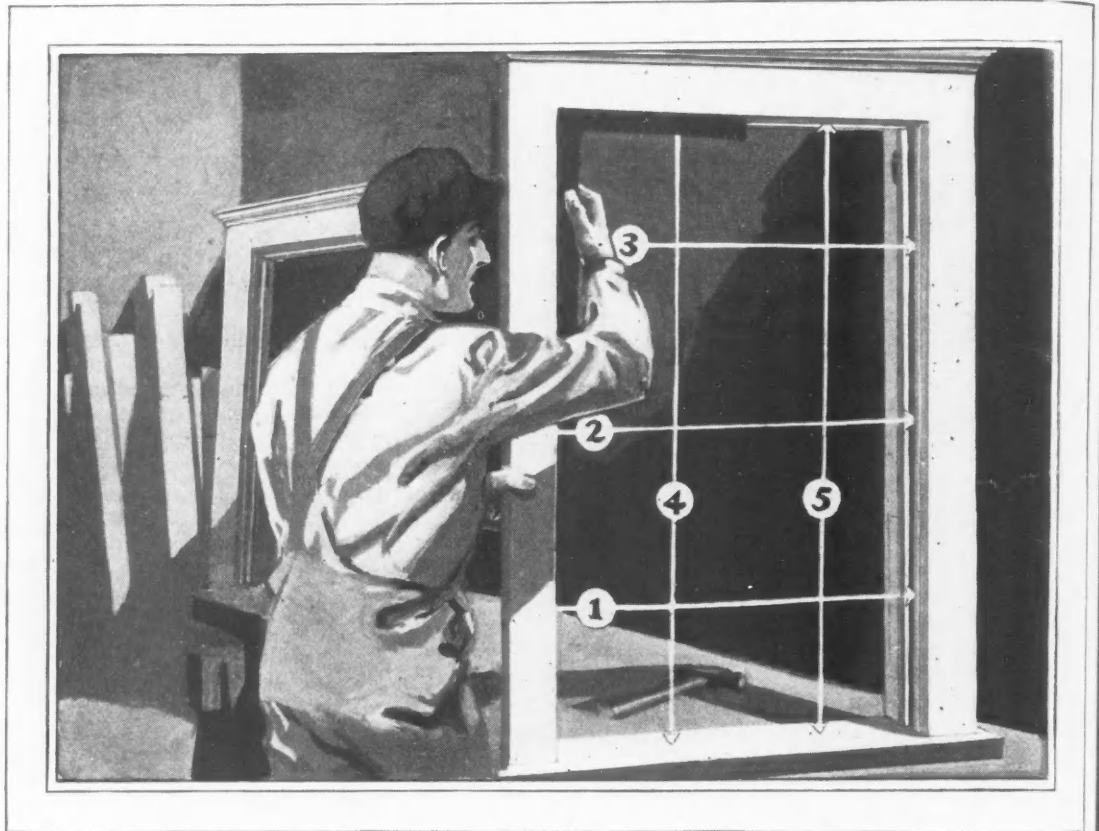
July, 1922

No. 4

Table of Contents

	Page		Page		Page
Around the Family Table.....	67	Adaptability of Zinc to Spouting Service.....	96	Practical and Attractive Uses of Steel Sash.....	128
Short Talks by the Editor.....	71	Elements of Reinforced Concrete Design.....	100	"The Long and the Short of It" in Oak Flooring.....	130
Seeing Red.....	71	Easy to Build and It's Sure to Prove Enjoyable.....	103	What's New?.....	132
Conspicuous Co-operation.....	71	Trend of Electric Fixture Design in Modern Home.....	104	Asphalt Shingles in New Type.....	132
For the Good of the Game.....	71	For the Busy Business Man and His Family.....	108	Vest Pocket Slide Rules Back Again.....	132
Plan to Make Your Town "A City Beautiful".....	72	Law of Interest to the Builder.....	100	Waterproof Fibre Board.....	134
Facts About Zoning.....	73	Beauty Surgery for Rear Yards.....	110	For Water "Softer Than Rain".....	134
Our Front Cover Home.....	75	A House Along New England Colonial Lines.....	111	Permanency of Slate Recommend It Where Stucco Is Used.....	136
Ornaments for the Home Grounds.....	76	Motor Trucks and Trailers.....	112	Out on the Job.....	138
Doctor's Residence with Office.....	78	"Ideal" Brick Construction Saves Expense.....	116	New Woodworking Tool.....	138
Good to Live in and Good to Live in a Long Time.....	79	Outside and Yet Inside the Yard.....	120	News of the Field.....	140
Building Homes to Live in, Not to Sell.....	80	Proving It with Photographs.....	120	Glidden Company Distributes New Type of Shingle.....	140
Indoors and Out, This Is a Home.....	82	Correspondence Department.....	122	Important Work of Forestry School.....	140
This Little Love Nest Should Make Any Bride a Happy Home-Maker.....	83	Comfortable at a Cost of \$400.....	122	And Still Some Ask, "Does Advertising Pay?".....	142
Compact Home Sure to Please Housewife.....	84	Cement Block Difficulties and How to Conquer Them.....	122	Omaha Reservoir Unique Lasting Design.....	144
Roomy Verandas and Compact Homes.....	85	How to Reinforce Garage Floor.....	124	War Upon Wood Waster Waged by Government.....	148
Fold-Away Furniture Doubles Use of Room.....	89	Quarter Sawing for Beauty.....	124	May Structural Steel Sales Eighty-two Per Cent.....	150
The Bungalowette.....	92	Seeks Safe Window Scaffold.....	124	Paris Plans Portentious Program.....	150
A Spacious Porch Is One of the Most Essential Features of a Home.....	94	Mr. Bowman's Problem.....	124	American Institute Architects Profit by Interesting Meeting.....	152
As Day and Night Divide Work from Leisure so Does This Arrangement of a Home Divide the Working from the Resting Facilities Needed in Every Dwelling Place.....	95	Who Wants a "Grand-Dad" Clock?.....	124	Pompeii Craft Produced Fine Adams Type.....	152
		How to Hang Screen Doors.....	126	Catalogs, Bulletins and Books Received.....	154
		Likes Round House Idea, but Suggests Changes.....	126		

EDITOR'S NOTE—We want and welcome practical, informative articles on any subject of interest to the builder. Men who have special knowledge or such experience that reveals improved methods can find a market for their skill in the AMERICAN BUILDER. Accepted manuscripts will be paid for at regular rates. Turn your time and ability into increased earnings by writing on practical timely subjects for the AMERICAN BUILDER.



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THE Andersen Lumber Company makes nothing but standard White Pine window and door frames.

Thousands of parts are run through a machine set to an exact size. That makes each piece an exact duplicate of all others. The assembled parts form a tight-fitting frame that absolutely excludes weather. There's no tinkering or fitting when assembling Andersen Frames. They fit.

All exposed portions of Andersen Frames are of genuine White Pine. White Pine withstands warping, shrinking, swelling and rotting. Builders prefer it because it remains accurate despite age and weather. That White Pine construction keeps Andersen Frames accurate for all time.

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We have prepared an interesting book on the qualities and economies of Andersen Frames. Upon request, we will gladly send you a copy without charge.

Andersen Lumber Company
Department A-7 South Stillwater, Minn.



T. M.

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Andersen FRAMES

Short Talks by the Editor

Seeing Red

RED is the universally accepted color of danger. "Seeing red" when telegraphed to the mind by the optic nerve is the "S. O. S." warning to look out. No other color so quickly challenges the attention or so completely compels action.

And yet we have long indulged in a senseless contradiction of this universally accepted understanding that red means danger. Attention has been called to this unwarranted reversal of popular acceptance by



RED—Always Means Caution

the American Engineering Standards Committee of New York. At a recent convention, attended by the representatives of practically all industrial and trade associations, attention was directed to the general use of red to mark exits in theaters, hotels, apartment houses and other public and semi-public buildings. Such exits are avenues to safety and to mark them with red is to incorrectly label them. It was suggested that green would be a more fitting and descriptive color for indicating fire exits.

Whether this justifiable criticism will upset a long and erroneous practice remains to be seen, but builders may find a demand for green rather than red lights at exits. It's a matter of education and such a change has in its favor the fundamental fact that good sense commands that the change should be made.



Conspicuous Co-Operation

CEMENT and co-operation have made a conquest which cement alone might have made but most certainly not in the same period of time.

Cement might still be a stranger in the building field were it not for the united efforts and complete co-operation of the various individual concerns interested in the larger and better use of this practical material.

The Portland Cement Association has hastened the coming of the age of cement. Towering skyscrapers, great bridges and viaducts, cross-country concrete highways, huge dams, sidewalks, the common path-

way of the pedestrian, and innumerable small buildings point plainly to the universal acceptance of this material as a standby of the building trade.

Such an achievement is not an overnight attainment. Conspicuous in the causes for the universal use of cement is the scientific research and aggressive educational efforts of the Portland Cement Association. This body has functioned to co-operate and standardize the research work and to disseminate the educational information which has broken down prejudices and built up goodwill. It has put plus on the work of individual manufacturers.

A united purpose and a united effort have accomplished unified results beside which individual effort would have continued in the anemic, striving-but-not-arriving class.

If service is the correct test for an association's right to live, then the cement association has justified itself, for it has performed a large and continuing service of distinctive value to the building industry.



For the Good of the Game

TY COBB says that the game is greater than the player. It's the game that gives the opportunity that makes stars. The individual can never be as important as the institution. "When I am benched by the umpire," says the renowned slugger, "the game goes right on. The cog is never as big as the wheel."

Individual importance is apt to be exaggerated by the individual. And when anyone thinks he is bigger than the rules or superior to the institution his day of reckoning is near.



Teammates Are Necessary to Win Success in the Game of Life.

Success in the building field as well as on the ball field can never be attained by ignoring the rules. It can best be attained by respecting the rules and then playing the game with a stout and earnest heart. That builder who plays fair and strives enthusiastically to serve, in a true spirit of service, the greatest number of clients, will have the greatest number of clients to serve.

Plan To Make Your Town "A City Beautiful"

ZONING REGULATIONS PREVENT LARGE PROPERTY WASTE.
ENCOURAGE HOME BUILDING AND PROTECT INTERESTS OF ALL

SOMEONE has asked, "Does your city keep its gas range in the parlor and its piano in the kitchen?" That is the needless practice of many American cities.

We know what to think of a household in which the undisciplined daughter makes fudge in the parlor, in which her sister leaves soiled clothes in the bathtub, while father throws his muddy shoes on the davenport and little Johnny makes mussy mud pies on the front steps and Jim, when he is home from college, strews cigarette butts all over the breakfast table.

Allowing stores to crowd in at random among dwellings, permitting factories to make dirty and noisy a home district and allowing smelly garages, with automobiles disturbingly arriving and leaving at all hours of the night—these destructive and annoying practices halt building and squelch the home-loving instinct in far too many cities, large and small. They disorganize the municipal household as surely as a careless family upsets a home.

It is this stupid, wasteful jumble which zoning will prevent and gradually correct.

What Is Zoning?

Just what is meant by zoning regulations? Zoning is simply restricting an area to uniform or similar use. It does not discriminate against factories, warehouses or homes. It provides that the various types of buildings shall be confined each to its own area or district. So in the zoned city we have a residential district separate and apart from the industrial district, a business thoroughfare or thoroughfares free from housing—which is immeasurably better for children and women folks, and the "automobile row" is apt to be in one stretch and so removed from homes that there is no element of disturbance because of the noise or odor which they necessarily create.

Zoning is the application of common sense and fairness to the public regulations governing the use of private real estate. It is a definite and honest effort to provide each district or neighborhood with such protection and such liberty as are sensible in that particular district. It gives everyone who lives or does business in a town or city a chance for the reasonable enjoyment of his rights. And it protects every citizen from unreasonable injury by neighbors who put private gain above the general good.

Encourages Home Building

Just and fair regulations which eliminate future risks of property

being greatly depreciated in value by unanticipated encroachments are a guaranty of the future which encourages building. Homes can be built in such cities with full security that there will never be serious financial loss because the locality is made no longer fit for residential purposes.

Suppose you buy land in a neighborhood of homes and erect a cozy little castle of your own. There are two vacant lots just south of the home you are proud to call your own. If your town is zoned no one can put up a large apartment house on those lots, overshadowing your home, stealing your sunshine and spoiling the investment of twenty years' savings. Nor is anyone permitted to erect a noisy, maodorous public garage to keep you awake nights or because of the stench to compel you to sell out for half of the sum you put into your home.

Does Not Halt Progress

And yet the zoned town does not frown on factories, garages, warehouses and public buildings. It provides ample and suitable spaces for all these other valuable and necessary activities. It does the business man a favor by keeping the business district compact, thus permitting his store to get consideration when Milady is down town shopping. It sends factories to the outlying district where property values are less and enough land can be bought for the expansion of future years. Theaters are grouped and can display their attractions to all persons who are amusement bound. Garages are grouped and they thus combine the selling appeal they have and can arrange their facilities to better serve the public and with the knowledge that some future regulations will not banish them from the

WASTE IN CITY BUILDING

Too Many Good Buildings Go to the Dump Every Year Because of Changing Character of Localities





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district with resulting financial loss.

"Live and let live" is a better motto for towns than the savage one of "Dog eat dog."

Saves Senseless Waste

Thru zoning cities save the enormous waste caused by scrapping building in "blighted districts." Good buildings no longer desirable because of their surroundings are often wrecked, if the city or town has no zoning regulation. Court action to compel railroads or factories to abate nuisances are expensive and wasteful and these efforts and costs are saved to property owners where provisions have been made to protect every interest in the city.

Perhaps the most familiar instance of "blight" with its tearing down of good, substantial structures is that in residential districts in which have come sporadic stores, small factories, junk yards and similar destroyers of the home atmosphere. Such inappropriate uses of the district may not have utterly spoiled it, but they cause people to lose confidence and a loss of confidence can start a "run on a bank" or an exodus from a locality that causes property values to totter and tumble. Hundreds hurry to unload their property and the market is seriously upset. Dwellings worth hundreds of thousands and fit to serve the purpose for which they were erected for many years are thrown onto the market and sell for a fraction of their real value, or may be torn down at much expense and loss of money.

The People Pay

In the aggregate such losses are enormous. If all cities have but one yearly instance of premature abandoning of property the loss all over the nation is a tremendous total. This loss and risk are assumed by the people. The people pay for the scarcity of homes which such needless loss causes. The people pay the business man's expense when they buy goods from him and his rent or real estate outlay, which may be excessive, are included in the price ticket. Public improvements, such as water, gas and electric service may have to be entirely re-installed because of a shifting of a residential district caused by encroachments which a sensible zoning provision would have prevented. And the users have to pay for these additional installations.

Proper zoning cuts these losses at their source, just as proper building regulations and fire protection cut fire losses at their source. A home cannot be built

without a plan, neither can a city be well built without a plan. To spare the plan is to make sure future financial waste that is highly wasteful.

A General Problem

This matter of having prescribed areas for the various activities of towns and cities is not a problem peculiar to any particular locality or any special class of cities. Size of the town may multiply the number of instances in which zoning would be a wise measure, but all municipalities have conditions in which zoning would correct abuses.

Before the day of the public garage zoning was aimed chiefly to prevent industrial districts from making residential sections undesirable and was therefore a problem for the town large enough to have a considerable number of factories. But "the city beautiful" idea has become so universally approved, smaller places are

growing so rapidly and the automobile has so affected our manner of living that towns of a few thousand inhabitants as well as large cities seek to protect the interests of their citizens, conserve the future and encourage more home building by proper regulation and designation of districts in which various phases of the town's life may be carried on without disturbance or loss.

Twenty-five states have statutes enabling cities to pass zoning ordinances. Others permit such action under a general home rule provision. In many other states laws are being agitated with such prospects

of success that the day is probably not far distant when every American town and city can prescribe the corrective of reasonable zoning. About 170 cities have zoning laws in practical operation. This number is constantly growing. City, state and federal bodies, notably the U. S. Department of Commerce, are investigating and encouraging zoning regulations because they are convinced that such measures stimulate home building. The United States Government is lending its aid in spreading information and compiling facts on zoning because it's a part of the government's duty to encourage and foster the home.

(EDITOR'S NOTE: Further information on surveys; the scope of a zoning ordinance; getting public support for zoning measures; experiences of cities that have had such laws for years, and other valuable facts, may be had upon application to the Division of Building and Housing, Dept. of Commerce, Washington, D. C.)

REASONABLE ZONING LAWS ARE IN FAVOR BECAUSE

THEY stimulate more home building, because of the protection and security they afford the home owner.

Such laws save the waste of wrecking buildings in "blighted districts."

Smaller cities have availed themselves of rights to zone property to curtail the encroachments of garages rather than because of factory expansion.

Twenty states have empowered municipalities to pass zoning regulations and five states have partial enabling acts.

Zoning is simply the application of common sense and fairness to the public regulations governing the use of private real estate.

Zoning gives everyone who lives or does business in a community a chance for the reasonable enjoyment of his rights.

OUR FRONT COVER HOME

ONE thinker of a past generation expressed a wholesome truth when he said:

"A man has the right to live in a home; not only that, he has the right and society will be better off if it is a beautiful home."

The influence of ideal home surroundings is immeas-

uring in varying forms, in the land of citrus fruits. The rigors of a rainy, snowy climate make impractical elsewhere the flat roofs of California homes, but none of its charms have been lost by practical modifications—in fact, a large percentage will prefer the broad expanse and pleasing lines of the roof.

The circle-head arch over windows and similar treatment at the entrance openings save the design from any suggestion of severe lines. The grouping and position of the windows will appeal to all. Their number and length afford an all-seeing and pleasing outlook for the family then kept indoors.

There is a delightful hint of European architecture, of past centuries, in the wrought iron window balcony.

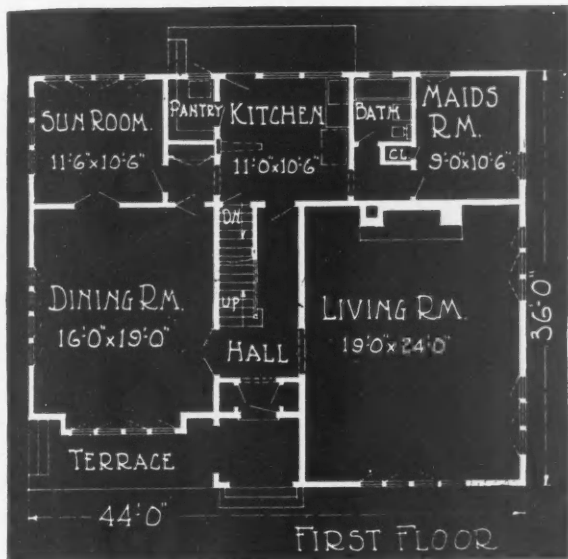
No one could glance at this home without feeling it was well built to last long.

The dining room as well as the living room affords an attractive view, for it, too, is at the front of the house.

Having the maid's room on the first floor permits exclusive occupancy of the upstairs by the family. Three bedrooms, one of which is especially large, 16 by 22½ feet, are commodious in size and so placed as to get the full benefit of light and air.

The use of numerous and low windows in the living room give it some of the advantages of a sun-parlor, but one would scarcely care to wholly sacrifice the possibilities afforded by such a room, so it has been conveniently placed on the side.

Set off, as it is, by carefully kept grounds, this modern home will more than challenge the attention. It will earn the admiration and continue to receive the praise of those who call it home and those who chance to note its lasting charm.



Our Front Cover Home Goes Nicely on a 50-Foot Lot.

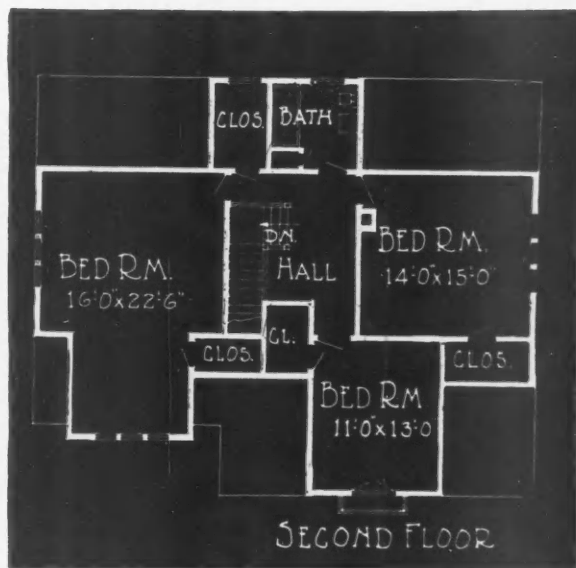
It was agreed, years ago, by military men that the daily shave and strict sanitation bettered the morale of the men. Cleanliness made them better fighters. A bath and a new suit of clothes has changed many a down-and-outer into an up-and-doer. Home influences have molded and made men great.

Isn't it simple sense to realize that home influences will be elevated when the physical surroundings are attractive and uplifting? A commodious, well lighted, pleasant house is a large sector of that happy circle—the congenial family.

Just as constant association with paintings that are inspiring help men to do things so does living in a beautiful home make them better citizens. Good books and good homes make clean minds.

The dignified, substantial home suggested on our cover is one of the type that instills self-respect in the minds of the occupants and betters the position the family holds in the opinion of the community. Its beauty and its permanence reflect credit upon the owner. This residence stamps him as a man of good judgment, shows the family his taste and is evidence they have established themselves for the future and will be a part and parcel of every good work for the improvement of community life.

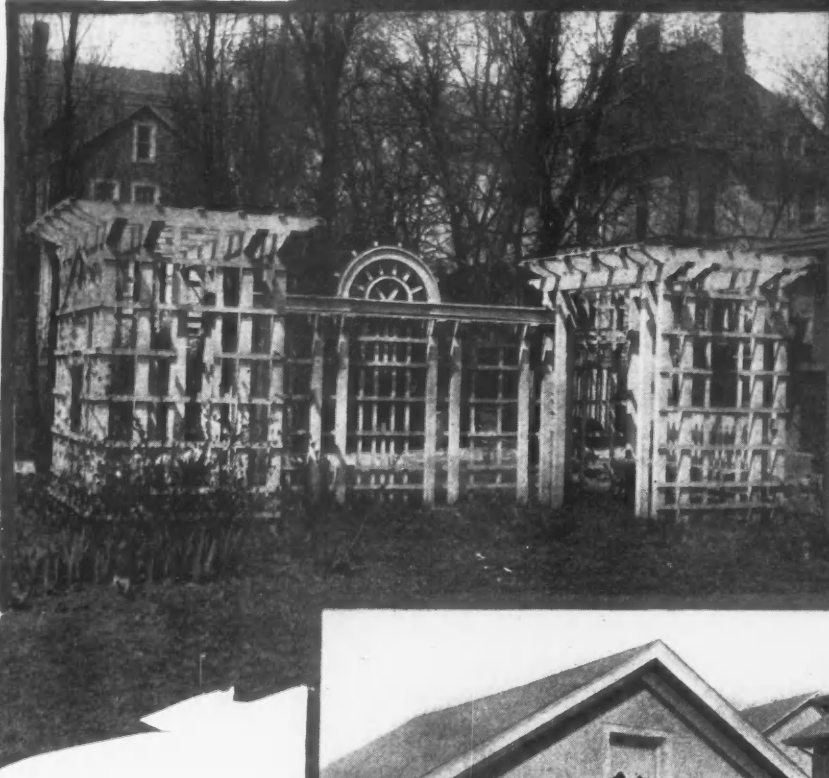
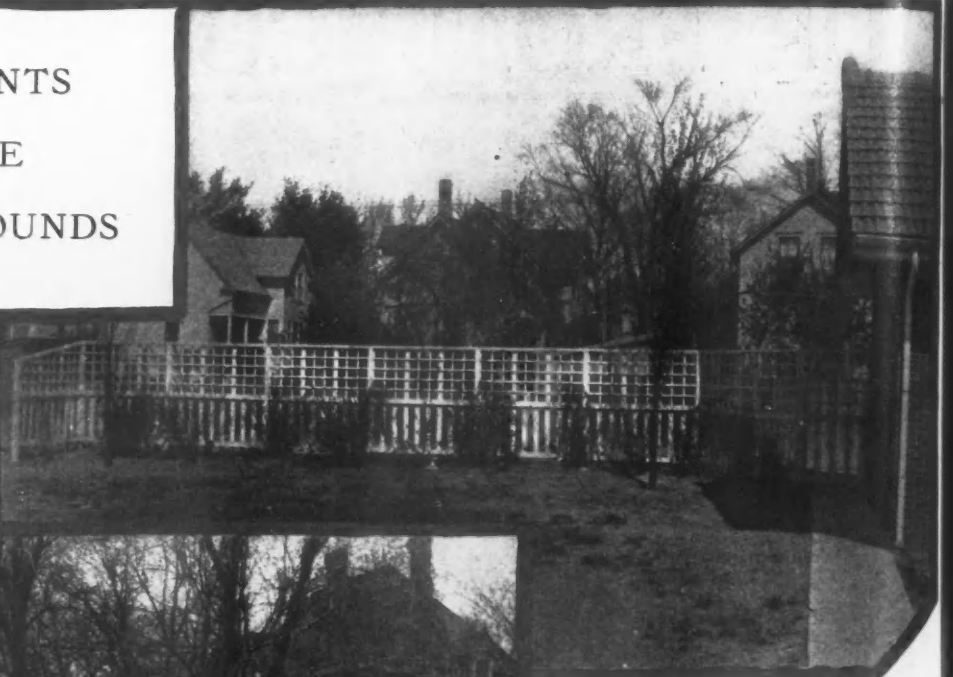
This home is a modified type of the architectural treatment very popular in California. It shows a strong suggestion of the Spanish. The steep pitch of the roof is the only radical departure from the design as used,



Three Bedrooms and Bath Are Provided Upstairs in Our Front Cover Home.

ORNAMENTS FOR THE HOME GROUNDS

FENCES SERVE a Useful Purpose, but at the Same Time They Can Be Attractive. This Simple Construction of Vertical Boards Topped by Square Open Work Is Easily Erected and Always Pleasing.



TWO INVITING NOOKS, Shady and Comfy Are Afforded in the Combined Fencing and Summer House Arrangement at the Left. Sis May Entertain Her Only in One While Dad Finds Solace in His Pipe and Evening Paper in the Other. There's Something Substantial Looking About These Outdoor Rooms, the Square Shape Lending an Appearance of Solidity. Artistically Topped Off by an Overhanging Roof Which, with the Half Circle Gate Crown, Gives the Desired Touch of Beauty.

FLOWERS AND FOLIAGE—Nature's Deft Adornment for the Great Outdoors. And the Lasting, Decorative Fencing Shown Provides the Support Necessary for the Development of Running Vines to Their Fullest Beauty. Even the Garbage Can Drops Its Usual Repulsiveness When Set Off by a Touch of Handiwork of Man and Nature.

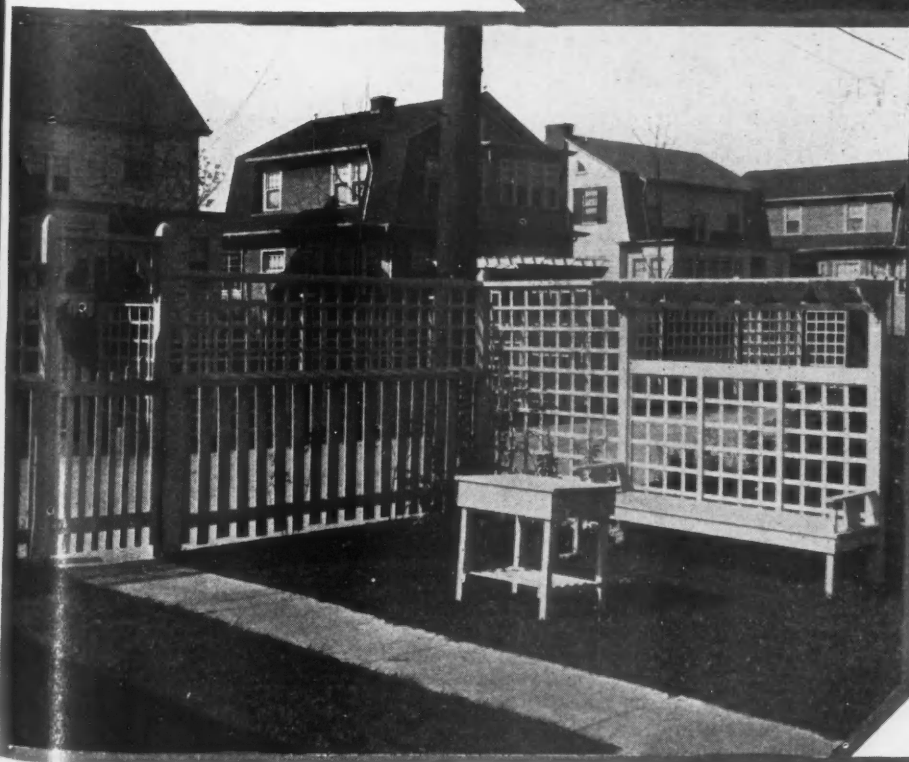
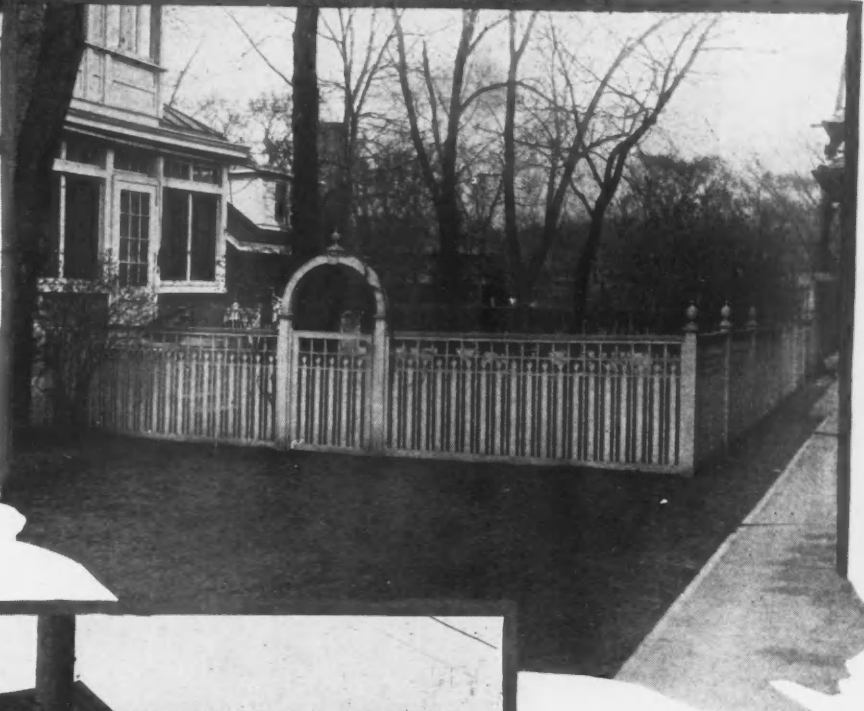




SUMMER HOUSES and Fencing May Be Built at One and the Same Time. These Inviting Retreats Make a Finished Corner Treatment for Fences. There Is Nothing "Fussy" About Such a Frame for the Home Grounds, Yet It Adds Immeasurably to the Appearance and Livability of Any Abode.



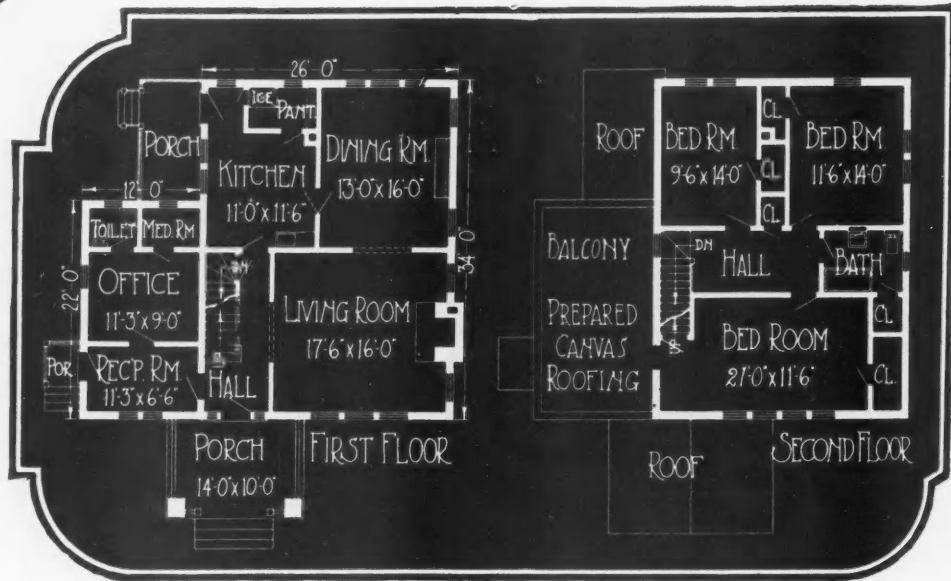
DECORATIVE TURNED TOP PRICES Save Fencing from a Severe, Too-Plain Appearance. They Are Used Here Not Only to Crown the Arch of the Gate and the Larger Posts, but Are Effectively Placed on Each Perpendicular Board. Without These Attractive Caps the Fence Would Be Just a Fence. As It Is It Becomes an Ornament.



WHITE PAINT Seems to Have the Preference as a Finish for Home Ground Ornaments. It Contrasts Delightfully with Green Grass and Every Colored Bloom. The Sheltered Seat Shown Here and a Handy Table for Keeping Magazines or at Which Letters May Be Written Make This a Spot One Can Almost Live in During the Days When Outdoors Beckons and Calls.

