

AMERICAN BUILDER  
AND BUILDING AGE

IS THE BUSINESS  
JOURNAL OF THE  
ACTIVE MEN OF THE  
BUILDING INDUSTRY

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# AMERICAN BUILDER AND BUILDING AGE

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# Pittsburgh Steeltex

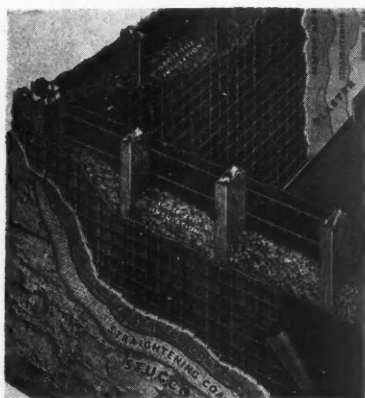
for

## Remodeling and Rebuilding



### Pittsburgh Steeltex 38-16 Super-Wall Construction for Brick or Stone

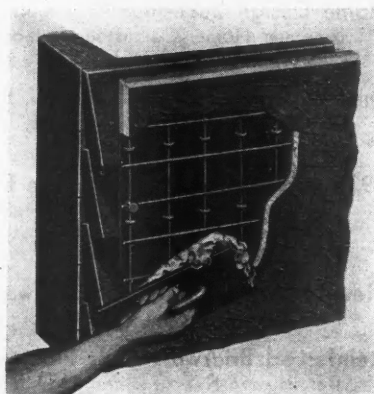
Comes to the job in rolls 49" wide by 110½' long, making 50 square yards to the roll. The electrically-welded network of 16 gauge wires is secured to a double-thickness waterproof membrane backing. The Steeltex is securely nailed to the frame and bricks are laid 1" away, the intervening space being filled with cement-mortar as each course is laid.



### Pittsburgh Steeltex Super-Wall Construction for Stucco

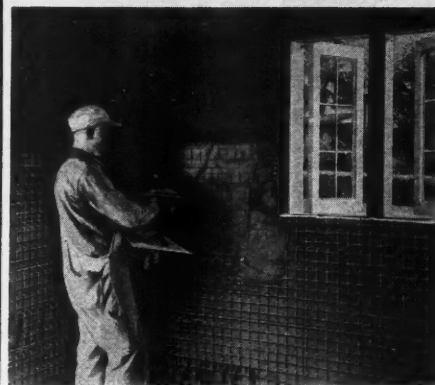
Affords positive insulation, provides waterproofing and damp proofing, is vermin proof, fire-resistive, has high acoustical properties, practical and economical in construction cost and yet only standard builders' methods and building material are employed. Pittsburgh Steeltex for Stucco is nailed directly to studding with furring nails, and scratch, brown and finish coats applied over it. Interior walls and ceilings are covered with Ribbed Steeltex Lath, the base and reinforcement for interior plaster.

Remodeling and refinishing will form a large part of building construction work in the next twelve months. Pittsburgh Steeltex products offer a practical solution of many of the construction problems presented in this type of business. A few of the Pittsburgh Steeltex products and their uses are shown on this page. A complete catalog with all necessary technical data will be sent on request.



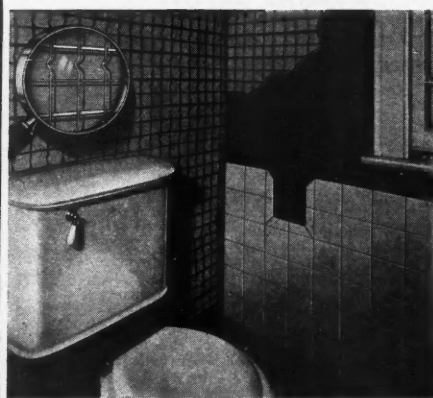
### Pittsburgh Steeltex for Stucco

Because of its flexibility and economy is admirably suited to overcoating or modernizing work. The Steeltex is applied right over the old exterior and stuccoed. The house is thus automatically blanketed against heat, cold and dampness by the double waterproofed backing of the material and a blanket overcoat of cement stucco correctly reinforced with a continuous network of galvanized steel wires buried in the heart of the stucco.



### Ribbed Pittsburgh Steeltex Lath for Interior Plaster

Is the easiest handled lath on the market. It is manufactured in sheets 49" x 30½". Because of the metal ribbed stiffeners across the back, the wire network and the heavy fibrous backing, this lath has board-like rigidity. The wet plaster flows under and around the wire network, adheres firmly to and is held in place by the heavy fibrous backing.



### Pittsburgh Steeltex Tile Reinforcing

Is applied over old plaster walls by nailing with 1¾" Pittsburgh Steeltex galvanized offset head nails into every stud on 6" centers. Adjoining sheets are butted. It is not necessary to remove fixtures, change trim or remove old plaster. Float coat of cement at least ½" thick is applied over the Steeltex and tile is set in place. Modernizing any bathroom is thus completed in one day without fuss, muss or dirt.



Pittsburgh  
Steel Company

Fabric Division

Union Trust Building  
Pittsburgh, Pa.

## AMERICAN BUILDER AND BUILDING AGE

### THE SPECIAL IMPORTANCE OF WINTER BUILDING

SO much has been said and written during the past ten years in favor of winter building—pointing out the economic advantages to the industry of a twelve-month building season rather than a season of approximately 180 days a year, which was formerly the established habit of this industry, and pointing out that good work can be done in freezing weather at a very slight additional cost—that most builders today are pretty well satisfied that winter building is both practical and desirable. Most of them are familiar with the technique of protecting the materials and the workmen, how to heat with salamanders and blowers, and how to protect with tarpaulins and other special enclosures. Since the publication of the report in 1924 of the President's Conference on Unemployment, entitled "Seasonal Operations in the Construction Industry," the proposition of winter construction has been widely adopted. The changed attitude of the industry is shown by a study recently made by the New York Building Congress. It was found that in 1922 there was a variation of 45 per cent between summer employment and winter employment in the New York City building trades. In 1929 this variation was only 20 per cent.

#### Employment Created and Stabilized; Lowest Costs Now Available

While the incentive is very great every year to continue as much building activity as possible throughout the winter months, this winter it is especially important. For the sake of employment every job should be kept going and a special effort should be made by every man in the industry to secure and line up additional work for this winter season. Many drives, both community and individual, have been made and are now being made for repair and alteration work on homes, farm buildings and commercial structures. Much of the work secured is naturally inside work which can be pushed forward in cold weather quite as well as at any other time. New buildings started now can be enclosed before freezing weather starts in.



DON'T LET COLD WEATHER STOP THE JOB

The second advantage of crowding through as much building activity this winter as possible is that it will give owners the advantage of present low costs. By next spring it may be that prices will be substantially higher. So any work put through during the next few months will without question have the advantage of absolute minimum cost.

One of the important committees of the National Conference on Construction meeting in Washington on October 13 and 14 reported on "seasonal operations" and offered some very helpful suggestions. Custom and habit, the committee found, play an important part in causing seasonal fluctuations in construction operations. Even in southern cities where the weather plays little part it is found that there is a great diminution of building in the winter. A continued educational campaign is recommended to overcome this prejudice.

Economic factors, it was found, play a greater part in causing seasonal fluctuations than does the weather. The fixed leasing date, usually October 1, is recognized by both real estate men and builders as being the chief cause of the fluctuations in building. To correct this it is proposed to increase the number of leasing dates or to abolish entirely the idea of fixed leasing periods.

#### Advantages of Winter Construction

The advantages of winter construction are pointed out in this committee report. Among them are the lower prices on materials for winter delivery, the better quality of labor available, the better distribution of the services of contractors, architects and transportation.

The disadvantages of winter construction are the cost

of protection, the more unfavorable working conditions due to winter weather, the shorter days in northern latitudes and the irregular attendance of workers on stormy days resulting often in suspending operations for such days.

These disadvantages in general are not sufficiently great to offset the great advantage of stabilized construction throughout the year, the committee holds.

It is recommended that in each locality the men of the building industry should get together to study and promote all-season construction, educating the builders in the most effective methods for obtaining economical winter construction. It is further recommended by the committee that the various local groups consider the feasibility of seasonal discounts covering any items concerned in building costs in order to encourage all-season construction and relieve the owner of the greater part of any excess cost due to winter construction.

This is a timely subject and one that is doubly important this year because of general economic conditions. Cold weather is no bar to good construction work. Every builder should redouble his efforts to get some building enterprise, large or small, going now to carry through the winter season.

## BUSINESS IS SUBSTANTIALLY IMPROVING

FOR the first time since the depression began three years ago it can be said with certainty that general business is substantially improving. The best single measure of the total amount of business of all kinds being done in the country is the amount of freight being shipped by railroad. This is true because every ton of freight shipped is a ton of something that has actually been produced, bought and sold. The volume of freight moved is therefore a measure of total production and commerce.

Railroad freight business reached relatively its lowest level during the depression last June. The average number of cars loaded weekly in June was only 491,589, while the average number loaded weekly in the first three weeks of October was 632,763, a gain of 141,174, or almost 29 per cent. This increase was much more than a normal seasonal increase. The average increase in car loadings between June and October in the five prosperous years ending with 1929 was only 12 per cent. The increase between June and October, 1930 and 1931, was only about 2.5 per cent.

Because lumber is one of the principal materials used in building construction, lumber shipments are of special interest to the building industry. The increase in lumber shipments weekly in October of this year as compared with July was 40 per cent. Average weekly shipments of lumber in July were 14,339 cars, in August, 15,457 cars, in September, 17,139 cars, and in the first three weeks of October, 19,032 cars. No doubt a good deal of lumber is being bought to increase retail stocks, but the retailers who are increasing their stocks must be

doing so because of evidences throughout the country that there has begun an increase in the demand for lumber to be used in building construction.

Many times during the depression there have been some indications that business was beginning to improve. Never, however, excepting for brief periods, has there been any actual improvement until this fall. The improvement now under way has lasted much longer and has been much greater than any that previously has occurred. That business has at last "turned the corner" there can no longer be any question. It is still poor as compared with that of former years, but it is improving at an accelerating rate, and if it continues to improve as rapidly as within the last two months the year 1933 will be a much more prosperous one for all industries and classes of people than 1932 has been.

## HOME LOAN BANKS IN ACTION

THE twelve distinct Home Loan Banks which opened for business on October 15th made immediately available to distressed home owners the huge sum of one hundred and thirty-four million dollars. Through the issuance of bonds as provided by law these twelve Home Loan Banks will be able to lend 1½ billions of dollars against first mortgages on residential properties worth \$20,000 or less. The release of these great sums for the benefit of residential property owners is bound to have a salutary effect on the building of one-, two- and three-family houses during 1933.

According to a report by the United States Building and Loan League issued October 29, more than 1,000 building and loan associations had already joined.

The functioning of this new system will definitely relieve the generally distressed condition of mortgage financing for existing homes, thus encouraging loans for new construction. When banks and building and loan associations know they will be able to raise additional funds as and when needed, it is safe to predict that those lending institutions will be more ready to advance money from current receipts, instead of building up a large cash reserve against threatened runs or withdrawals. Chairman Franklin W. Fort has indicated that money will be loaned to member institutions at 4½ per cent.

It is not the purpose of the banks to deal directly with those who wish to obtain a mortgage; on the other hand, the Home Loan Banks will be prepared to advance money against mortgages already in force, thus functioning for building and loan associations, certain types of banks, etc., in regard to mortgage paper, as the Federal Reserve Banks operate in re-discounting short term paper for commercial banks.

Although it requires considerable time for a financing system of this magnitude to attain effectiveness, there can be little question of its need and benefits in the residential building field. One effect may be standardization of interest rates on sound first mortgages on homes, with the advantage of much lower interest rates.

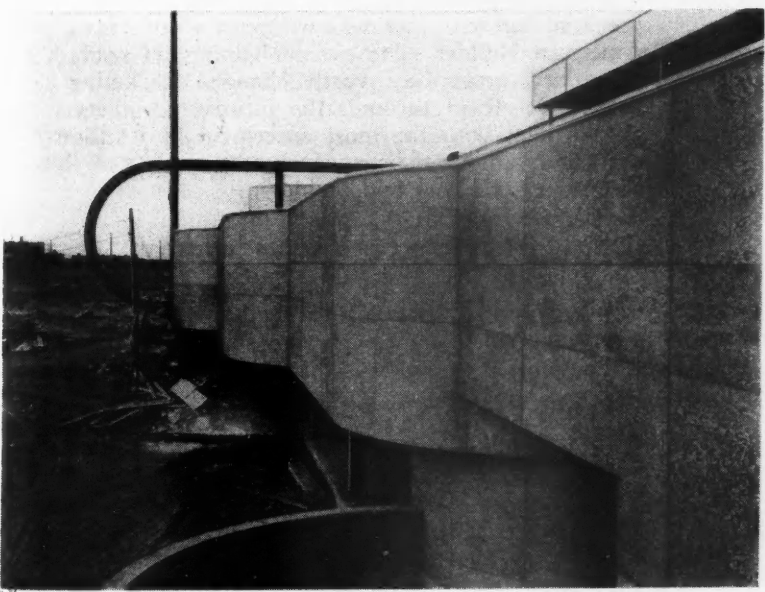
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Hall of Science,  
1933 World's Fair,  
showing trend of  
modern design

Exterior wall of  
Agricultural build-  
ing made of curved  
plywood



# A Glimpse of the Construction Future

Revolutionary changes in building methods and materials are revealed in construction of the 1933 World's Fair at Chicago. The two views above are typical. Complete story p. 24



L. R. Putman

# A New Plan To STIMULATE SALES

By **L. R. PUTMAN**  
Marketing Editor, The American Builder

**L. R. PUTMAN**, after 30 years in the small construction industry as retailer, builder and manufacturers' merchandising counsel, has joined the American Builder staff. He will devote his entire time to working in the field with dealers, builders and others concerned with the local home town building industry.

THINK it was Abraham Lincoln who said he didn't try to get God on his side, but found out which way God was going and lined up in the same direction. Old Abe was pretty wise and his advice seems sound. Never at any time in the lives of men today did the future of their business seem so uncertain. I'm thinking of the building business. Just which way are we headed? There is no strong leader to whom we can turn, or who seems willing to point the way.

Joining the editorial staff of the leading magazine in the building field at this time has brought home to me a deep feeling of responsibility. The American Builder has for more than fifty years enjoyed an outstanding position in the building field. To endure this long, it goes without saying that it has played fair and that its editorial policies have been sound. Its thousands of readers represent all branches of the building industry and this contact has kept the magazine in close touch with all phases of that pioneer American business.

## Leadership in Marketing

In its analysis of the present and future of this industry, the American Builder has reached the conclusion that sales and distribution, which might be covered by the term "Marketing," constitute the major problems of the building industry, if not of all industry.

In order to continue this leadership through another half century, the American Builder must strengthen its leadership in marketing. This we propose to do.

I visualize my job as that of helping to create and supply a market for all of the worth while building materials and equipment that the American public should have to make it comfortable and happy. That includes billions of building every year.