BLUE RIBBON HOMES

PRACTICAL
&
ARTISTIC

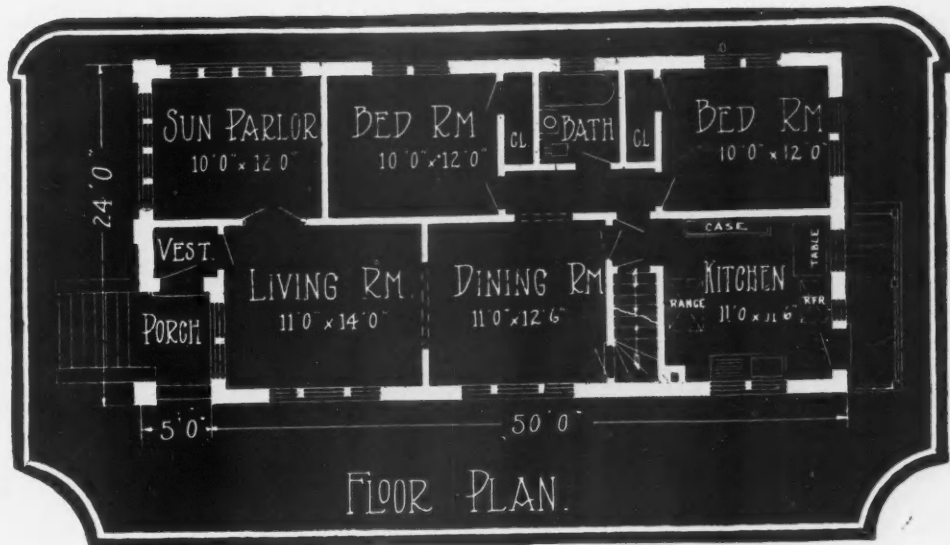


DOCTORS WITH RESIDENCE OFFICES will look with special favor on this design and plan, which is especially arranged to fill the needs of the professional man. It gives an 11-foot 3-inch by 9-foot office with an ample sized reception room while the needed toilet and medicine rooms are also well provided for. If followed for residential use, exclusively, the plan permits a down-stairs bedroom or a den or library. There are three bedrooms above stairs, all conveniently opening onto the hall and close to the bath. And we mistrust that the open porch, with its prepared canvas roofing might be often used as well as the "front porch." The appearance and roominess of this home will appeal to all.

Go
while
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in the

BLUE RIBBON HOMES

PRACTICAL
&
ARTISTIC



GOOD TO LIVE IN AND GOOD TO LIVE IN A LONG TIME, this brick home will please the family that appreciates durability with no sacrifice of the beautiful. An artistic pendant treatment of cut stone adorns the pilasters, while cut stone caps on the porch coping is further simple and admirable adornment. Four sun parlor windows and a flower box make a further appeal to those who want cheerful surroundings. The sun parlor is almost as large as the living room and avoids that cramping too often found in sun rooms. Range, refrigerator and work table are so placed in the kitchen that they are amply lighted and conveniently compact.

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Building Homes To Live In, Not to Sell

CHANGED FINANCIAL SITUATION CAUSES WIDESPREAD ACTIVITY
IN FIELD THAT PROMISES ENDLESS POSSIBILITIES FOR BUILDERS

By Leslie H. Allen

THE MAN IN the street has been greatly puzzled during the last four or five years over the housing situation. It is a mystery to him why rents do not come down when costs of other items have fallen so largely. He cannot understand why the laws of supply and demand have not produced a much larger volume of houses to meet the existing shortage and he has a firm conviction that there is some conspiracy against his housing desires.

It is hard for him to realize that there are other factors besides the law of supply and demand to be considered, and in particular, that the cost of financing and his own attitude of distrust and suspicion have helped to place him in his present predicament.

Making Home-Building a Business

Prior to 1917 the bulk of the supply of small houses was furnished by the so-called "speculative builder" or realtor. He sub-divided land and built houses on it in accordance with his ideas of popular demand and sold these houses much as a manufacturer designs and sells a piano, an automobile or a washing machine.

This business of slow and steady growth was looked upon as a very stable one and the builder had no difficulty in borrowing money at a fairly reasonable rate to finance his business. The loaning of funds for home building was looked upon as a very good investment; it has always been handled by the more conservative investors and bankers. When the cost of everything began to climb, these conservative investors, feeling pretty sure that "what goes up must come down," would not recognize the added *cost* of construction in the *value* of the finished buildings and would only consider loans on the old basis of appraisal.

This has not been an unmixed evil because in the wild fluctuations that ended in the deflation of 1920 and 1921, loans on real estate continued to hold their favorable position as a gilt edged form of investment and no householder lost money, but it did have this temporary drawback, which still operates, that the difficulty of financing speculative building became so great that the builder was for the time being forced out of business or else compelled to curtail his operations so much that very few houses have been built by him; while those who build apartments for rent have had no encouragement to do so at prevailing prices because the public outcry against high rents brings an odium on him that he does not

incur if he buys good bonds or stocks of equal yield.

The long and bitter war between landlord and tenant has thus contributed to the shortage of dwellings as there is little or no encouragement for the building of apartments for speculation or investment if the investor knows that the tenant will consider too high any rent that would show him a reasonable profit on his investment.

Building Costs Lower

The cost of building which rose to its peak in 1920 has now come down very considerably—and, as far as builders, material dealers and architects can foresee, it is likely to remain at its present level or advance slightly. It is still, however, difficult to finance speculative building and so during the last year the head of the family, tired of continual rent raisings and influenced by the large amount of information disseminated thru the press and other channels on the advantages and possibilities of owning a home has been making up his mind that he will build his own home.

The present activity in suburban building, therefore, is due principally to contract building, that is, thru



The Mason's Trowel and the Carpenter's Hammer Are Busy Tools in These Active Building Days.

builders contracting with individual home owners to build houses for them rather than speculative building to suit a possible market.

Individuals Interested

This is arousing a much greater interest on the part of the individual in all the details of constructing, equipping, planning and financing his home. The purchaser of a custom built automobile takes a much greater interest in all the items that go into the building of his car because he can decide all the details for himself and so the individual home builder today is choosing for himself how his house will be planned, of what materials it will be built and how it shall be equipped.

The home builder is studying these details for the first time and learning thru the trade magazine and daily press, by local exhibitions and by consulting local dealers, all the best and newest methods of house construction.

Of interest is the growing use of permanent materials. The wise home builder prefers to pay the very small additional sum, usually between three per cent and seven per cent for permanent, fireproof construction rather than for materials that will decay, disintegrate and deteriorate rapidly. It has been found that the life of a poorly built structure of perishable materials is seldom more than 30 to 35 years, while the life of a house of permanent fireproof, decay-proof, maintenance-free materials should be not less than 100 years. This is always recognized by loaning institutions; the security for loans is much greater. The use of permanent

materials rarely calls for a larger additional down payment as the amount that can be secured on first mortgage is larger.

More than mere prosperity in the building trade is involved in the present revival in home building. While the shortage of homes has accumulated to a figure of over a million dwellings, the furniture business has had its market reduced by the amount of furniture that would have gone into these homes. Electrical supply men and piano and carpet makers have felt the same pinch. The present activity in building will divert a stream of money back into its old channels with a result of not only greater true prosperity but more

comfort, happiness and contentment all around. For the stocks and bonds have their uses and automobiles have their attractions, they have no cozy fireplaces, no breakfast nooks, no sleeping porches and no gardens to bring joy and satisfaction like that which comes to the owner of a home.

A more general appreciation of the opportunity for home building afforded those who have only a portion of the money needed to "pay in full" is a factor in increased building thru private enterprise and homes planned and built to order.

The money market has "eased up" and those who own lots or have partial funds available are not only aided, but encouraged to build by banks and building and loan societies.

All conditions are favorable for building. And no enterprise affords a citizen greater happiness.



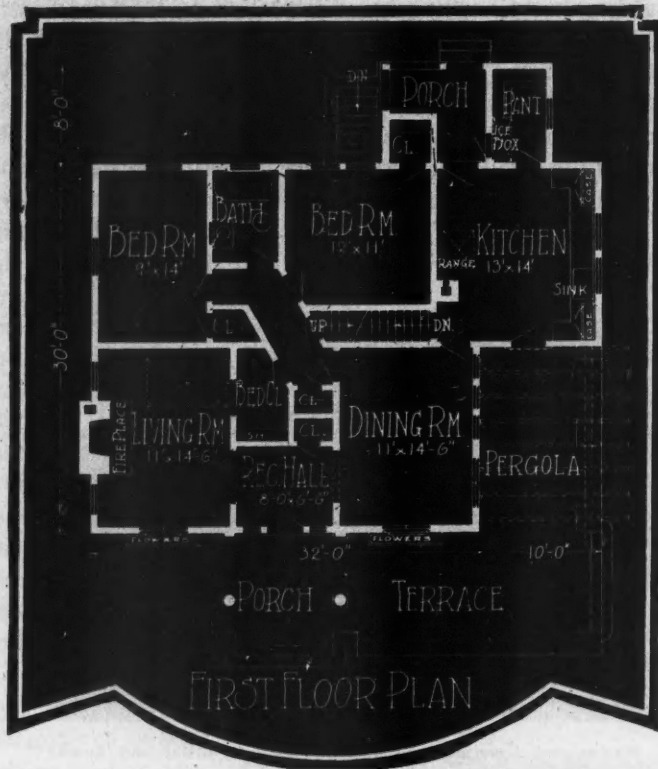
Homes and Apartments Are Being Built in Cities and Towns the Country Over.



As Far as the Eye Can See There Are New Homes of Permanent Materials.

BLUE RIBBON HOMES

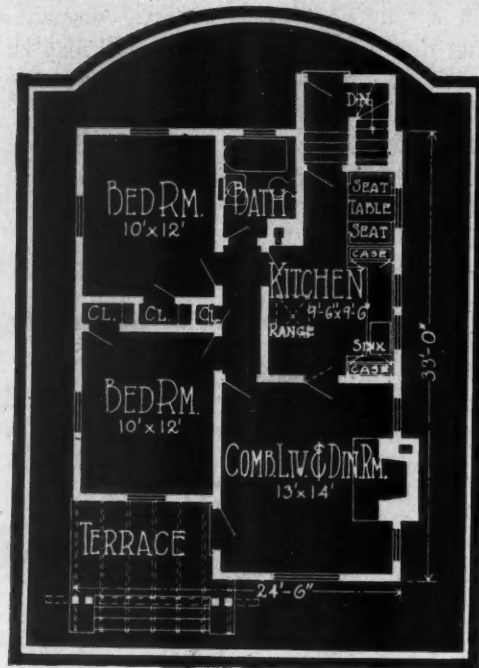
PRACTICAL
&
ARTISTIC



INDOORS AND OUT THIS IS A HOME. What could be more popular than this well shaded, yet open, side porch? It is away from the public's gaze and looks out on a landscape that is well kept and therefore beautiful. The entrance, too, is attractive because of its substantial simplicity. No eye could miss or fail to admire the dormer windows. The living room, dining room and pergola porch open into each other, while the bedrooms are so placed as to avoid the noises of the streets. The accessibility of the icebox and pantry is another commendable feature.

BLUE RIBBON HOMES

PRACTICAL
&
ARTISTIC



THIS LITTLE LOVE NEST should make any bride a happy home-maker. And should the family requirements call for an additional bedroom it is ready. The combination living and dining room make possible the extra sleeping quarters when company comes or if the family grows, as families have a way of doing. The porch has a pergola roof and surely there is no fairer canopy effect than that which can be achieved with green, growing vines. Its compactness saves building expense and saves wasted work when busy days make every moment precious.

Compact Home Sure to Please House Wife

CONVENIENT, STEP-SAVING FEATURES CONSERVE HEALTH AND PROMOTE HAPPINESS OF THE LADY OF THE HOUSE

SOME fiend for statistics has figured out that the aggregate weight strain on a pair of feet every day reaches the staggering total of eighty tons.

And if you want to disregard statistics and ask the wife for an estimate at the end of a hard day she might be inclined to guess it totals eight hundred tons. And while her figures would be faulty, her idea would be close to facts. The constant pound, pound, pound of continued walking and the back-breaking strain of "being on my feet all day" constitute a real problem for the home-keeper.

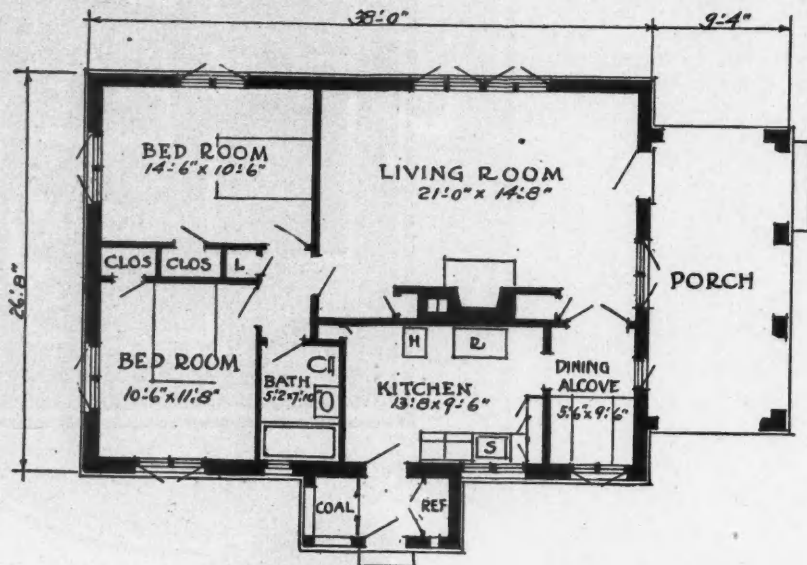
A Fact Not a Fad

Common sense is the bridge over the chasm of needless wear and tear on the human body thru excessive walking and standing. Expansive kitchens have lost their popularity just along with high ceilings. Close, compact rooms that assure maximum convenience are not a fad. They have won general preference because they help materially to solve the problem of needless walking. Saving thousands of steps for the housewife hasn't the semblance of a fad. It savors of sound sense. It explains the wholesome demand for smaller, better arranged, less expansive dwellings.

The demand for compact and efficiently arranged small homes stands out like a high peak on the building landscape.

The practical and whole-hearted way in which architects, contractors and dealers have co-operated so that demand may be fully satisfied is only another example of the progress which the building profession and trade is making.

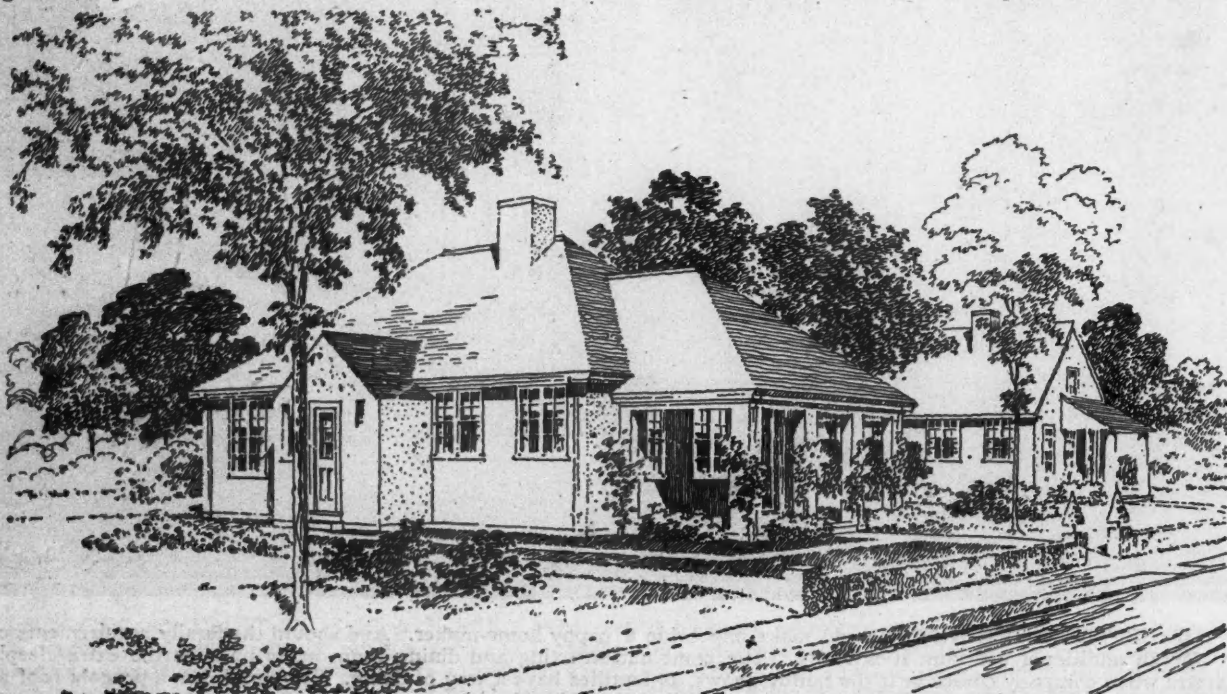
An interesting example of a four-room home that has all the advantages of a compact and modern city



Needless Walking Eliminated with No Sacrifice of Home-Like Appearance.

apartment is shown here. A knowledge of woman's work and the things she seeks in her workshop—the home, is evident in the planning of this splendid little residence.

Not only are the rooms arranged most conveniently,



Concrete Cottage Built to Resist Fire and to Lighten the Load of the Home-Keeper.

but the house has a stamp of being a home, in its true sense, when it is first seen from the exterior. The house is built of concrete blocks coated with portland cement stucco. The roof is well proportioned and has an artistic, substantial air often sadly lacking in the flat pitched bungalows which are numerous.

Need for Cellar

One of the economies of this home is the saving of any expense in digging a cellar. Hot water heat for the whole house has been provided by a modern heating plant located in the kitchen.

A sink and two laundry tubs are placed in the kitchen, yet there is plenty of room left along the side wall for such modern conveniences as an electric dish washer and washing machine. The level top of the laundry tubs can be used as an additional table adjoining the sink. A small closet for brooms will please any woman. With the fuel room located in the rear entry it is unnecessary to leave the shelter of the house for fuel on stormy days.

A Livable Living Room

The living room, as pointed out by the Concrete Builder, which considers this house an unusually commendable example of compact building, is spacious and well lighted. A delightful open fireplace is a pleasing feature. Then there are two convenient closets for outer garments, golf bags, umbrellas and other things that must be stored away but at the same time should be kept "handy by." The roomy porch running across the front of the house can be screened or glazed in if it is desired.

A large bedroom and a smaller guest room are located at the rear of the house and as they have cross ventilation they are comfortable even on torrid nights.

The housewife is subjected to no needless steps in passing thru other rooms or in crossing long rooms in the countless trips she must make from kitchen to dining room. A dining alcove is located within arm's reach of the kitchen and yet it can be shut off entirely from the living room and the kitchen. Double doors between the living room and kitchen minimize the annoyance of cooking odors permeating the whole house.

Room for Growth of Families

While this "little jewel in concrete" is small, it is not cramped. Should the family outgrow its present facilities there would be no difficulty in arranging one or two bedrooms in the attic. A stairway to them could be arranged at the end wall of the living room.

The Concrete Builder notes that this house can be made fire-safe if the owners will use fire-resistive cement—asbestos shingles or concrete roofing tile for the roof. The walls and floors are fire resistive. And this feature also saves considerable maintenance expense for decorating.

Ideal for Resorts

While the fire-safe home, built to save needless steps, is in favor in city or town, it also possesses qualities which particularly commend it for resorts and those localities where fire protection is regrettably unknown. Concrete block and fire-safe roof construction are important fire protection and eliminate heavy insurance charges.

Home is something more than a mere shelter. Home is the place where greatest happiness should be found. Making a house a home for the mother causes recognition of the importance of making it so convenient and compact that her time and health are conserved and her happiness is thus materially enhanced.

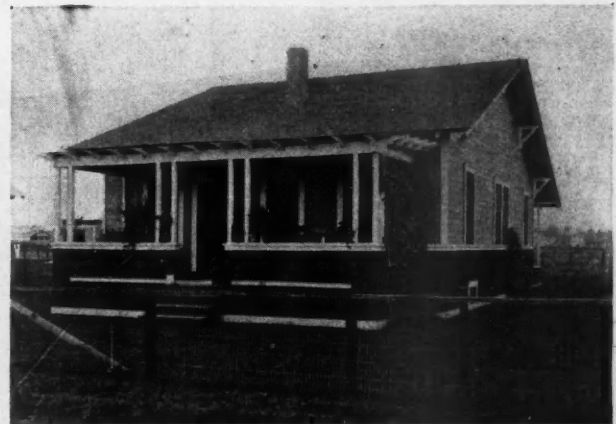


Roomy Verandas and Compact Homes

NO sacrifice of the convenience of a spacious front porch need be made when building the compact home. Oftentimes the usefulness of a large home is impaired, without any sufficient cause, by small porches.

Forethought in laying out the small home will permit a veranda which may have a sweep of two rooms and, at any event, a veranda that is as wide as the house.

Here is a modest home of moderate cost with a veranda larger than that found on many seven to ten-room houses. Judicious use of the available space made it possible.



Compact Houses Permit Commodious Verandas

And it is worth while to plan for the porch. Several months a year, in most climates, it supplants the living room in actual use. No one questions the pleasure of a living room big enough to accommodate the family and callers. And a porch should be similarly sizeable.

There is practically no increase in cost in having the porch a few feet larger.

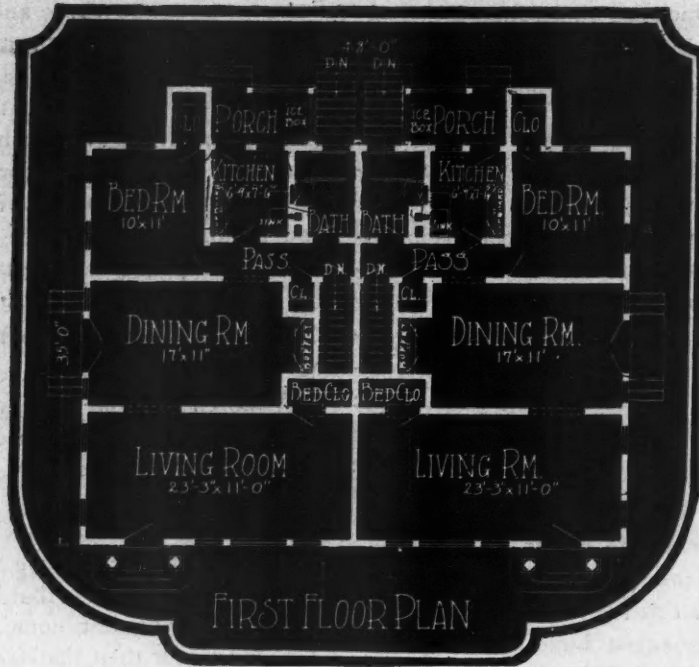
There is immense increase in satisfaction if it is not stinted.



UNLESS a man would rather have a stack of rent receipts to look at rather than a home of his own to live in, it won't be very difficult to convert him to the "Own Your Own Home" idea.

BLUE RIBBON HOMES

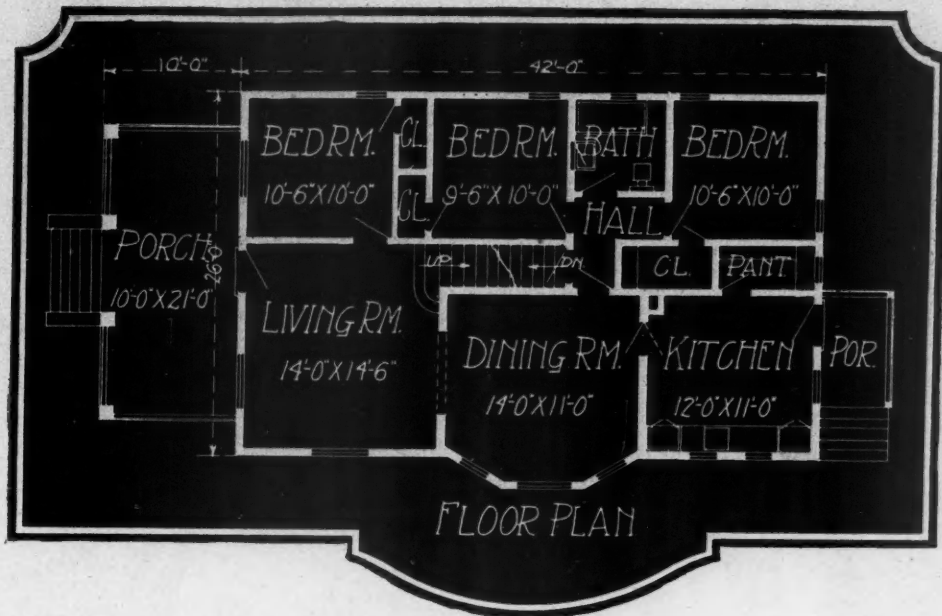
PRACTICAL & ARTISTIC



A DOUBLE HOME with each side neatly compact is shown here. By using disappearing beds each apartment has the conveniences of two bedrooms as well as a living and dining room and kitchen. It will be noted that the living room not only has the advantage of a triple front window, but two side windows as well. While there is no pretentious front porch any lack is compensated in the rear porch. The dining room is larger—17 by 11 feet—than that sometimes found in larger homes. Two small families, who are friends and whose means may be limited, could advantageously build this home jointly.

BLUE RIBBON HOMES

PRACTICAL & ARTISTIC



IF CAPITAL IS TO BE CONSERVED this home will meet the requirements excellently. While all frills are dispensed with there is no stinting the livability of the place. It has three bedrooms which should provide for a family larger than the average. The dining room and living room could be used as one room should the neighbors and friends come in for an evening. The spacious porch with its substantial looking pillars adds value. The bay window treatment for the dining room is another added touch that will appeal to anyone.



Someone Has Said That Sun Porches Are Not Made to Sit in so Much as They Are to Look Out from. This Splendid Example of an Ideal Sun Parlor Answers Both Desires. It Is Hastily Furnished and the View Afforded Is That of Nature at Her Best. It Is Bestful to Relax in Its Inviting Cushioned Chairs; It Is Refreshing to Look Out Upon the Landscape, Framed, by a Well Placed Window as if Some Master Painter Had Made and Framed a Beautiful Scene. In Planning the Home It Is Important to Have the Sun Parlor Face in a Way That Capitalizes the Most Attractive View.

Fold-Away Furniture Doubles Use of Room

THE modern woman is no longer a slave to her home. The phrase, "Man works from sun to sun but a woman's work is never done," belongs to a past generation. Hours of labor have been shortened. Time for rest and recreation have been increased for all workers.

Woman has kept pace with the trend of the times and she demands and should have more time for club, church and charity activities and more time and opportunity to do her marketing economically and with increased leeway to enjoy en-

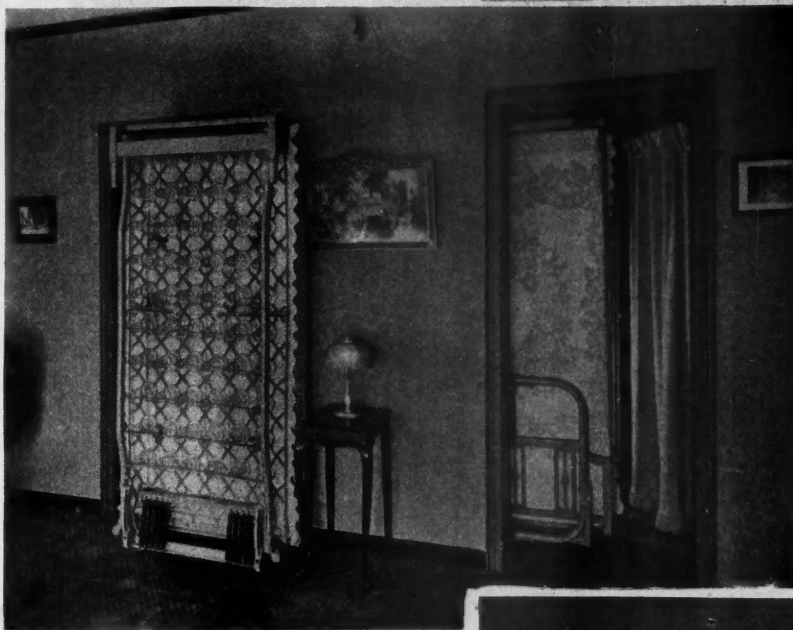


Roomy and Inviting as a Living Room.

While disappearing furniture was first designed for the city apartment it is now in use in homes and in smaller communities as well as in the large centers.

Contractors, architects and manufacturers have united their efforts and co-operated in their study of the problem with such earnestness that in price and utility closet beds, bed-davenport, bed-library tables, etc., are universally popular.

When the plans are drawn is the time to decide upon and work in these space-saving features.



A View of the Beds Folded When the Doors Shown Above Are Opened.

tainment offerings.

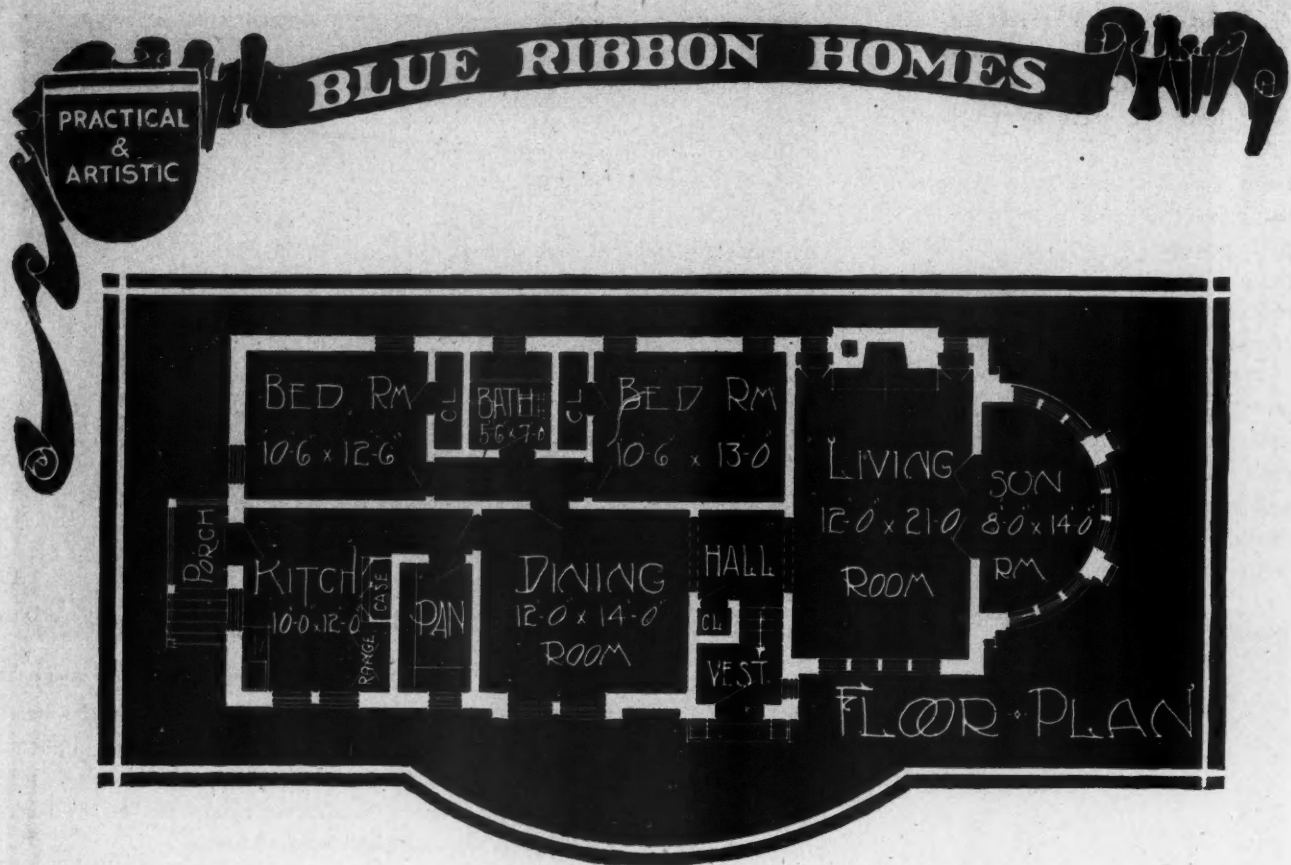
One of the reasons why disappearing furniture is in popular favor is its advantages in lessening the number of rooms that must be cleaned, "straightened up" and curtained, etc., by woman's hands.

When one room does double duty there is one less room for the woman to wash curtains for, one less room for her to sweep and dust, one less floor space to be cleaned and polished.

From the owner's viewpoint fold-away furniture saves valuable ground space. From the occupant's viewpoint it reduces rent and greatly conserves labor efforts.



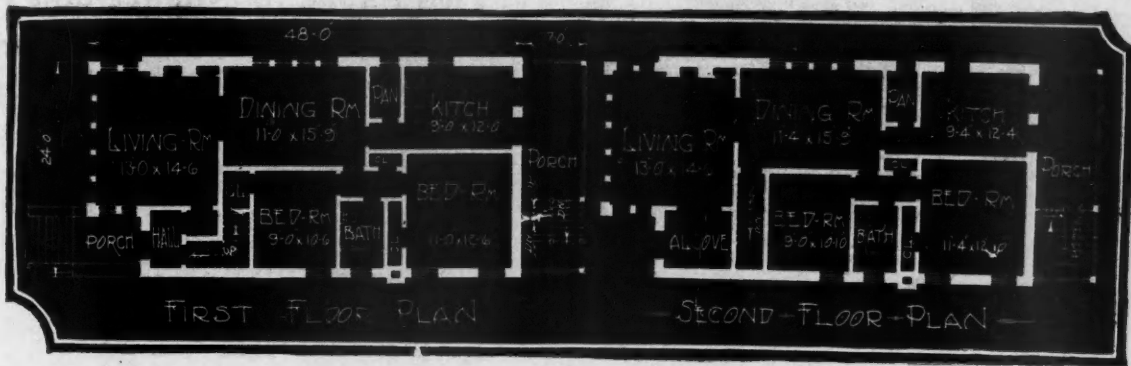
The Same Room. All Ready for the Slumberland Journey.