My system of analyzing any marketing problem is first, through a careful survey, to determine and classify all of the potential buyers. Find out what they can use, how they want it and how to get it to them at the lowest possible cost which will leave a legitimate profit to those rendering a necessary service in the process.

In the past, the problem has been thought of as one of production. But now with an over production of everything and few buyers for anything, we've got to concentrate along different lines—marketing.

## Catering to the Potential Buyer

When you don't know a thing, it's usually wise to go to headquarters for information. A hotel guest in a strange town dropped into the ballroom one night to watch the dancers. He was standing near a gentleman whom he had never before seen, when a very homely lady passed by. Turning to the stranger, our guest said, "My, that's an ugly woman; I wonder who she is." "That happens to be my wife," replied the stranger. "Well sir, there's one thing about me," gulped the guest, "when I want information, I step right up to headquarters and get it."

Who is headquarters for information in the building business? The same as it is in all other business—the potential buyer. How will we get the information the American Builder is to use in helping its readers and advertisers meet these vastly changed marketing problems? Get them through the intimate contacts it has always kept with the most successful of its thousands of readers among the manufacturers, dealers, architects, contractors, realtors and builders.

## Building Is a Local Industry

At this time there are many large and powerful concerns making a study of the building industry with a view to nationalizing it. Can they succeed? That remains to be seen. My opinion is that now and for many years to come, the building industry is, and will continue to be, local. It may be good in one town or section, and poor in another. A certain automobile or mechanical refrigerator or radio may be worth the same in Chicago or Fayetteville, Arkansas; but there is a vast difference between the value of the same house on the same size lot in these two towns or even in different locations in these same towns. And so the building business is local.

# and CUT COST OF DISTRIBUTION in the Local Community

We all realize the determining factors of freight rates, labor, cost of living, etc.

The interests of the American Builder lie with the local or "Home Town Builders." How can we help them create and supply their local building trade? In the wild scramble for business during the past three or four years, the rule of the jungle has largely prevailed—"Every fellow for himself and the devil take the hindmost." And the devil seems to have caught up with a large per cent of the "Home Town Builders."

At least there seem to be more of them out of work than many others. The building industry has had the greatest slump: about 80 to 85 per cent. What will it take to bring it back? That's our problem.

## Reaching the Public Through Dealers and Builders

Well, let's sit down for a visit with Lord and Lady Consumer; they are the dictators. Some of these consumers have money and some can get money. But they ask questions. "Is this a good time to build? Is a home or other building a good investment? Are building materials as low as they will go? How is the best way to get a good job cheap? etc., etc."

Building materials are not bought on the impulse like most other commodities. People think a long time before they build. The only people who buy on the impulse are the dealers who need the stock or the contractors who have a job to do. We reach these through the editorial and advertising pages of the American Builder. But we must depend on the dealers, contractors, architects and builders to get the story over to the consumers. Here seems to be our principal problem today. Some manufacturers of building materials refer to dealer distribution as *the bottle neck* in our present set-up.

Since building isn't done on the impulse its promotion must be educational. Replies to keyed advertisements often come in two or three years after they were run. Faith and persistence are required.

The job of our magazine, as I see it, is to become a practical marketing force in the field. We must work shoulder to shoulder with our advertisers and readers. We must gather ideas which are sound and successful and give them to our readers. When necessary, we must be able to present the ideas personally or even get into the field to help put them into practice.

How can we lower the cost and increase the efficiency of local marketing? Here again we have gone to headquarters for advice. We've studied the methods of the most successful marketers in the country. Is it door bell ringing? We don't think so. Employed door bell ringers are expensive. They add tremendously to the cost of distribution. No, we must arouse the interest of the building prospects by a cheaper and more intelligent method than annoying them at their front doors. Suc-

cessful dealers in other lines first get their merchandising or selling plans perfected and then use the cheapest and most effective methods to create an interest in what they want to sell.

Who or what exerts the greatest influence in every local community? The home town newspaper. Its editor is friendly to all local interests. He makes his living from the advertising pages of his paper. Naturally, everything else considered, the home town editor is especially interested in helping those who help him. He doesn't say much about the building business and those in it because, as a rule, they don't show much interest in his paper, except to read it. Readers are necessary but it's the advertisers who keep the presses running.

Now I did retail lumber and building material advertising in our home town paper for fifteen years. It paid; but it could have been made to pay much better. There was no editorial support for my advertising except what I supplied myself and I soon found that that was too big a job. Without any friendly reading matter about building and with my advertisement lost in a maze of cigarette, department store and patent medicine copy, I didn't get a very good break.

## A New Hometown Service

To remedy this lack, the American Builder has perfected an editorial service for newspapers that will assist every newspaper editor to give the proper interesting and instructive backing to his local home building industry. This service will discuss and illustrate the sound and new ideas in home building, repairing, remodeling and modernizing. And at all times its attitude will be friendly and favorable toward the home town dealers and builders and to the building materials and equipment sold through those channels. In other words, we propose to help the local newspapers of the country champion the cause of the local building industry and the producers of worthy materials and equipment, against the world.

But to perfect a sales plan for building materials means also the co-ordination of everybody and everything necessary to supply satisfactorily the wants of Lord and Lady Consumer. That means a close working arrangement of the local dealer, the local contractor, builder, architect, craftsman, realtor and building and loan or other financing source. When harmony and efficiency of service are achieved the local building interests are ready to advertise to the local public. Not on a rule of the jungle basis. Not on a destructive basis but on a friendly, constructive, creative basis. We want to develop business. We want to cause more building. If we can do that, then the best merchandiser will get the lion's share. Then the dealer and his friendly architects, contractors, carpenters and others will have a chance to get the business. Then the best goods, best displayed and best presented will reap the rewards.

# Profit In Cold Weather Concrete Work

by W. G. KAISER

Cement Products Bureau, Portland Cement Association

- 1—Big field for needed farm and dairy work
- 2—Factory repairs necessary
- 3—Walks, drives and home improvements offer jobs
- 4—Cold weather no handicap to good concrete work

SEVERAL factors will tend to make construction continue during the coming winter months. Among these are the home modernizing programs being conducted in a number of cities. Builders will profit by going out after this work vigorously.

Another activity which is likely to result in considerable winter work is the improvement of factories and commercial buildings as a result of the work of the recently organized committee on industrial rehabilitation. Revival of business will re-open factories, many of which admittedly are out-of-date or in need of major repairs. This winter will offer unusual opportunities for such work at low cost.

The third field which is commanding attention, is that of farm construction, particularly in the field of sanitary dairy structures. The increasing demand for high quality dairy products and the enactment and enforcement of more rigid milk ordinances and regulations are causing the immediate modernization of dairy barns, milk houses, and other dairy structures.

In many instances time limits have been set when improvements must be completed, making it absolutely necessary to continue work throughout the coming winter months.

Much of this construction will be inside, which lends itself readily to winter work. Excepting in very cold weather, the buildings in which work is to be done probably will provide sufficient protection so that construction involving the use of concrete or mortar will not be damaged by freezing.

In extremely cold weather it is a simple matter to heat and protect the part of the building in which work is being done. For this purpose, it is common practice to use coke or oil stoves or some other form of heater which produces considerable heat without smoke.

Of course, it is advisable to haul aggregates before pits freeze and store them near the work, preferably under cover if it can be arranged. Provision must be made for heating aggregates in order that any ice or snow can be thawed out. Several methods of accomplishing this have been developed.

For small jobs, sand and gravel can be heaped over a section of metal culvert pipe, floor form, or smoke stack in which a fire is kindled, or a fire box can be built with concrete block or brick with a sheet-iron cover on which the aggregates can be piled. In all cases when heating is done in this manner the aggregates are turned or raked over so that all ice and frost are removed and

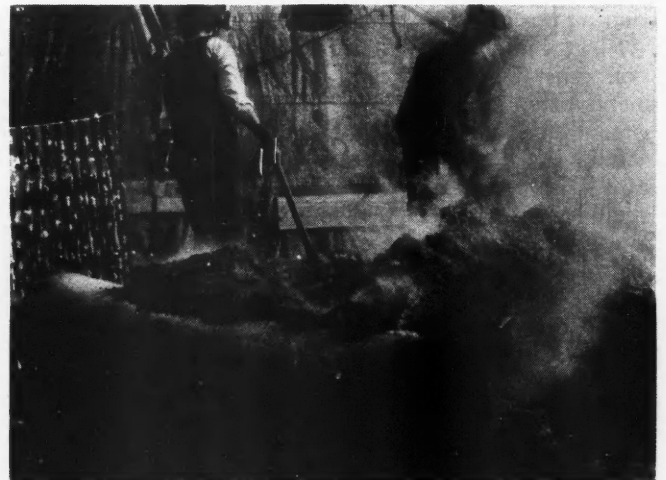
heating is uniform. Be careful not to overheat aggregates. They should not be so hot that they cannot be comfortably held in the hands. On large jobs, aggregates are commonly heated by blowing live steam through them.

The heating of water is a relatively simple matter. It can be heated in kettles by steam or by any other convenient method. The concrete is placed immediately after being mixed to conserve as much heat as possible, and then protected against freezing until hardened sufficiently to resist damage by frost.

For exterior floors, walks, and pavements, the usual method of protection is to cover with heavy paper and then with a layer of straw or manure to a depth of a foot or more. Winter-built exterior walls are protected by tarpaulins and heated with coke-burning stoves or salamanders.

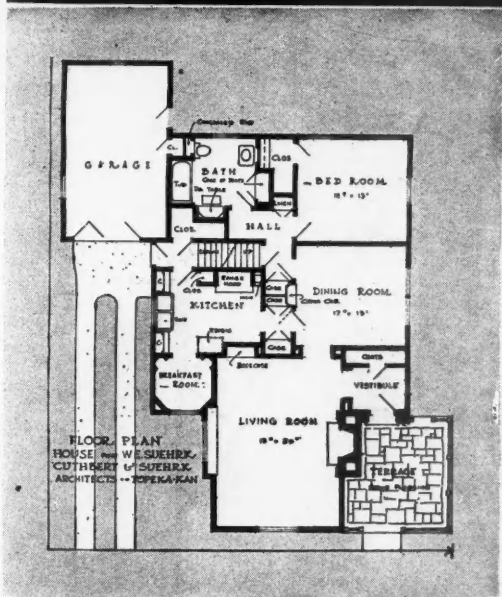
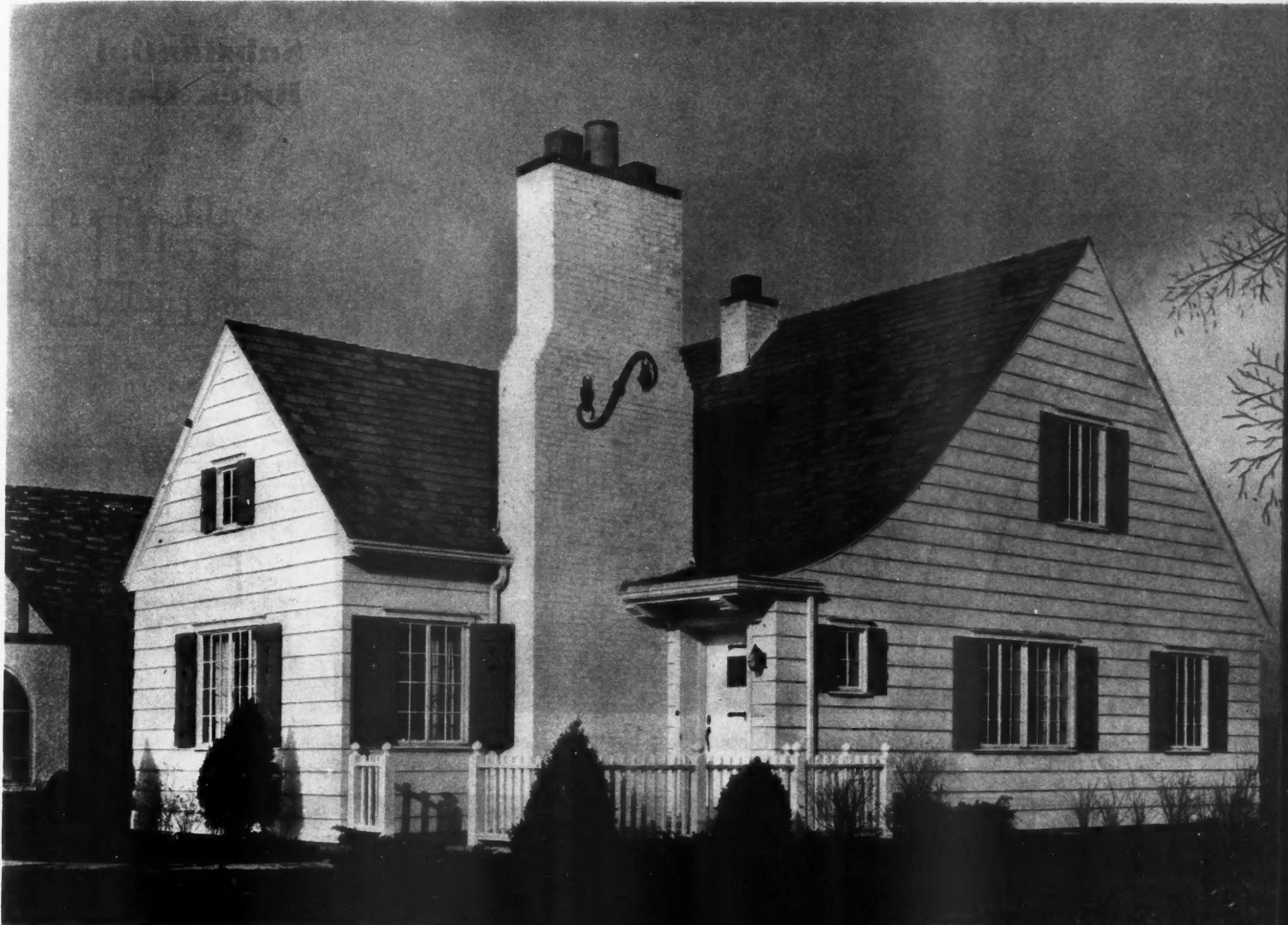
Protection is continued until concrete is hard enough to withstand freezing. When temperature can be maintained at 60 degrees F. or higher, 48 hours usually is long enough, but it is considered good practice to continue protection for about a week. In any event, it is a good plan to test concrete before subjecting it to freezing temperatures or before removing forms. It is not unusual for frozen concrete to be mistaken for properly hardened concrete. The application of heat or hot water is a good test to use. If concrete is frozen, it will soften on being warmed.

By observing a few simple rules, construction work can be continued throughout the winter months and provide much needed employment as well as earlier utilization of the structure built. The three markets which hold the best prospects for increased construction activity are home modernization and repair, factory rehabilitation and improvement, and sanitary dairy structures. Builders can help themselves and business conditions generally by showing prospects the practicability of winter construction.



Heating aggregates by heaping them over a section of old smoke stack. Temperature was close to zero when this work was done





This prize winning house was designed by Architect W. E. Suehrk of Topeka, Kansas, for his own use. The chimney-entrance detail is especially good. The Cost Key is 1.656—188—1160—49—23—21.

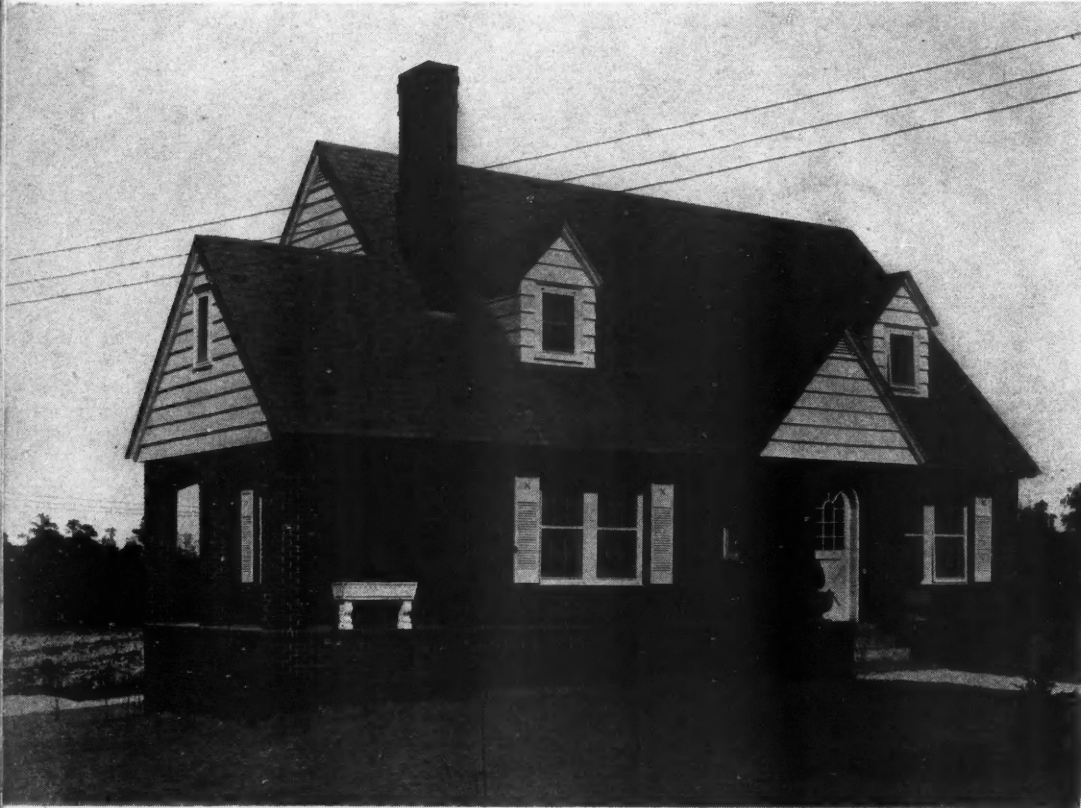
## Home Plan Section Showing 19 Recommended Designs

### HOW COST KEY WORKS—

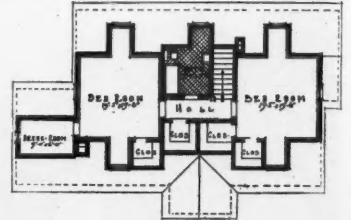
Every house in this issue carries a COST KEY to give the exact cost in any town by comparing it with a BASIC HOUSE figured by contractor and dealer together.

Here are what the Cost Key figures mean, using the Topeka house above as an example:

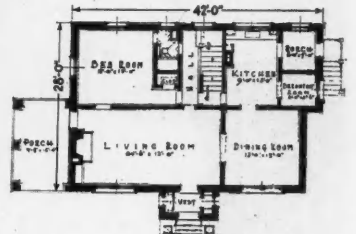
1.656 Cost Rate	188 Lin. Ft. Founda- tion	1160 Sq. Ft. Floor	49 Yds. Excav. Per Ft. Deep	23 Sqs. of Wall	21 Sqs. of Roof
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### Substantial Brick Home

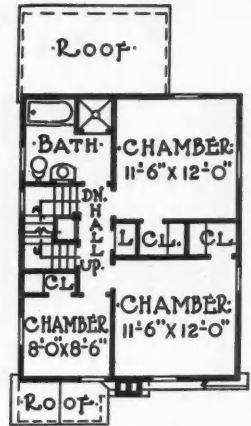


SECOND FLOOR PLAN

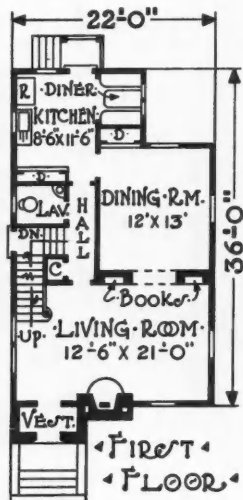


FIRST FLOOR PLAN

Sponsored by Better Homes In America, this house was built at Greenville, S. C. Cost Key is 2.080—148—1180—49—22—22.



SECOND FLOOR



FIRST FLOOR



Designed for a 22-foot lot. Cost Key is 1.504—124—760—33—23—12.



©Architects' Small House Service Bureau

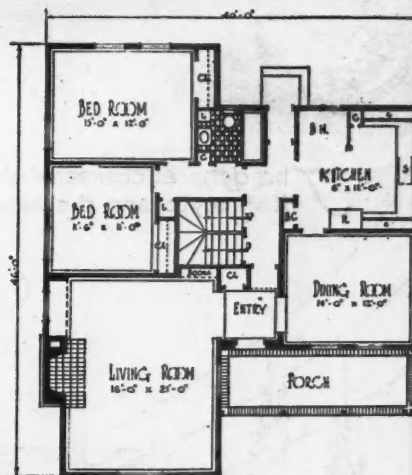
A modified Colonial of a modern type that is very much liked. Design No. 5-E-8.  
Cost Key is 1.664—172—1533—63—20—20.

### Two Attractive Bungalows

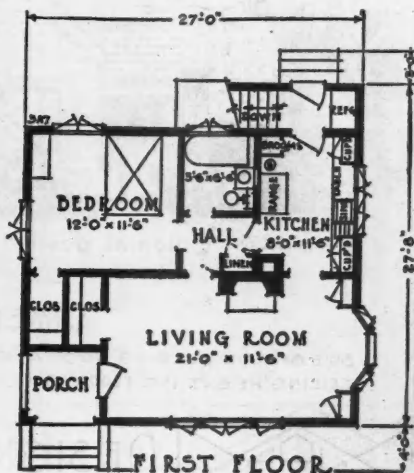
For the small family, this simple home (design No. 3-A-7) is especially good.  
Cost Key is .907—109—736—31—13—12



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FLOOR PLAN OF No. 5-E-8



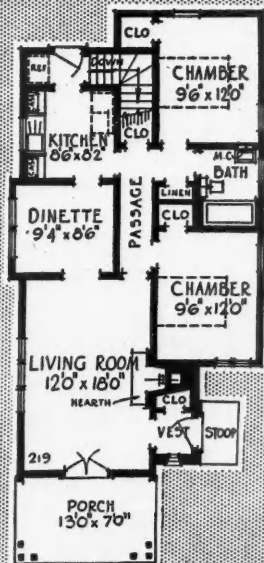
FIRST FLOOR



# FOR NARROW LOT

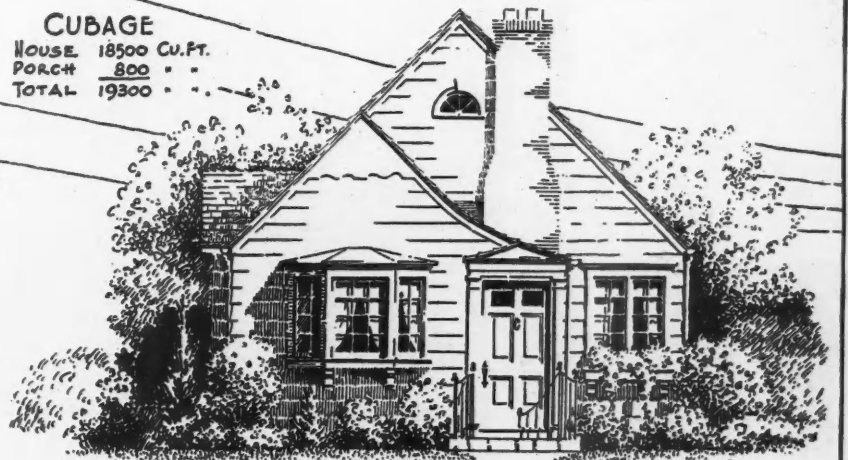


This English style bungalow has been designed for a typical city lot which is often not more than thirty feet in width. It also readily adapts itself to a corner lot.



FLOOR PLAN

CUBAGE	
HOUSE	18500 Cu. Ft.
PORCH	800 " "
TOTAL	19300 " "

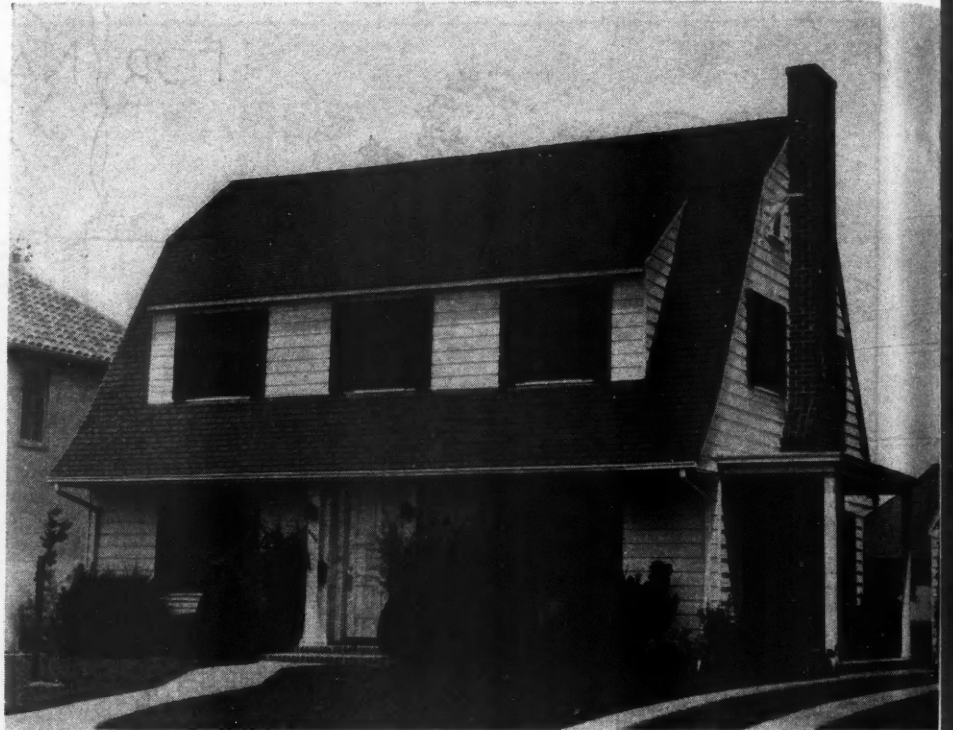
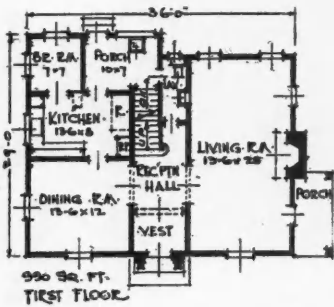
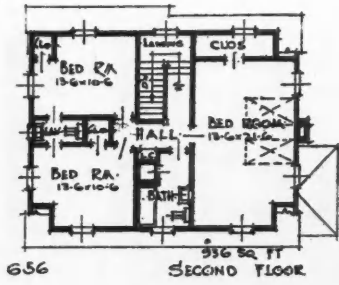


Alternate design in Colonial Style with bay in front substituted for porch. This design known as Plan B.

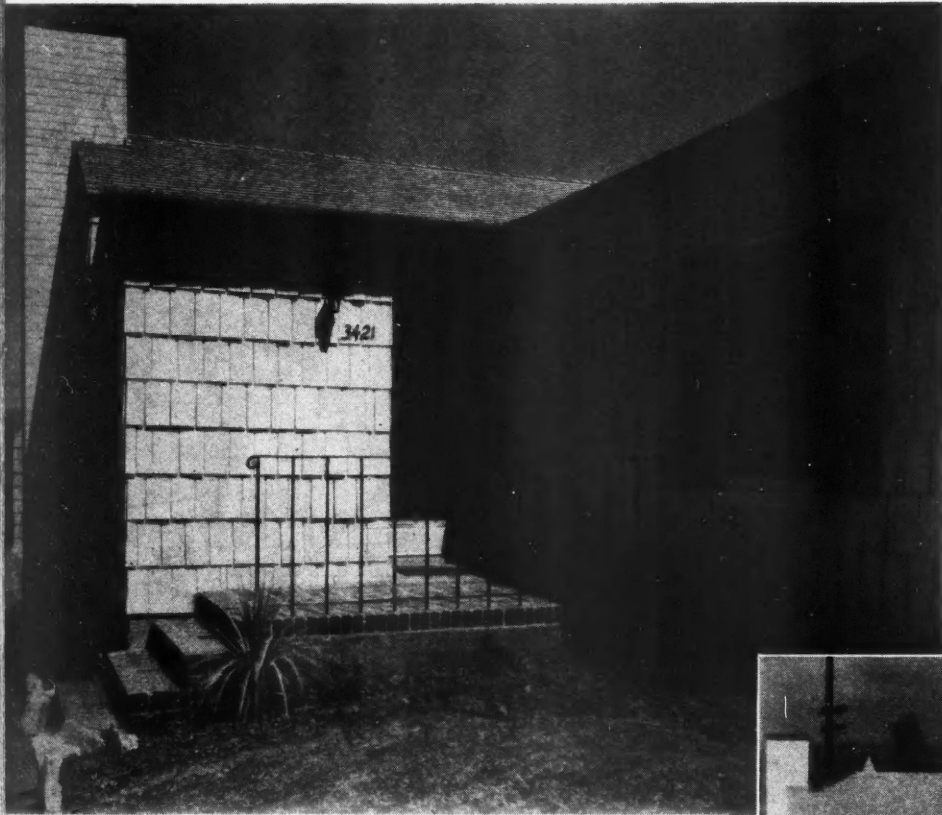
### DIMENSIONS

SIZE OF MAIN BUILDING...23'0" x 40'0"....SIZE OVER ALL...25'0" x 51'0".  
 CEILING HEIGHT...8'0".....HEIGHT OF BASEMENT...7'0".

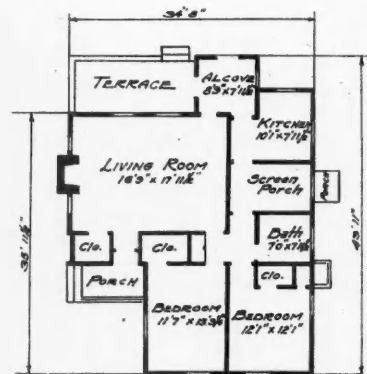
NPS
DESIGN FOR A FIVE ROOM BUNGALOW
219A



Well planned Dutch Colonial located at Sacramento, Calif. A. B. Cleveland design No. 656. Cost Key is 1.928—130—990—41—23—18.