SUBSTANTIALLY BEAUTIFUL this home of brick with tile roofing not only pleases at first glance, but critical examination will impress the observer with these qualities: It is durable, fire-safe, artistically designed and roomy. Imagine a living room 21 feet across amplified with a sun parlor with an 8 by 14-foot floor space! And the design of the sun parlor adds so much to the exterior appearance. The sweeping lines of a round room save a home from the appearance of plainness. The pantry is conveniently located between the living and dining room, and the bathroom is so placed that it is directly accessible from each bedroom.

BLUE RIBBON HOMES

PRACTICAL & ARTISTIC

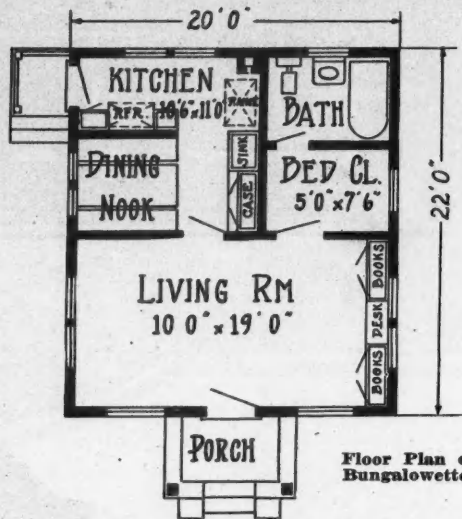


ANOTHER BRICK HOME FOR CITY FOLKS. A combination living room and sun parlor afford a spacious place for the idle hours of the family. The dining room gets the benefit of three good windows besides the illumination which reaches it from the sun parlor, which is far more windows than walls. An appreciated feature of the second floor plan is the alcove off the living room, this inviting nook being possible thru the saving of entrance space. Several deft touches of substantial beauty have been given the exterior front by tasteful use of header brick courses and cut stone.

The Bungalowette



Two Pages of Suggestions for Those Who *Must Have A Home* However Small and Modest



Floor Plan of Bungalowette.

JUST 22 feet long, this bungalowette is a home that many a woman would speak of as "just a darling."

It is designed for a family of two and meets the needs of a newly married pair, or older folks, whose children now have homes of their own or two sisters or brothers might find it an ideal place in which to enjoy home life.

And how suited it is for two business women! No trouble to work outside and keep up the home when it is so compactly arranged as this one is.

A feature of the living room is the built-in desk between the built-in bookcases. It is such touches as these that lift the abode out of the house class into the home class.

And note the roominess of the living room. It is

19 feet across and 10 feet deep—big enough, surely, for two people and such company as they might entertain.

No Heavy Furniture Expense

The money which would be saved on buying furniture in this bungalowette would make a substantial payment on such a modestly priced home. A table, daven-



Resources Need Not Be Large to Build This Bungalowette. It Makes an Ideal Home for Two People Who Would Have Ample Time for Outside Work as Housekeeping Tasks Are Reduced to a Small Minimum.

port and chair complete the living room furniture, while the dining nook requires no portable furniture investment, and in the bed-closet a dressing table or wardrobe will suffice.

The bed swings out of sight in the daytime, with the bed clothes also concealed. When slumber time comes the door is swung around and the bed is dropped onto the living room floor.

Well Lighted and Ventilated

Note that the bed closet is well lighted and ventilated. Too often these nooks are dark and stuffy.

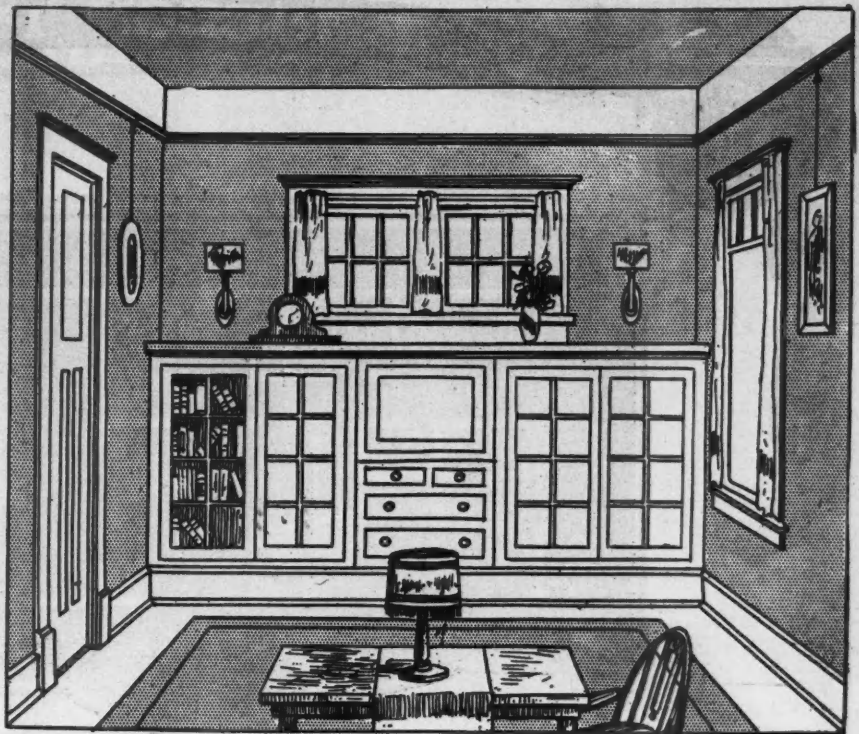
A wall closet for china with a built-in refrigerator is decidedly convenient in the dining nook kitchen. The seat backs in the nook are high enough to shut off any view of the kitchen equipment.

If company comes, covers may be spread in the living room, but the breakfast nook is large enough for the regular occupants of this bungalowette.

There is no stinting of light in this appealing little home. Four double windows make bright the living room. There are two windows directly over the breakfast nook and light and air reach the kitchen from a door and two windows.

Trellises have been provided for vines so that nature can add a touch of beauty to the place.

The porch is large enough and has a well built look.



No Need for Much Additional Furniture. The Built-In Desk Is Between the Book Cases.

It is indeed a cozy, comfortable, convenient home.



Grade Marking Plan Approved by Southern Pine Association

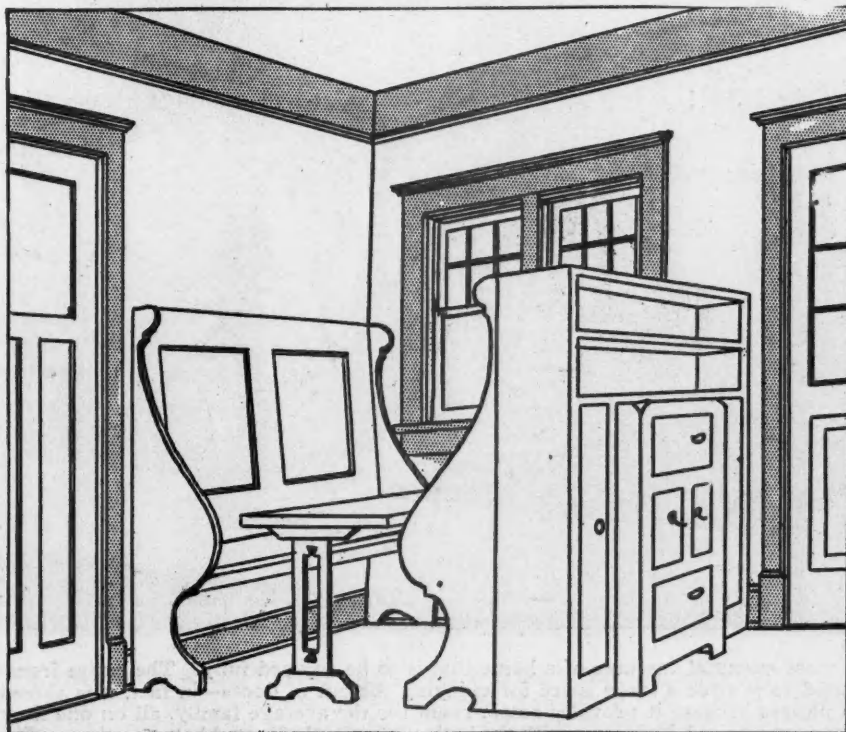
RESPONSES to a questionnaire sent out by the Southern Pine Association indicate that considerably more than 50 per cent of its members, both in number and total production, are willing to grade mark their lumber.

At the last annual meeting it was decided that "when 50 per cent of the subscribers shall indicate their willingness to join in a grade-marking practice the directors shall authorize the issuance of a list showing the number assigned to each mill and furnish such lists to all buyers of lumber."

Secretary Rhodes announced that a committee has been appointed to work out the details of the grade-marking plan and to supervise the actual adoption of the plan.

Investigation is being made of mechanical devices for grade marking.

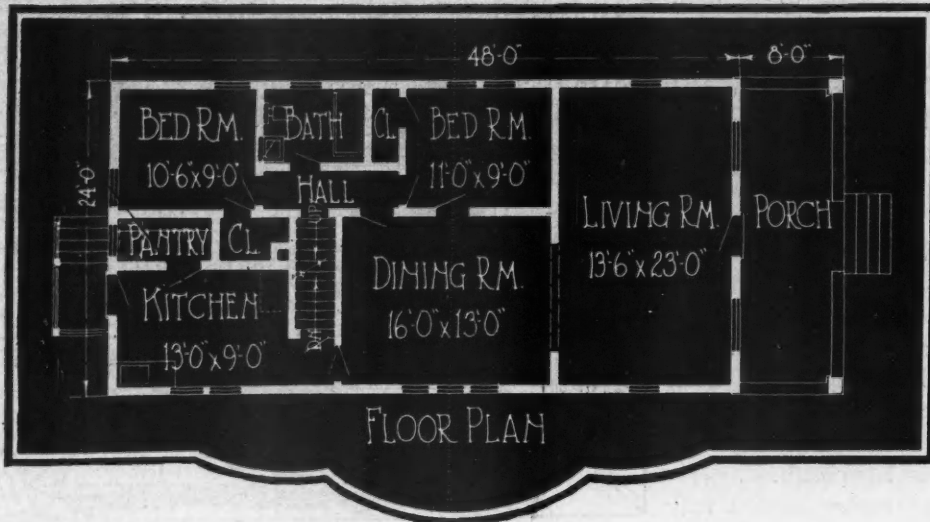
The United States Department of Commerce has taken an active interest in encouraging the grade-marking of lumber and regards all efforts tending towards standardization as of benefit to the trade and the consumer as well.



A Dining Nook That Shuts Off Any View of the Kitchen Equipment. Handy By Is a Built-In Icebox.

BLUE RIBBON HOMES

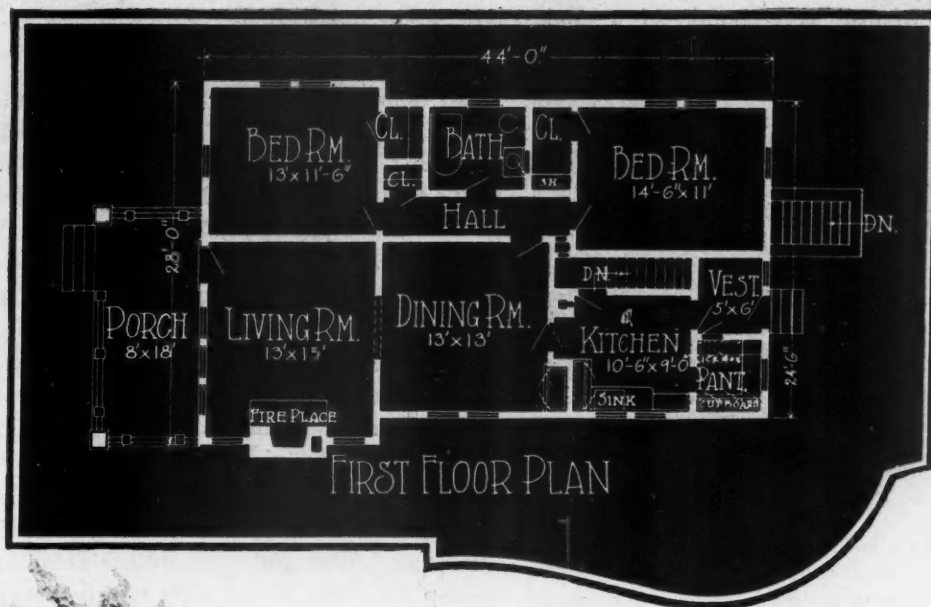
PRACTICAL & ARTISTIC



A SPACIOUS PORCH is one of the most essential features of a home that is to be enjoyed fully. The entire frontage of this cozy five-room abode is used to provide a large space for enjoying the out of doors—in fact, it is almost a double porch. Within doors the design pleases because it provides ample room for the average family, all on one floor and still without cramping. There are two good sized bedrooms with the bath conveniently located between them. The handy pantry and a closet for storing rooms, ironing board and other accessories of house keeping will please any woman. Ample openings for an abundance of light have been provided.

BLUE RIBBON HOMES

PRACTICAL
&
ARTISTIC



AS DAY AND NIGHT DIVIDE WORK FROM LEISURE so does this arrangement of a home divide the working from the resting facilities needed in every dwelling place. The sleeping rooms are on one side of the house, the rooms most used are on the other side. Kitchen, pantry and dining room are so closely arranged that the housekeeper is saved many needless steps. The living room has the always wanted fireplace and there is a very convenient vestibule where wraps, rubbers, etc., may be kept by the family, which usually shows an inclination to use the rear entrance. This design combines the practical with the attractive in a most satisfactory manner.

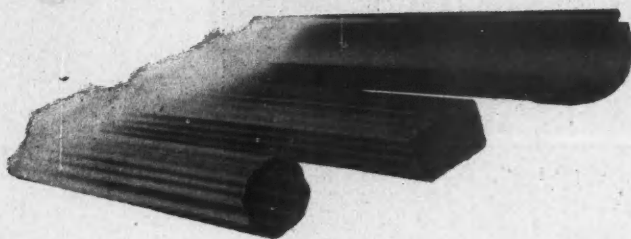
Adaptability of Zinc to Spouting Service

DURABILITY, ATTRACTIVENESS, FREEDOM FROM STAIN ARE QUALITIES THAT ENCOURAGE NEW USE OF ZINC IN SPOUTING

By C. A. Stedman

TODAY is important in its relation to tomorrow. If the span of man were confined to a single cycle of the clock all thought of permanence and durability could be cast to the winds.

Man could not be interested in the economical value of a product if the first sunset was also the last. But, happily, life is made up not of today but of today and an unending succession of tomorrows.



Gutter Pipe and Usual Shapes of Leader Pipe.

Buildings are not born to blush unseen and waste their usefulness on overnight occupancy. Just the suggestion of a building is associated with the thought of continuing service. If we built just for today, paper might answer the purpose. But because we build

for tomorrow, the most enduring materials and none others will suffice.

Permanence and Purposes

No home builder need be urged to build for long service. "Will it last?" and "How is that going to stand up?" are on the first page of the primer of every man's education in home building. The shortest route to an owner's pocket-book, in considering what material to use, is to convince the custodian of the check-book that your recommendation is fixed on the sure foundation of permanence.

And yet how easily we are led away. The unknown and unproven often rout the tried and the true. That's so, simply because the tried and the true haven't been given a fair chance.

Our disposition to go wrong increases as the question becomes of minor importance. Major matters challenge caution and care. Minor details are allowed to slip by. One of the most effective ways in which a builder can add to his prestige and reputation is in the exercise of sound judgment and extreme care in little things. Big successes are composed of many small achievements.

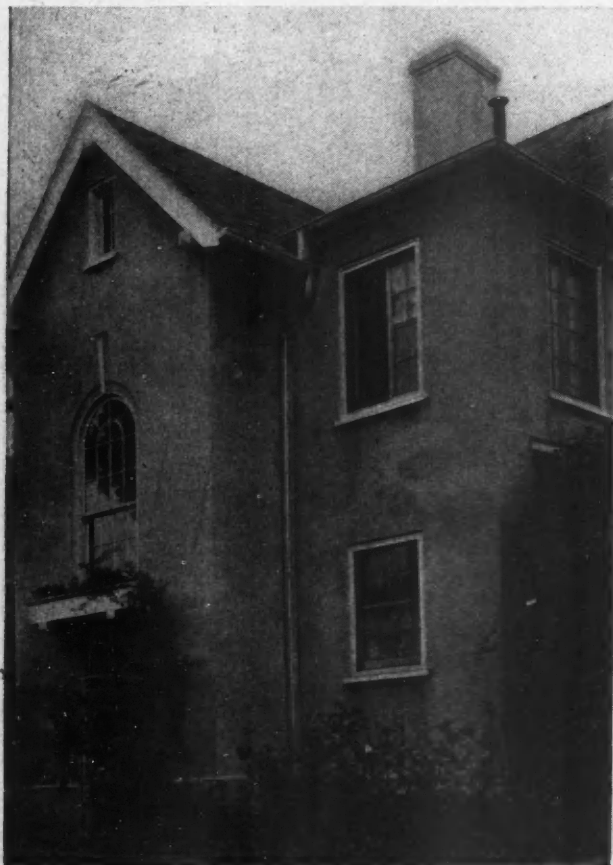
Such comparatively small concerns as the durability of eaves troughing and conductor pipe loom large when considered over a term of years. So we find alert contractors greatly interested in the tendency to consider rolled zinc for the manufacture of leaders, gutters and spouting as well as for shingles and architectural trim.

Zinc Covers Country

Recent adaptation of this material for building purposes has prompted the question "If zinc is practical for spouting purposes, why hasn't it been extensively used in the past?"

And the answer seems to be that it has. But in Europe rather than in this country. In France, England, Germany and Belgium zinc is universally accepted for leader pipes, eaves-troughs and fittings. Zinc has been so generally used for roofing in these countries that one foreign workman said: "The country I call home is covered with a blanket of zinc. Thrift has prompted its use. Durability and economy make it the common material for roofing and eaves-troughing."

This century-tried material is now available in a quality distinctively better than that commonly used in Europe in the past. The quality used abroad was more brittle, less ductile and required the making of accessories by hand. Necessarily the hand made article was far more expensive in first cost than that automatically turned out by machinery. But regard-



A Modern Home with Modern Zinc Spouting.

less of the more costly manufacturing methods, Europeans recognized the merits of zinc and for generations used it in spouting and roofing.

More than twelve years ago some experimental work in manufacturing zinc eaves-trough and conductor pipe was undertaken in the United States. But the efforts failed of success because the grades of rolled zinc available were not suitable for the purpose. But today rolled zinc free from excessive brittleness and stiffness may be had. Processes have been devised to make by automatic machinery the fittings that once had to be made by hand. Thus the problems of workability and economy have been successfully met.

Rust Put to Rout

Out of the emergencies of the war has come a commercially rolled zinc that can be formed, bent, crimped and lock-seamed with ease; and these processes can be handled by machinery which sharply-cuts down costs. The present type of zinc solves various problems for roofers, architects, contractors and consumers because it places an unusually durable material at their disposal at a comparatively low cost.

"What are the chief characteristics of zinc spouting?"

"What does it do better than other materials?"

"Why should I specify it or buy it?"

Natural questions and perfectly proper ones too. The chief distinguishing feature of zinc is that it does not rust. Freedom from deterioration and long life are the advantages of its non-rusting nature. Durability, then is an important consideration and especially when it is considered that upon aging zinc oxidizes producing a coating which automatically protects the material against deterioration.

Aged zinc is silvery gray in color. This tint is pleasing to nearly every eye. A New York architect notes that this color blends admirably with any finish used and the color is recognized to have vast possibilities in the way of decoration.

But paint is not required for protective purposes. Those who prefer some color other than the natural hue of zinc are not, however, confronted with any peculiar painting problem if zinc spouting is used.

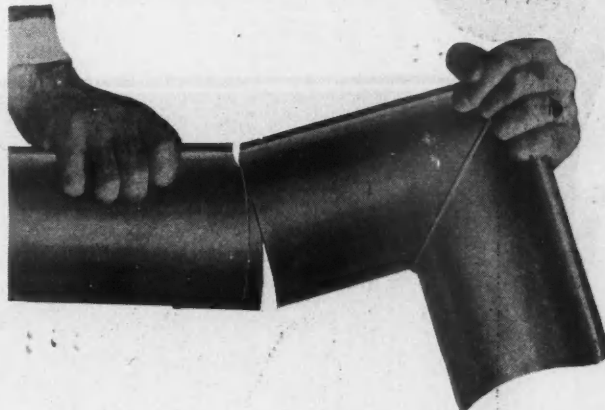
"It lasts a lifetime" is the claim of the zinc enthusiast. And to prove the claim attention is directed to buildings erected in Belgium in 1811 to 1830 that retain the original rolled zinc spouting. It is said that pure zinc spouting will easily last from 25 to 50 years without expensive periodic replacements and without the need of frequent painting.

Ugly Stains Unknown

Another important quality associated with this type of spouting material, a quality which will have a large appeal with everyone who wishes to see a beautiful building remain beautiful, is the quality of freedom from stain. Zinc does not stain stucco or other white

surface with which it comes in contact. This is true because the salts of zinc are white.

Naturally a material with the distinctive qualities of zinc must be handled with methods that are distinctive from those commonly followed. But the "dos and



Expansion Slip-Easy Joint Allows for Contraction and Expansion.

don'ts" which the worker in zinc must master are neither numerous nor complex. Simple precautions must be heeded and elementary rules must be followed. The contractor quickly understands the regulations and easily follows them.

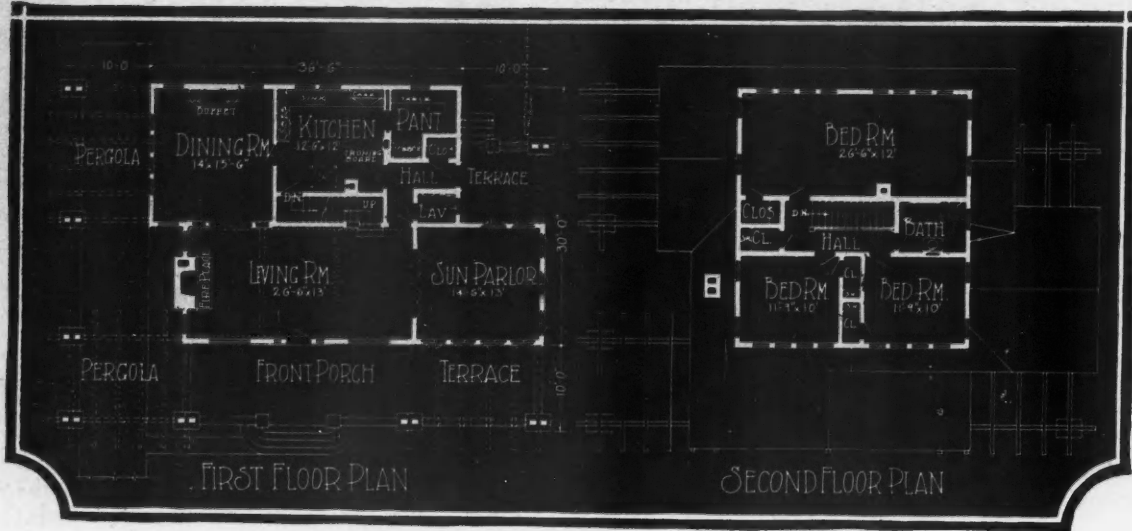
Because we build for an unending succession of tomorrows, thoughtful persons will give full investigation and thoro consideration to zinc spouting.



Zinc Looks Substantial and Proves to Be Long Lasting.

BLUE RIBBON HOMES

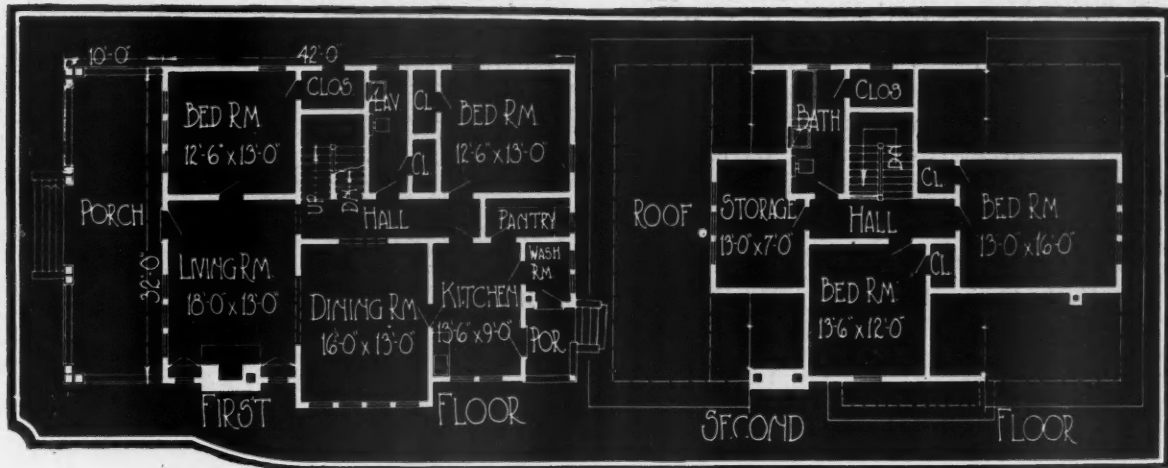
PRACTICAL
&
ARTISTIC



THIS TYPE OF HOME IS VERY POPULAR IN CALIFORNIA and other western localities. One sees in it the influence of Japanese architecture the peaked roofs over porch and the house proper having a suggestion of the Oriental. The arrangement of windows across the second floor enhances the attractiveness of this home. It is plain to see that it is designed for a climate where flowers bloom profusely and for long seasons. The double pergola at one side of the home and two terraces on the opposite side are delightful in themselves but never quite so pretty as when covered with creeping vines and colorful flowers.

BLUE RIBBON HOMES

PRACTICAL & ARTISTIC



THE BUNGALOW TYPE WITH TWO STORIES meets the needs of those who admire bungalow homes—and that's just about everyone—and permits this style of building for larger families. There are four bedrooms in this design, altho the house hasn't any overgrown appearance. The whole family will spend a liberal portion of possible hours on the big roomy porch which has a sweep of 32 feet and 10 feet wide. Of course there is a fireplace and built-in bookcases in the living room. The storage room above stairs is a feature that is a real advantage. A conveniently placed washroom off the rear porch saves steps and toil.

DESIGN of SAFE CONSTRUCTION

By J. F. Mangold

Associate Professor of Mechanics, Armour Institute

Elements of Reinforced Concrete Design

IN the design of structures, our analysis of forces depends on what is called the Free Body Method. The principle involved in this method may be stated as follows: Any structure, whether it be a beam, a bridge or a building, must be in equilibrium under the action of the forces acting on it. These forces are the loads, or pressures, and the supports

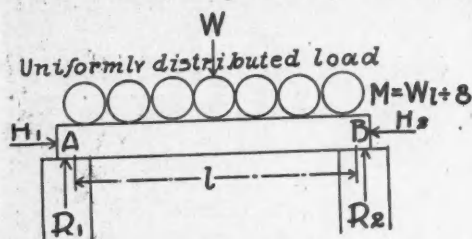


Fig. 1—Simple Beam Considered as a Free Body.

offered by the walls. Any structure in order to be stable must not suffer horizontal or vertical displacement, nor actual rotation about any point.

In Fig. 1 the sum of the supports R_1 and R_2 must be equal to the total load " W ." If a force H_1 is present an equal resisting force H_2 must be brought into action, otherwise the left end of the beam would be pushed off its support. Since R_1 tends to rotate the beam about the point " B " in a clockwise direction, and " W " tends to cause a rotation in an opposite direction, these tendencies must be equal. R_1 and R_2 must have such values as to satisfy the conditions for equilibrium which may be stated in the form of three equations: Sum of horizontal forces = 0; sum of vertical forces = 0; sum of the moments of forces = 0.

Any part of a structure may be considered as a "Free Body" and the foregoing equations must be satisfied. In this case, however, the forces will consist of the loads and the stresses in the members. When a beam supported at the ends carries a load it is bent down-

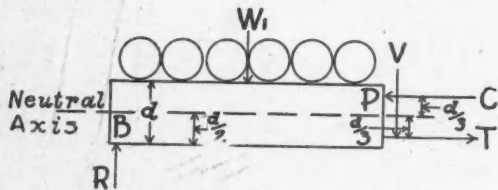


Fig. 2—Portion of a Beam as a Free Body.

ward. This bending causes a stretching or tension in the material in the lower part of the beam, and a shortening or compression in the upper part of the beam. For convenience in describing stress, the beam is thought of as composed of fibres, and the stress is called fiber stress. The material in the upper and lower surfaces is called the extreme fibers. Since the stress changes from tension in the lower fibers to compres-

sion in the upper fibers, there must be a surface between the top and the bottom of the beam where there is zero stress. The plane of this zero stress is called the neutral surface, and passes thru the center of gravity of the cross-section.

In Fig. 2 the portion " $B-P$ " of the beam must be stable under action of the support " R_1 ," the load on

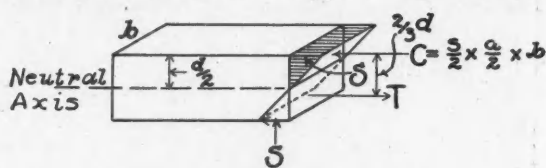


Fig. 3—Showing Stress Wedge.

this part of the beam, and the internal stresses. The force " R_1 " tends to lift the portion " $B-P$," while W_1 tends to push it down. The difference between " R_1 " and " W_1 " will be the shearing stress on section " $A-A$." The portion of the beam above the neutral axis is in compression, which varies from a unit value of zero at the neutral axis to a maximum value " Sc " at the extreme fiber. The total compression " C " is equal to $\frac{Sc}{2} \times \text{area}$. (Area = $\frac{b \times d}{2}$.) Then

" C " = $\frac{Sc}{2} \times b \times \frac{d}{2}$. In Fig. 3 if " Sc " is laid off as the stress in the extreme fiber, then the total compression is seen to be equal to the volume of a wedge. " C " may be assumed to act at the center of gravity, which is at a distance of one-third of the altitude of the wedge from its base. In the same manner we might treat the total tensile force " T " below the neutral surface. Since the sum of the horizontal forces equals zero, " C " = " T ."

In Fig. 2 the portion of the beam " $B-P$ " will tend to rotate about point " P ." This tendency to cause rotation is measured by the product of the force times the distance from the force to the axis about which the rotation would take place. This product is called the moment of the force. The difference between the moments of " R_1 " and " W_1 " must be balanced by the moments of " C " and " T ." For a beam of the same

material thruout the formula $M = \frac{sI}{c}$ is derived from the equality of moments. We shall derive a similar formula for reinforced concrete design.

A reinforced concrete may fail in several ways, first, from excessive stress in the steel, or the concrete; second, from the slipping of the steel in the concrete; third, from shearing and diagonal tension. The beam is always designed to resist bending, thus making it

safe against failure (1). Its strength to resist failure from other causes is then computed and provision made where necessary. Since two materials of different elasticities are combined to act as a unit, the neutral surface will not pass thru the center of gravity of the section, but its position will need to be computed on a new basis. In the reinforced concrete beam, the concrete above the neutral surface resists all the compression and the total tension is concentrated in the steel, while the concrete below the neutral surface merely holds the steel in place.