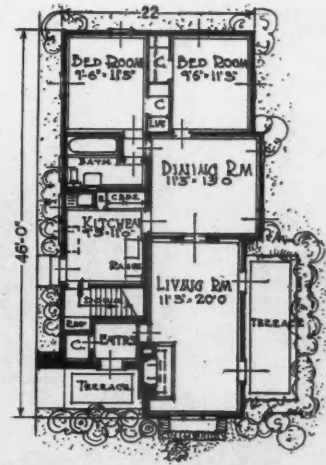
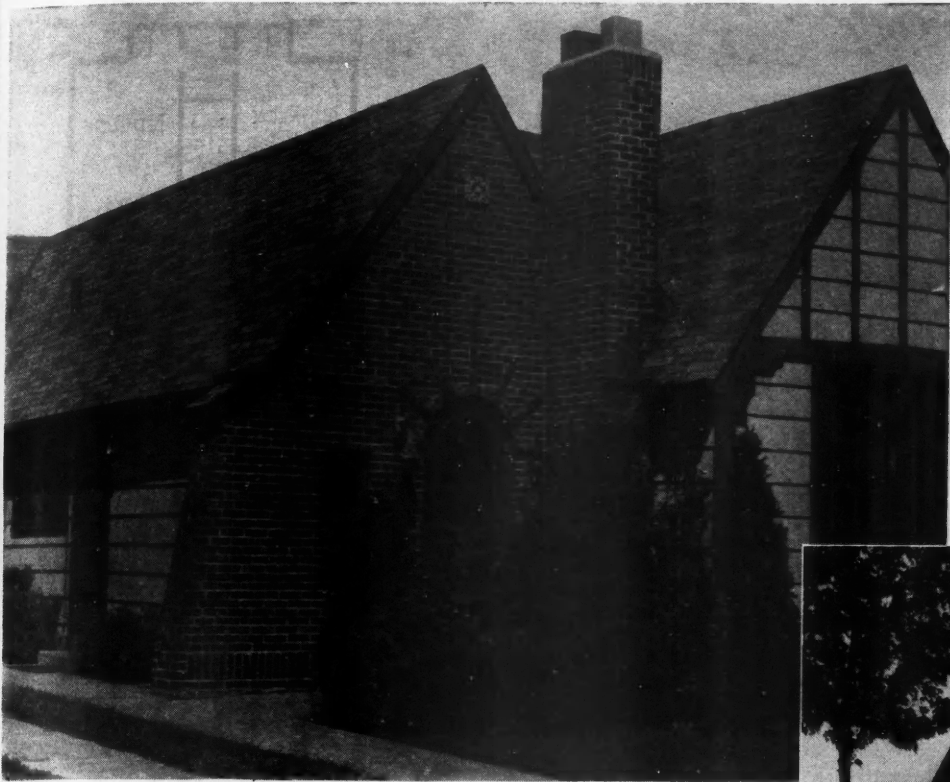


One of the newer types of small California homes, located in Palos Verdes Estates. The shingle exterior and simple entrance are charming. Cost Key is 1.310—158—1232—51—16—15.

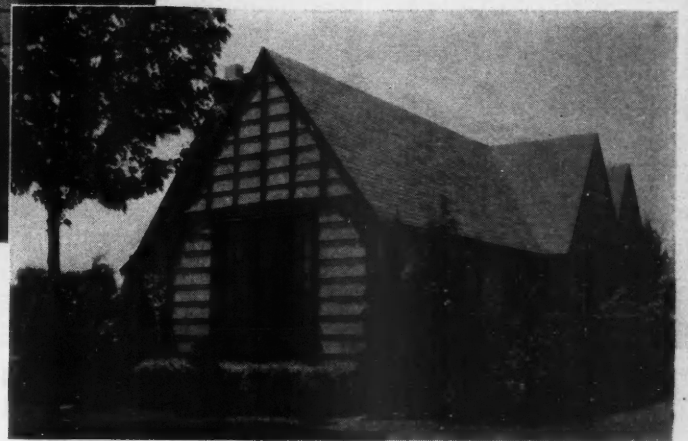


Mr. & Mrs. W.F. Howard  
3421 La Selva Place



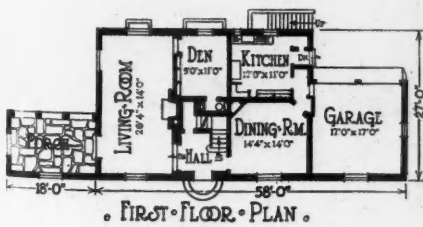
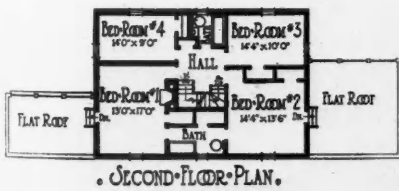


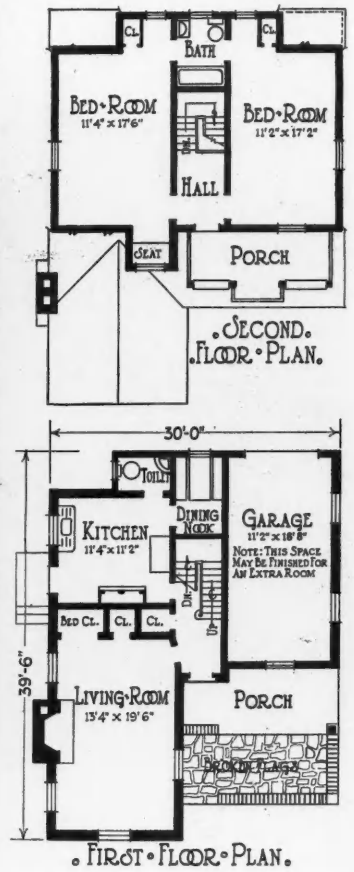
Elkhart, Indiana, is the town where this good little house was built. The brick and shingles are interestingly combined. Gerald C. Brubaker, architect. Cost Key is 1.194—140—976—41—16—19.



### Whitewashed Brick

The unusual porch and large garage make this house on Long Island look bigger than it is. Rodgers and Poor, architects. Cost Key is 2.612—208—1120—49—27—26.

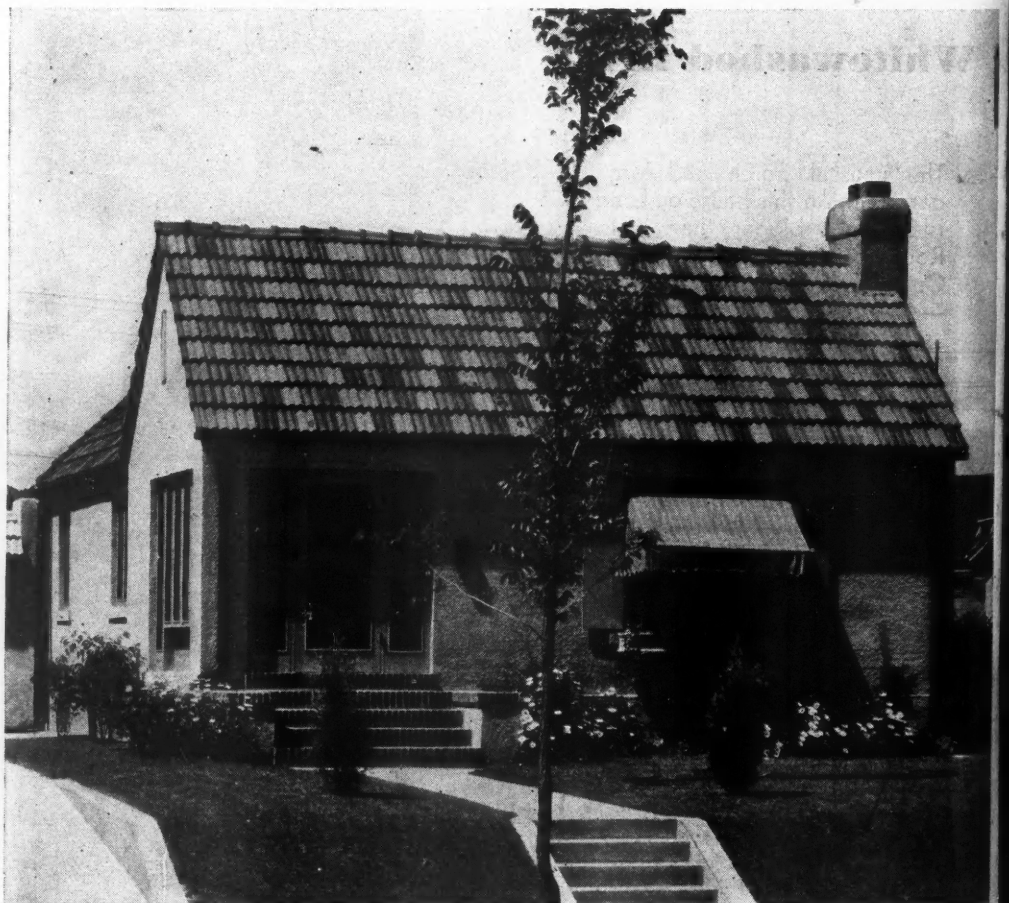
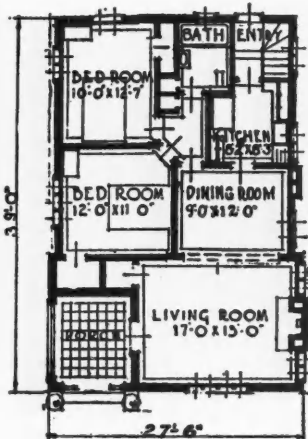




Designed and built by Douglas Bar Corp. at Nyack, N. Y., this house has many unusual but attractive features. Cost Key 1.611-139-636-29-22-14

### From East and West

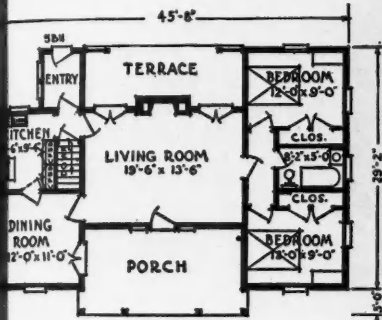
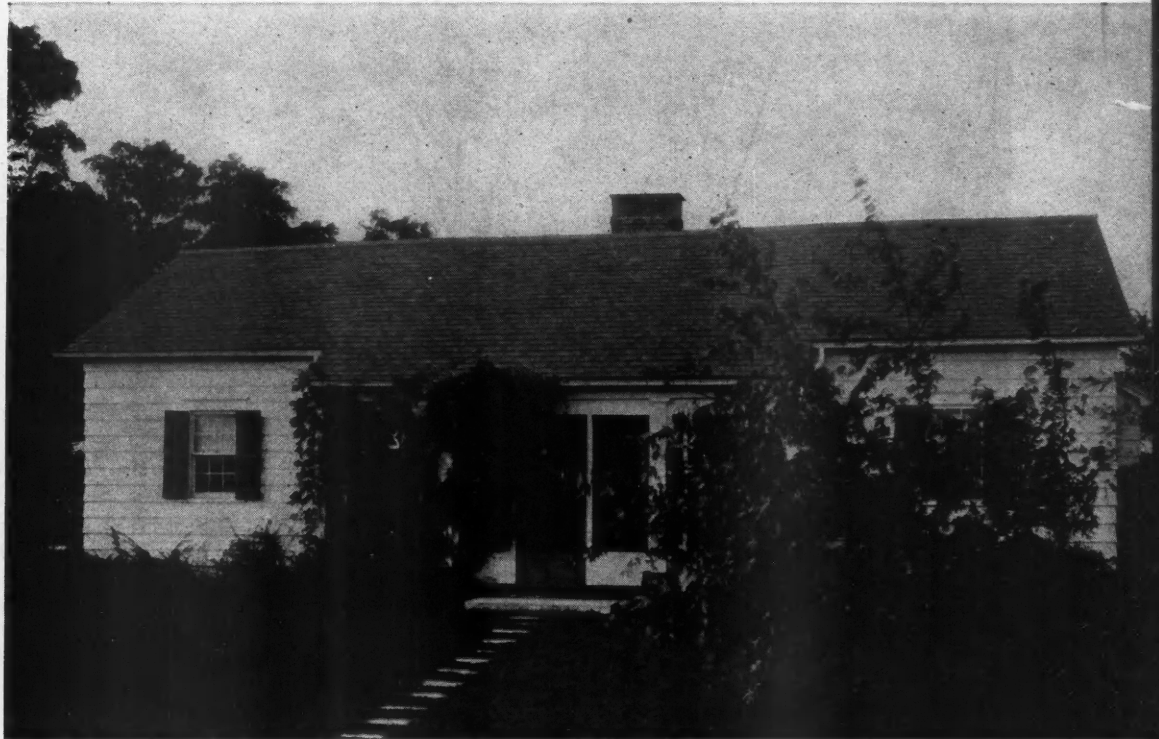
So many small Spanish homes of this type have been built that it must be good. Cost Key is 1.158-133-957-40-15-13.



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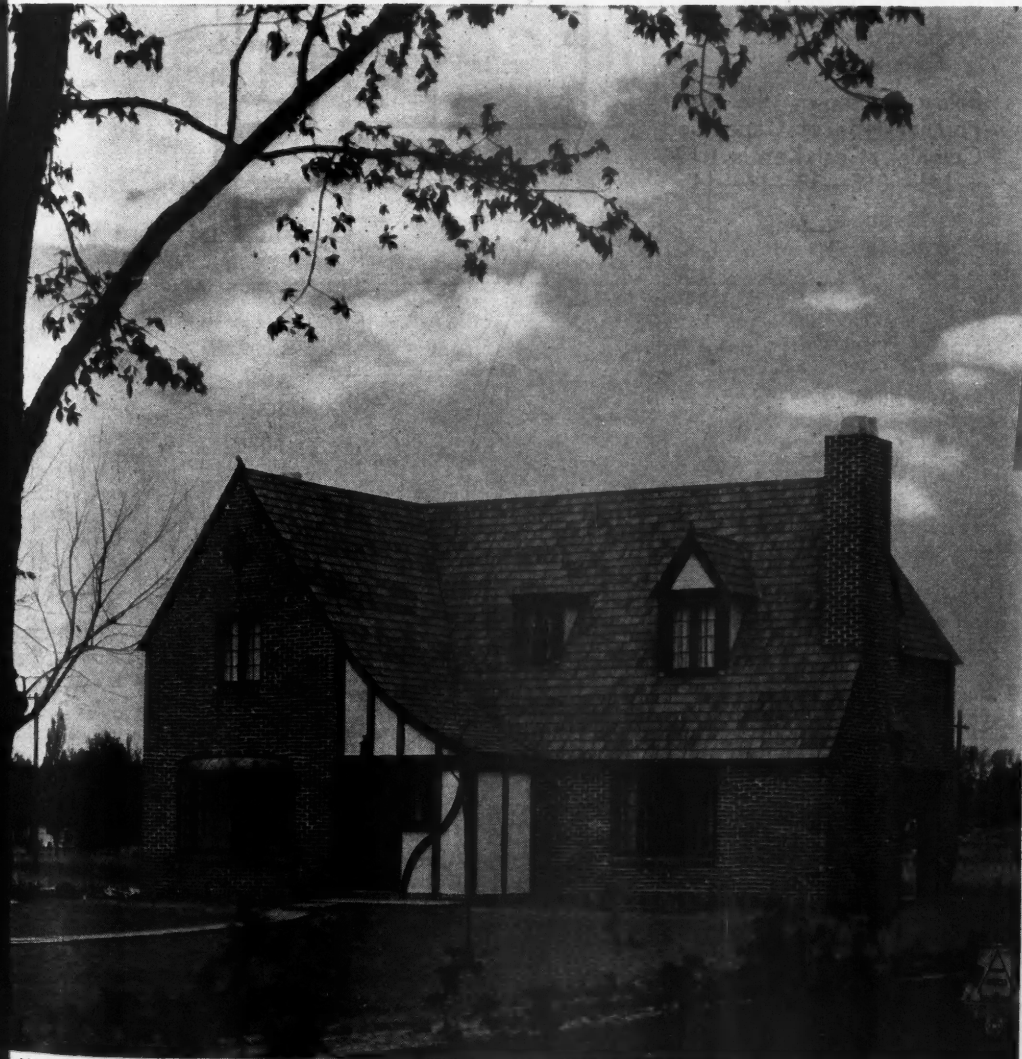


**Low Cost  
But  
Attractive**

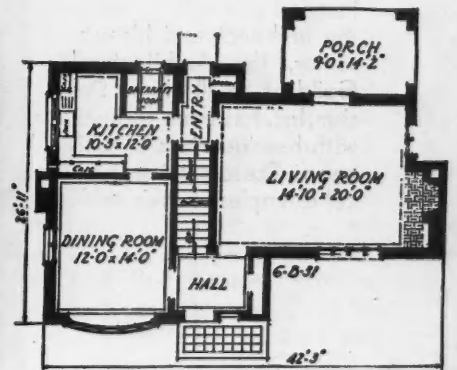
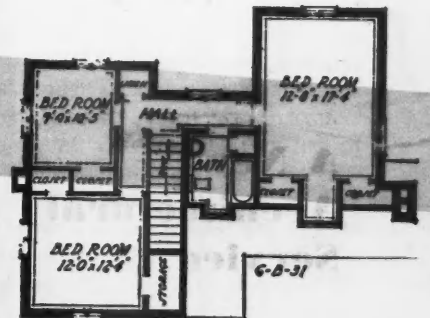


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Porch in front and terrace at rear are popular features of this arrangement, which has been proved very satisfactory. Cost Key is 1.359—176—1010—44—18—15. Design No. 5-B-11.



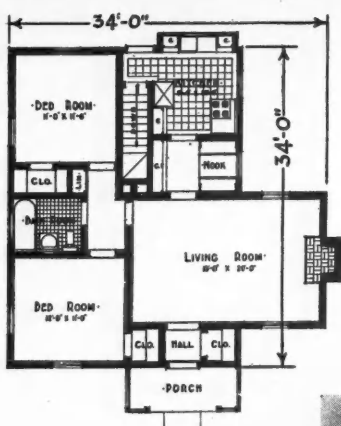
The projecting window is a feature of this brick home from the East. Cost Key is 1.996—138—918—39—22—18.



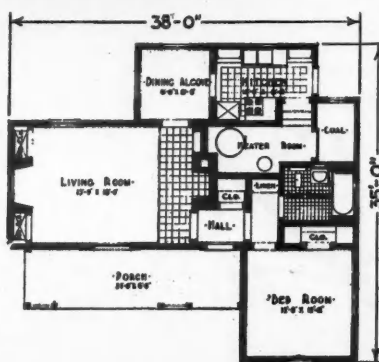
Architects' Small House Service Bureau



The cottage at left is an authentic Colonial type with appeal to lovers of good architecture. Cost Key is 1.166-136-996-42-15-14.



Two versions of charming Colonial cottages designed in excellent taste by the Architectural Guild.



Below is shown the most popular type of Cape Cod Colonial. Cost Key is 1.194-146-865-38-16-14.

## A New Architectural Service

Planned primarily to serve the architect and his customer, the Architectural Guild of Small Home Design, Inc. has been formed, with headquarters at Chicago. These are two typical examples of their work.





Albert C. Gseller sends picture postcard at left to realtors, describing property for sale.

# They Co-operate To Sell

**Builder and six other firms share cost of mailing folders that bring in extra modernizing business**

**A**N effective way to sell modernizing work is being carried out by Albert C. Gseller, carpenter and builder of East Orange, N. J., in co-operation with six other firms, as follows: Geo. J. Christensen, painter and decorator; A. Swensen, hardwood and parquet floors; Ernest C. Ward, electrical contractor; Charles L. Nagel, mason builder; Henry C. Nadig, plumbing, heating and tinning; and Bailey & Alling Lumber Company.

These seven firms get out the four page folder shown above, dividing the costs evenly between them. Seven thousand are sent out each month.

Here is what Mr. Gseller says about this co-operative way of getting business:

"The object is to have each trade interested so that each will sell ideas of home improvement in other lines of work than his own.

"We refer to our circular when we are asked 'Who's a good painter?' or 'Who's a good plumber?' The owner then makes direct contact with this party.

"The layout of the circular was made in my office, using illustrations of some of my jobs. We also published a list of 98 home suggestions which AMERICAN BUILDER carried a few months ago.

"Seven firms are interested and they are scattered over quite a large region—not in the same city. Each makes up a mailing list of 800 home owners—giving us a permanent list of 5600 good prospects. Since each list

is in a different community, the extent of our mailing is widespread.

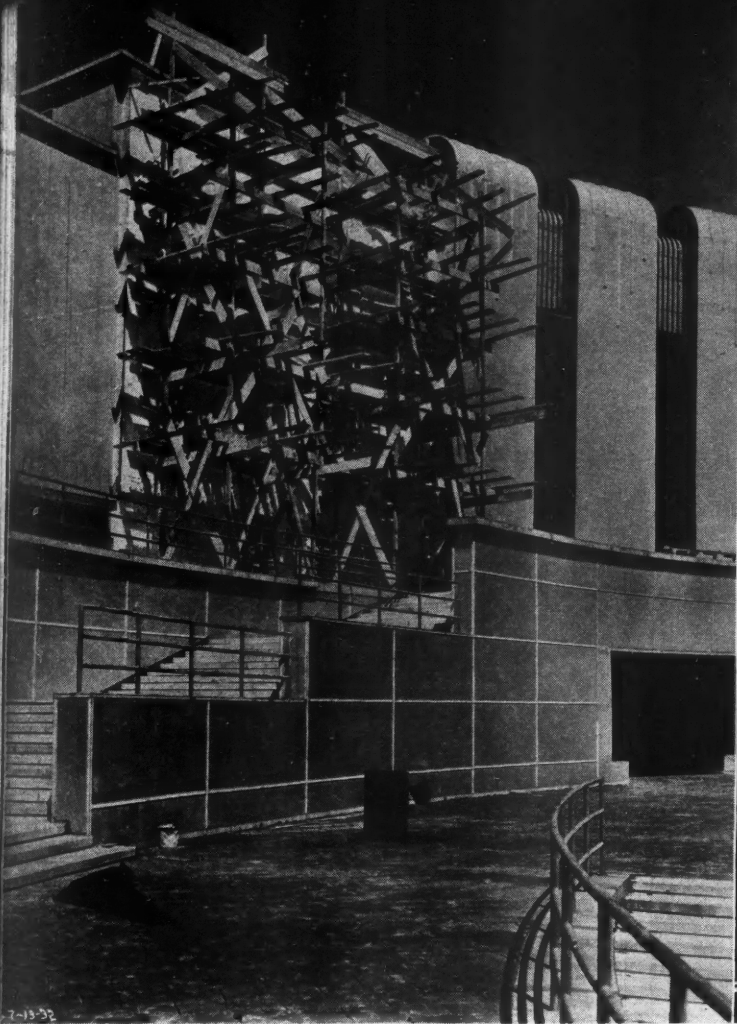
Each man makes up his list from home owners, getting names from his tax office, the street directory in his neighborhood, etc. We have here a directory which gives all street numbers and names so you can follow through a street and check off the proper names and addresses quickly.

"It is very important to send more than one circular to the same address. They must follow up repeatedly—each month with another circular until the prospect knows what you are driving at. We repeat our list of 5600 each month, and use the remaining 1400 for random mailing and for sending to special prospects. We use a one-cent postage permit which costs nothing to obtain when you mail more than 200.

"One way we have of making up our mailing list for the random copies is to have each of the seven different firms get names and addresses of all the neighbors in the region of the jobs they are working on. We do this with the aid of our street directory. With one job already going on in the neighborhood, this mailing creates a great desire for further home improvements in that region.

"Our six months' program of advertising in this manner has been very satisfactory, and has brought in much business. In September alone, I had six kitchen alteration jobs from it.

"We sent out six mailings of 7,000 each, or a total of 42,000 folders; the cost was: folders, \$580.00; stamps, \$420.00; envelopes, \$53.50. The total cost of \$1,053.50, divided by seven members, is only \$150.50. Considering that we have covered 5600 homes six times and 8400 once, that is pretty cheap advertising."



1—Applying gypsum board exterior to Electrical building. Wood battens used decoratively.



2—General Exhibits building showing wall and roof framing. Roof decking partly in place.

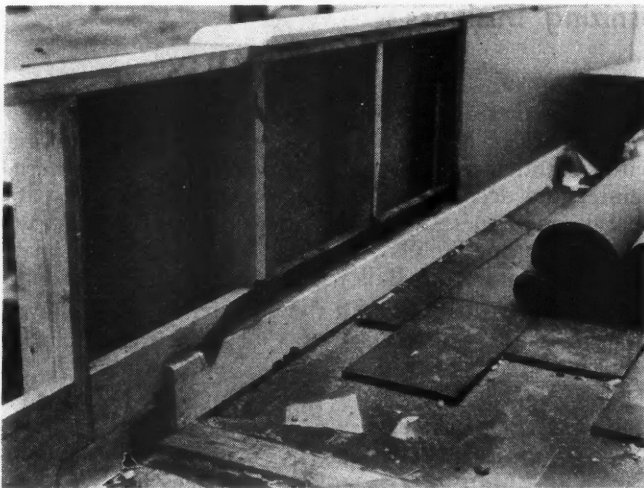
# 1933 WORLD'S FAIR—

New ideas, new materials, new methods point way to revolutionary changes in construction technique

**T**HIS World's Fair is different from anything of the past. The architects and engineers have freedom to attempt use of new methods and materials not possible in everyday commercial construction jobs.

A number of different factors govern the work. On the expiration of the Fair, the buildings must be removed; they are therefore designed for temporary use only. The freedom from standard city building code restrictions, enables the designers and material manufacturers to develop certain ideas which in themselves may not be directly applicable to permanent construction but which will develop methods and materials that can be used for permanent construction to speed up building time and radically cut building costs.

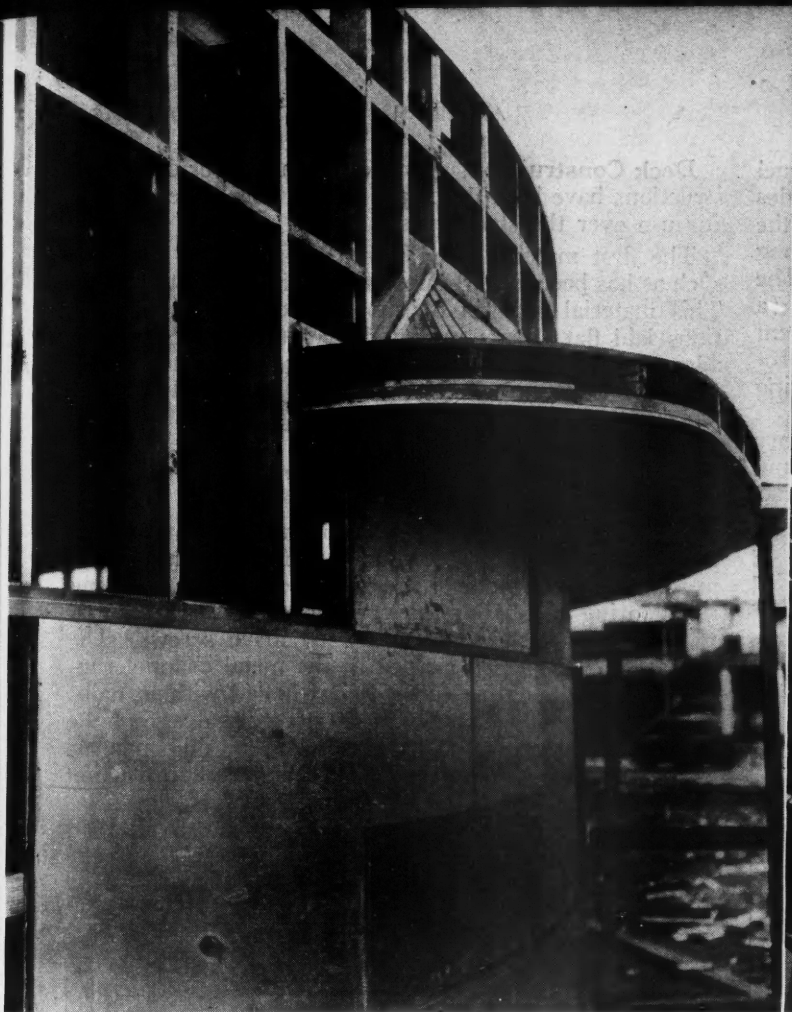
The Exposition is building its larger exhibition structures for an average of 16 cents per cubic foot. This includes all construction, lighting, ventilating and landscaping adjacent to the buildings. It does not include plumbing and heating.



Terrace detail with closed railing, wall board interior, wood base, asphalt plank finish over membrane

The necessity for demolition is an important factor. This is considered in the selection of materials which will have a high salvage value and in following construction methods that will permit of easy dis-assembly.

Throughout the development, only such materials as will conform to a definite fire restriction are being employed. This has permitted the use of exposed structural steel, with wood stud curtain walls when protected inside with an incombustible wall covering and outside with a slow burning wall covering.



3—Curved surfaces built with gypsum board; typical wall framing and small canopy construction.



4—Agricultural Building, showing typical steel framing used on various exposition buildings.

# BUILT FOR THE FUTURE

by Bert M. Thorud

Structural Engineer, A Century of Progress



Detail of exterior wall showing application of gypsum board. Metal strip is attached to bolted plate

As this is written, seventeen of the Exposition buildings are either standing or in the course of construction. In many the building innovations which will be described are illustrated. Since there are a number of innovations, I have divided the various operations into different sections, such as "Foundations", "Steel Framing" etc., to describe the new methods in each as follows:

**Foundation.** Some highly significant departures from standard practice have been followed here—departures that have resulted in important economies.