The first step in the design consists in determining the proportionate depth from the compressive face to the neutral surface. Whenever any material is subjected to a stress some deformation takes place. Within the elastic limit of the material, the relation between stress and deformation may be expressed as, Modulus

$$\text{of Elasticity} = \frac{\text{Unit stress}}{\text{Unit deformation}} \text{ or } E = \frac{s}{\Delta}$$

value of "Es" for steel may be taken as 30,000,000, and of "Ec" for concrete as 2,000,000. Consequently, for the same deformation times the stress in the steel would be 15 times the stress in the concrete. It is assumed that the deformation is proportional to the distance from the neutral surface, and the stress is similarly

proportional. From Fig. 5 $\frac{S_s}{n} \div S_c = d - kd \div d$

(II). The total compression in the concrete "C" =

$$\frac{S_c}{2} \times b \times kd.$$

The total tension in the steel

$$"T" = S_s A, \text{ or in terms of "S}_c" \text{ from (II),}$$

$$"T" = \frac{n S_c (1 - k) A}{k}.$$

Since "C" = "T," $\frac{S_c}{2} \times$

$$b \times kd = n S_c \frac{(1 - k) A}{k} \text{ (III), where "A" is the}$$

area of the steel. The ratio of the area of the steel to that of the concrete is indicated by "p" = $\frac{A}{bd}$ or

$$A = pbd.$$

Substituting for "A" in (III) and solving, for "k," by using the theorem from algebra for

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}, \text{ then } k = \frac{\pm \sqrt{2pn - (pn)^2} - pn}{2pn} \text{ (IV).}$$

Knowing the value of "k," then "kd" will be the distance from the compression surface to the neutral surface. The distance between the resisting stresses "C" and "T" will now be equal to

$$\left(d - \frac{Kd}{3}\right) = d \left(1 - \frac{K}{3}\right).$$

The term $\left(1 - \frac{K}{3}\right)$ is usually represented by the letter "j." The resisting moment of "C" and "T" may now be written as either force times

$$\text{its moment arm. Then } M_c = \frac{S_c}{2} bkdjd; M_s =$$

$$S_s pbdjd \text{ (V).}$$

The relative values of the compressive stress in the concrete and the tensile stress in the steel may now be

$$\text{computed from "C" = "T" or } \frac{S_c}{2} bkd = S_s pbd.$$

If the percentage of steel is assumed large, then the concrete stress may reach its allowable value before the steel is fully stressed, and with too little steel the concrete would not be fully stressed. But if certain values are assigned to the steel and concrete stresses desired, then a certain percentage of steel may be computed so that these stresses will result. From (III)

$$\frac{S_c}{2} bkd = S_s pbd, k = \frac{2 S_s}{S_c} p \text{ (VI). Equating this}$$

$$\text{value of "k" to that of (IV), then } 2 \frac{S_s}{S_c} p =$$

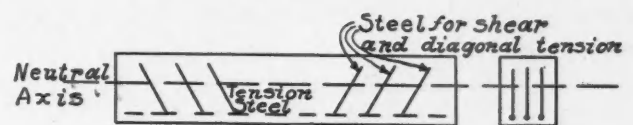


Fig. 4.—Reinforced Concrete Beam.

$$\sqrt{2pn - (pn)^2} - pn. \text{ Solving for}$$

$$"p" = \frac{n}{2 \left(\frac{S_s}{S_c}\right) \left(\frac{S_s}{S_c} + n\right)} = \frac{1}{2 \frac{S_s}{S_c} \left(\frac{S_s}{S_c} + 1\right)} \text{ (VII).}$$

A few problems will illustrate the use of the formula. Find the steel ratio, if the allowable "Sc" = 650 pounds square inch, "Ss" = 15,000 pounds square inch, and "n" = 15. From (VII),

$$"p" = \frac{1}{2 \times \frac{15,000}{650} \left(\frac{15,000}{650} + 1\right)} = .00852$$

$$\text{From (VI) "k" = } \frac{2 \times 15,000}{650} \times .00852 = .394,$$

$$"j" = 1 - \frac{K}{3} = .869.$$

What uniformity distributed load will an 8 by 12-inch beam 10 feet long safely carry? Using the values of "p" and "k," computed above, then the resisting movement from (V) using either Mc or Ms will be

$$M = \frac{650}{2} \times .394 \times .869 \times 8 \times 144 = 128,200 \text{ pound}$$

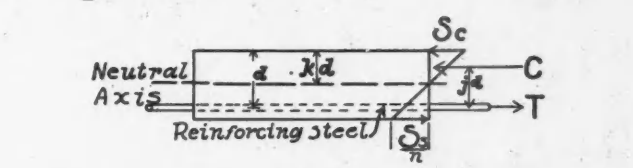


Fig. 5.—Reinforced Concrete Beam Showing Stresses and Resisting Moment.

$$\text{inches} = \frac{Wl}{8}. \therefore \frac{W \times 10 \times 12}{8} = 128,200; W =$$

8,550 pounds. The steel area "A" = .00852 × 8 × 12 = .818 square inchh, which may be obtained by using two 3/4-inch round rods.

Determine the cross-section of a beam 12 feet long to support a load of 2,000 pounds per foot of length. Assume "n" = 15, "Ss" = 15,000 pounds square inch,



Famous for the Beauty of Their Dining Rooms as Well as the Excellence of Their Food. Homes Are Enjoyed by the Occupants and Long Remembered by the Guests When Whole-some Food Is Made More Inviting by the Dignity, Beauty and Hostful Surroundings of a Well Arranged and Nicely Furnitured Dining Room Such as This.

"Sc" = 600 pounds square inch. From (VII)

$$"p" = \frac{1}{2 \left(\frac{15,000}{600} \right) \left(\frac{15,000}{15 \times 600} + 1 \right)} = .0075 = .75$$

per cent is the required percentage of steel. From (VI)

$$k = \frac{2 \times 15,000}{600} \times .0075 = .375 \text{ and}$$

$$"j" = \left(1 - \frac{.375}{3} \right) = .875. \text{ The bending moment is}$$

$Wl \div 8$ and this must be equal to the resisting moment of either the steel or the concrete. Then

$$\frac{(2,000 \times 12) 144}{8} = 15,000 \times .0075 \times .875 bd^2$$

$$\text{and solving for "bd"} = \frac{2000 \times 12 \times 144}{8 \times 15,000 \times .0075 \times .875} =$$

4,390. Both "b" and "d" are unknown, and a large number of values would satisfy the equation. Working proportions for beams lie between "b" = $\frac{1}{2}$ d and "b" = $\frac{3}{4}$ d. Assume "b" = $\frac{2}{3}$ d, then $4,390 = bd^2 = \frac{2}{3} d^3$, and "d" = 18.8 inches, "b" = 12.6 inches. The cross-section may be taken as $12\frac{1}{2}$ by 19 inches. The area of steel will be $.0075 \times 12\frac{1}{2} \times 19 = 1.71$ square inches, which may be obtained by using four $\frac{3}{4}$ -inch round rods. In a later article we shall consider and determine safety against the other possibilities for failure.

Hoover Calls for Higher Standards

"THIS question of reduction of national waste is one of our first problems as a Nation. If we would recover the losses of war, if we would hold our own in foreign trade, if we would maintain and increase our high standards of wages and living at home, it can only be accomplished by cutting out our national lost motion and waste. The building trades can pioneer a great trail of national advance in this direction.

"It has been my ambition that the Department of Commerce should co-operate with every rightful effort to accomplish these purposes; that it should never attempt to dictate to our business or commerce; but that it should itself be part of the co-operative effort of the whole community to our economic betterment. It is in this vision that we offer you our assistance and help. In the development of a sense of co-operation in industry, to these ends we will reinforce the foundation of our economic life in individual initiative—not in the patent medicines of government interference."

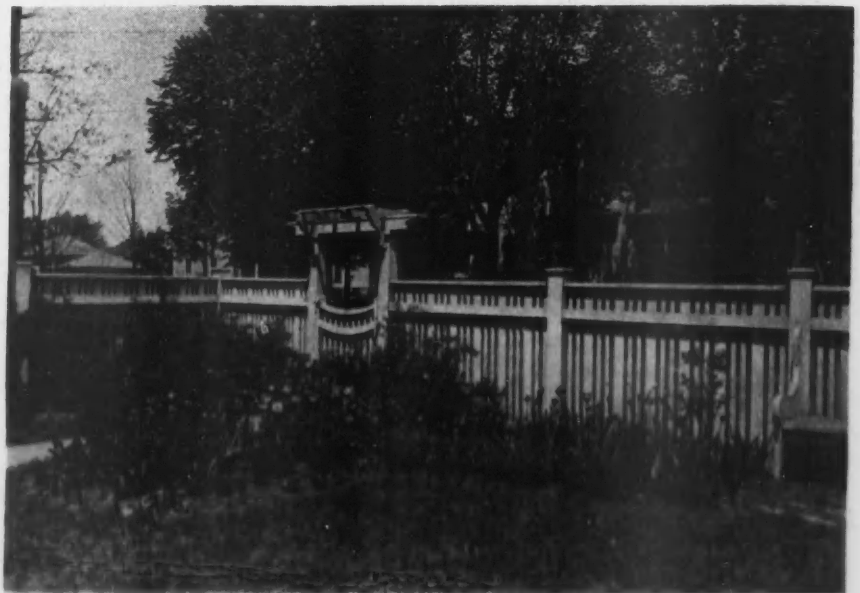
Secretary Hoover has no illusions; he knows where the weakness lies and proposes to do something tangible to eradicate it. He holds out a cheerful vista to the building industry and shows it the way to take advantage and reap the harvest which has long been denied it. Fair play is going to get results from now on. The building industry has an important duty to perform. It shall not be found wanting.

Easy to Build and It's Sure to Prove Enjoyable

WHY should the rear yard be less inviting than the front yard? There is no good reason. The privacy of a rear yard makes it a preferred spot unless neglect and thoughtlessness allow it to become ugly and unattractive.

A modest investment in attractive fencing with a well designed gate, a built-in seat and a plentiful supply of blooming plants and the back-yard is a beauty spot.

The praiseworthy yard shown here commends itself because the fence, gate and seat are pleasing without being prohibitive in cost. Such simple, yet desirable construction can be successfully done by any carpenter.



The Fence Is the Feature That Sets Off the Home Grounds Picture.

fully laid down with its flower beds all nicely enclosed



Hotels Become Famous for the Beauty of Their Dining Rooms as Well as the Excellence of Their Food. Home-owners Are Enticed by the Occupants and Long Remembered by the Guests When Whole-some Food is Made More Inviting by the Dignity, Beauty and Neatly Furnished Dining Rooms Such as This.

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Easy to Build and It's Sure to Prove Enjoyable

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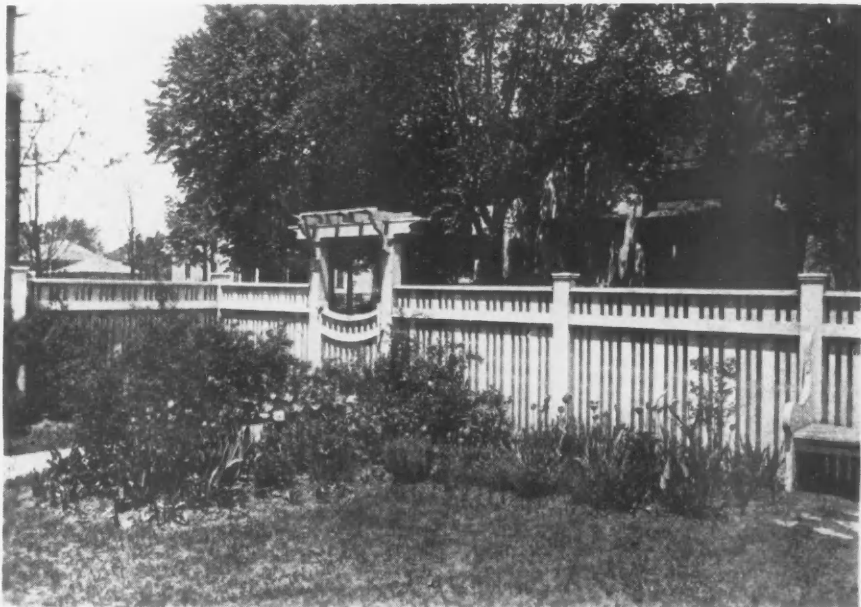
A modest investment in attractive fencing with a well designed gate, a built-in seat and a plentiful supply of blooming plants and the back-yard is a beauty spot.

The praiseworthy yard shown here commends itself because the fence, gate and seat are pleasing without being prohibitive in cost. Such simple, yet desirable construction can be successfully done by any carpenter.

If the home is to be lived in with every comfort such decorative touches are worth while.

If the home is to be sold they bring a real cash profit.

First impressions are lasting. A well arranged, care-



The Fence Is the Frame That Sets Off the Home Grounds Picture.

fully tended lawn with its flower beds, all nicely inclosed in a well painted fence creates an impression that those who live in that spot are substantial progressive citizens. Such surroundings increase the respect in which a family is held by the neighbors.

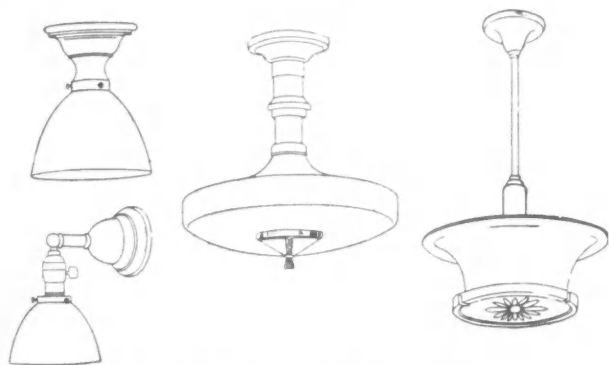
Trend of Electric Fixture Design in Modern Home

SECOND OF SERIES OF ARTICLES ON APPROPRIATE LIGHTING EQUIPMENT FOR VARIOUS ROOMS

By A. W. Powell and H. A. Smith

PHYSICIANS recognize the fact that lighting conditions play a highly important part in one's physical welfare. Evidently the eyes are the first members injured by a glaring light source, but an aggravated condition of eyestrain will cause other

sources were available, and the elements of good lighting less understood. However, with the more brilliant lamps that we use today, it is imperative that shades be used that conceal the filaments from view. Even when the eye is protected from the direct rays of the lamp, we experience, at times, the glare caused by light reflected from polished surfaces of furniture, or from the glossy paper of a book or magazine. A diffuse system of illumination should be used in this case, giving the effect of a large, rather than a concentrated, light source. Another, not so common, mistake in home lighting, is to have extreme contrasts in intensities of light. Such a contrast will exist, for example, when one portable lamp is the only light used in a room. We then have the excessive brightness of a surface immediately under the lamp and comparative darkness in the rest of the room.



Typical Luminaries for the Kitchen.

disorders not so easily traced to the origin. This phase of the lighting question should be given particular thought where children are concerned. The injury that may be done to the eyes while the muscles are still in the formative stage will, in many cases, endure and cause trouble for a lifetime.

The most common example of glare causing this condition is that from a lamp not furnished with a shade or reflector. The practice of using a bare lamp is a result of a habit acquired when less efficient light

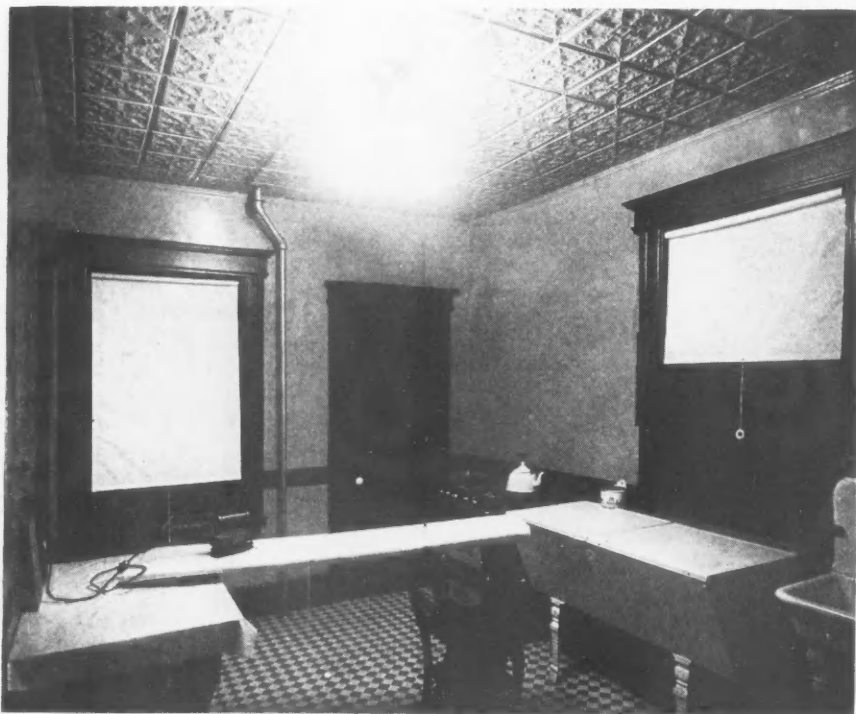
The Home's Workshop

Of course, we all know that it is easier to work in pleasant surroundings than in some place where the outlook is cheerless or depressing. Every housewife will recall that, on the mornings when the room is flooded with sunlight, the breakfast is a success, while on the dark and gloomy days, the toast burns, the eggs are either too soft or too hard, and nothing seems to go right. It has been found that in the industries the proper degree of well diffused light increases production, does away with accidents, makes the shop cleaner and helps the workmen to a more cheerful frame of mind. However, this condition is not confined to the factory, for there are rooms in the house where we wish all of the same results. Today, the housewife does not intend spending the whole day in the house working, and therefore the housework must be done in the most efficient manner.

A well lighted kitchen is a pleasant place in which to work. It is in the dark pantry that most of the dishes are broken. Sewing at night is at best a nerve racking process, but good lighting will help materially. The laundry and the work bench in the basement both must be well lighted.

Kitchen

The unfortunate part of the ordinary kitchen luminaire is its inability to be adapted to much improvement. The combination gas and electric stem luminaire places the lamp so



This Night View Indicates the Possibilities of Good Illumination with Only One Light Source. A 150-Watt Mazda C Lamp in an Enclosing Semi-Direct Luminaire Provides Well Diffused Even Illumination of High Intensity. Sanitation Is More Likely to Be Attained in a Well Lighted Room. Note the Convenience Outlet for the Iron.

low that the only thing it can do is to cast the shadow of the worker on the work. The designer of such a luminaire seems to have the mistaken idea that the light is wanted on the floor in the center of the room rather than on the stove or sink. Then, too, the glassware that is used is ineffective. There is really little that can be done to improve this luminaire save by the substitution of diffusing bulbs for clear lamps. If satisfactory lighting is desired, this luminaire should be replaced by one which carries the lamp close to the ceiling and is furnished with a glass reflector that will assist in distributing the light around the sides of the room. Of course, if the room is large, their ceiling light will have to be aided in its efforts by wall brackets in the darker parts. The shades used should be of dense opal glass with smooth, easily cleaned surfaces. For places of average dimensions, a 75-watt all frosted or a 100-watt bowl enameled Mazda C lamp in an 8-in. diameter reflector should be used in the ceiling unit, while 25-watt all frosted Mazda B lamps in 6-in. reflectors will serve on the bracket luminaires. A night view of a kitchen well lighted in this way is shown. Such a combination will do away with objectionable

glaring reflections that a bare light source will give when bright pans are used.

When the ceiling is painted a light color, a semi-direct system of lighting is effective. With this installation, only the ceiling luminaire is necessary and yet the shadows are reduced to a minimum. One photo gives us an idea of the appearance of a kitchen when a one-piece, totally enclosing luminaire is used. This has particular advantages in reducing the accumulation of dust. A 100- or 150-watt clear Mazda C



A Simple Means of Obtaining Semi-Indirect Effects from a Direct Lighting Luminaire and the Efficient R. L. M. Standard Dome Reflector for Lighting the Basement and Garage. The Porcelain Enamel Resists Attacks of Moisture.



The Work Bench in the Home Should Be Lighted by the Methods Similar to Those Used in the Factories. Seventy-five-Watt Diffusing Bulb Mazda C Lamps in R. L. M. Standard Dome Reflectors Successfully Diffuse and Distribute the Light Over the Bench. Several Convenience Outlets Are Provided.



Just a Glance at the Walls of This Delightful Living Room Gives the Impression that It Is the Home of Someone with a Well Developed Artistic Sense. The Pictures Chosen Are Copies of Masterpieces of International Fame and Favor. Those who Appreciate Good Pictures Also Know How to Acquire Them. This Room was Planned with Consideration of the Furniture to Be Used, the Recess Being "Just Built" for the Style of Table Now so Much in Vogue. There Is in This Magnificent but Not Ornate Room a Suitable Place for Each Individual Piece of Furniture and an Absence from Crowding that Is Always Commendable.

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lamp in such a luminaire will provide adequate intensity in the typical kitchen.

A wall switch near the doorway is a most desirable feature, but its absence will not prevent the use of a luminaire hung out of reach, for chain pull sockets with a length of cord and luminous indicator will be used to control the light.

Whatever form of lighting is employed, it is highly important that convenience outlets for the iron, percolator or fan be provided. The position of the outlet to which the iron will be connected merits consideration and should be such that the minimum of shadows is cast on the board both in the daytime and at night.

Another way to make the kitchen as comfortable and as easy to work in at night as it is in the daytime, is the use of Mazda daylight lamps. The daylight quality of the light not only makes a cleaner looking kitchen, but, just because it is like daylight, stains are more readily visible and therefore the kitchen actually is cleaner.

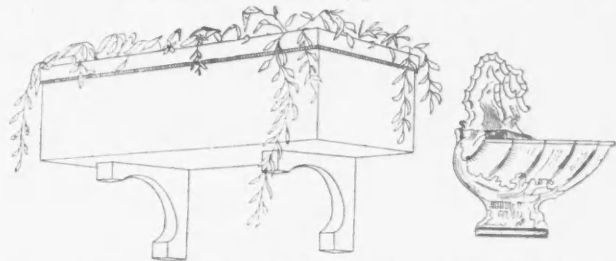
Butler's Pantry

If the outlet is not already in place, it is preferable to have it installed directly over the sink. A direct lighting opal reflector, 50-watt Mazda lamp, close ceiling luminaire, with pull chain socket, may well be used here. When the outlet is already in the center of the room, this type of lighting is not advisable because of the shadows that will be cast by the worker on the sink. Under such conditions, semi-indirect lighting is preferable and a harp type holder used that suspends an opal glass reflector under the lamp. A convenience outlet near the sink is desirable for attaching a small motor for polishing silver or other time-saving devices.

Laundry and Work Bench

As a usual practice, the washing machine is installed in the basement and artificial illumination will probably be necessary whenever the machine is used. High level illumination is a desirable factor here and

Mazda daylight lamps make it easier to detect stains on linen. The 100- or 150-watt bowl enameled Mazda C lamps in RLM Standard dome reflectors make an efficient luminaire giving the desirable quality of diffusion and distribution. The type of direct luminaires



Various Means of Lighting the Living Room from the Sidewalls.

suggested for the kitchen is also applicable where the laundry is "finished off."

The location of convenience outlets for the washing machine and ironer should be considered with respect to the position of the light source. For hand ironing, an outlet on a drop cord is preferable to one in the side wall or baseboard in giving greater latitude in the work.

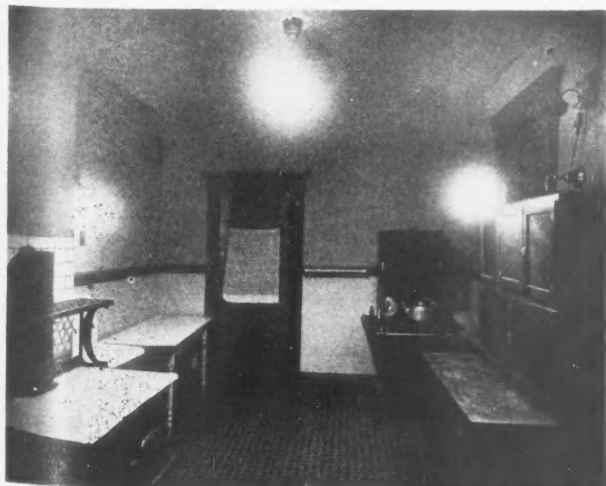
The standard methods of bench lighting as used in the lighting of metal working plants and other shops apply to the cellar work bench, and results similar to those indicated in the photo can be secured by the application of these principles. Convenience outlets on the bench, itself, for an electrically heated glue pot, a soldering iron, a motor to run a small lathe, are necessary adjuncts.

The lights for the cellar proper should be so distributed as to illuminate the foot of the stairs, the furnace, coal bins and cold pantries. If the ceiling is finished in a light color, flush or surface receptacles with diffusing bulb, low wattage lamps without reflectors will give a wide spread of light at low cost of installation.

At least one of the cellar lights should be controlled from the head of the stairs and it is desirable to have some sort of a pilot device to indicate whether or not the lamps are burning. A small lamp for this purpose will be noted above the door in one of the photos.

Den or Sewing Room

The lighting requirements of these two rooms are so similar that they can well be discussed together. For close work, either in sewing or keeping records, a high intensity of illumination is necessary. For ordinary purposes, however, we do not want to have the whole room as light as this. A combination of lighting is desirable, a central diffusing luminaire to furnish general illumination of moderate intensity, and a portable luminaire for the close work. An excellent type of adjustable luminaire for sewing at night is shown. This utilizes a 150-watt Mazda C lamp and a dense blue glass color screen to produce artificial daylight. On the portable luminaire, it is desirable to use a metal or very dense glass reflector, large enough to conceal the lamp from view.



Direct Lighting Is Used in This Kitchen. A 75-Watt All Frosted Mazda C Lamp in a Dense Opal Bowl Reflector with Close Ceiling Luminaire and 25-Watt Similar Units on the Wall Brackets Eliminate Shadows at the Sink and Cabinet.

Consideration of the Furniture to Be Used, the Recessed, Built-in, and the Style of Table, Now so Much in Vogue. There is in This Magnificent but Not Ornate Room a Suitable Place for Each Individual Piece of Furniture and an Absence from Crowding That is Always Commendable. Well Developed Artistic Sense. The Pictures Chosen, Are Copies of the Pictures Chosen, When the Surroundings Are Befitting. This Room was Planned and Built for the Purpose of Being a Living Room, a Dining Room, and a Parlor.

For the Busy Business Man and His Family

A MODERN MARKET AND LIVABLE HOME FOR BUSY BUSINESS FOLKS SAVES TIME AND COST

EVEN the garage is handy! Not only can the business man save valuable time by having his work under the same roof with his home, but the economy of building one structure instead of two is a large one.

And in the arrangement shown here there is no sacrifice in the roomy convenience of the home. A living room which is 17 feet wide, two square bedrooms of fair size, a large dining room and spacious kitchen meet the needs of even the exacting

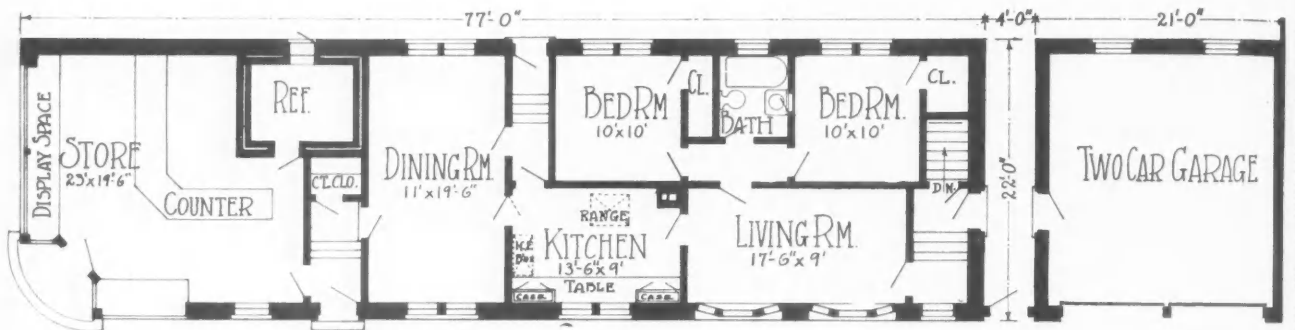
Note the arrangement of the kitchen. The worktable is in front of a double window and just a step

away is the refrigerator and almost as near the cooking range.

The two-car garage meets a business and family need, as does the rest of the design. It affords a place for the delivery car, so near the store that time is saved and the pleasure machine may be kept in the same space.

While especially designed for a market, by omitting the refrigerator the plan is usable for any retail business.

A built-in display space backed up against the window is a desirable feature.



This Trim Little Business Building Measures 77 by 22 Feet. There is a Well Laid Out Market Space on the Corner and a Five-Room Home in the Rear. The Two-Car Garage is a Separate Building.



There's a Double Saving in This Plan for a Home and Market. It Reduces Construction Costs as One and Not Two Buildings Are Built and It Saves Valuable Time for the Busy Business Man.

Law of Interest to the Builder

LIABILITY OF CONTRACTOR FOR DEFECTS IN BUILDING
CAUSED BY FAULTY PLANS AND SPECIFICATIONS

By Leslie Childs

THE question of the liability of a contractor for defects in completed work caused by faulty plans has led to many lawsuits. Cases of this kind have for the most part arisen where the contractor has agreed to finish work according to a certain standard, and afterwards it has developed that the plans and specifications would not permit of the stipulated standard being obtained.

This then raises the question of a contractor's liability for a defective result caused by following faulty plans and specifications. And in this connection it may be stated broadly that unless the contractor has warranted the sufficiency of the plans and specifications he will not, as a general rule, be held liable for their failure. In other words, the agreement by the contractor to complete work according to a certain standard, does not impose upon him a warranty of the sufficiency of the plans and specifications.

The point is one of considerable interest to contractors and builders in general, and of the cases illustrating the application of the general rule *MacKnight Flintic Stone Co. vs. New York*, 160 N. Y., 72, is one of the clearest the law books contain. The facts and circumstances culminating in the suit were, in brief, as follows:

Contract Entered Into to Make Watertight Cellar

The contractor entered into a contract to construct certain underground rooms for the city of New York. The consideration for the work was \$8,366, and the contract, among other things, contained the following stipulation:

The contractor agrees to furnish, "all the materials and labor for the purpose and make watertight the boiler room, cellar, etc. * * * in the manner and under the conditions prescribed and set forth in the annexed specifications, which are hereby made a part of this contract."

The specifications provided in a minute manner just how the work was to be performed, setting forth the materials that were to be used. The materials and work were subject to inspection by the city authorities and nothing was to be used nor any methods employed save those that were approved by the authorities.

The contractor entered upon the work and performed the same in strict accordance with the plans and specifications, but upon its completion the rooms were not watertight. A dispute followed which

involved a construction of the contract relative to whether the fact that the contractor agreed to make the rooms watertight made him responsible for their not being watertight, even tho he had followed the plans and specifications. In passing upon this phase of the case the court, among other things, said:

Contractor Held Not Liable

"The agreement is not simply to do a particular thing, but to do it in a particular way and to use specified materials, in accordance with the defendant's design, which is the sole guide. The promise is not to make water tight, but to make water tight by following the plan and specifications prepared by the defendant, from which the plaintiff, the contractor, had no right to depart, even if the departure would have produced a waterproof cellar. * * * The plaintiff had no alternative except to follow the plan under the direction of the defendant's officers in charge.

The defendant relied upon the skill of its engineer in preparing the plan, with the most minute specifications, and bound the plaintiff to absolute conformity herewith. * * *

In conclusion, the court held that, upon the record, the contractor could not be held liable because the cellar was not water-tight. That the contractor in this case only guaranteed the material and quality of the work, and did not guar-

antee the sufficiency of the plans and specifications.

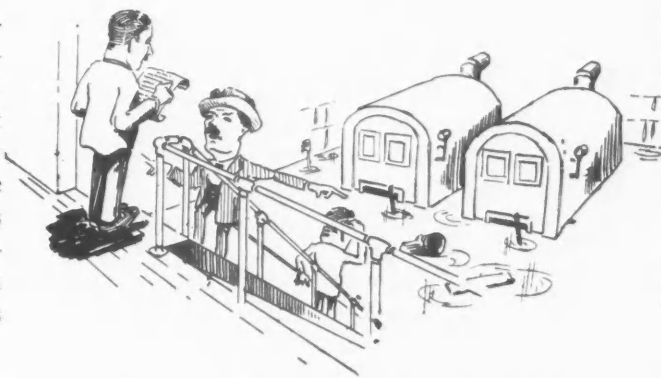
The foregoing decision is supported by other cases and is believed to be representative of the weight of authority on the question under discussion. For in *Bush vs. Jones*, 144 Fed. 942, the same question was involved and the court reached a similar conclusion. The facts being, in the main, as follows:

Liability of Contractor

The contractors agreed to erect a certain building, and a dispute arose over the settlement. This dispute involved the question of whether or not the contractors were liable because the cellar was not water tight.

The specifications, it seems, under which the contractors had constructed the cellar provided in detail how the work should be done. And in conclusion it was provided that, "the whole to be made perfectly water tight and guaranteed."

The owners contended that under the last clause of the contract the contractors were bound to make the cellar water tight. The case reached the Circuit



Contractor Not Responsible for Faulty Plans.

Court of Appeals, and in passing on this contention it was, in part, said:

"The guaranty was not absolute, but qualified. It extended to their own work only, and, only so far as this was involved, to the result. The specifications, which were the work of the architect, and for which they could not be expected to assume responsibility, directed how the work should be done, and by this they were controlled. So far as this was calculated to make a water-tight cellar, they unquestionably guaranteed that it would be such. But that is all. * * * The owner having assumed to say by the specifications what was to be done, the contractors were relieved so far as they complied therewith. They guaranteed, not the sufficiency of this to produce the desired result, but merely the effectiveness of what they themselves did under it. * * *"

The foregoing decisions illustrate in an admirable manner the reasoning of the courts in fixing liability for defects in finished work caused by the following of faulty plans and specifications. And from them it is plain that, unless the contractor expressly warrants the sufficiency of the plans and specifications, he will not, as a general rule, be held to liability for defects caused by them; this assuming, of course, that he has followed such plans and specifications in accordance with the terms of the contract.



Cement in Favor in India

THE use of cement for building construction is not confined to any particular country. In far away Bombay cement is coming into common use.

This picture shows Japanese carpenters, who are supervised by English architects, laying the planking for the upper floors of one of the new and modern concrete buildings being erected in Bombay, India.

Note the use of bamboo poles. It is also interesting to observe that the forms are constructed in accordance with the American practices and much like forms which have been explained in detail in the *AMERICAN BUILDER*.

While it may be true that the use of cement is more general in the United States and major European countries than in some of the less developed lands, still our neighbors are not far behind in adapting the improvements and progressive discoveries of the building industry in the more advanced countries.

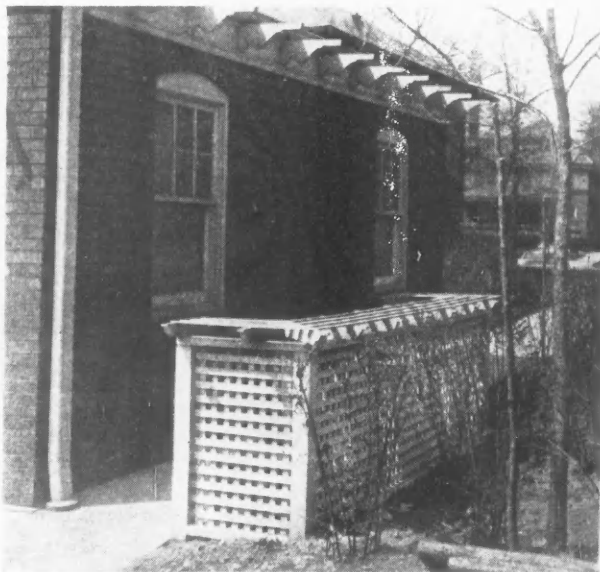
Cement is now available in all climes.