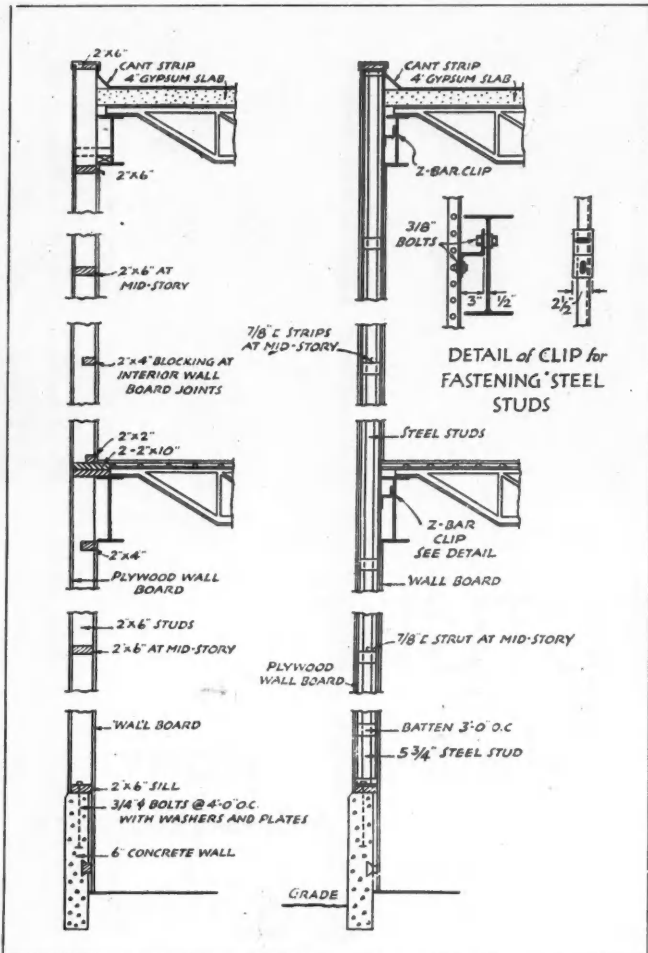
The ground on which the Fair stands is all "made" land, which a few years ago was fathoms under the surface of Lake Michigan. It varies from an indifferent fill of rubbish to good sand. Thus the buildings are designed to rest on pile foundations. Instead of following the general practice of using a minimum of three piles under any column, the engineers have developed a system of one and two pile footings. Thus single piles are used under columns along exterior walls, with a wall beam supporting the wall at grade to resist any eccentricity of the pile in relation to the center of the column. The columns are so placed that the strong direction of the column is utilized to resist eccentricities normal to the wall.

On the interior columns a minimum of two piles is used, with the two piles so placed as to resist eccentricities about the weak axis of the columns. A further saving in piling has been achieved by cantilevered concrete girders extending over and beyond the piling under columns and which carry walls set away from columns and likewise stair construction.

The economies affected by these developments have been made possible by careful comparative cost analysis. This suggests a way to similar economies in future permanent construction.

**Steel Framing.** The general arrangements of panel spacing of the framing for Fair Buildings, provides heavy steel girders extending across the width of the building. Together with the columns, these form strong bents for the structural bracing of the building. The successful development of light weight wall covering (a detailed description of which comes later) was dependent entirely on this steel frame construction, since it provided rigidity to the building which the wall covering could not contribute.

The bracing value has been developed for typical story heights, by using a web connection of girders to column, placed as high as possible on the girder, and by provid-



Cross section of typical wall construction. Plywood is nailed to studding outside of steel framework

ing a seat angle connection of the girder to the column. These typical connections are bolted. Towers and high pylons are braced generally with vertical struts and horizontal and diagonal cross bracing. Steel joists used are of an open-trussed type. These are adapted to forming a safe, rigid floor construction by stiff cross bridging, rigidly attached to the joist, and by special clamps designed by the engineers.

Possibility of using exposed steel decoratively in interiors has also resulted in added economy by eliminating coverings around the framing. The live load for framed floors has been set as 100 pounds. Live loads for floors resting on the ground has been set as 400 pounds per square foot. Thus exhibits of heavy machinery or other loadings will logically be placed on the ground floor. However, the flexibility of this type of steel joist construction will make it possible for loads exceeding the 100 pounds requirement to be placed on framed floors, by the insertion of additional framing.

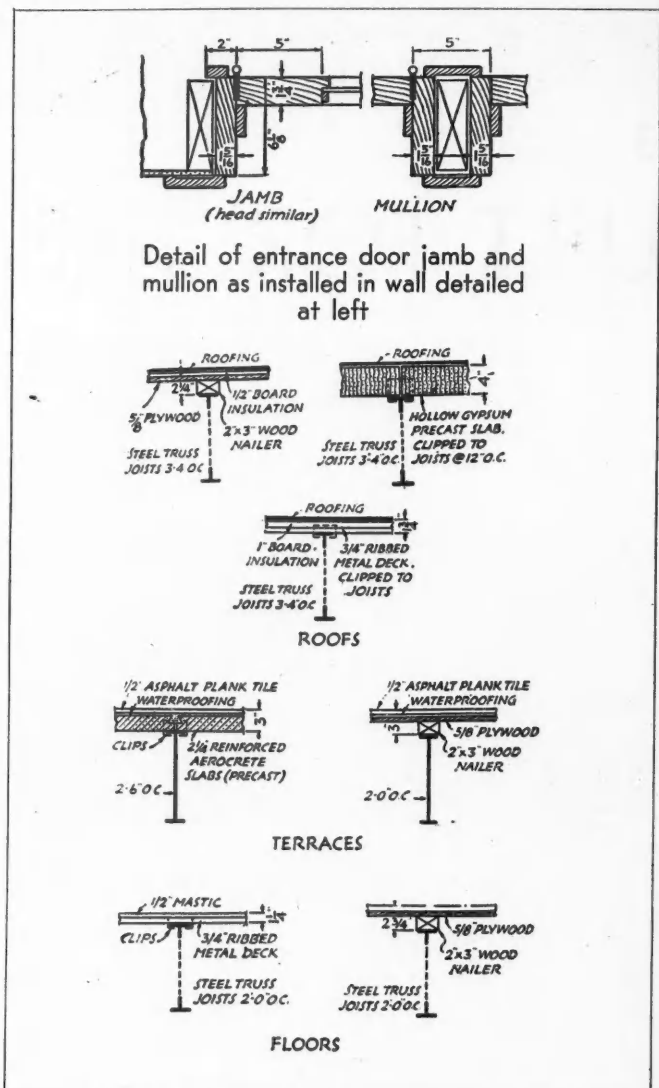
**Deck Construction.** A variety of new floor deck constructions have been developed, all of which are suitable for use over the steel trussed joists.

The first material tried was a ribbed metal decking, such as has been hitherto used for roof construction only. This material consists of shop-fabricated channel sections laid flat. Tests indicated that it could be used to adequately sustain the liveloads required over steel joists spaced not to exceed 24 inches on center when of a weight not lighter than 18 gauge. Experimentation, moreover, produced a type of mastic floor covering that yielded a satisfactory, economical floor finish over this metal decking.

A more recent development also proved that the metal decking is suitable to receive a wood floor finish, by connecting the wood floor to the metal decking by attaching the flooring to shallow metal channel runners secured to the metal decking by means of drive screws. The wood flooring is then clipped to the metal channel runners so that the entire finished floor is laid without nails. This will result in virtually a 100 percent salvage of the wood flooring where it has been laid in this manner. It means, also a saving in labor, since the construction is much speedier than by traditional nailing.

The second type of deck developed was a plywood of 5-ply Douglas fir, mill cut in large panels to suit the

(Continued on page 44)



Revolutionary changes in roof, terrace and floor building are shown by these details, typical of those used in various buildings

# New Styles in GARAGES and Upward-Acting Doors



Stucco and stained siding are used to good advantage in the garage above. Below is another attractive design equipped with automatic door control.



The 3-car garage above is unusual and has many fine points of design and equipment. Below is shown how one of the new type doors is used in an open air fruit stand.

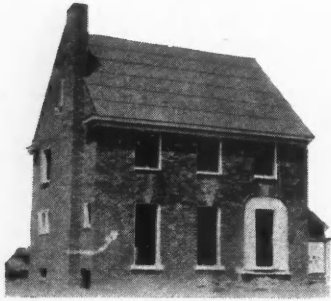


**WINTER** focuses attention on the need for good garages, and especially, good garage doors.

The many new and improved garage doors now on the market are easy to operate, avoid snow trouble, and give the owner a lasting satisfaction that cheaper doors could never supply.

Building of new garages and modernizing of old ones offers a good source of fall and early winter business.

# Reinforced Brickwork Cuts Home Building Cost



The house of reinforced brickwork just as it appeared after the roof had been completed.

**A** SAVING of 1 $\frac{1}{10}$  cents per square foot of wall, as compared with common brick veneer, was achieved by the new reinforced hollow brickwork method on this year's Detroit Firemen's Fund house. Thirty-six cents per square foot was the total cost of the 8-inch hollow reinforced brick walls above the first floor, complete with two coats of waterproofing and lime-finished plaster direct to the inner face of the brick wall. Ordinary common brick veneer figured 37.6 cents.

Chas. H. Fork, Detroit district engineer for the Common Brick Manufacturers' Association, which has been developing new ideas in reinforced masonry, reports the details of this job.

Every year, as a feature of Firemen's Field Day, in Detroit, some lucky individual is awarded a model home by the Firemen's Fund Association. This year the house was built of brick with reinforced hollow walls, the first of this type to be erected in Detroit. Naturally it attracted a great deal of interested attention, espe-

cially among building contractors and architects.

Analysis of the construction cost data made available by this operation is most enlightening. Particularly interesting is the fact that this type of construction can safely be placed upon a competitive basis with brick veneer construction with the usual wood back-up. It really costs less than veneer, according to these tests.

This new wall has great stiffness since a vertical steel rod every four feet is embedded in a mortar column, producing a vertical beam. Over the windows the wall is made to function as a beam or lintel, by the use of reinforcing rods slushed in with mortar to take the tension. No angle irons are necessary.

Horizontally, the wall is tied together at each floor level with a continuous rod bent around the corners. This rod makes the whole wall function as a beam and would minimize cracks in case of unusual settlement. All the reinforcing steel is covered with mortar, thus eliminating the chance of rust.

Reinforced brick construction for residences has many advantages, according to Engineer Fork. It is very flexible and can be worked in with wood, steel or concrete for the interior framing. Wall thicknesses may vary between 8 to 10 inches and either standard size or large size brick may be used. It is not necessary to line up the interior and exterior courses except at floor lev-



## COST OF 8-INCH HOLLOW REINFORCED BRICK WALL ABOVE FIRST FLOOR

Per Square Foot of Wall Surface, Common Brick Facing at \$12.50 per M Less 2%;	
1:1:6 Mortar	
9.7 common brick at \$12.50 per M, less 2%	11.8 cts.
.16 cu. ft. mortar at 19c per cu. ft.	3.0 cts.
Bricklayers and necessary labor at \$12.50 per M brick,	
103 sq. ft. per M brick	12.1 cts.
Reinforcing steel	1.0 cts.
<b>Total cost of brickwork</b>	<b>27.9 cts.</b>
Two coats waterproofing	2.0 cts.
Plastering brickwork (finish coat of lime)	6.1 cts.
<b>Total cost of reinforced brick wall per square foot</b>	<b>36.0 cts.</b>

Close-up view of construction details at the first floor level, showing reinforcing.



els, as is done in walls where headers are used, thus expediting production. Since there are no headers, any bond or design can be worked into the exterior course with ease.

Plaster can be applied directly to the inside face of the wall without fear of water penetration, provided a mastic waterproofing is applied before plastering. By the use of the 8-inch wall instead of a 12-inch wall the cubage of an ordinary house is increased approximately 5 per cent.

This wall is economically correct, its developers maintain, since it reduces material and labor costs to the minimum, consistent with good construction, and in addition is fire-proof, moisture-proof, vermin-proof, wind-proof, shrinkage-proof, and insures low upkeep, minimum insurance rates and long life.

The brickwork in this new reinforced system is laid up with the exterior courses on edge up to grade and, above grade, is laid flat in the usual manner to give the natural brickwork appearance where visible. The entire interior course is laid flat up to the first floor joist bearing. The wall is doweled to the footing and also reinforced as a vertical beam. This method produces a wall that has the necessary strength and stability to resist the direct load and the thrust of the earth.

The wall, above the first floor, is laid with the brick flat on the exterior to give the natural appearance of brickwork and the interior, where plastered, is laid on edge. This method of laying provides for the most economical use of brick with the usual pleasing exterior appearance of the brickwork. The wall is then reinforced with a 3/8-inch vertical rod at each window and at the corners, and then spaced four feet on centers or less between the windows. The interior and exterior courses are tied together with 3/16-inch stirrups hook-

ing around the vertical rods and embedded in the mortar joints.

The design and supervision of this Detroit house was under the direction of K. M. Keck, architect for Better Value Homes, the builders. The masonry work was by J. H. Weznick.

Below is given an analysis of the costs of residence walls. These costs were worked out with the masonry contractor and closely represent current prices in Detroit.

The analysis of the cost of the basement wall per square foot of wall surface is as follows:

**COST ANALYSIS OF 8-INCH HOLLOW REINFORCED BRICK BASEMENT WALL**

Per square foot of wall surface; common brick;  
1:1:6 mortar

10 brick at \$12.50 per M. less 2%.....	12.2 cts.
.18 cu. ft. mortar at 20c per cu. ft.....	3.6 cts.
Reinforcing steel, set.....	1.0 cts.
Bricklayers and laborers.....	11.2 cts.
Material in concrete footing and waterproofing plaster .....	2.6 cts.
Drain tile .....	.5 cts.

Total cost per square foot of basement wall. .31.1 cts.

There is also shown a comparative cost analysis between the 8-inch reinforced brick wall above grade and a wall of brick veneer. It is shown that the reinforced brick wall can be constructed at 1 1/10 cents per square foot less than the brick veneer wall.