And the Oriental has quickly grasped the methods by which it can be successfully used.

Beauty Surgery For Rear Yards

JUST as one abnormal feature may make an otherwise beautiful person unattractive so may some slight neglect mar the beauty of the home grounds.

Garbage cans are in the category of deformities in the yard. A lattice work, three sided housing may be built to screen the garbage can or cans from view.



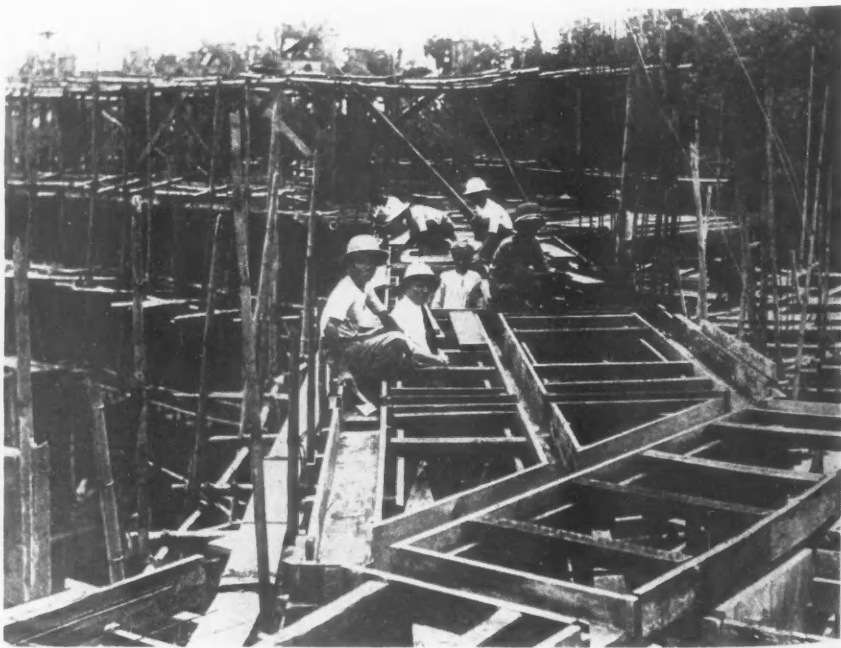
This Attractive Lattice Screen Houses the Garbage Can, and this not only covers up an eye-sore, but positively create a praiseworthy object.

Surgery is not always cutting away—it sometimes calls for grafting on. Whenever it is needed it should not be neglected.

The housing shown here is economical and practical as well as attractive.

Any carpenter can construct it.

It pleases the eye as it stands, but those who prefer may cover it with vines.



Japanes Carpenters and English Architects United Their Skill to Build This Modern Structure in Bombay, India.

Pure New England Colonial Home

COMMODIOUS HOME HAS FOUR BEDROOMS, TWO BATHS, ROOMY ROOMS, ATTRACTIVE EXTERIOR

By R. C. Hunter

THIS house has the typical Colonial center hall, about which all of the rooms are conveniently arranged.

The arrangement of the stairs is worthy of note, they are of the reverse flight type and are very compact.

It will be seen that the plan arrangement is simple, which makes for economy; the general outline is a rectangle and the rooms are not cut up with nooks and corners. All rooms are of good size and so arranged that ample space is provided for all of the desired furnishings.

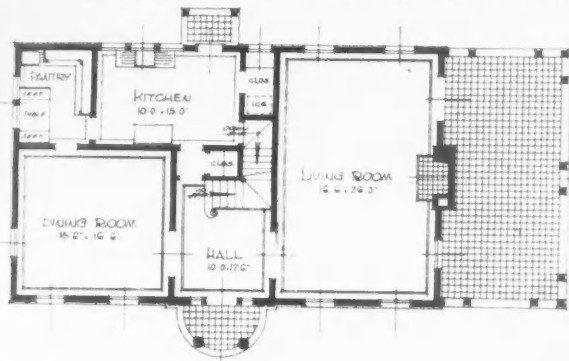
A feature of the pantry is the built in seats and table of the "Pullman" type, serving either as a breakfast nook or for a maid's dining nook as desired.

The pantry is generous in size and accommodates this useful feature without crowding.

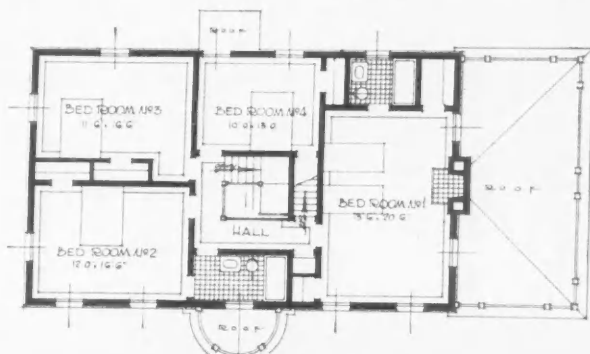
Four bedrooms and two baths give a livable second floor while the third floor provides three maids' rooms and a bath. Dormers front and rear make the third floor rooms really comfortable rooms, where servants can be induced to live.

The cellar has a laundry, heater and coal space, room for storage and such. The cellar windows are placed in areas thus eliminating the necessity of raising the house above the grade to light the cellar.

The exterior of the house depends upon proportion and spacing of the windows and the detail of the cornices and porches for the simple good taste it shows.



First Floor Plan.



Second Floor Plan.



While This Home Is Richly Attractive in Appearance the Simple Lines—That of a Rectangle—Make for Economy in Its Construction.
R. C. Hunter & Bro., Architects.

Motor Trucks Speed Progress New Roads

MINNEAPOLIS CONTRACTORS GAIN TIME BY SYSTEMATIC USE OF FLEET OF 2-TON TRUCKS IN HAULING MATERIALS

ON one 15-mile project, Johnson, Drake & Piper, Minneapolis, Minn., road contractors, poured 830 feet of 18-foot roadway in a day. On the same job, 600 feet per day was the average maintained for two weeks, four miles being the average length of haul for materials. Several hundred lineal feet of roadway were poured daily while another job lasted.

In each instance motor trucks were a big factor in enabling the contractors to accomplish the amount of work they did. Transportation of materials, Johnson, Drake & Piper consider, is one of the most important operations in road building. Therefore the care exercised to systematize this end of their work.

Six 2-ton trucks with power dumping bodies were used on one project, calling for 3½ miles of new concrete highway. The trucks were operated by Day Brothers, of Minneapolis, who held a sub-contract from Johnson, Drake & Piper.

The average haul from the central proportioning plant erected at the railroad siding was three miles. At the central proportioning plant a clam-shell derrick loaded cement, sand and rock into separate bins. From these bins the material was proportioned thru chutes into measuring boxes. By means of center gates, the truck bodies were divided into equal compartments.

In loading, each motor truck, stopping under the rock bin just long enough to shift gears, received two separate batches of rock in its twin compartments;

moved ahead about 12 feet and received two separate batches of sand simultaneously; moved forward once more to receive the proper amounts of cement from another pair of chutes; and then started on its way to the mixer, the complete loading operation having consumed not over two minutes.

Traversing a ¾-mile stretch of dirt road to reach the main highway, the trucks finally reached their destination at whatever point along the main road the mixer happened to be located. The next move, then, was to unload. Backing up to the skip with body in dumping position, the trucks emptied one compartment. When the skip had hoisted the batch into the mixer, the trucks in turn dumped the remainder of their loads and were some distance away before the last batches were hoisted.

Each truck made 23 to 25 trips between the central proportioning plant and mixer—an average three-mile haul—in a 10-hour day. Six 2-ton trucks, supplying a three-sack mixer, facilitated the pouring of 700 lineal feet of 18-foot roadway, concrete seven inches thick.

A fleet of 12 trucks were used on the 15-mile job on which 830 feet of roadway were poured daily. The 2-ton motor units, with their narrow compact bodies, horizontal dumping mechanism, speed and turning ability, were particularly adapted to road-building work, according to Day Brothers and Johnson, Drake & Piper.



Fleet of Two-Ton "Whites" Used by Johnson, Drake and Piper, Contractors, on a Fifteen-Mile Project Near Minneapolis, Minn. They Averaged 600 Feet a Day for Two Weeks.

FREE—This Book on Wood Finishing



This book is full of practical information on finishing new floors and trim and refinishing old work of this kind. Written by experts—profusely illustrated—contains color charts—gives covering capacities, etc. We will gladly send it free and postpaid to contractors and builders.

S. C. JOHNSON & SON,
Dept. AB7, Racine, Wis.

Please send me, free and postpaid, your book on Wood Finishing.

Name

Address

City and State.....

Fill Out and Mail this Coupon

I Buy Varnish from.....

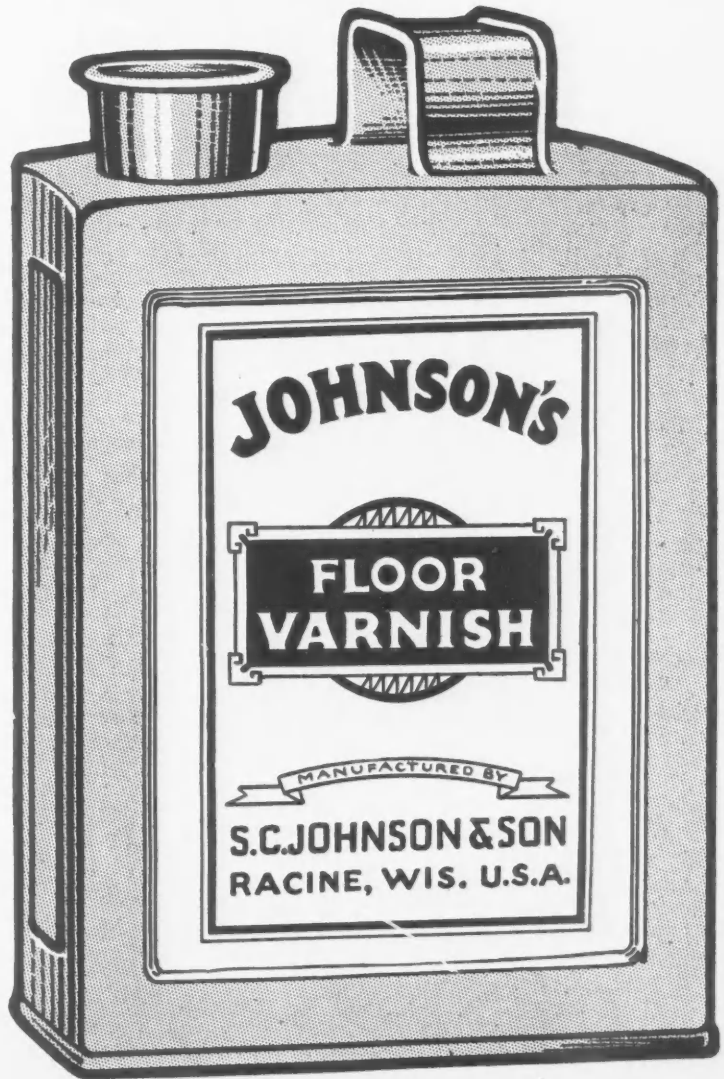
“Made to Walk on”

Johnson's Floor Varnish dries dust-free in two hours and hard over night. It imparts a beautiful, high lustre—has good body—will give long wear—is absolutely water-proof—and will stand all reasonable tests.

Johnson's Floor Varnish is tough, elastic and durable. It gives a beautiful high gloss which will not chip, check, mar, blister or scratch white. Is very pale in color so can be used on the lightest floors and linoleum. Splendid for furniture, woodwork and trim of all kinds. May be rubbed if desired.

Free to Contractors

We will gladly send you a pint of Johnson's Floor Varnish, all charges prepaid, if you will test it in comparison with the brand you are at present using. Write us on your business letterhead—there is no obligation whatever attached to this offer.



JOHNSON'S FLOOR VARNISH

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



When the Boston Structural Steel Co., Cambridge, Mass., Started to Haul Their Steel Beams and Trusses in Trucks They Found the Stock Body Would Not Fit, so They Built a Special Body on Their Five-Ton "Selden" Such as Is Shown Here and Now Carry Great Steel Beams Without Any Trouble.

Builds Special Body for Hauling Heavy Structural Beams

IN order to take care of the hauling of the large steel girders and trusses which form a necessary part of our business, we were obliged to construct a body sufficiently large to take care of the ideas we had in mind. We built on this truck a body 17 feet from

ing them over the top of the cab. This arrangement is very convenient to unload at buildings, or, in other words, all the driver has to do is to take a crowbar and dump the beam off.



PUT it up to other builders thru our Correspondence Department, when you have a question to ask.



Harry Hall & Co., Homestead, Pa., Are Dealers in Building Materials and Supplies. Much of Their Work Is Hauling Material to the Job—Much of Their Responsibility Is to Get It There on Time. These Heavy Duty "Garfords" Have Lightened the Burdens and Reduced Costs.

the back of the cab by 7 feet 6 inches wide. The frame of the body was built entirely out of steel angles with pockets to receive the stakes to which were attached removable sides. On the front end we riveted to the body a bent of steel properly braced to the body, from the top of which we extended an angle iron down to the front end of the chassis, to which we attached the same by cutting out the rivets connecting the cross beam on the front end and to which we attached steel plates riveted to the chassis so as to provide a connection for the angle iron.

To this plate was also attached a frame work of angle iron extending across the radiator and approximately 18 inches wider each side than the width of the cab. This frame receives the ends of long beam that overhang the body and enables us to haul beams from 40

feet to 60 feet long without extend-

There's profit in this work

Many dealers are finding, not just an occasional job, but a steady, dependable source of profit in re-roofing with Johns-Manville Asbestos Shingles right over the old roof.

Re-roofing that pays

THE amount you save if you do not tear off the old roof permits you to get the job with a good profit, if you figure on laying Johns-Manville Asbestos Shingles right over the old shingles.

But, aside from the immediate profit, there is the further consideration of other jobs to come. One job sells another, because the beauty and simplicity of application of these shingles attract the attention of every house owner.

One job has often started a whole community re-roofing and Johns-Manville Asbestos Roofs have appeared all over town, like mushrooms after a shower.

Build up a steady profitable re-roofing business in your community. Johns-Manville will help you. Write for particulars.

JOHNS-MANVILLE Inc.
Madison Avenue, at 41st Street, New York City
Branches in 57 Large Cities
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**JOHNS-MANVILLE
Asbestos Shingles**



"Ideal" Brick Construction Saves Expense

ON EDGE MASONRY AND LESS PROHIBITION OF EIGHT-INCH WALL ENCOURAGES USE OF BRICK

THERE was a time when brick was considered a rich man's material. Several factors, important among which is a new way to lay brick, have combined to make brick "every man's material" and not just the privilege of the class with whom cost is a minor consideration. Reference is made, of course, to the so-called ideal wall which is laid with a saving of time and material that reaches an important total.

Government Approves Brick

It is interesting and important to note that the government, thru the Department of Commerce, has taken notice of the trend among local authorities to encourage building with brick. The recent partial report of the committee on building codes made a study of the ideal wall and while final recommendations will not be made until the complete report is prepared, those who champion this wall find in the preliminary report reason to think it will be approved.

This report shows that the former pronounced tendency of cities not to allow an eight-inch brick wall for residence building is changing. Thirty-five cities, from Baltimore to Portland, have regulations that approve

the eight-inch wall for both the first and second stories of a residence. Eighty-eight cities allow eight-inch walls for one story dwellings.

After a general survey of the load carrying capacity of walls and a study of the lateral stability of walls, the report says: "It is believed, therefore, that so far as comparative strength is concerned, eight-inch walls not over 30 feet high are safe for one and two story buildings."

Heat transmission tests designed to determine the fire-resisting property of such walls, tests to show their weather resistance and strength tests unite in proving the sufficiency and serviceability of eight-inch brick walls.

All Brick on Edge

The eight-inch wall means a saving in material and labor, but probably as important a trend in brick wall laying is the general use of the ideal wall. This is the name given to a new type of brick work. In the "ideal all-rolok" wall all the brick are laid on edge. In the "ideal rolok-bak" wall the brick in the outer four-inch course are laid on their flat bed, so



Ideal Wall Home, Built with 8-Inch Walls, at Phillipsburg, N. J., Paul R. Smith, Architect.

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Cleveland

Working Drawings Available to You

This home was designed for a private owner by one of the best residence architects in America.

Sometime ago we published a view of it in one of our books and it attracted so much favorable attention that we had hundreds of requests from all over the country for details and plans.

At last we have prevailed upon the architect to grant us the right of supplying complete working drawings and specifications. These working drawings are exceptionally complete and contain many full size details which make them unusually valuable and different from the ordinary.

Hiawatha's Cost Appeals to Buyers

This home can be built of Brick (solid masonry) for as low as from \$9,000 to \$13,000 depending upon location and the character of equipment and finish.

After you see the plans in circular No. 705 you should be able to determine the approximate cost of this popular home in your locality. With the complete plans—working drawings—and specifications, which are yours at a nominal price, you can estimate exactly what it will cost to build this home.

Costs Even Less With Ideal Wall

When this home was first built the Ideal Brick Hollow Wall was unknown. Its recent development makes possible the building of this Brick home for even less than the above figures. With the Ideal wall you obtain all the advantages of solid masonry construction at a saving of $\frac{1}{3}$ in cost.

The Ideal Wall is thoroughly described in "Brick, How to Build and Estimate"—a 72-page manual of vital information for contractors and builders. It contains 30 tables, 9 full page detail drawings and other information which proves of wonderful assistance in estimating costs quickly and accurately. Only 25 cents postpaid.

The Hiawatha is one of a wide variety of Brick house designs shown in that fascinating volume, "Brick for the Average Man's Home." Here you will find all kinds of homes illustrated and described, together with much helpful information which will prove of great value in interesting prospective home owners, thus helping you to land jobs. The nominal price of \$1.00 is to cover printing and distribution costs only.

\$1.25 brings both books. Address The Common Brick Industry of America, 2131 Cleveland Discount Building, Cleveland, O.



The Hiawatha

A House You Can Sell Quickly and Profitably

This home is so good looking, practical and economical that it appeals to every one. It is declared by experts to be the finest of its class in America.

Think what a ready market you'd have for such a home if you built it. Think of its greater sales value—its better profit possibilities.

You can now secure complete plans and specifications for this remarkable brick home. Send for free circular No. 705 showing alternate floor plans and giving complete details.



**This Trade-Mark
Stands for—**

Quality—
An honest product,
honestly advertised.

Responsibility—
A reputation for honorable,
prompt and efficient
business dealings.

Service—
A material of proven integrity
with a record of
ages of service.

The Common Brick Industry of America
2131 CLEVELAND DISCOUNT BUILDING
Cleveland, Ohio

The Ideal Brick Hollow Wall is made of standard brick obtainable everywhere



Ideal Brick Hollow Wall

"Brick Homes at the Cost of Frame"



WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

that the wall has the usual brick wall appearance; the backing brick being on edge. Header courses may be run at every third or sixth course and any bond may be used.

The ideal wall has an absolute break in the mortar joint in the direction of the thickness of the wall, thus accomplishing what has long been sought thru the use of special shapes and units. The eight-inch wall has one break in the mortar joint and the twelve-inch wall has two such breaks.

Common Brick O. K.

This wall lends itself to the use of both face and common brick. No special type of brick is needed.

Ideal construction is usable for the following purposes:

Foundations and walls of the superstructure of all residences.

Load bearing walls wherever the hollow unit type of wall is now employed or allowed.

Spandrel, curtain and partition walls.

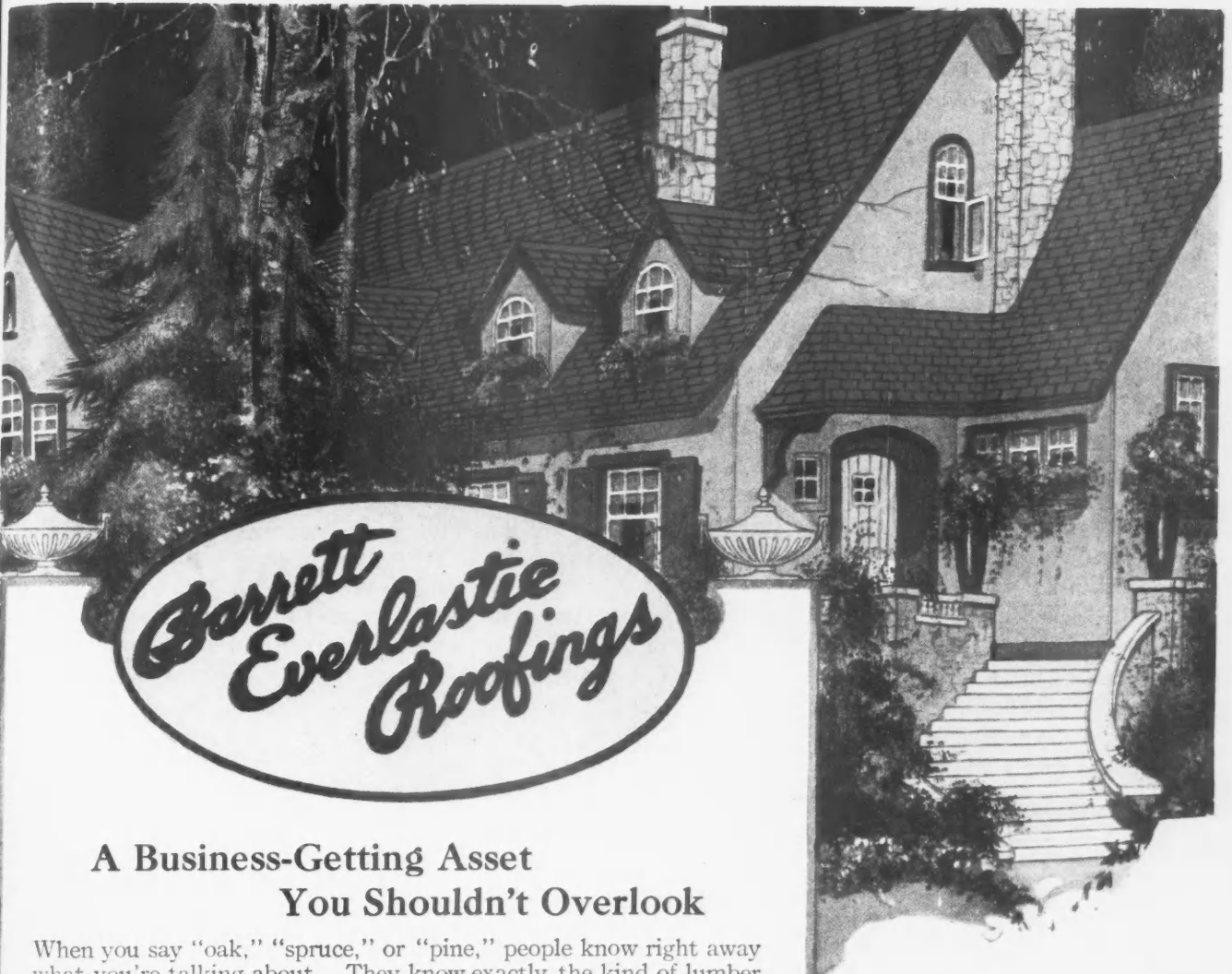
The best engineering codes are agreed that for party walls and for fire protection and division walls solid brick construction should be employed.

Those advantages of drying and economy found in tile construction are duplicated in the ideal wall. It is said, on authority, that it is the least expensive of any type of brick wall construction. The ideal wall is a finished wall, no stucco outside or no furring inside is needed, except in extremely cold climates furring is recommended.

It is interesting to note that while fewer bricks will be laid per day in ideal wall building as compared with the common type, a greater area will be covered and thus a saving in time and material will be effected.



Ideal Walls Under Construction. Note Pleasing Appearance of Rough or Wire Cut Surface of Stretchers in Combination with Smooth Headers.



A Business-Getting Asset You Shouldn't Overlook

When you say "oak," "spruce," or "pine," people know right away what you're talking about. They know exactly the kind of lumber you're going to use.

And it's the same way when you mention Barrett Everlastic Roofing. This is the one brand of roofing that everybody knows. From years of honest, straight-forward advertising, they know that the Everlastic label stands for top-notch quality. They know that the dependability of these roofings is pledged by the Barrett Company's sixty years of leadership in the manufacture of roofing materials.

The nation-wide prestige of Everlastic Roofing is a business-getting asset no builder should overlook. Specify them in your bids and estimates, and your customers will know they're going to get a good roof.

From the six popular styles of Everlastic Roofings you can meet every requirement in price, style and personal preference. Note particularly the new Everlastic Octo-Strip Shingles. They're Everlastic quality in a new form. Just the thing for an extra-handsome job

Your Choice of Six Styles

Everlastic Octo-Strip Shingles

A new Everlastic Shingle that is the latest development in the strip shingle. Beautiful red or green mineral surface. Made in a form that offers a variety of designs in laying.

Everlastic Multi-Shingles

Four shingles in one. Made of high grade waterproofing materials with a red or green mineral surface. When laid they look exactly like individual shingles. Fire-resisting.

Everlastic Single Shingles

Same material and art finish (red or green) as the Multi-Shingles, but made in individual shingles; sizes, 8 x 12 $\frac{1}{4}$ inches.

Everlastic Giant Shingles

Identical in shape with Everlastic Single Shingles but made considerably heavier and thicker. They are "giants" for strength and durability.

Everlastic Mineral Surfaced Roofing

Most beautiful and enduring roll roofing made. Surfaced with everlasting mineral in art-shades of red or green. Needs no painting. Combines protection against fire with beauty.

Everlastic "Rubber" Roofing

This is one of our most popular roofings. It is tough, pliable, elastic, durable, and very low in price. Easy to lay; no skilled labor required.

The Barrett Company

New York
St. Louis
Detroit
Dallas
Salt Lake City

Chicago
Cleveland
New Orleans
Syracuse
Bangor

Philadelphia
Cincinnati
Birmingham
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Columbus
Bethlehem
Baltimore
Denver

Boston
Pittsburgh
Kansas City
Atlanta
Johnstown
Milwaukee
Richmond
Elizabeth
Omaha
Jacksonville

Minneapolis
Duluth
Lebanon
Toledo
Latrobe
Buffalo
Houston
San Francisco



THE BARRETT COMPANY, Limited
Montreal Toronto Winnipeg
Vancouver St. John, N.B. Halifax, N. S.



This type bonds naturally and easily where piers or sections of solid wall are deemed necessary.

In Service Since 1880

Probably the best example known of the durability of homes with ideal wall construction is afforded by a house built in 1880 at Arhuletemala, Sweden, by the father of Gust Bern, director of the Swedish Brick-maker's School of Experimental Brickwork, Svedala, Sweden. After more than forty years' service it is still inhabited and the walls are in excellent condition. It has afforded a substantial and comfortable home in winter and summer for five different families.

Burned Clay Brick

It is readily understood that the ideal wall is devised with the expectation that only burned clay brick shall be used. The enormous strength of burned clay brick makes possible the ideal construction. Unburned brick are porous and have less strength and should never be employed in this type of wall. It is also important to lay all brick moist, except impervious brick. This is especially important in hot weather to prevent too rapid absorption of the water in the mortar.

There is no reason for the builder to look upon ideal wall construction as anything at all difficult to build. The idea is simple and any mason will be proficient in laying it right from the start. In fact, those builders who are using ideal construction state they like to lay this wall.

Because the ideal wall goes a long way in overcoming the objection of cost which handicaps brick building it seems sure to grow in popularity.

Proving It With Photographs

TO further encourage the use of long-lasting materials in building, the Copper and Brass Association has announced a unique and interesting contest. Liberal cash awards will be paid for the best photographs showing the relative durability of materials used in constructing American homes.

Articles to qualify must have been in use more than 35 years and must be of brass or copper. Objects of utility or ornamentation are proper subjects for photographing. Some of the suggested subjects are copper roofs, brass door knockers, old copper cooking utensils and brass plumbing pipe. Fourteen prizes ranging from \$10 to \$150 will be distributed and a like number of prizes will be paid for photographs showing the early deterioration of substitute metals.

Such a contest has its chief value in its efforts to attract and arouse popular interest. The general public can and is urged to compete. Anyone can take the photographs suggested, but it might require an expert to write an essay, so the association opened wide the gate, hoping that the interest would be general and the results widespread.

School children are especially urged to enter this contest. That's good.

There's a great deal of theory and perhaps too little of the practical in the education of our young. The investigation and observation which the contest will arouse in the minds of young people will benefit them.

Such contests turn thoughts towards the home. And that's a healthy subject for thought.

Outside and Still It Is Inside the Yard

FENCE RECESS FOR GARBAGE CAN A "GOOD THING"

IT is usually a municipal law that garbage cans shall be kept inside the yard.

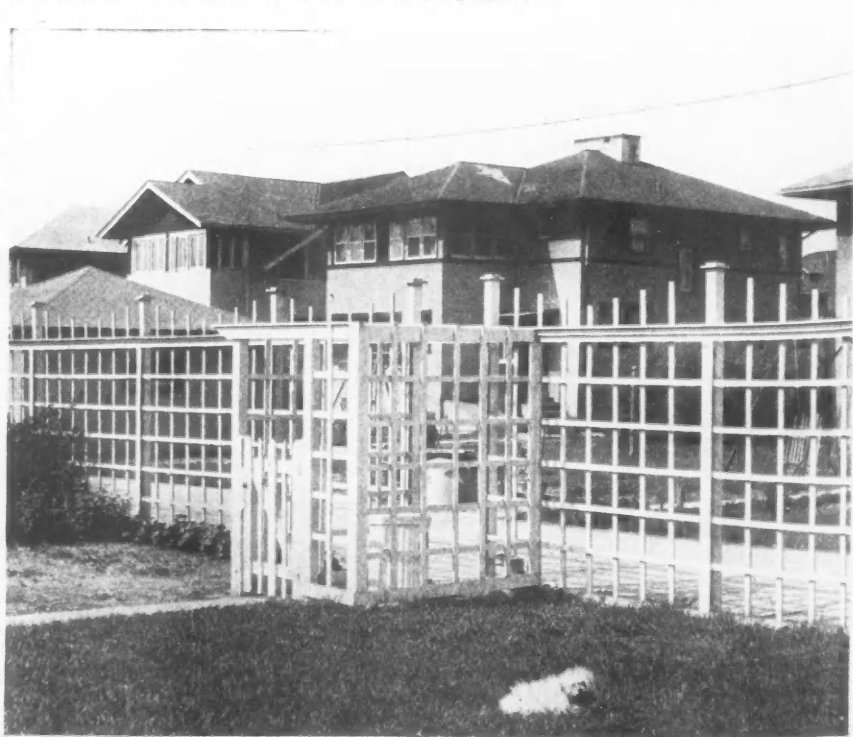
To overcome the blot they cause on a pretty yard this recess was built. The garbage can is inside the property line, but outside the yard proper.

Children nor "doggie" are going to tip over the garbage can and make an unsightly and "un-smelly" mess in this yard.

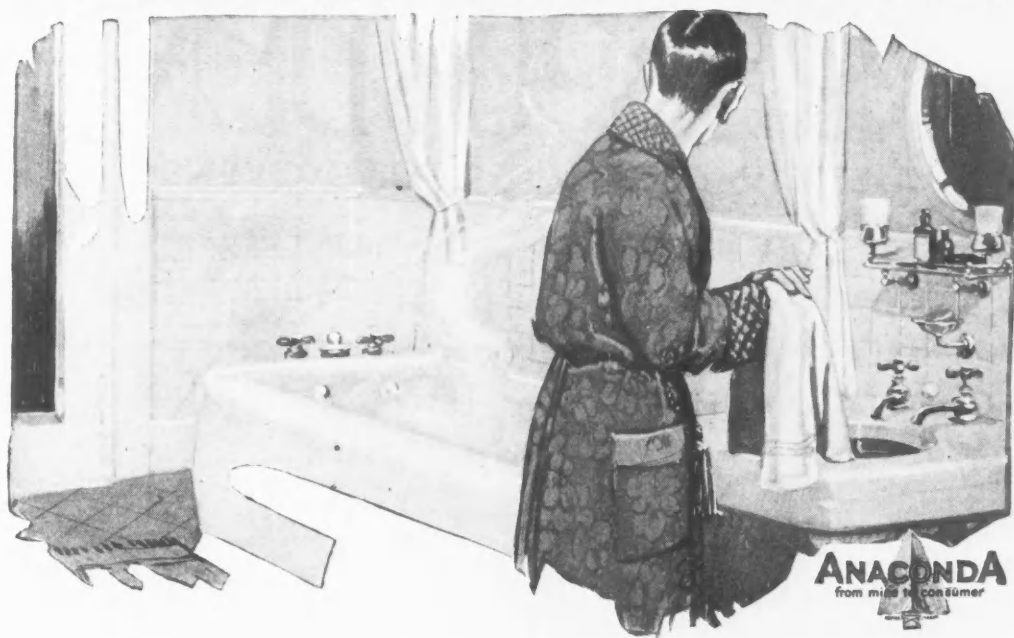
And such a yard entrance is worth many times its cost in the increased valuation of the property.

It only requires a little thought and an ordinary amount of ingenuity to bless a home and its grounds with little niceties which go a long way in adding enjoyment and value to the property.

This suggestion is easily copied and can be followed without excessive expense.