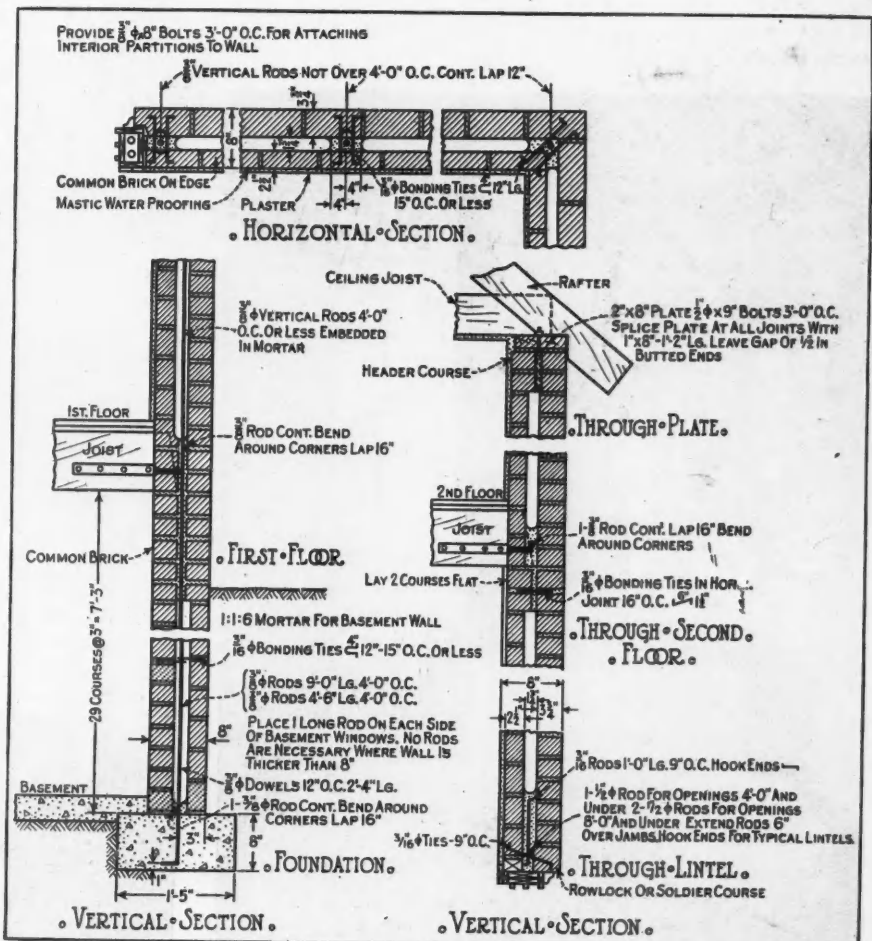
**COST OF BRICK VENEER WALL ABOVE FIRST FLOOR**

Per Square Foot of Wall Surface Using Common Brick for Facing at \$12.50 per M, Less 2%, with a 2:1:9 Mortar

Wood wall framing at \$27 per M ft.....	3.4 cts.
Sheeting at \$28 per M.....	2.8 cts.
Paper, at 90c per 500 sq. ft. roll.....	.2 cts.
Lath at \$7 per M.....	1.1 cts.
Nails .....	.1 cts.

Wood material cost.....	7.6 cts.
Carpenter labor at 40% of material cost.....	3.1 cts.
5.7 brick at \$12.50 per M, less 2%.....	7.1 cts.
.085 cu. ft. mortar at 19c per cu. ft.....	1.6 cts.
Bricklayers and necessary labor.....	8.9 cts.
Lintel angles and metal ties.....	1.2 cts.
Plastering on lath (finish coat of lime).....	8.1 cts.

Total cost of brick veneer wall per square foot .....37.6 cts



Details of new reinforced hollow brick wall house construction.

# Higher Rents, Better Tenants

How a \$615 bathroom modernizing job made a better home

by NORMAN J. RADDER

Plumbing and Heating Industries Bureau

THE public is critical of outmoded plumbing fixtures today and a home or apartment with plumbing that is out of date or in poor repair is difficult to rent. Under the circumstances, there are just two things the owner can do: Reduce rents and get inferior tenants or modernize the plumbing, maintain rents at the present level or possibly at a slight increase, and have as good or better tenants as he had before.

Modern plumbing means lower maintenance cost, satisfied tenants, longer rental periods. Moreover, plumbing today sets the keynote for home and apartment standards. Prospective tenants are likely to ask to see the bathroom first of all. If the bathroom is out-of-date, they lose interest. If the bathroom has modern fixtures, they are less critical of other deficiencies.

The two pictures on this page show a bathroom in the home of Mr. and Mrs. Charles Donovan, 5236 Rice Street, Chicago, before and after modernizing. Mr. and Mrs. Donovan live in a two-story brick flat building constructed about twenty or twenty-five years ago.

The old bathroom was hopelessly out-of-date and Mr. and Mrs. Donovan decided to modernize it. They knew that any halfway measures such as merely painting the woodwork and redecorating the walls would not be satisfactory. They wanted to do a thorough job of it so they would have an up-to-date bathroom when they were finished.

They had all of the old plumbing fixtures torn out and replaced with modern fixtures. The old tub on legs was replaced with a built-in tub with an overhead shower. The wall-hung lavatory was replaced with a pedestal lavatory and the noisy old washdown closet combination was replaced with a quiet siphon jet toilet.

The old bathroom had a jog in the end of the room because of a small closet used for linens and medicines. The contractor suggested that the closet be taken out and the size of the bathroom increased to six by nine feet. The walls were tiled to a height of seven feet and a tile floor laid.

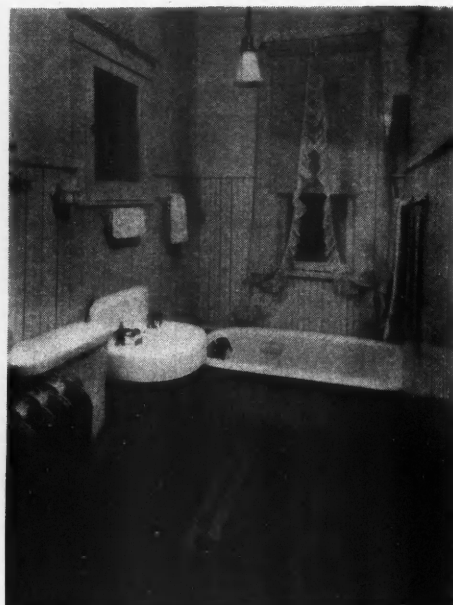
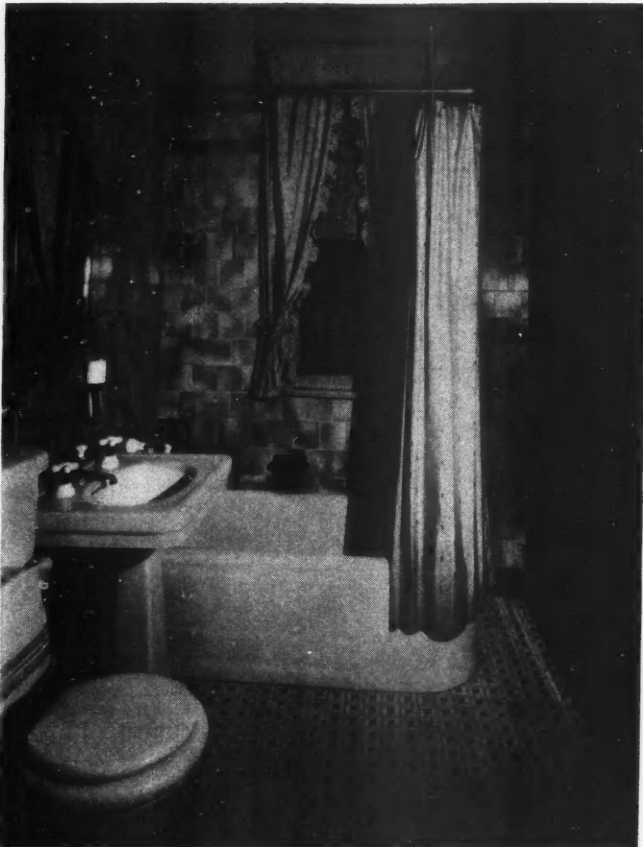
The total cost for remodeling the bathroom was \$615, which was divided as follows:

Fixtures, including tub, lavatory, closet combination, shower and curtain	\$210
Pipe and fittings for the fixtures	25
Rough-in labor on the fixtures and pipe	40
Cost of setting the fixtures	15
Tile and cost of labor on tiling	295
Carpentry labor cost and materials	30
	<hr/>
	\$615

If it had not been necessary to tear out the linen closet in order to increase the size of the bathroom, the job could have been done for \$100 less. Some money, too, could have been saved on the tiling if it had been run only four feet up instead of the seven feet. Four feet is the usual height of tile walls in bathrooms.

Mr. and Mrs. Donovan, however, like the room just as it is. It is a beautiful room with the walls and floor tile in green and orchid and the shower curtain and window curtains of colorful materials.

The entire job of taking out the old fixtures and putting in the new fixtures including the decorating took about three weeks.



These two before and after views speak for themselves. The work cost \$615 and made an enthusiastic customer.



On this Highland Park, Ill., modernizing job thousands of feet of lumber were reclaimed through use of the power saw. W. J. Brown, the contractor is shown at left giving instructions to operator.

# Power Saw, Planning, Speed up \$15,000 Modernizing Job

by JOSEPH B. MASON

**"You will see a great deal of this type of work during the next few years," says W. J. Brown. Electric hand saw does work of 5 men in modernizing.**

**S**EVENTEEN years ago, William J. Brown started in the contracting business in Highland Park, Ill. One of his first jobs was a bit of remodeling on a fine old home owned by the Watkins family.

Today Mr. Brown and his crew of men are once more working on the Watkins residence, this time completely transforming it inside and out. From a number of angles, it is one of the most interesting modernizing jobs I have run across in a long time.

It is important because it illustrates, according to Mr. Brown, a type of job that he predicts contractors will see a lot of the next few years.

It shows how a property that is a burden may be increased in value and turned into a live asset.

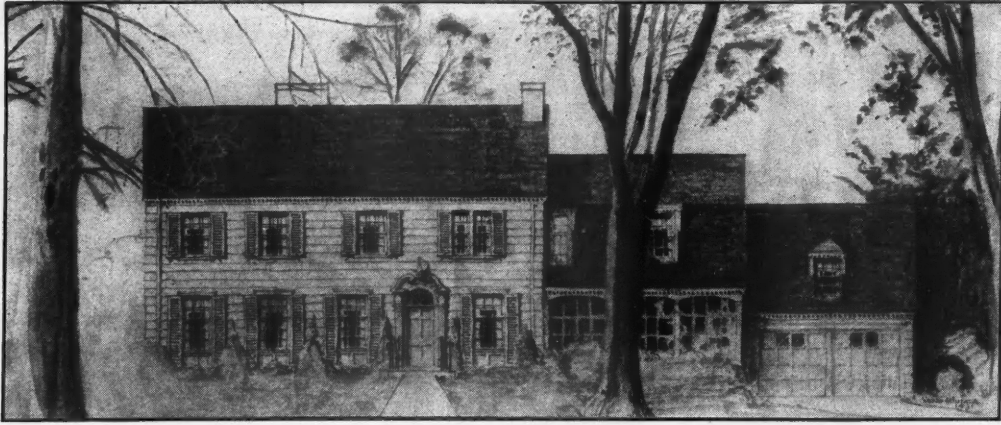
It shows how a contractor, properly equipped with an electric saw, can save thousands of feet of lumber in remodeling.

It shows how an architect by working long hours with a customer, can picture for him how his old house may be beautified and modernized.

### The Architect's Problem

Architect William B. Mann is well known in Highland Park and Chicago as an expert, especially good at remodeling and modernizing work. He had known the owner for many years, yet with all this in his favor, convincing him of the worthwhileness of modernizing his old house was a difficult job.

First of all, there was a dollars and cents matter. The property was valuable. The house was a loss as it stood. Would spending \$15,000 be practical?



**Sketch No. 1—**  
This attractive Colonial design was one of the first suggestions made by the architect. The owner thought it too formal.

**Sketch No. 7—**

Another solution of the modernizing problem—but it didn't quite suit the customer.



**Sketch No. 12—**

This is the final design picked, and is what the house will actually look like when transformed by contractor Brown. Convincing the customer is the most difficult step in house remodeling.



Architect Mann convinced his prospect that it would, and that the old shell of the structure, being sound, was well worth preserving.

The next big job of the architect was to visualize for the customer what the contemplated work would do to the appearance of his home. More than a dozen exterior sketches were made and a variety of floor plans prepared. The customer was shown how the old house could be transformed into a Colonial, French or English type of home. Various types of the latter were studied, and at last a charming English type was adopted.

**Brown Enjoys Work**

"Of course, it's expensive work for us," said Mr. Mann, "but it's worth it in these times. Another thing that adds to the work and expense of the architect is the fact that all changes have to be carefully detailed on the plan. In fact, drawings of this kind are more

work than the creation of an entirely new house."

I asked Mr. Brown what he thought of this type of modernizing work. He said he liked it.

"A job like this is different," he declared. "It's not like the ordinary run of work. You have a special problem that calls for clever workmanship, and it's interesting."

The contract called for complete transformation of the structure. A large extension was made across the front providing a big living room with a bay window. A two-car garage was added to the rear. A large portion of the back of the house had to be increased in height. Porches were added, the interior rearranged, a large chimney built at the side of the living room.

The entire exterior is to be covered with a layer of hair felt. Over this, wire mesh is to be laid and then a stucco finish. The chimney area is to be coated with white cement. Shingles and half-timbering will add to the pleasant English effect.

All of this work, according to Mr. Brown, is not especially difficult or different from other home building work. As we were talking, one of the carpenters picked up a powerful looking electric hand saw and ripped through a 4x4. "How important is power equipment in this work, anyway?" I asked him. Brown looked at me in surprise. "Important? We couldn't get along without it," he said. "That power saw does the work of five men. It will help us reclaim thousands of feet of lumber we couldn't touch with hand operated tools."

Throughout this remodeling job, great care is being taken to reclaim and re-use all old materials possible. Old roof boards, sheathing, 2 by 4's and other pieces are re-used.

"No up to date contractor today can afford to get along without electric power equipment," said Mr. Brown. "We use electric saws and floor surfacers to great advantage, and just as soon as business picks up, we will add many more pieces of modern electric equipment, such as mortisers, drills, planers, and others that we know will make our workmen more efficient."

The most modern building features will be included in this house when it is finished. The roof will be heavily insulated with flexible insulation. Since the exterior walls are being insulated and recovered the house will be heat and cold proof.

The new oil burning heating plant, planned for the well insulated structure, will save the owner much money in fuel costs.

A basement recreation room with fireproof insulated walls, a big fireplace and attractive finish will add much to the house. "It looks like a ballroom" said Brown.

The three contractors who bid on the job were within \$200, which indicates that estimating modernizing may not be as much guesswork as some would claim.

### NEXT MONTH

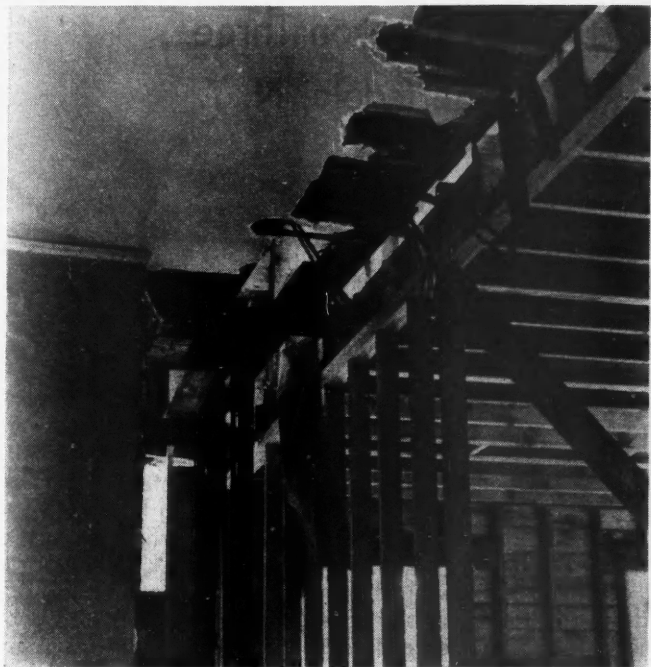
Contractor W. J. Brown runs a lively jobbing business that has many good points. One of these is the new business it brings in. Look for this article in the December AMERICAN BUILDER.