A Recess in the Fencing Keeps Garbage Cans Outside the Used Portion of the Yard.



Your Bathroom—

Glittering tile and resplendent porcelain prove a sad disappointment when the water dribbles from rust-clogged pipes or your bathtub fills with rusty water.

Complete comfort in your bathroom requires *brass pipe*. Any other pipe will rust—and that is not all, inferior pipe will clog, leak or split.

Anaconda Brass Pipe resists corrosion. It insures you against torn-out walls, falling or unsightly ceilings, and the annoyance and expense of the repair man's visits.

The added cost is only \$75 for a \$15,000 house. By adding a fraction of a cent to each dollar to be spent for plumbing, you can have Anaconda Brass Pipe in your home.

Write for our new booklet "Ten Years Hence" which tells how you can save on your plumbing. It is free.

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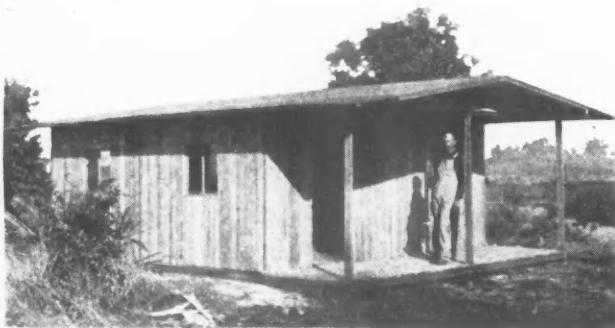
Our Readers are Requested and Urged to Make Free Use of These Columns for the Discussion of all Questions of Interest to Carpenters and Builders

Comfortable at a Cost of \$400

To the Editor:

Eustis, Fla.

The Board of Trade of Eustis, Fla., had to make some arrangements whereby the overflow of tourists could be accommodated. Tents were not desirable, so the body decided to try portable, wooden houses. This photograph is the first one to be completed. It was erected at a cost slightly under \$400, and no doubt this figure could be cut considerably in places nearer supply; also if built in quantity.



Far Superior to a Tent for a Home for Overflow Population.

There is a partition running midway from front to back. One-half of the house is a living room, the other half subdivided by a cross partition into kitchenette and bedroom. This makes a very desirable tourist cottage. The builder, Mr. J. W. Loy, is standing in the doorway.

H. C. McKAY.



Cement Block Difficulties and How to Conquer Them

To the Editor:

Belvidere, Ill.

I manufacture cement blocks and have not had a great deal of experience. As a result, I encounter problems that I need help on. Will you please advise me?

Last year I used some cement for facing on a block machine. On nearly every job I put up that white stuff is coming out on some blocks. It looks bad and is a very poor advertisement for a man trying to work up a business. Is there any way to remove it? How can I prevent it? Is it in the cement; are the blocks made too dry or too wet; are they not kept wet enough while curing; could it be in the water?

This year I am using the same kind of cement for facing and wet enough so the moisture comes to the surface when striking off and also on the plungers. In fact, just as wet as I possibly can and still take them out of the machine. I have to pile the blocks outside to cure, but keep them wet for a week or more; that is, I sprinkle them as soon as they

start to dry out. I would like very much to find out how I can avoid this trouble.

In making caps and rails I line my form with facing the same as for blocks, then fill in with grout, but I have trouble with them. They are powdery; that is, they show the sand and are not of good appearance. Can you tell me how they should be made? After taking from the mold is there a way of finishing them to make them look more like stone? I have seen them where they were a little lighter than the block and looked fine. Are they painted with cement or rubbed with a stone? If so, what kind of stone is used, or paint, and how is it done?

I am trying to work up a block products factory and I am very interested in the business. I realize that to succeed I must produce something better than my competitors and that is my ambition. If you can give me any of the desired information I will surely appreciate it.

H. VAN VLEET.

EDITOR'S NOTE: Mr. Van Vleet's questions were submitted to V. G. Foshinbaur, manager of the cement products bureau of the Portland Cement Association. His interesting answer follows:

Dear Sir:

The white deposit to which you refer as appearing on the surface of your block is known as efflorescence and is caused by the presence of soluble salts in the block. These salts are introduced either in the mixing water or in the sand used in their manufacture. To prevent this, the water should be tested to determine if it contains any salts, in which case you should obtain your mixing water from another source or have it purified. The sand which you use should be washed to remove any impurities or salts which it may contain.

Another cause for the appearance of efflorescence on the surface of the block after they have been laid in the wall is the presence of free lime in the mortar joint. Where this condition exists the efflorescence usually shows up around the edges of the block near the joints, instead of coming out over the entire surface as would be the case where impure water or unclean aggregates have been used. This can be easily corrected by using a pure Portland cement mortar mixed in the proportion of one part of cement to three parts of clean, well-graded sand, without using any lime in the mixture.

To remove any deposit of this kind, you can first use a wire brush on the block and then wash with a weak solution of muriatic acid. The surface of the block should then be drenched with water to remove the acid.

A set of our notes on "Recommended Practice for the Manufacture of Block, Tile and Brick" is being sent you, which contain full instructions for making high quality units. A special set of notes on curing is also being furnished.

The use of an integral waterproofing compound is not necessary to obtain a good, dense, watertight block. This statement is supported by the report of the Bureau of Stand-



Three men never needed for an (EVERlasting) Ambler Asbestos Shingle roof

EVERlasting! And a joy forEVER!

For an Amber Asbestos Shingle roof not only endures but it possesses the beauty that is never ending.

Four permanent colors—Newport Gray, Natural Slate, Tile Red and Moss Green—in three styles—American, French and Honeycomb—give architects and builders an opportunity to work out a great variety of unusual roof effects.

Being made of asbestos and cement, these slate-like shingles possess far greater strength and durability than slate or any other roofing material. Yet, being light in weight, they do not demand the heavy construction required by slate and many other forms of roofing.

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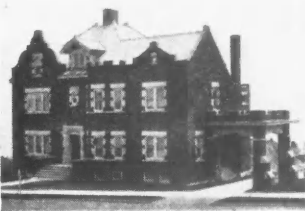
Residence of Abbott Worthley, Bradevelt, N. J., Fred Jennings, Freehold, N. J., contractor.



Residence of Charles E. Grange, Cape May, N. J., Otis M. Townsend, Ocean City, N. J., contractor



Residence of Dr. Homer Collins, Duluth, Minn., Richard Hansen, Duluth, Minn., architect



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For partitions and wall-sheating of halls, dining-rooms, libraries, attics, bath-rooms, kitchens, etc. Made 48 x 48 and 48 x 96 to fit standard joists.

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ards, in Technical Papers No. 3, in which they say that the addition of so-called integral waterproofing compounds will not compensate for lean mixtures, nor for poor materials, nor for poor workmanship in the fabrication of concrete. Since, in practice, the inert integral compounds are added in such small quantities, they have very little or no effect on the permeability of concrete. If the same care is taken in making the concrete impermeable without the addition of waterproofing, as is ordinarily taken when waterproofing materials are added, an impermeable concrete can be obtained.

Some good information on obtaining variations in surface texture and finish for products is contained in our bulletin, "Concrete Building Block and Brick," which we are sending you. Different combinations of various kinds of aggregates are discussed which you can follow in your work. A little experimenting will enable you to bring out the exact textures and finishes you want.

Several good methods can be used to get a good exposed aggregate surface finish on concrete products. A popular method is to brush and scrub the surface while the concrete is still green, but sufficiently hardened so that particles of aggregate will not be removed. Water and a stiff brush can be used for this work. Where the concrete has become too hard, a little muriatic acid should be added to the water. The strength of the solution should be about one part of acid to six parts of water. Any surface treated with acid must afterwards be thoroughly washed with clean water to entirely remove all traces of the acid.

Water spraying is often done with a fine vapor spray or "fog needle." This method is necessarily confined to products removed from molds as soon as made. The washing should be carefully done so as not to wash off the facing material. Spraying removes the film of cement from the exposed aggregate particles and leaves a clean, bright-appearing surface.

V. G. FOSHINBAUR,

Manager, Cement Products Bureau.



How to Hang Screen Doors

To the Editor: San Antonio, Tex.

I have been asked by a number of carpenters to get your opinion as to which side of a screen should be hung out, the mould or the reverse. Both architects and contractors disagree on this question.

My opinion is that it is only a matter of taste.

DAVID F. FEE.



Likes Round House Idea But Suggests Changes

To the Editor: Hawarden, Ia.

Commenting on the drawings of Mr. C. A. Bagwell of Logansport, Ind., his round house is certainly uncommon. Other round buildings such as silos, hog houses, hen houses, coal chutes, grain storage and other small buildings are quite common. I myself have a two-story office building, 16 feet in diameter, that I have worked in for the last five years.

As to a house, if you can get the consent of the missus you can build it cheaper than any other construction. But for the love of Mike, and all others concerned, get away from wood construction. Build this house of good concrete blocks, slightly circular, then strip it on the inside with lath, fabric or something of that nature and you will have the best wall that is used in house work. It will give you two dead air spaces that will save you the cost in fuel in a short time, saying nothing of it being cooler in summer time.

As to the building itself, I shall commence at the basement first and go up with what I think will be improvements to

his plan which he asks for. Grade door chute for ashes from range to basement; more light in basement; more ash bins in cellar; all cross walls of 4-inch concrete solid blocks. Keep all wood out of basement.

First floor: I regard the fireplace a luxury not worth its cost. Have a passageway between kitchen and living room. Cut out the dining room; put it in the living room and kitchen. Put breakfast nook in kitchen. Take bath tub out of first floor. Use room for storage. The room for the men folks make in a half circle back of lavatory and closet. Cut out the flush box for the closet. Connect it up with city water supply with a hand-operated valve. Flush boxes are often out of repair and are costly, both in repairs and leakage of water. Cut out roof of back porch. Make a concrete platform, but build a vestibule for the back door.

Second floor: Cut out the screened-in porch. Make it into a bath room and enlarge two bedrooms. Bath room to contain closet, lavatory and tub. As to heating, put no registers upstairs at all; if any, in the hall. Everybody now sleeps with windows open, so why try to warm the outdoors at night. You will get all the heat needed upstairs thru the open stairway.

Roof: This is the greatest mistake of all. Put that on of concrete. It is satisfactory if you know how. I have it on my office and have roofed silos with it for a long time. I also have it on my barn and garage. It was put on over the shingles.

A large percentage of fires is caused from the roof. I put on concrete roofs without any wood but the rafters and do it cheaper than with any other type of construction. Ventilate the attic and lath and plaster under side of roof. It will make it much warmer in winter and cooler in summer. Put a large concrete vase on top of roof, run a small water pipe to same, and plant running vines that will cover the roof. If made of concrete it won't hurt the roof. Even this is not unique, as I have done it several times.

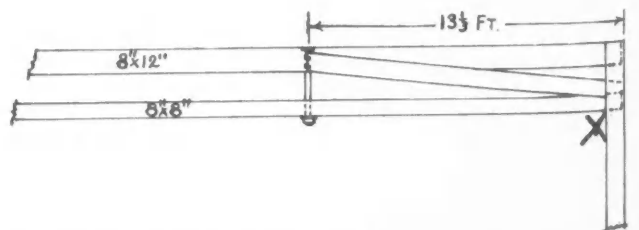
I am glad this matter has come up, as I have tried plans for round houses before, but have dropped them as not satisfactory. But with all these chips we may get a log that will prove useful in the future.

L. T. KENNY.



Please Criticise This Construction

To the Editor: North Sydney, N. S.
Inclosed is a drawing of a floor truss for a hall 40 by 80 feet. State whether this would do instead of a steel girder.



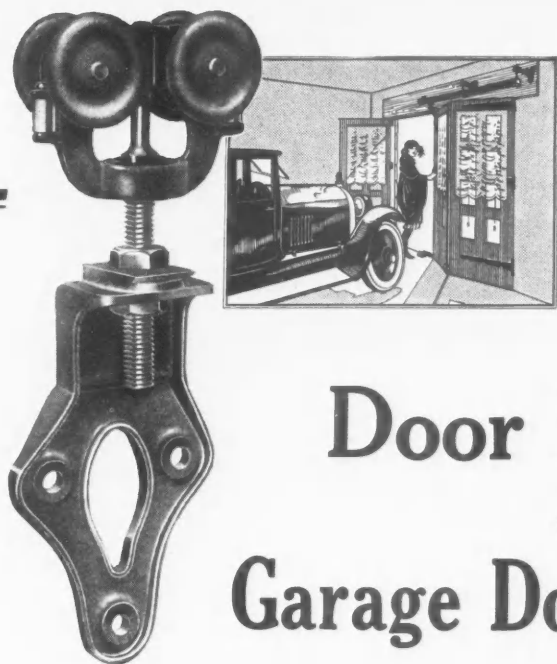
Mr. Day, One of Our Readers in Nova Scotia, Canada, Raises an Interesting Question Concerning a Floor Truss. Should Steel Be Used? Would the Wood Last as Long as if It Were Embedded in Concrete, Are Two Important Questions Raised.

Would it be advisable to have the ends of the truss embedded in concrete, or would the wood last as long? I figured that this timber would be heavy enough.

Would it be practical to have a buttress underneath the ends of the truss marked X?

WILLIAM DAY,
Draughtsman and Builder.

EDITOR'S NOTE—Answer to Mr. Day's question should be sent to the AMERICAN BUILDER, 1827 Prairie Ave., Chicago.



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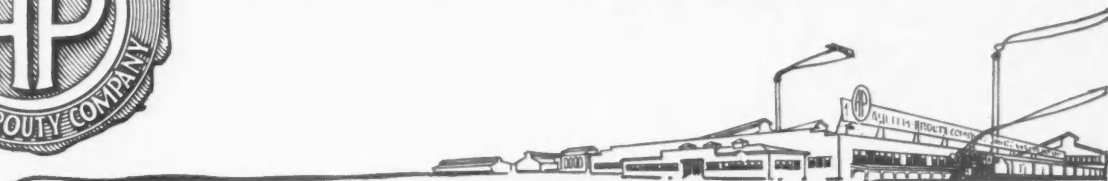
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WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

How to Reinforce Garage Floor

To the Editor:

Astoria, Ill.

Will you please advise me concerning a concrete floor over a cellar 15x28. It is going to be used for a garage workshop. It will have to be heavily reinforced because of running the cars over it.

Now what size rods and how far apart and the thickness of the floor?

C. E. BLEMLER.



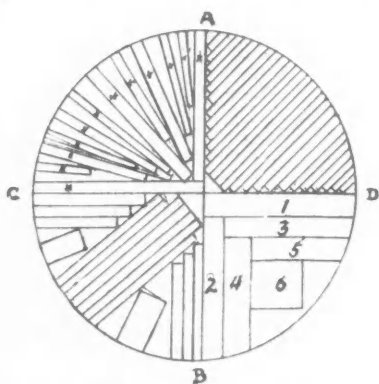
Quarter Sawing for Beauty

To the Editor:

Toronto, Ont., Canada.

In regard to M. J. Miller's query as to the way to obtain the best quarter-sawed grain in oak, I do not think the sketch published in the May number is correct.

The sketch shown here gives the correct methods of converting oak. The two lines A, B, and C, D, indicate first saw cuts made to divide log in quarters, each of which is then sawed into planks by some of the methods shown.



While Mr. Sy Gunning Realizes That It May Cause a Waste of Material He Seems to Have an Important Suggestion Relative to the Best Method of Quarter Sawing of Oak Which Has Been Widely Discussed in This Department.

The quarter sawed as shown from A, to C, would give by far the best results, as the annual rings cross the plank nearly at right angles to its face; also the medullary rays being parallel with this face will exhibit the lines of the silver grain. This method, however, requires more time and attention, and the waste of material exceeds 25 per cent. The time required to reduce this quarter to planks is 30 per cent more than for quarter C, B., and 50 per cent more than for quarter D, A.

In actual practice much of the quartered oak is cut on lines similar to those shown from B, to D., 1, 2, 3 and 4 being sawed into boards and the rest cut for flooring, posts, etc.

The method of sawing as shown in Mr. Miller's sketch can hardly be called quartering in the sense in which that term is used, to denote the appearance when cut. There is only one-fifth of the finished timber that presents the advantages of beauty and durability, secured by either of the two methods of sawing.

Method shown at B, D, is adopted with a view to securing large pieces. The heavy planks are cut in the order in which their end sections are numbered. Numbers 1 and 2 are the choice pieces.

SY GUNNING.



Seeks Safe Window Scaffold

To the Editor:

Ottawa, Ill.

I wish to obtain information regarding a portable window scaffold such as is sometimes used by window cleaners on high buildings. This is a small portable platform that is pushed thru the window from the inside. The window

washer stands upon this platform while cleaning glass on outside. It should not be too heavy, and needless to say must be absolutely safe. I would like to know where I can purchase a device of this kind, or obtain a description of how to make one.

I would appreciate any information on this subject. I am not interested in "safety belts" that are on the market for this purpose.

JOHN U. WEHMAN,
Contractor and Builder.



Who Wants a "Grand-Dad" Clock?

To the Editor:

Stearns, Ky.

I want to know if there is a rule for proportioning the pitch of lookouts at slope of roof? Say, if roof is 8 inch rise, what should pitch of lookout be?

Also, I have an old Grandfather Clock, about 7 feet 6 inches high, wooden works, run by weights. On the face is L. Watson, Cincinnati, Ohio. It is quite old.

Could you direct me to parties that would be interested in something of the kind?

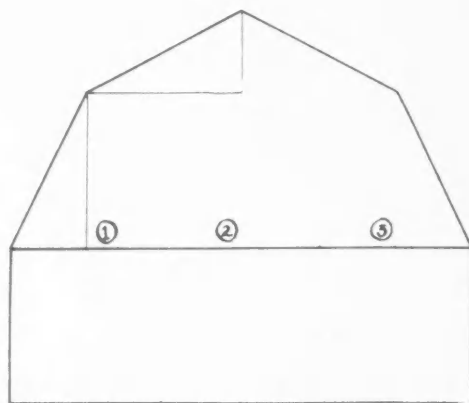
SAM SANDIDGE.



How Would You Solve Mr. Bowman's Problem?

To the Editor:

I want some advice on a hip roof house. I am going to remodel a house 30 by 34 feet. The front has a porch 8 feet deep with room over porch 8 feet by 14 feet. The back has



Some of Our Readers Can and Gladly Will Answer Mr. Bowman's Question Relative to a Hip Roof House. He Wants a Well Proportioned Roof and Realizes That Too Much Rake Would Cramp the Size of the Rooms. What Do You Suggest?

a porch 8 feet deep, two rooms over back porch. The building over back porch is 8 by 20 feet, which is four gables.

The building has a square cornice which is one foot on each side. The ceiling joist which the roof rests on is 32 feet long. I will want an eight-foot ceiling.

I am enclosing sketch cut from your book, but I don't think this will do, because the hip has too much rake or not enough pitch. I want three rooms in each end, the 30-foot way. Two rooms in the back, one room in the front. If the hip has too much rake it will make the rooms too small on the sides. I want a roof that will look right when it is finished. I do not want something out of proportion.

I wish you would send me a sketch of the roof I need. Also the length of rafters and valley, and rule for cutting same.

J. A. BOWMAN,
Betterton, Md.

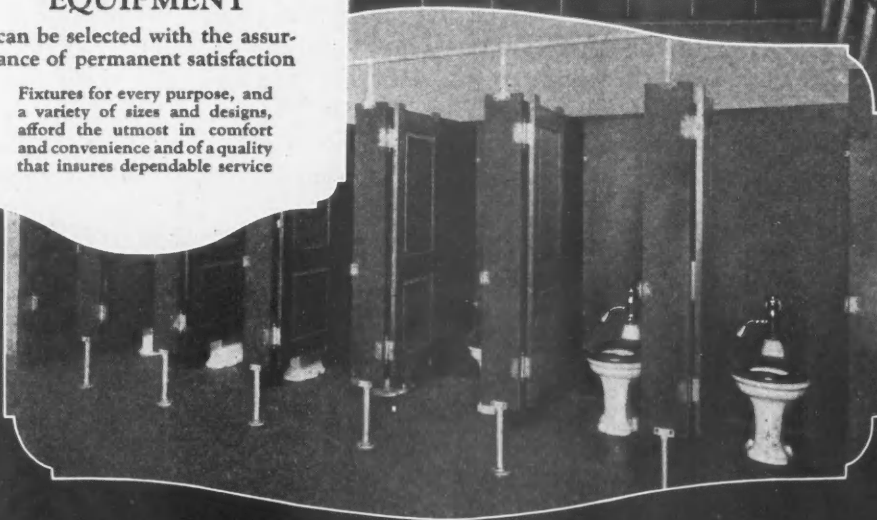
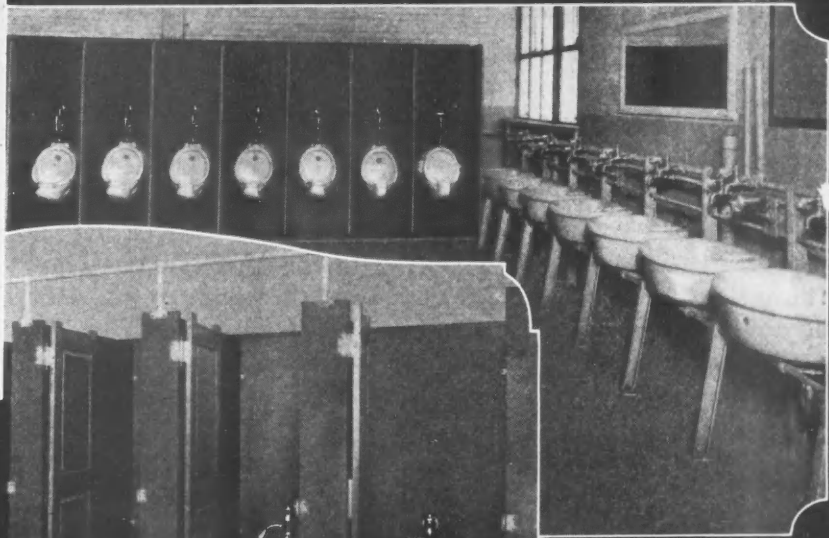


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Practical and Attractive Uses of Steel Sash

SMALLER BUSINESS BUILDINGS NOW ABLE TO IMITATE LARGER CONCERNS DUE TO STANDARDIZATION AND LOWER COSTS

PRACTICAL buildings should be built of practical materials. Factories, warehouses, public garages, school buildings, all public edifices and similar utility structures are subject to more severe usage and, to be economical, must last a span of years greater than that expected of buildings not designed for business or public use.

Industrial plants are usually good examples of practical buildings. They are put up for use. The owners are not concerned with how they look so much as they are with how long they will last.

Owners before spending a big sum of money for a large factory building have taken pains to learn what materials are most practical, durable and economical. Time and money have been spent to investigate the comparative value of various building materials.

These investigations have proven important not only to the firm making them but to the building industry in general. Even the public has taken notice of the general trend of manufacturers to use certain types of buildings, built of certain materials and the man engaging in his first building enterprise is apt to prefer the practical, durable construction he has frequently seen.

A notable example of how smaller institutions have followed the lead of larger manufacturers and how new builders have imitated more experienced builders is seen in the general adoption of steel sash for business buildings.

Prefer the Practical

Owners of small public garages, one-story factories and small warehouses want their buildings practical and durable and they have borrowed from the experience of bigger institutions and specified steel sash.

This general preference for practical steel sash has enabled manufacturers to sell goods in such a volume that costs have been cut. The demand for certain sizes has become so general that they have been stand-

ardized and are made up and shipped in great quantities. Savings on overhead and selling expense have been large and have permitted lower prices. So today steel sash may be bought on very favorable terms.

Carried In Stock

The use of steel sash has become so common that lumber dealers carry the popular sizes in stock for immediate delivery. Should the dealer not have the exact quantity or sizes desired he probably can get very prompt delivery from a nearby warehouse. There is apt to be no delay waiting for the sash to be made up. Owners are always better served if they discuss materials with the dealer in advance of their being needed; but so long as many owners fail to do that it is always appreciated when the dealer can fill a rush order out of stock. Steel sash is now such a staple commodity that most dealers can make immediate delivery of the material.

There is no good reason why a small building cannot be as practical, durable and as well built as a larger one. The handy stocks and attractive prices of steel sash make it possible for the owner to gain the same advantages thru the use of this material as have long been enjoyed by larger concerns.

An example of the excellent manner in which steel sash lends itself to simple, sturdy, practical treatment is seen in the public garage of Lorenz Brothers, Lansing, Mich. This one story and office building is designed to take care of such demands as might be expected in a city of 60,000 people already well supplied with sales and service stations. The specifications, planned with good business sense, called for a building that would look well without being ornate and that would give satisfactory service without excessive repair and replacement charges.

It was decided to use steel sash because of the saving in original cost and the further economies resulting over a span of years. Note how completely the goal of attractiveness without needless expense has



A Commendable Example of a Well Lighted One-Story Factory and Office Building. Steel Sash Was Used Thruout the Building.

Detroit
Steel
Comp
2263 E
Bldg.

Gentle
Kind
How
Penetr
Window
no obli

Name

Address



These unretouched photographs show one of hundreds of homes installing Fenestra Steel Basement Windows. Note that there are 13 windows used in this one basement.

The lower picture shows how easy it is to set these windows without bracing.

There is no longer any "speculation" about Fenestra Steel Basement Windows.

Three months ago, we BELIEVED that contractors would welcome these windows for installation in up-to-date residences, apartments and stores. They had so many advantages over wood basement windows, the method of installation so simple, and their cost was so low that they looked to us like a time, labor and money saver for contractors. Now, we KNOW THIS IS TRUE.

In just ninety days, Fenestra Steel Basement Windows have developed a popularity which insures their constant and increasing use.

Hundreds of contractors are using these windows in large quantities.

Sales have tripled.

Thousands of inquiries have been received from home owners, architects and contractors, anxious to know more about these windows.

These facts PROVE beyond question of doubt that there is and will continue to be an increase in demand for Fenestra Steel Basement Windows. That contractors will find them of practical advantage in simplifying window installations and in aiding them to sell homes built for speculation, is now established.

Let us send you, without obligation, fully illustrated literature, showing the sizes and dimensions, details for installing in brick and concrete, how to glaze, screen, in fact, free information about these highly improved windows. It cost only a two-cent stamp to investigate. Sign and mail the coupon NOW!

Get This Valuable Literature NOW!

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2263 East Grand Blvd., Detroit

Gentlemen:
Kindly send me "The Hows and Whys of Fenestra Steel Basement Windows." This incurs no obligation on my part.



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"The Largest Manufacturers of Steel Sash in the World"

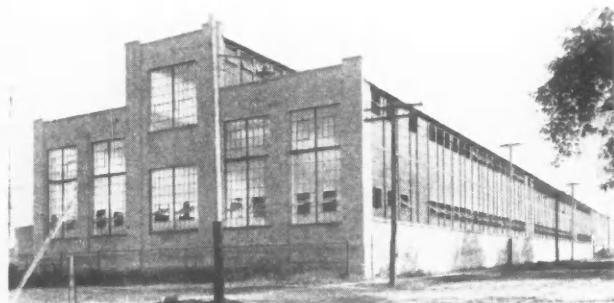


Lorenz Brothers, Lansing, Mich., Appreciate Sturdy Simplicity. Steel Sash and Simple but Attractive Brick Treatment Answered Their Desires.

been reached. In the brick work the simple use of header and soldier courses and cut stone have saved the front from a monotonous sameness which characterizes a blank or unvarying wall.

Easy for Any Bricklayer

Three panels made of header courses with cut stone at each corner grace the front. There was no increase in cost for time or materials used because of this



Modern Monitor Factory Buildings Set the Example of Using Steel Sash. How Small Buildings Can Afford This Material.

simple treatment. The pilasters are sturdily built and they have that strong appearance which creates admiration for a building. A pleasing touch is given the pilasters with a cut stone water shed, a soldier course of brick at the top and a cap of white cut stone. The main entrance with its soldier course of brick lends another simple, sturdy touch of attractiveness.

In such a well planned and carefully built garage it would be only natural to find steel sash used. An abundance of light, the need for good ventilation and the general inclination for utility with no sacrifice of attractiveness, of course, prompted the specifying of steel sash.

The small factory and office building of Siewek Bros. is another example of pleasing appearance as an incidental accomplishment of the main desire for simple, lasting construction. Economy and utility dictated the specification for steel sash in this building. It did not "run costs up" nor did it do otherwise than add attractiveness and greater efficiency to the building.

"The Long and the Short of It" in Oak Flooring

CLEAR oak flooring can be purchased for less than the price of clear oak lumber. Bear in mind that clear oak lumber is being spoken of—a better grade than firsts and seconds. Firsts and seconds will admit small defects not admissible in clear oak flooring or a clear grade of oak lumber.

What is the explanation of this apparent anomaly? How can an industry subsist that apparently charges less for a completely manufactured article than the raw product from which it is made? An article, too, that requires more men per thousand feet to make than any other article in the dealer's shed.

Seven is the lucky number for oak flooring makers. Theologians may look for blessings in groups of three; the Oriental mystic may prefer the number 13, but oak flooring men burn incense to a lucky 7 because it's the single word of seven letters that gives them life and permits them to be. This word is the tongue-tieing monosyllable of six consonants and one vowel—which, by the way, must look as bad to a Russian as all of his words do to us—the word l-e-n-g-t-h-s.

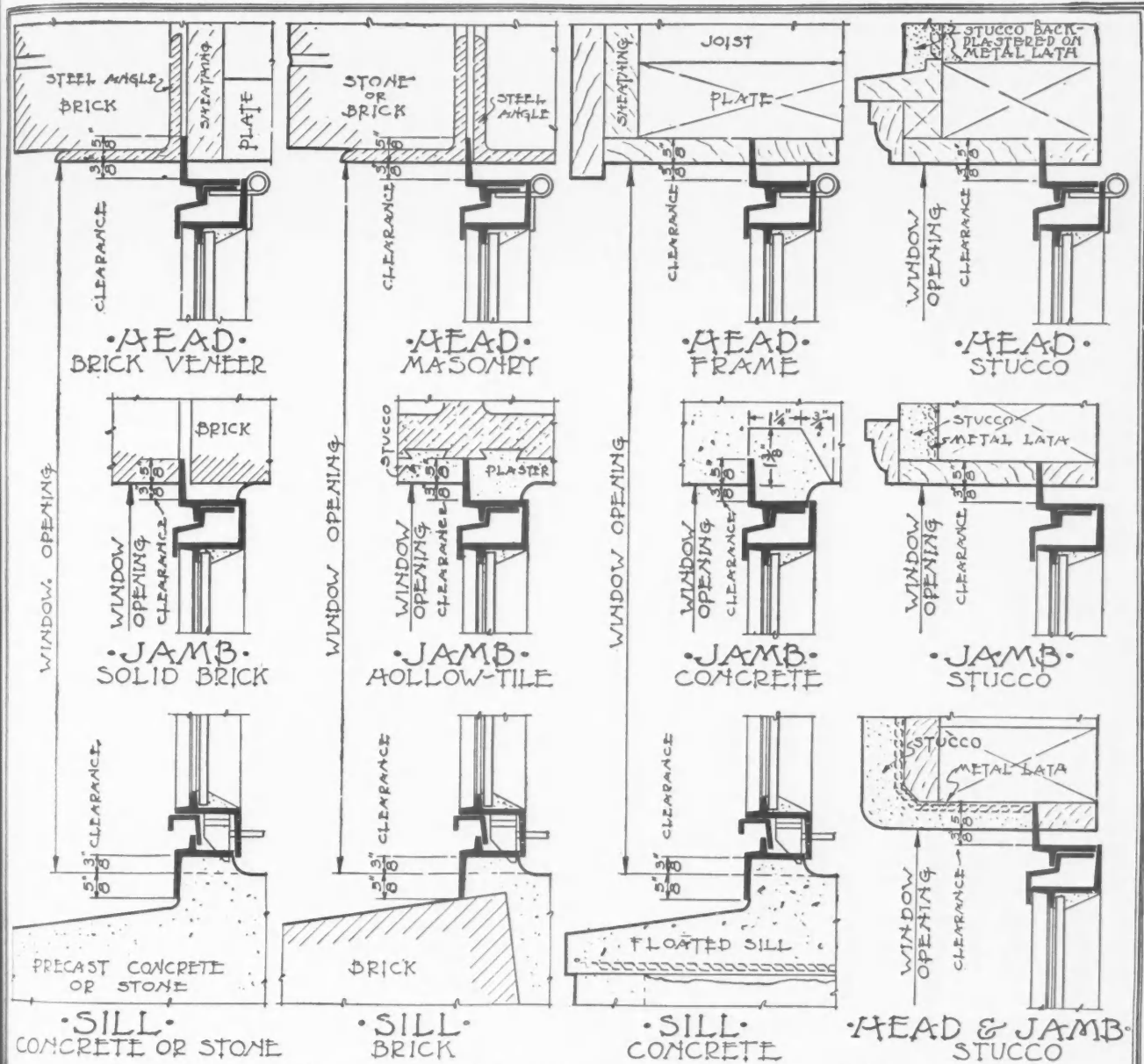
The fact that oak flooring is accepted in lengths of one foot and up makes possible the manufacture from common oak lumber. It is lengths that give the oak flooring fellow the chance to live.

And yet how often has the builder contested this reasonable plea for existence by specifying long lengths of oak flooring. The manufacturer does marvelously well to give the lengths he does. He must get clear oak flooring out of common lumber and in the cutting necessary to produce it, long lengths are not possible.

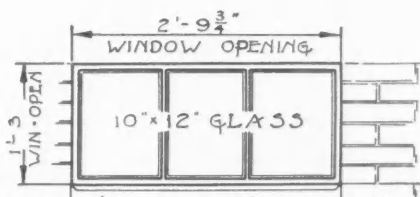
It may be safely predicted that as the years pass the lengths of oak flooring will become shorter than they are today. The supply of large timber is diminishing. A less and less percentage of uppers is produced and with this a sharper inspection of the lower grades.

HERE ARE THE DETAILS FOR TRUSCON STEEL BASEMENT WINDOWS NOW SO POPULAR WITH ALL HOME BUILDERS

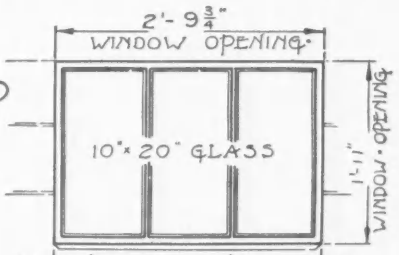
50% to 80% more daylight. Easily installed and screened. Never stick, leak or need repairs
Cost as little as wood



— TYPICAL INSTALLATION DETAILS —



STANDARD SIZES



TRUSCON STEEL
BASEMENT WINDOWS

FOR EVERY RESIDENCE
TRUSCON STEEL BASEMENT WINDOWS
TRUSCON STEEL COMPANY — YOUNGSTOWN, OHIO.

SHEET
NO. 1

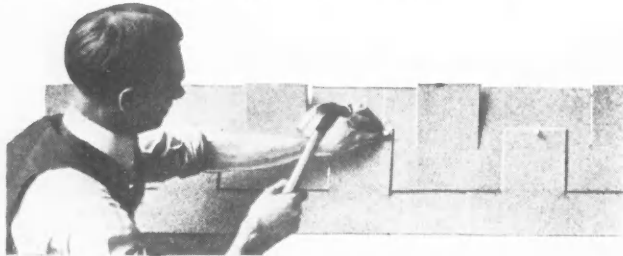
WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



EDITOR'S NOTE: The AMERICAN BUILDER does not accept payment in any form for what appears in our reading pages. In order to avoid any appearance of doing so, we omit the name of the maker or seller of any article we describe. This information is, however, kept on file and will be mailed to anyone interested; address American Builder Information Exchange, 1827 Prairie Ave., Chicago.

Shingles Woven onto the Roof

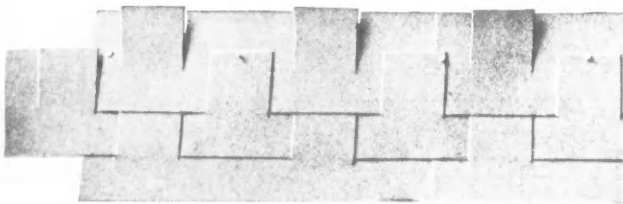
THE industry is interested in a new asphalt shingle of the slab or strip type, oblong in shape and with four vertical slits extending from the upper edge, thus forming two weaving straps which interlace the shingles when laid, to produce, practically, one continuous mat covering.



Fewer Nails and Less Labor Are Required.

Weaving straps are laid over the shingle in the course next above. When laid there are 172 units of the design exposed to each 100 square feet of roof surface. Each unit of the design contains 83.8 square inches.

A minimum of two thicknesses of material is secured at all points between the weather and the roof boards.



Note How the Flaps Interlace.

An absence of waste of material is another feature which the manufacturer finds of general interest.

Three nails are required for each strip and when the roof is complete each strip is pierced and secured by nine nails in addition to the holding power of three weaving straps. Any standard asphalt shingle nail may be used.

These shingles are packed for shipment in wired bundles with wood or fibre board tops and bottoms. The average shipping weight is 190 to 195 pounds.

Two bundles of 43 shingles each make a complete square. A test in laying a square showed this particular type was laid in 50 minutes, while another type required 76 minutes.

Interesting water tests have been made to establish the weather efficiency of this woven asphalt roof. Sections were arranged so an examiner could watch the under side for leaks

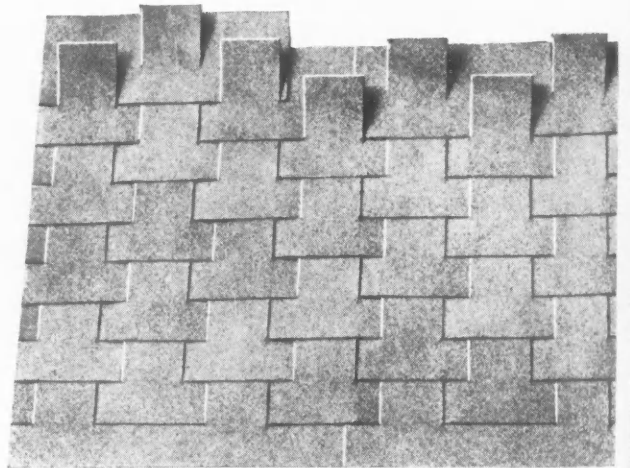


Testing Panel with Fire Hose at 25 Feet—No Leaks.

and a fire hose was played on the sample with a velocity and volume of water that would seldom, if ever, be encountered in practical use. The test was conducted under the supervision of an expert engineer.

With a heavy stream playing at a distance of 25 feet this new type of roofing developed no leaks in fifteen minutes, while another type showed immediate leaks. Using a smaller stream at eight feet away there were no leaks in eight minutes, but the other type leaked in one minute. When a rain spray was used from a garden hose there were no leaks.

Other interesting features of this type of shingle are that overlapping and double nailing hold them more securely than most types, that they have no loose unfastened ends for the



How the Woven Asphalt Roof Looks When Nearly Complete.

wind to affect; that they not only offer the ordinary fire-safe feature of asphalt shingles but are unusually effective in fire prevention because they have a minimum of two thicknesses. They provide excellent insulation against heat and cold, are not subject to curling and their durability is exceptional from any other type of shingle.



Vest Pocket Slide Rules Back Again

ENGINEERS, architects and contractors will be glad to know that the small vest pocket slide rule is again procurable in this country. The supply was abruptly cut off by the war and up until recently these rules have not been purchasable in the United States.

The practicability of this small four-inch lightning calculator can be easily understood by anyone having occasion to figure building problems out on the job. These problems can be as easily figured with this smaller rule as in the office on the larger slide rules which no builder is ever without. The fact that these rules are as conveniently carried as a lead pencil and yet are as accurate and easy to read as the larger rules make them highly desirable and to many who have used them before highly essential.

The Value of Kellastone for Stuccoing Purposes

BRIQUETTE tests reveal the fact that KELLASTONE Stucco exceeds the strength requirements for Portland cement established by the American Society for Testing Materials, by more than three times.

This extraordinary strength, accompanied by a flexibility unequalled by any other plastic material, combine to make Kellastone products of real worth in the field of architecture and construction. Kellastone also ranks very high in resistance to fire.

When twenty-eight days old, KELLASTONE possesses an average breaking strength of 700 pounds per square inch. It stands to reason that the greater the strength of any stucco, the greater the strain the material will stand before parting or cracking. KELLASTONE will remain perfect under strains and conditions that would ruin ordinary stuccos.

For interiors, uncased openings, arches, pilasters, etc., KELLASTONE Interior Plaster is especially effective. It is a highly fibrous plaster, weighing only half as much as lime or gypsum plasters, and equaling KELLASTONE Stucco in tensile strength. The volume change during and after setting is so low as to eliminate internal shrinkage stresses. Write for interesting KELLASTONE literature.

NATIONAL KELLASTONE COMPANY

ROOM 515

155 EAST SUPERIOR STREET
CHICAGO, ILLINOIS

New York Office

342 MADISON AVENUE
NEW YORK CITY

KELLASTONE
IMPERISHABLE STUCCO

Waterproof Fibre Board

THERE is now available for the building field the type of waterproofing fibre board long used by the Pullman Car Company and large automobile manufacturers in the construction of their products. The application of this material to the building field has been the object of careful tests by the manufacturer, whose experience convinces him that it is practical, economical and desirable in every way.



Second Story Finish with Waterproof Fibre Board and Panel Strips Will Present the English Half Timber Effect.

Like steel, this fibre board is made by a fluxing process in which all the fibres run together, interlock and interlace so that it becomes one homogeneous article without points of separation and free from grain as in wood. An absence of laminations found in "built up" or "stuck together" products is a quality the manufacturer emphasizes.

The use of wood has the test of centuries and general preference in many instances. Wood supplies are dwindling and science is overcoming this condition by making products which serve a similar purpose. The manufacture of this particular kind of fibre board considers it not a substitute, in that sense, but really a superior product to wood.

Some of its qualities are: It will not check, crack or splinter. It provides insulation against penetration of heat and cold. It cannot rust, crystallize or lose strength thru vibration. It is not easily dented.

It is supplied in boards or sheets of standard dimensions and in varying thickness and makes possible construction of large panels with a flat, even surface.

This material has stood up under long exterior exposure.

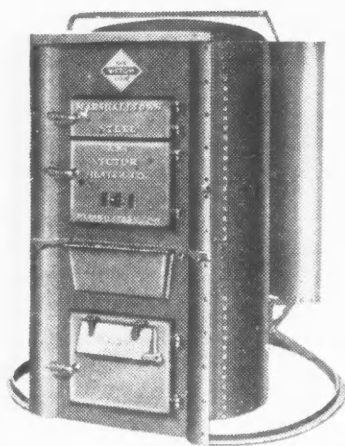


For Water "Softer Than Rain"

THOSE localities whose water supply is extremely hard—and such localities are surprisingly numerous—will welcome the improved water softener offered by a large manufacturer. It insures soft water at the turn of a faucet anywhere in the house. Water pipes will not choke up with scale and mineral deposits, if the water is made soft with this outfit.

To bathe in soft water, to wash clothes in soft water and to have the cooking and sanitary advantages of softened water are extremely desirable.

One of the features of this water softener is its simplicity—nothing to get out of order. This device gives an every-ready, never-failing source of supply. No chemicals are used, the transformation of hard water into soft water being effected by layers of a natural mineral substance. Filtration thru these layers of natural mineral remove every bit of hardness and make the water from five to eight grains softer than rain water. Lime, magnesium, iron and other hardening properties are



When You Build This Summer, Prepare for Many Winters to Come

THE MARSHALLTOWN STEEL and VICTOR CAST FURNACES

are made for the user who is looking for high grade goods. They have the longest smoke travel, more radiating surface and fewer packed joints than any other furnace. The radiator at back of heater is of three flue construction, doubling the efficiency over all others of similar shape. Large doors, one piece fire pot construction, frictionless, easy operating grates, extra large combustion chamber, deep and roomy ash pit.

Profits for Builders—Satisfaction for Owners

Wide awake contractors will grasp this opportunity to secure the agency for a really high grade furnace.

The Victor line includes both pipe and pipeless furnaces, cast iron or steel and

enables you to install the type best suited for any building you erect.

Our liberal agency plan will make profits for you. Add to your income this fall.

Act Today — Write for Agency offer to Contractors

VICTOR HEATER COMPANY, Marshalltown, Iowa





Will outlast them all

Brasco

COPPER
STORE FRONTS

The Magic of Making New Business —

Is nothing more than making the appeal that *sells* goods. A store front is the first appeal you can possibly make. Why then neglect to make the most of it?

The number of customers you attract into your store increases in just the proportion of the appeal you make to them. You can't appeal to them if they pass your entrance.

Contractors--Carpenters

Use This Argument With Merchants

Here is a worth-while proposition. You look over the stores of your locality for possibilities of installing a new Brasco Copper Store Front—send us the names and addresses—then we will help *you* land the job. It will mean money to you.

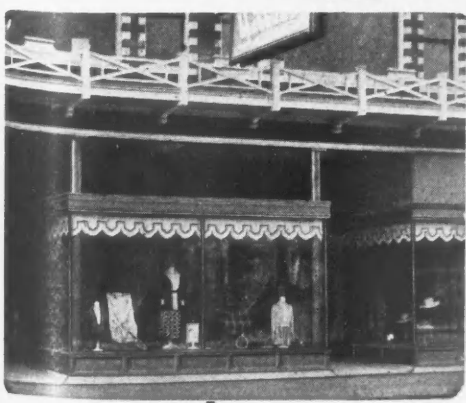
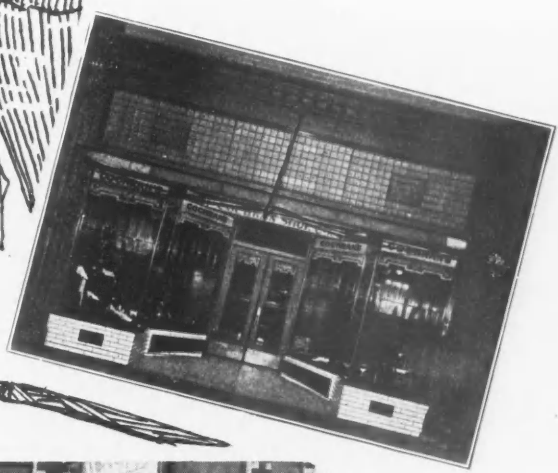
Send in this coupon for a start.

THE BRASCO MFG. CO.
5029 S. WABASH AVE., CHICAGO, ILL.

NAME

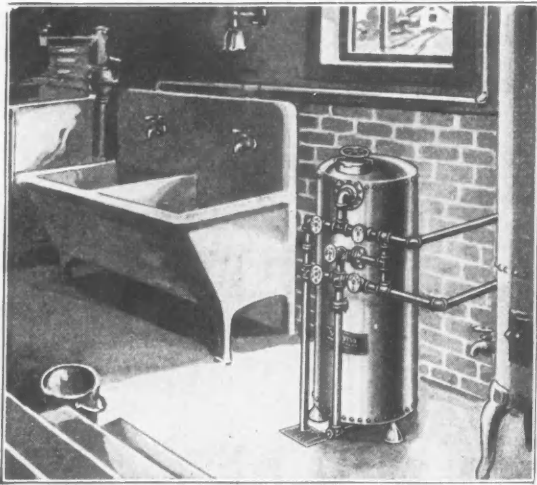
CITY

STATE



entirely removed and the water is more clear, pure and softer than any other.

The experience of architects, builders and owners in many



This Is All There Is to the Water Softener—It Takes Little Room.

localities shows that this outfit does away with a cistern and its disadvantages; costs about 30 per cent less than some other systems; effects a material saving on clothes; and removes lime and scale from hot water heating systems, thus giving them greater efficiency. The device has no complicated parts and as its sole requirements after installation are common coarse salt it can be operated for less than \$5 a year.



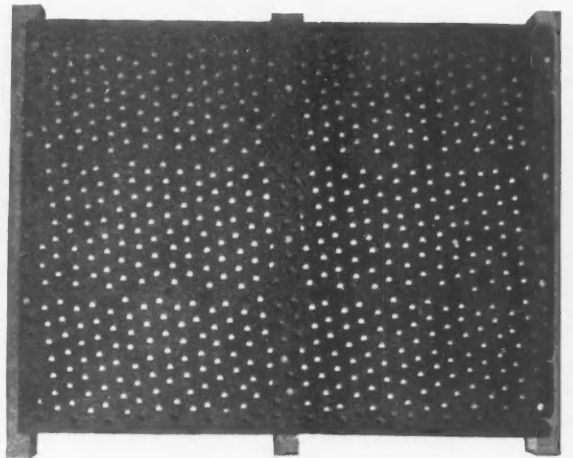
Permanency of Slate Recommends It Where Stucco Is Used

ANOTHER permanent building material which is growing in popular esteem and demand is a perforated slate put

out by a New York concern. Its shape and size make it usable as lath for stucco jobs.

A manufacturing process has been perfected by which natural slate is treated on special machinery that saws, splits and perforates it in a manner that permits it to be economically marketed. The difficulties encountered in an earlier day in attempting to perforate slate have been wholly overcome.

Perforated slate saves sheathing and presents a smooth, hard level surface which enables the plasterer to make a perfectly smooth surface with the first coat, while the perforations make an excellent clinch and lock for plaster, cement or stucco.

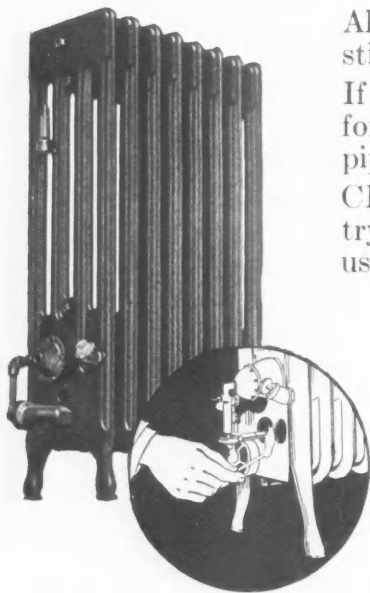


Perforated Slate Surface Is Smooth and Hard.

Large economies of time and material are effected when slate is used in plastering or stucco work.

Perforated slate is fireproof, does not shrink or swell and it will not rust or deteriorate.

BETTER HEATING



All signs point to high prices for coal next winter. That constitutes still another argument for GASTEAM heated houses.

If you use GASTEAM radiators, you can sell your houses for less money, because you save the cost of chimney, piping, and in some cases, cellar excavation.

CLOW GASTEAM radiators are in use all over the country, in all kinds of business. They generate steam heat, using gas—"the ideal fuel." They take care of themselves, have nothing to get out of order, and will last as long as the building.

If you are building houses to sell, we have a proposition that will interest you.

JAMES B. CLOW & SONS

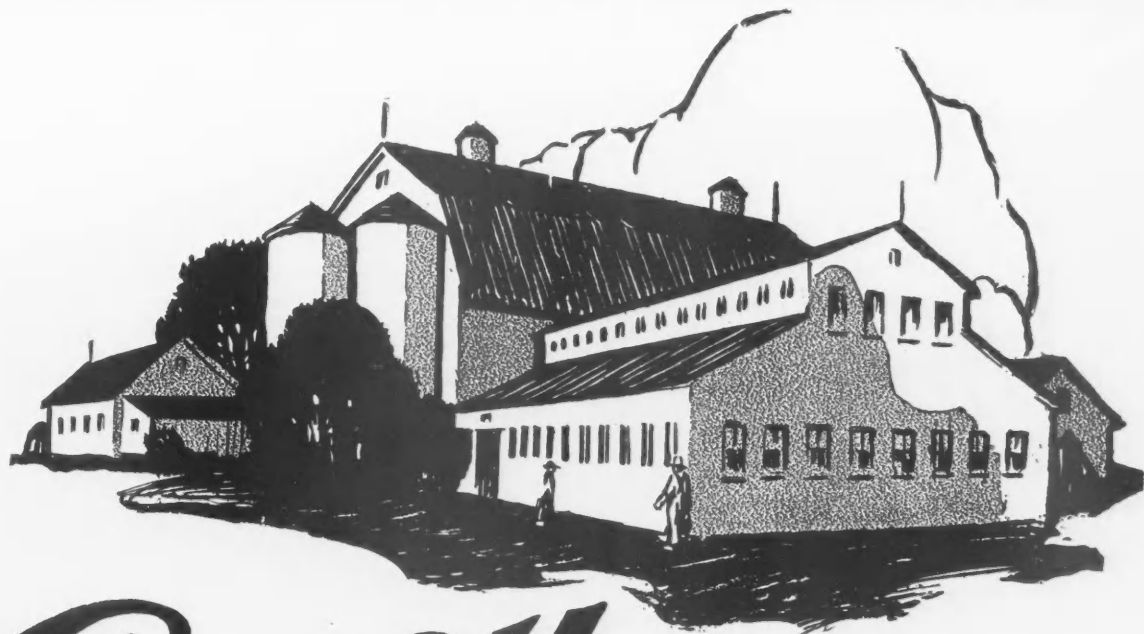
General Offices: 534-546 S. Franklin St., Chicago
Sales offices in the principal cities

CLOW

James B. Clow & Sons
534-546 S. Franklin Street, Chicago
Send me details of CLOW GASTEAM.

Name _____

Address _____



Carey

READY ROOFINGS

EVERY BUILDER'S NEEDS MET IN THIS COMPLETE LINE

In the Carey line there are heavy weight slate or mica surfaced roofings for large permanent buildings. There are lighter weights for smaller permanent buildings.

There are cheaper roofings for sheds, corn cribs, hog houses, hen houses, garages, etc.

Builders will find every one of these roofings giving longer and better service than is usually obtained from roofs of similar weight and price. They make good your promises. They please your customers.

Write for samples. Test them in any way you see fit and the superiority is apparent.

THE PHILIP CAREY CO., 510-530 Wayne Ave., Lockland, Cincinnati, O.

OUT ON THE JOB



What Builders Are Finding Good

New Wood Working Tool

A NEW wood working tool or machine that is designed to materially lessen the time and expense of many wood working operations is on the market. About twenty concerns, whose size and reputation for complete and efficient equipment is a recommendation, have adopted this new tool.

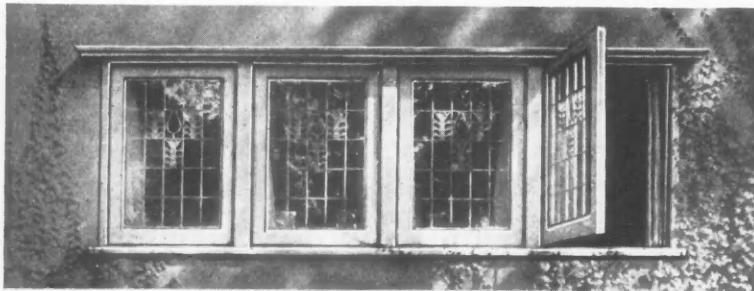
The machine is made in a light and a heavy type. It is claimed that it enables one man to do the work of six carpenters on some operations, that it conserves materials and that it takes the drudgery out of many routine processes, in addition to being a distinct money saver.

It is possible to use about fifty attachments with the machine and these attachments can be changed, on the average, in five seconds and without the use of wrenches. Some of the important attachments usable with the machine are a sawing attachment, dado attachment, grinding attachment and attachments for mortising, planing, boring, sanding, stone cutting, wire brushing and for pattern making.

The machine is portable, yet of sturdy construction. Speed and accuracy are also claimed in its behalf. Because of its simple construction, depreciation is slight and replacements are seldom needed.



About Fifty Attachments May Be Used with This Woodworking Tool and They Can Be Changed, on the Average, in Five Seconds and Without the Use of a Wrench. Not Only Is the Tool Said to Be Speedy, but Its Accuracy Is Also Praised. There Are Attachments for Practically All of the Operations in Which Carpenters Engage.



A luxury window feature--- brought down to small house costs!

Ever since the invention of adjusters to control outswung casements from inside of screens, this type of window has been growing rapidly in popularity.

In the past their use has been somewhat limited by cost to the more expensive buildings.

Now, Robert C. Spencer, Jr., noted architect and inventor of our pioneer adjusters, has perfected a new principle and design, so economical that it will soon make casements the universal window; and these new adjusters are even more efficient and attractive than our popular Bulldog.

Send us the name of your hardware dealer or jobber and we will be glad to mail you full details of the new "WIN-DOR" adjusters

The Casement Hardware Company

1307 Tacoma Bldg.

Established 1906

CHICAGO, U. S. A.

The Sign of Material Satisfaction



The dealer who displays the Rocbond Exterior Stucco sign *has business* and is going after more. He knows that every Rocbond home built in a community creates more business, due to the beauty, enduring quality and structural strength of Rocbond.

The dealer knows that Rocbond satisfies the architect, builder and owner. He is sure that the Rocbond Dealer Service is back of him ready to give intelligent advice and helpful cooperation. The dealer is satisfied that he handles the best stucco value on the market.

If Rocbond Exterior Stucco is not represented in your community, a postal request will bring complete details of Rocbond and Rocbond Dealer Service.

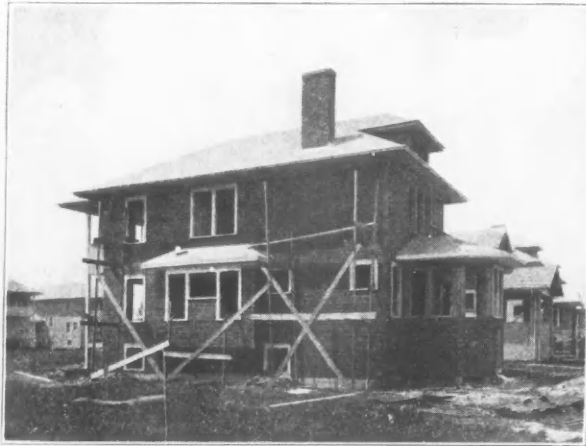
Write today

THE ROCBOND COMPANY

533 Home Guard Bldg., Van Wert, O.

Van Wert, O.—Plants—Cedar Rapids, Ia.

NEWS OF THE FIELD



Ready for Stucco—One of the Houses in a large development at La Grange, Ill., for R. G. Hancock & Co., Chicago, Owners and Builders. In all these Houses E-COD FABRIC "the Ideal Plastering Base" is giving better walls at a lower cost.

BUILD BETTER FOR LESS COST

You can cut the cost on every job, and give better walls, just as these big operators are doing, by using as a base for all exterior stucco and interior plaster

E-COD FABRIC

The Ideal Plastering Base
For Outside and Inside

Every Builder who knows E-COD FABRIC is an enthusiastic booster. You will be, too, when you look into it. It saves you money in every operation.

**Fire Retardant
Sound Deadening**

**Insulating
Rust Proof**

It saves 40% to 60% of plaster on the scratch coat, and saves time in application.

Prevents checking and staining of plaster on interior walls. You can decorate at once.

Don't wait longer. Investigate by writing our office today. Ask us for proofs.

M. J. MacAdams Corporation
Conway Building Chicago 101 Park Avenue New York



L. S. TRAINOR has been made district engineer in charge of the Illinois district for the Portland Cement Association. He succeeds C. M. Powell, resigned. Mr. Trainor has been with the association for three years. Prior to joining the staff he was county superintendent of highways for Marion county and city engineer of Centralia, Ill.

W. F. HART has been promoted to the position of manager of the structural bureau at the Chicago headquarters of the Portland Cement Association and is succeeded in the Minneapolis office by F. S. Altman as district engineer. Mr. Hart has been with the association for several years and his promotion is a reward for exceptional service. Mr. Altman, prior to joining the association staff nearly three years ago, was an engineer in the United States Army and he also served as city engineer of Atchison, Kan.

J. E. FREEMAN, structural engineer, a member of the American Concrete Institute and a specialist in concrete surface finishes, points out in a recent address that "properly applied stucco is practically permanent, but its greatest value can be obtained only when it is applied to a base as permanent as itself. Stucco combines the qualities of permanence and freedom from maintenance expense, but care in applying it is so important that I suggest every builder should thoroughly master the correct methods of application and then exercise caution in seeing that these methods are absolutely followed."

Glidden Company Distributes New Type of Shingle

THE Glidden Company has closed a contract with the Anaconda Copper Mining Co., thru one of its subsidiaries, whereby the Glidden Company acquires the selling rights on Anaconda roofings thruout the United States.

The building trade is especially interested in the recently invented copper shingle that is supplied in such colors as autumn red, russet brown, emerald green, peacock blue, verdi green, blue green and olive green without the necessity of painting. Th Anaconda company has also patented a ductile zinc shingle for use on more economical building operations.

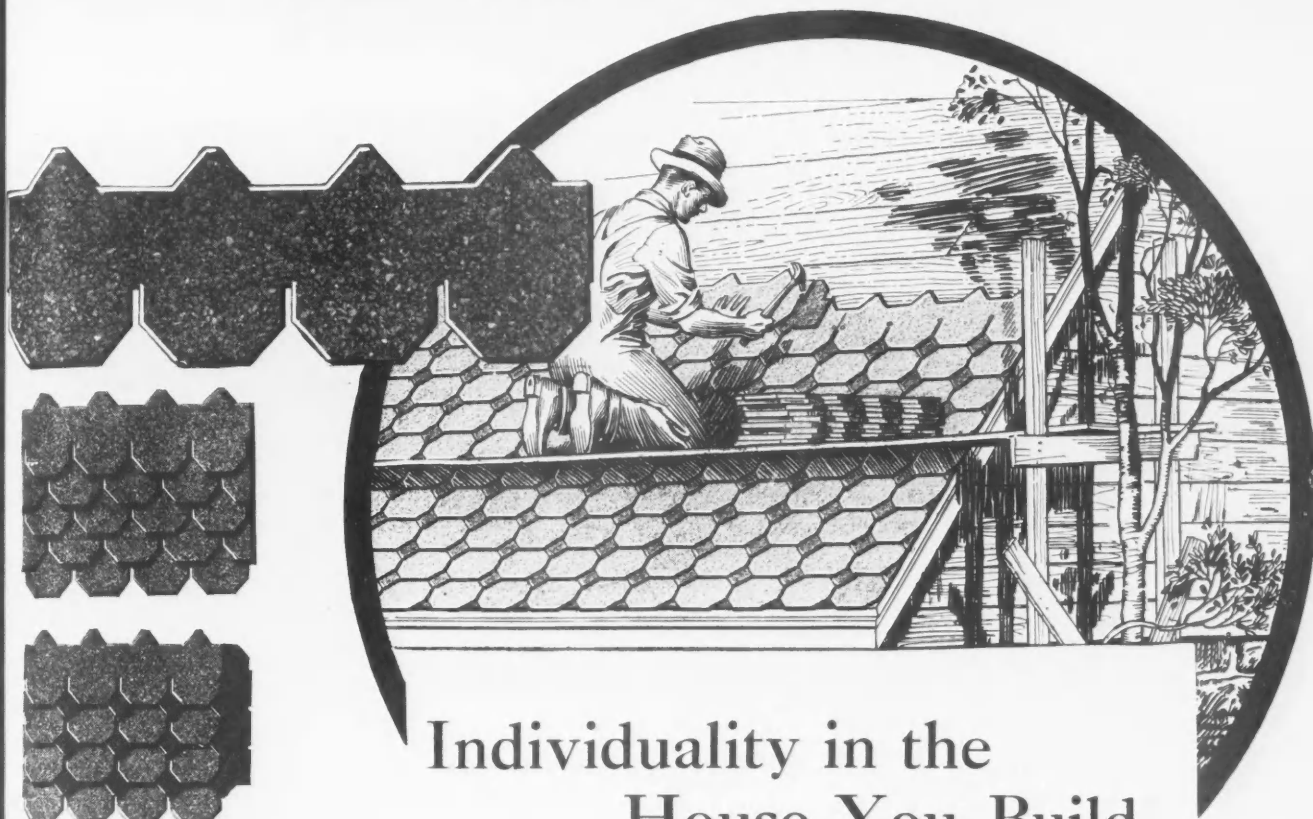
Arrangements have also been made by the Glidden Company for the exclusive manufacturing rights to Anaconda lead and oil. This product is made by an electrolytic process. These Anaconda products will soon be available thru all the distributing units of the Glidden and associated companies.

Important Work of Forestry School

THE 1922 *Idaho Forester*, with its 64 pages of timely articles, illustrations and advertising, has just been published by the Associated Foresters of the School of Forestry of the University of Idaho at Moscow, Idaho.

The establishment and early history of the Forest School and arboretum at the University of Idaho are interestingly pictured. S. V. Fullaway has described the work of the United States Forest Service in forest products investigations and J. A. Larsen, of the United States Forest Service, has a contribution on the reasons why hardwoods do not grow naturally in the West. The Idaho state timber sale policy and the work of the School of Forestry during the past year have been treated by Dean F. G. Miller, and Prof. C. E. Behre has discussed some important forestry problems of the Inland Empire.

The work of the several state forestry schools becomes increasingly important as timber supplies shrink. These schools are doing practical work. They do things and are not content with simply discussing them.



Individuality in the House You Build

Individuality starts with the roof. The Ruberoid Strip-shingle is unrivalled in its individuality. Here is a shingle which, due to its patented form, gives the home owner maximum quality—that is, true Ruberoid quality—at minimum cost. You know what this means in these days of economy.

For over a quarter century, Ruberoid Products have set the standard by which prepared roof coverings have been judged. Now this quality is found in a strip-shingle, the price of which is within the reach of every one.

From a decorative standpoint this shingle offers decided advantages. It gives the home owner an opportunity to select his roof from nine attractive designs, which may be laid in solid colors or in artistic blends of sage green, steel grey and Venetian red. Some of these designs are shown at the left.

On request, we will gladly send you an attractive folder in colors, picturing the designs and artistic combinations in which Ruberoid Strip-shingles may be laid.

You will find Ruberoid Products at the leading lumber and building supply dealers throughout the country.

The RUBEROID Co.

95 Madison Avenue, New York

Chicago

Boston



*There is but one Ruberoid—
Look for the man on the label*

RUBEROID strip-shingles

And Still Some Ask, "Does Advertising Pay?"

OVERSOLD CONDITION IN BRICK MANUFACTURING FIELD ANOTHER FEATHER IN THE ADVERTISING CAP

THE oversold condition of the brick market is considered another proof of the power of advertising to actually make sales. Even the skeptics concede that advertising creates good-will and has a general beneficial effect, but not all are quite agreed that immediate and important dollar and cents response to advertising can be secured.

But the experience of the brick makers' associations adds another illuminating chapter to the story of "sales, sales, more sales," thru liberal use of advertising.

Here is the opinion of the Common Brick Manufacturers' Association, as set forth in a recent letter to the membership:

"Reports from many of the members of this association in various parts of the country show there is a phenomenal demand for brick, the result, we believe, of the advertising campaign being conducted by the American Face Brick Association and the Common Brick Manufacturers' Association. Building permits show that brick is gaining popular favor as a material in home building. The large increase in the demand for brick by home builders is so pronounced that it cannot be questioned that much of this business has been influenced by the advertising.

"The message that this association is sending out to its members is to make brick to their utmost capacity. The day of permanent fire-safe construction is certainly at hand. Advertising has opened the way to more business."

In proof of the healthy condition in the brick manufacturing field the following table shows the oversold condition prevailing May 1:

TABULATED REPORT AS OF MAY 1, 1922.

Dist. No.	Including States of	No. of firms reporting	Plants Closed down	Unburned Brick on hand	Burned Brick on Hand	Orders on Books	Price Per Thousand at Brickyard	Price Per Thousand at Brickyard April 1, 1922
1.	New York, New England	15	6	8,795,000	3,270,000	4,827,000	\$12.00 to \$20.00	\$12.00 to \$20.00
2.	Pa., N. J., Md., D. C. Del.	11	1	22,760,000	4,949,000	36,521,000	12.00 to 17.00	12.00 to 15.00
3.	Va., N. C., S. C., Ga., Fla.	5	0	3,016,000	1,249,000	2,560,000	9.00 to 16.00	10.00 to 16.00
4.	Mich., Ohio, W. Va.	9	2	8,741,000	2,419,000	16,304,000	10.00 to 13.25	10.00 to 13.25
5.	Ill., Ind., Wis.	24	1	91,091,000	1,799,000	163,869,000	10.50 to 14.50	11.00 to 14.50
6.	Ky., Tenn., Miss., Ala., Ark., La.	13	3	6,198,000	5,221,000	4,329,000	8.00 to 15.00	9.00 to 15.00
7.	N. and S. Dak., Minn., Neb., Ia., Kan., Mo.	9	1	7,015,000	850,000	1,338,000	10.50 to 16.00	10.50 to 18.00
8.	Okla., Tex., N. M.	8	5	10,044,000	1,442,000	6,578,000	8.50 to 13.00	8.50 to 13.00
9.	Wash., Ore., Mont., Wyo., Ida., Utah, Colo.	3	1	1,251,000	602,000	267,000	13.50 to 15.00	13.50 to 16.00
10.	Calif., Ariz., Nev.	4	0	1,775,000	5,918,000	14,045,000	14.00 to 15.50	14.50 to 15.50
Total		99	20	160,686,000	27,719,000	250,638,000		

Open Fireplace Luxury and Hot Water Heat "all-in-one" — at a popular price

RADIO

Open Fireplace Hot Water Radiator

HERE is a typical 'Radio' HEAT installation in a cellarless building. Solid lines indicate flow of water. Dotted lines, return of water.

The 'Radio' is installed in any room having chimney and connected to hot water radiators of any standard type placed in adjoining rooms. Also used for efficiently heating floor above.

Evenly Heats All Rooms At Less Expense Than Heating One Room With a Stove
Made in 5 Sizes—300 to 800 Sq. Ft.

Builders, Architects, Realty Men and Owners throughout the country are installing this cheery, healthful, economical heating system in bungalows, farm houses, stores, garages, etc.

Our Engineering Service Department is ready to cooperate with you and your heating contractor. Send us your name and his today.

CENTRAL RADIATOR COMPANY, NEW YORK

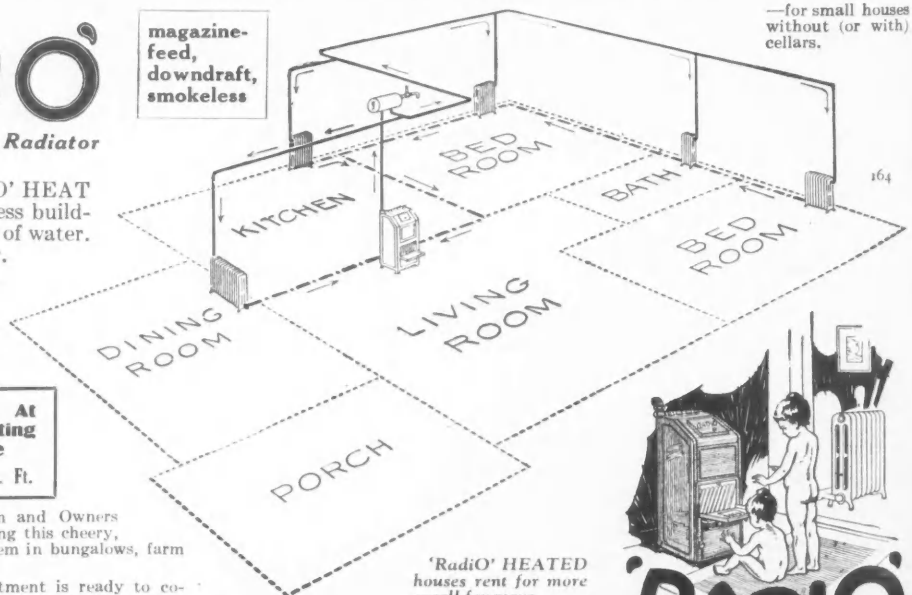
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magazine-feed, downdraft, smokeless

—for small houses without (or with) cellars.



'Radio' HEATED houses rent for more — sell for more.



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THE OPEN FIRE PLACE RADIATOR
Cheery open fire appeals to every home lover—Burns hard and soft coal—Automatic fuel feed does away with drudgery of frequent firing. No smoke. No gases. No heat waste.



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(For streets and roofs)
- Standard Trinidad
Built-Up Roofing
- Bermudez Road Asphalt
(For road building)
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Here's big business to be had Now

Prove it for yourself. Check up the buildings in your community that have worn-out roofs—or that need artistically better roofs.

Then go after this business with GENASCO Latite Shingles—an attractive, long-lasting, low-cost roofing laid right over their old.

You'll be astonished—as have thousands of other builders—at your resultant business and profits. Also at the prestige and goodwill you gain.

GENASCO Latite Shingles can be laid over old, weather-battered wooden shingles as easily and effectively as over new boards. And they'll *lay tight* and *stay tight*.

Attractive in coloring and artistic in shape, they give distinction as well as charm to a roof. And their locking-on feature prevents curling by the sun or flapping by the wind.

GENASCO Latite Shingles are made of tough-fibered, super-saturated asphalt felt—heavily coated on both sides with Trinidad Lake Asphalt Cement. They come in three colors—sage green, red and blue-black.

Don't overlook this real money-making opportunity. Write at once for illustrated folders describing these wonderful shingles.

Also ask us for information about any other roofings or products of the GENASCO Line Listed in the adjoining column.

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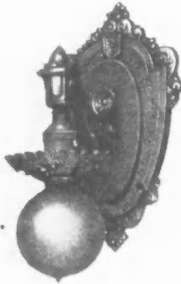
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Omaha Reservoir Unique Lasting Design

TEST GIVEN OFFICIAL O. K. AND IS NOW STANDARD IN NEBRASKA CITY

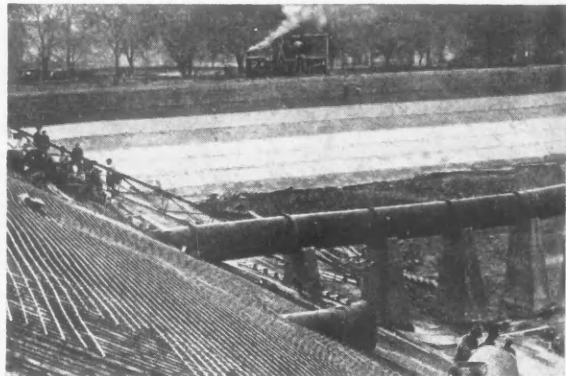
OMAHA'S water plant has been enlarged by the fifth of a series of water reservoirs built on a design which was untried when the first was constructed nearly eight years ago. Fifty-nine million gallons of water are now stored in concrete lined basins of this design.

The condition of the first is such that the fifth was patterned after it with the greatest confidence. A design embodying new principles and special care in constructing it has produced a type of reservoir lining that, under the conditions imposed by local topography and subsoil formations, has met the desires of the designers fully.

Lining Like Concrete "Blanket"

The lining can best be described as a "concrete blanket" since it is not designed to be inflexible. The bearing soil is excellent, but it was expected that there would be local settlement, and a lining was constructed with certain degree of flexibility to conform to these movements.

Six inches of reinforced concrete is placed on the carefully compacted soil base in such a way as to get the nearest possible approach to a perfect bond between successive courses, the steel reinforcing is accurately spaced at the determined height above the bottom of the slab, and the aggregates are mixed in a plant designed to produce a product of as near uniform consistency and composition as is possible.



Omaha Reservoir Under Construction, Showing Reinforcing for Concrete "Blanket."

The aggregate used in Basin No. 7, constructed in the fall of 1921, consisted of a so-called sand-gravel, which might be quite as properly called a coarse sand, since a very small percentage is retained on a No. 4 sieve. The proportion was one part Portland cement to three parts sand-gravel, and to this was added soap and alum as an integral waterproofing. The steel mat consisted of $\frac{1}{2}$ -inch square deformed bars spaced to give four-tenths of 1 per cent of the area of the concrete, both transversely and longitudinally, and was rigidly tied and held so as to have its lower edge one inch above the bottom of the concrete.

Concentric Courses

Concrete was placed in concentric courses around the basin, the width of the course being limited by the height on the slope, which could be placed without slipping. The edges of the previously poured course were roughened where necessary, all was treated with diluted hydrochloric acid and carefully washed. Finishing was done with wood floats and steel trowels.

The mixing plant was a permanent one, consisting of a tilting mixer driven by electric motor, and the necessary receiving hopper and apparatus for mixing and applying the waterproofing. The mixer was placed on a frame at a sui-

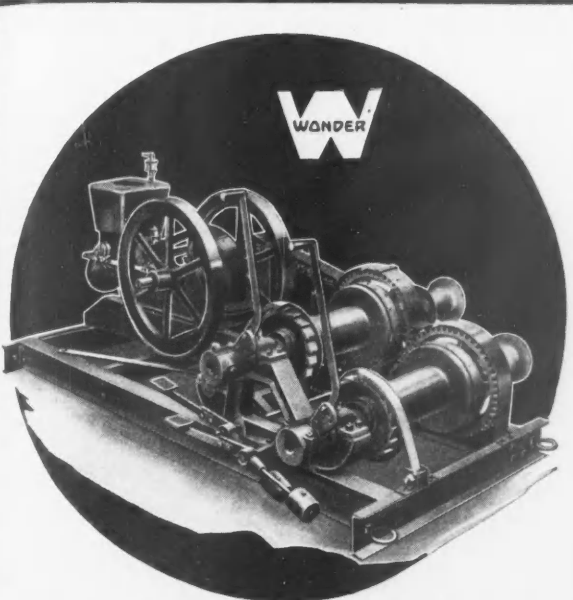
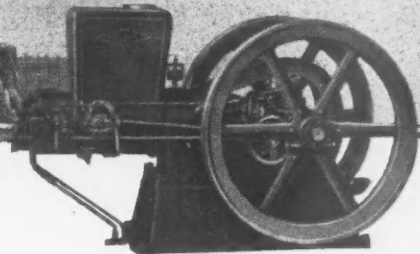
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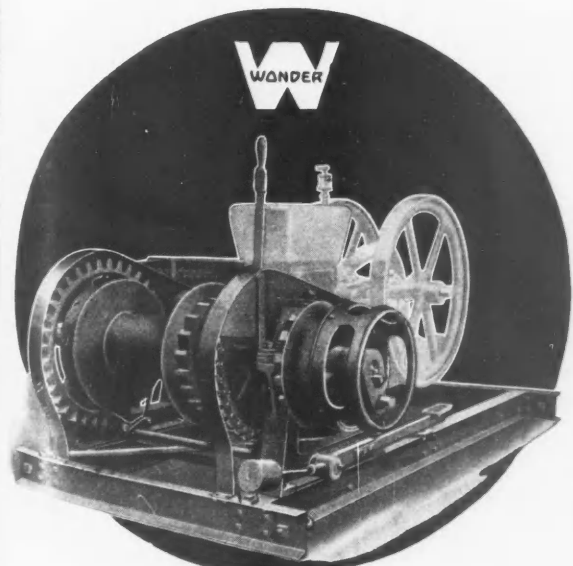
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 Without cost to me or any obligation you may place a Monroe Calculating Machine in my offices on **Free Trial**.
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ficient height above the ground to allow two-wheeled buggies to be charged from the hopper and the elevating loading skip was served by one-horse dump carts. The loader with extended track takes the aggregate from the lower level to the hopper above. A small boiler was necessary for dissolving the waterproofing soap and alum, and electrically driven



Close-Up View of the Tilting Mixer Discharging. The Power Loader and Extended Track Make It Possible to Take the Aggregate from the Lower Level to the Hopper Above.

pumps handled the prepared tempering water to the gaging tanks.

20,000,000 Gallon Capacity

All aggregates were carefully measured, including the sand-gravel, the cement, water and soap. The time of mixing was kept uniform and of sufficient amount, and every precaution taken to insure the highest possible quality of concrete.

Basin No. 7 is 303 feet by 385 feet, and the depth from top of parapet to bottom of mud compartment is 36.5 feet. Its capacity is 20,000,000 gallons, and will serve as a clear water basin in the present sedimentation system of purification, but is so located as to be used for the effluent from a filter plant. Mr. Knouse, engineer of the Water Board of Omaha, was in charge of this work.



Missing

Has anyone seen Pete?
 Pete who?
 Petroleum.
 Kerosene him yesterday and he hasn't benzine since.



Mud Slinging

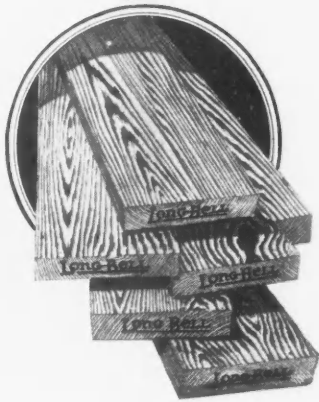
If it is your idea that you are going to own the earth, don't kick if some fellow insists on throwing mud at you.



Hitting The Bull's-Eye

Those individuals who fire at random seldom hit it.

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Southern Pine Lumber and Timbers; Creosoted Lumber, Timbers, Posts, Poles, Ties, Piling and Wood Blocks; California White Pine Lumber, Sash and Doors, Standardized Woodwork; Southern Hardwoods Oak Flooring.

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Long-Bell Lumber is made by skilled workmen—men who take a personal pride in a product that bears their company's name.

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Each process of manufacture is under the supervision of men who have had years of experience. Each log is cut for purposes for which it is best adapted.

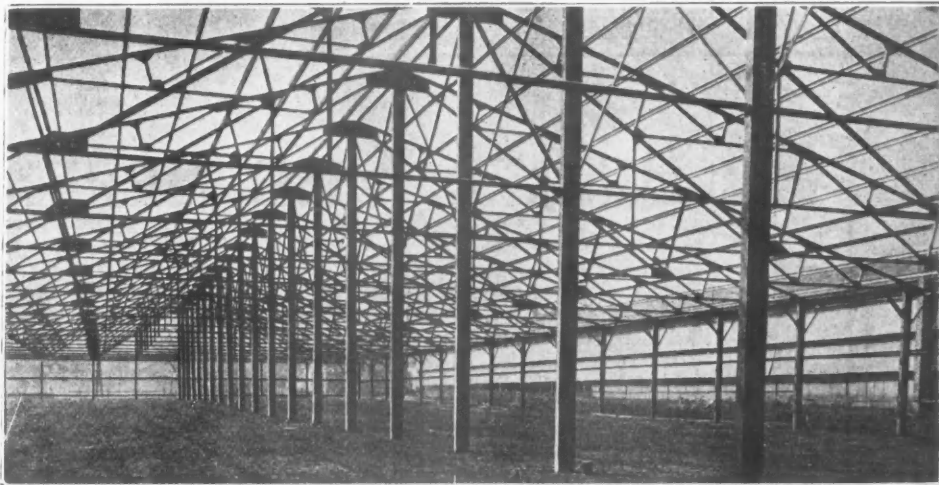
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War Upon Wood Waster Waged by Government

“ONLY 30 percent of the wood in a forest now gets into the form of seasoned, unplaned lumber. Of this an additional 10 to 25 per cent is lost in the process of manufacture. In extreme cases as little as three per cent of the wood in the forest may reach the finished product.”

This statement is made in a booklet just issued by the Department of Agriculture, entitled Forest Products Laboratory, describing the work and aims of the experimental laboratory maintained by the Forest Service in co-operation with the University of Wisconsin, at Madison, Wis.

The booklet outlines how, thru investigation and experiment, the laboratory is devising and broadcasting practical commercial methods by which this enormous wastage of the country's timber supply can be reduced. By reducing this waste, the life of present forests will be prolonged and the problem of growing new forests made simpler, because by preventing the waste of timber less timber will have to be grown.

Among the various methods studied at the laboratory for

decreasing waste of forest products is the treatment of woods with preservatives resisting decay. Thru such treatment an annual saving of one and one-half billion board feet is estimated to be possible in the case of railroad ties alone, and the preservation of other classes of timber would, in the aggregate, greatly relieve the drain on our forests.

The building industry is vitally concerned in every effort to increase the usability of available woods. Neither the individual nor the business firm can devote its time to exhaustive investigation but it can keep in touch with discoveries and developments made by public officials who are paid by the individual and firm to carry on this work.

The Forest Products Laboratory is a Government institution; its advice and suggestions are to be had for the asking. It presents, according to the booklet, an opportunity for many manufacturers, wood users, and timber growers to supplement the information obtained by experience and hard knocks with technical data obtained thru scientific research.

This pamphlet containing 47 pages and 24 illustrations may be had free of charge by writing to the United States Department of Agriculture, Washington, D. C.

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BOSTWICK “Truss Loop” effects an actual saving of money for the Contractor and Builder in five distinct ways, viz.: In Time, Labor, Studding, Lath and Waste Plaster. While more expensive in first cost, Bostwick “Truss-Loop” is the cheapest in finished wall cost per square yard, and it endures.

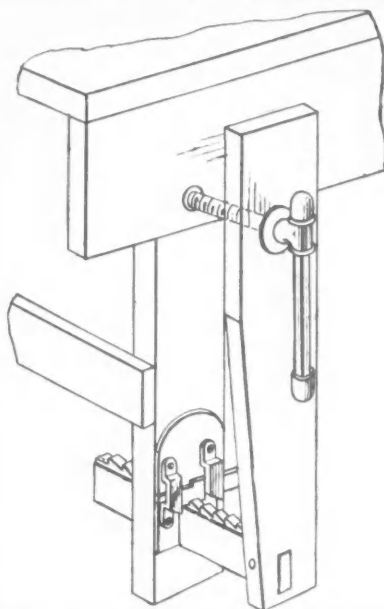
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This Automatic Vise Spreader will pay for itself every month you use it. No time lost adjusting bottom width. Will never wear out. Vise always parallel with work clamped in it. Simply touch bolt at bottom with toe and it instantly releases. Can be attached to your vise in 15 minutes. Sent postpaid for \$1.75. Try it 5 days and if you are not satisfied, return it and I will refund every cent of your money. Send in your order today. “The things we accomplish are those that we DO NOW.”

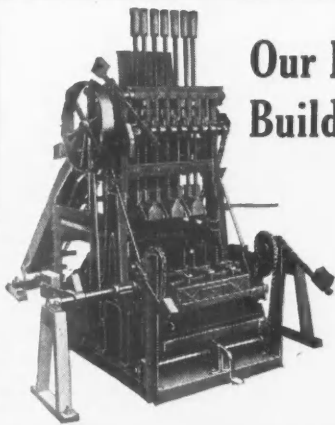
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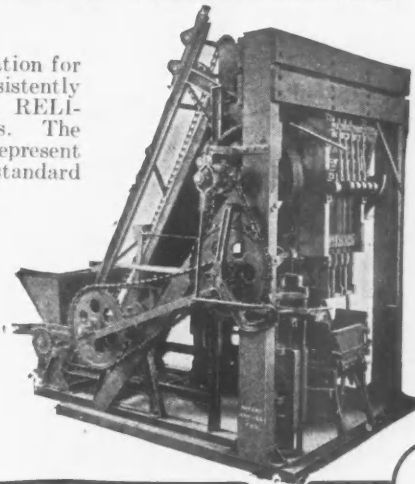
within a short time has taken its rightful place at the top for character and quantity of production, and is today accepted as a thoroughly standardized device. Delivers three tile on a single wooden pallet continuously, with no stopping or delay for offbearing of tile. Pallets are changed while machine is working on next batch, insuring CONTINUOUS OPERATION.

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enjoy a reputation for producing consistently true, shapely, RELIABLE blocks. The machines represent the highest standard of reliability.



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May Structural Steel Sales Reach Eighty-Two Per Cent Capacity

SALES OF FABRICATED structural steel during May amounted to 82 per cent of fabricating capacity, according to reports made to the Department of Commerce by firms comprising 70 per cent of the fabricating capacity of the United States. The May business reported by 82 firms, having a capacity of 130,600 tons, totaled 106,620 tons as against April sales of these same firms amounting to 121,211 tons, or at the rate of 93 per cent of capacity.

Total sales thruout the United States, based on the reported percentage and a total capacity of 180,000 tons, amounted to 146,900 tons in May, while revised figures for April give a total of 165,900 tons. The April figures are based on reports from 87 firms, having a total capacity of 132,600 tons, whose sales amounted to 122,198 tons, or at the rate of 92 per cent of capacity.



Paris Plans Portentious Program

PARIS shows large activity in the public works building field. Loans have been arranged that will permit the expenditure of 243,459,870 francs during the current season. More than 100,000,000 francs of this sum will be expended in repairing such municipal property as borough halls, school buildings, market houses and pumping stations. The remainder will be used to complete buildings, work on which has been halted because of a lack of funds. Some of the incomplete work which will now be completed include several hospitals and asylums, pumping stations and the erection of seven groups of modern dwellings which will be rented at low prices.



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MAGNESTONE permanently solves your flooring problem, giving you a durable, beautiful and economical floor for use in Hospitals, Schools, Residences, Stores and Industrial Buildings. You eliminate the upkeep.

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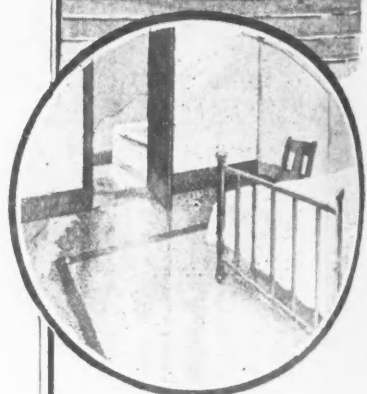
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A Typical Magnestone Installation in Hospitals, Hotels, Clubs, etc.

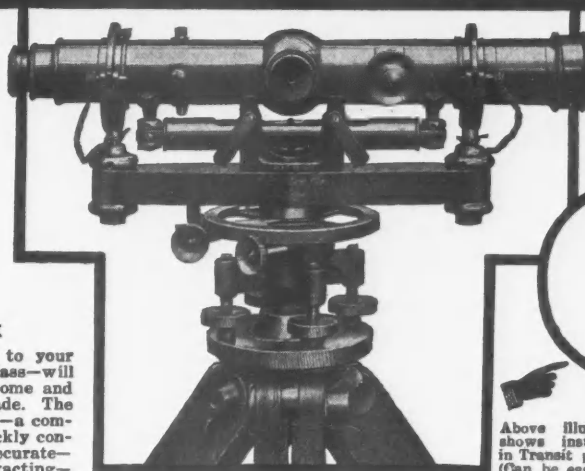
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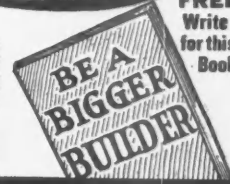
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Above illustration shows instrument in Transit position. (Can be easily and quickly converted.)

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Our free book—"Be A Bigger Builder"—tells you how to increase your income—how to get the profitable jobs and become a bigger man in your community. Write for this book today.

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Without obligation, send me your FREE book, "Be A Bigger Builder". Also full particulars about the Aloe Convertible Level and details of your easy payment plan.

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Can you imagine anything more simple and less expensive than a bucket which receives its load direct from the mixer, runs up a pole or mast and automatically dumps its load either into chutes or a hopper—no tower to build?

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This simple and efficient plant will do the same for you. Write for illustrated circular.

INSLEY MANUFACTURING CO.
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257

American Institute Architects Profit by Interesting Meeting

THE annual convention of the American Institute of Architects held early in June in Chicago was featured by a banquet held in the old fine arts building, one of the relics of the World's fair. The building is one of the finest examples of classical architecture ever erected in America.

The purpose of having the banquet in this renowned building was to permit the architects to enjoy inspecting it and to secure their ideas on the desirability and practicability of restoring the building to a satisfactory condition. Thru long disuse and neglect the structure is in sad need of restitution. The movement to repair it for the enjoyment of this and future generations was approved.

Two addresses were made after Henry H. Kendall, retiring president, made an address of welcome. Lorado Taft, the sculptor, spoke of the necessity for public appreciation of art if art is to endure. Oliver Dennet Grover, artist, spoke of the need for manufacturers, as well as others, to use the best principles of artistic design if people are to have homes of beauty.

The convention was attended by leading architects from every session of the United States. At the regular sessions, covering several days, many practical and beneficial addresses were made and a number of important subjects thoroly and profitably discussed. New officers were chosen as follows: President, William B. Faville, San Francisco, Calif.; first vice-president, E. J. Russell, St. Louis, Mo.; second vice-president, Robert D. Kohn, New York City; secretary, William Stanley Parker, Boston, Mass.; treasurer, D. Everett Waid, New York City. Directors: William Emerson, Boston, Mass.; B. W. Morris, New York City; William L. Steele, Sioux City, Iowa.

Pompeii Craft Produced Fine Adam Type

FROM a study of Pompeii, which was made by Robert Adam during a tour of Italy made in 1754, is due the revival of interest in classic design brought about by him and by his brother, James Adam. Unlike other furniture designers of the Georgian period, the brothers Adam were architects and decorators, not cabinet makers, and it was thru their architectural developments that the interest was evolved which gave to them a very definite place in the development of furniture design in England.

In the furniture which they designed to fit their houses rococo, Dutch and Chinese elements were completely abandoned. The cabriole leg was superseded by the straight, tapering leg, and lighter construction became the rule.

Carving when used was in low relief, and was rich in inlay of tulipwood, satinwood and ebony. Carving and inlay were in classic details—the urn, the laurel wreath, the oval sunburst, the acanthus leaf arabesques, ribbon bands, festoons, and garlands. Painted decoration was utilized by them.—The Architect and Engineer.



Strictly Modern

A New Yorker was spending the night at a Southern hotel. He had to be awake and astir early the next morning so he told the colored porter it was very important he should be called promptly at an early hour.

The porter assured him as follows: "Say, boss, I reckon you ain't familiar with these heah modern inventions. When you all wants to be called in de mawnin', all you has to do is to jes press de button at de head of the bed. Den we comes right up and calls you. Yes, sah, dis sure am a modern hotel."

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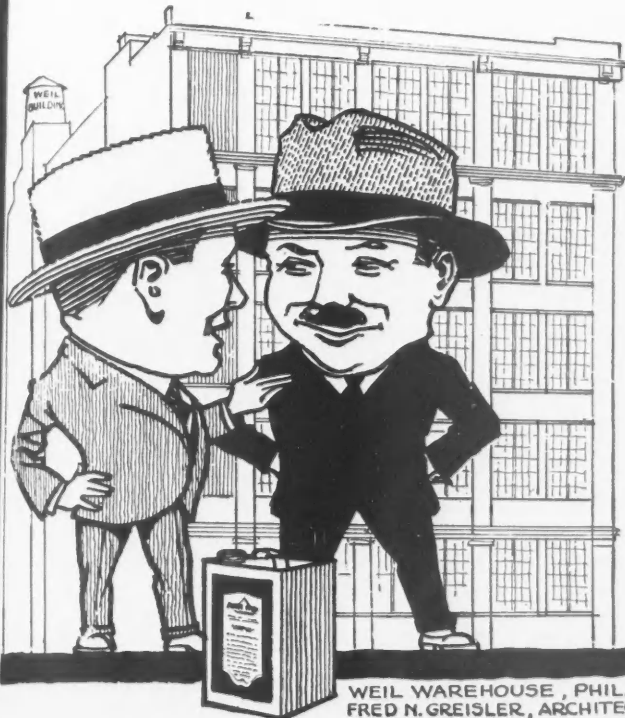
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Catalogs, Bulletins and Books Received

EDITOR'S NOTE: Important and interesting current contributions to the library of building are digested and reviewed in this department each month. These printed guides to more and better building have been painstakingly prepared. An investment of time in reading any or all of these publications will earn a sizeable dividend in information and increased efficiency.

The Detroit Steel Products Co., 2250 E. Grand Boulevard, Detroit, have ready two well-illustrated and attractively printed booklets showing uses for their Fenestra steel window walls. The booklet, "Better School Buildings," is summarized in the foreword by Dr. Woods Hutchinson, who says: "I'd like to have our school building built like our modern factories, three-fourths glass and perfectly ventilated." The other booklet is a catalog giving minute description and helpful information for the erection of Fenestra sidewall sash.

The Disston Crucible, published by Henry Disston & Sons, Inc., Philadelphia, is a magazine of genuine interest for millmen and all other saw users. An article on Cobbs & Mitchell, Inc., a large lumber operator at Cadillac, Mich., and several shorter articles make up a useful number.

The National Lead Company, 111 Broadway, New York, issue The Dutch Boy Painter, a magazine devoted to the interests of good painting. The current number gives worth-having information on coverage capacity of paints, how to increase stock turnover, the effect of color in attracting patronage, in addition to two articles of historical value.

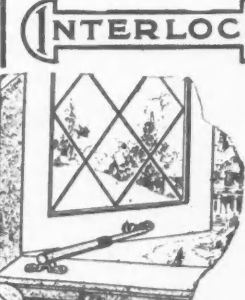
An elaborate and artistic catalog on Andersen Window Frames is just off the press. This excellent example of printing will be valued for its fine appearance and the fund of important information on Andersen white pine frames. This South Stillwater, Minn., company also has ready for distribution two smaller booklets, "Better Frames for Less Money" and "Ready When You Are."

The Conveyor Corporation of America, 326 W. Madison street, Chicago, has issued an illustrated booklet entitled "Cut Ash Handling Costs" which should prove of value and interest to the power plant executive interested in reducing the boiler room overhead.

Illustrations showing the use, supplemented by detailed information on how to construct buildings with Ambler Asbestos Building Lumber make valuable the new catalog issued by the Asbestos Shingle Slate & Sheathing Company, Ambler, Pa.

"Steam Heating" is an elaborate and worthy book published by Warren Webster & Co., Camden, N. J. This book is a manual of practical data compiled by the general engineering committee of Warren Webster & Co. It minutely takes up such subjects as "heat transmission," "air

infiltration," "ventilation problems," "proportioning of chimneys," "vacuum pumps," "lumber and other kiln-drying problems," and several other equally important matters. The book is richly illustrated. Price, \$3.25.



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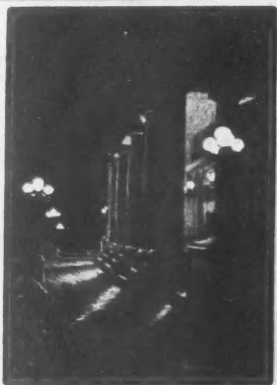
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WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

A book calculated to prove helpful to everyone interested in the building or conduct of a home has just been issued by Funk & Wagnalls Company, 354 Fourth Avenue, New York. The book is called "The House Owner's Book," and is the joint work of Allen L. Churchill and Leonard Wickenden. Everyone who owns or rents a home and everyone who is concerned with the plans of building a home will find entertainment and instruction in this new work. Price, \$2.

Under the title, "It Makes Money, Believe Me," The Kelly Lumber Company, Kelly, Ia., issued a booklet on a shingle baler which is reputed to solve the loose shingle problem and is a device calculated to save money for every lumber dealer.

Catalog D, issued by the Bowman Supply & Mfg. Co., Inc., 886 Progress Street, Pittsburgh, is a complete and well-arranged catalog of plumbing and heating supplies. No expense of time or money has been spared to make this a comprehensive, well-illustrated and complete description of a modern stock of plumbing goods. Adequate space is also given to gas and steam fitters' supplies, water supply systems, lighting plants and sheet metal products.

"Building Contracts," with the principles and practices of their administration, is a book written by Edwin J. James and published by E. P. Dutton & Co., 681 Fifth Avenue, New York. This book is rather broad in its scope, treating a range of subjects between "estimating and book-keeping." It is based on the practice and laws of England and has many details and considerable information about the building industry in the British Isles. Price, \$5.

"Home Decorations," issued by Henry Bosch Company, New York and Chicago, leaves little to the imagination for the artistic use of elaborate color plates show exactly how rooms will look when decorated with Bosch products. This fifty-page work of art gives besides many fine illustrations of color schemes for homes, several commendable

examples of church and other public building decorative schemes.

The Resarch Department of The New Jersey Zinc Company, 160 Front Street, New York, has prepared an important bulletin on "The Value of Heavy Galvanizing as Demonstrated by Actual Use." The place of zinc in giving galvanized products the proper protective coating is emphasized and there is added valuable information on how to determine the weight of zinc on galvanized materials.

The American Face Brick Association, 130 N. Wells Street, Chicago, are publishers of three handsome booklets that will be read with pleasure and profit by the building industry. The titles of these three booklets will immediately arouse interest. They are called "My Dream of a Home," "Orienting the House" and "In Praise of Brick and Oak."

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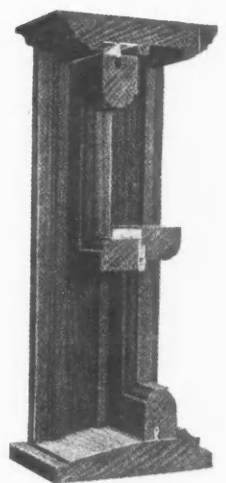
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