How the Watkins residence looked before the work was started. It was a burden on the owner.

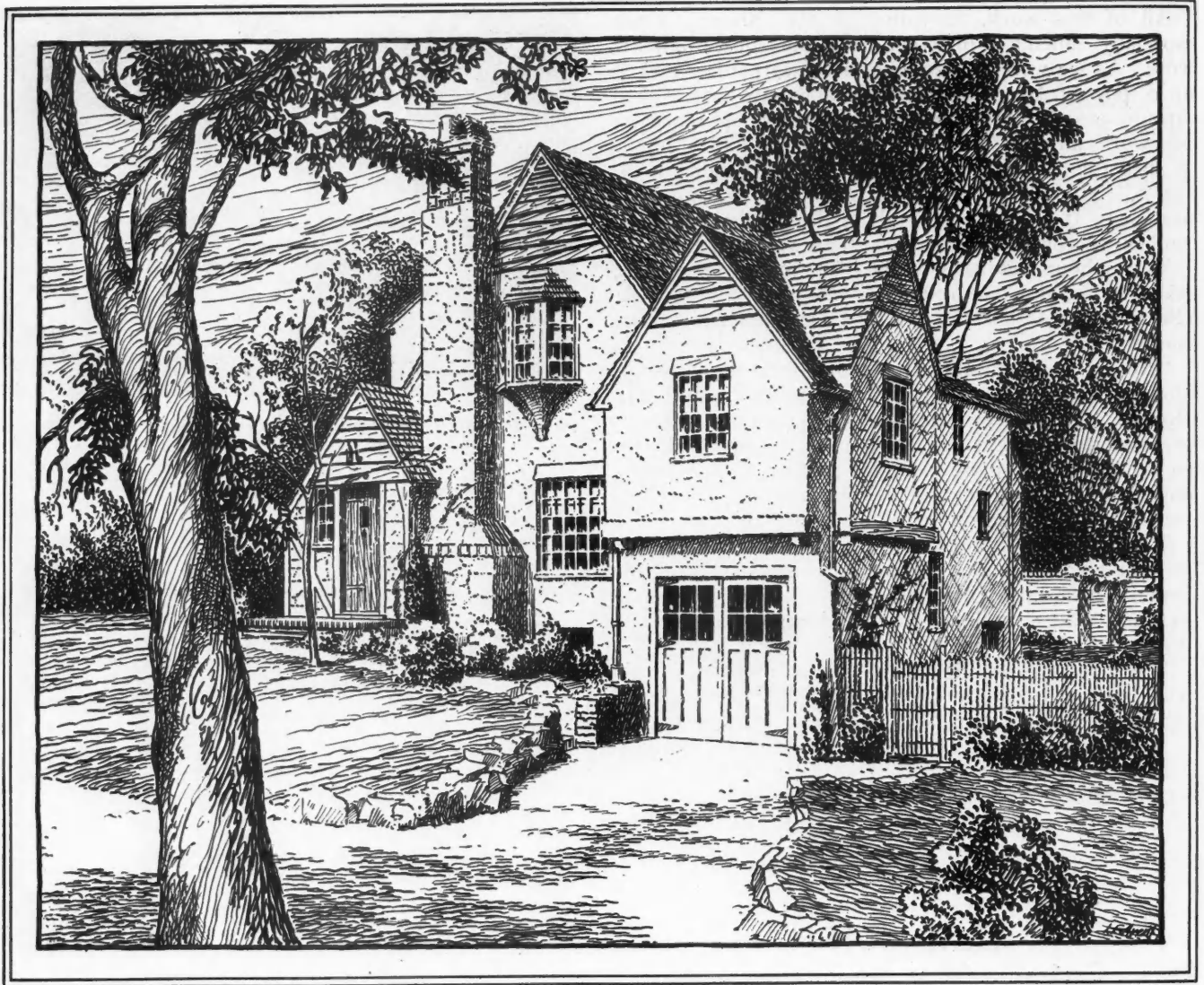


Building up the rear of the house and extending it to connect with new garage at left.



Front view showing addition of big living room. The old lumber in foreground was all to be reclaimed through use of power saw. New two car garage can be seen at rear.

At left—Interior showing junction of old and new work where living room framing attaches to existing structure.



## THE HOUSE OF THE MONTH

### Quaint English Home on Three Levels Built at Hartsdale, N. Y.

L. A. BRUBAKER, Architect

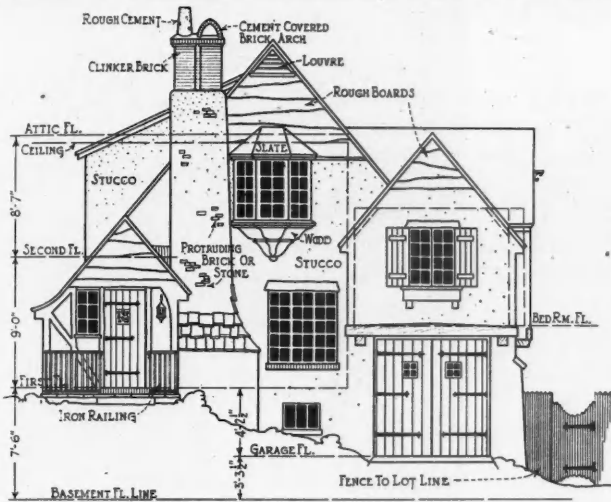
H. D. BRUBAKER, Builder

A CLEVER English design which takes advantage of a moderately sloping side hill lot was used by Messrs. Brubaker for this six-room and garage home. The garage entrance to the right is 4 feet 2½ inches below the grade of the first floor. This permits the owner's bedroom and bath to be worked in on what might be called the mezzanine floor half-way up the stairs. Two other large bedrooms and a second bathroom occupy the second story proper.

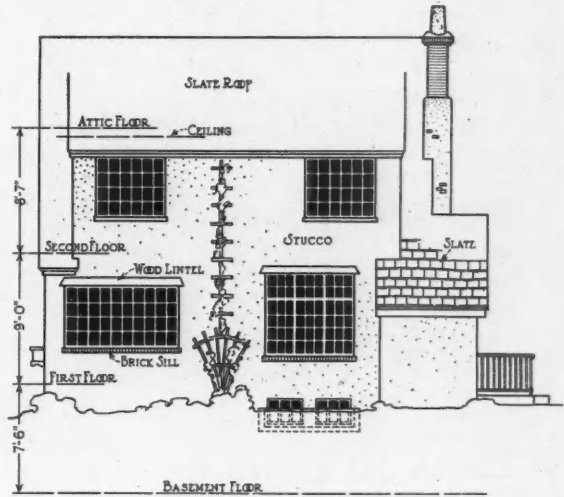
A useful storage space opening from the stair landing is found above the kitchen. This, of course, is low headroom space but useful for trunks, blankets, etc. Its floor line is on the same level with the second floor proper but entrance is from the stair landing by means of a door 4 feet 9½ inches above the landing level.

On the ground floor we find a remarkably cheerful, well lighted group of living room, dining room, dining alcove and kitchen. Large groups of casement windows make an attractive home both inside and outside. The basement is reached from the dining alcove by way of the garage. The excavated space is confined to a space below the living room, dining room and dining alcove.

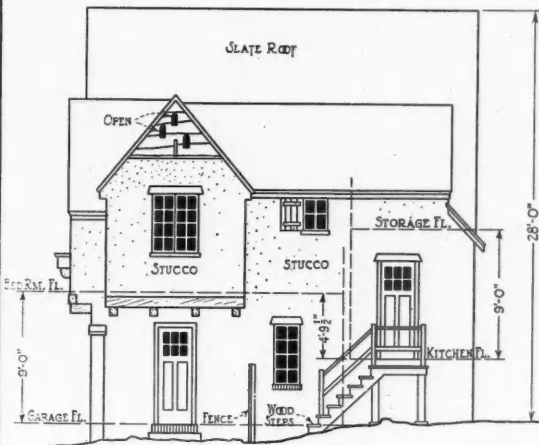
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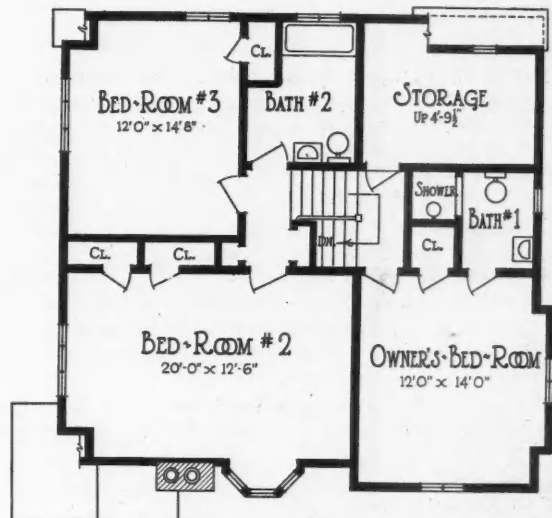
FRONT ELEVATION.



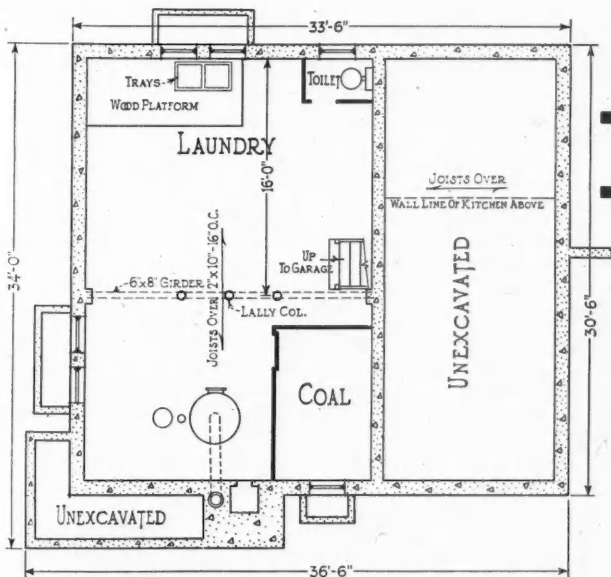
SIDE ELEVATION.



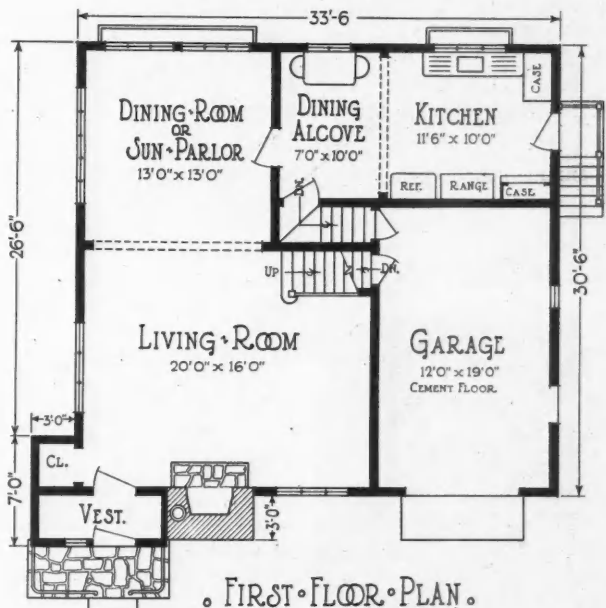
SIDE ELEVATION.



SECOND FLOOR PLAN.



BASEMENT FLOOR PLAN.

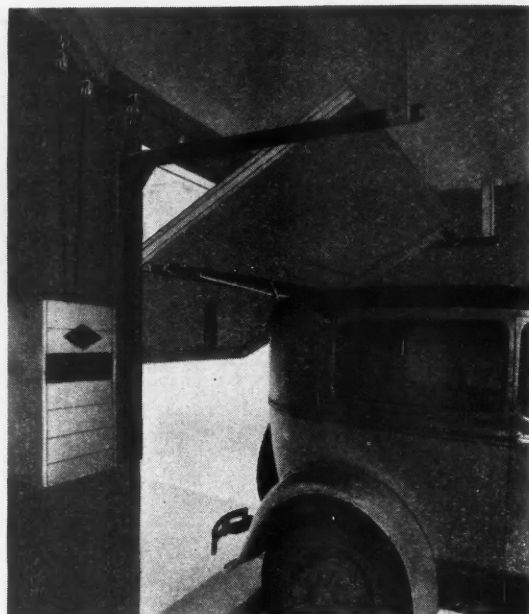


FIRST FLOOR PLAN.

Working Drawings of a Quaint English Home on Three Levels Designed by L. A. Brubaker and Built at Hartsdale, N. Y. Scale of These Drawings is Slightly More Than 1/16th Inch to the Foot. They Can Be Enlarged to the Customary 1/4 Inch Scale Easily by Photostat Process.



Two views of new low cost garage door set. Ample clearance, easy operation, are provided.



## New Low Cost Upward-Acting Garage Door

THE popularity of upward-acting doors has been so great that there has been an increasing demand for this type of equipment in the low cost range suitable for residential garages. A midwest manufacturer has answered this demand by putting out a substantial, well designed, upward-acting door set to sell well under \$20.00.

This new garage door set is simply designed, durably constructed, quickly installed, easily operated. In spite of the low cost, quality materials are used. It is counterbalanced, fitted with roller bearings and built without springs or complicated mechanism. It is always easy to open and close and can be applied equally as well on swinging, folding or sliding doors.

The manufacturer's instructions for installing the door sets are very simple. The door is simply set into the opening and the hardware fastened on the inside.

All of the work can be done by an average man who is handy with common tools.

For doors up to and including 8 by 8, the weight per set is 85 pounds. For doors up to and including 10 by 10, the weight per set is 115 pounds. This is a live, up-to-the-minute specialty that should bring much business. Full details supplied on request.

### Rolling Gate or Grille

A NEW product designed to meet a constantly growing demand has been announced by a pioneer manufacturer of rolling doors. This is a permanent metal rolling grille or grate to replace old fashioned folding gates, sectional grilles, etc.

Based on sound principles of counter-balance, these grilles, which roll up out of sight, are recommended for store fronts, entrances, gateways, counters, exterior or interior openings, entrances to cages and compartments, etc.

They are valuable for newsstands, fruit stands, markets, etc. They are valuable to protect doors and windows of residences



For closing gates, windows, store fronts etc. this new rolling metal grille is especially safe and convenient.

of estates, especially where these doors or windows come down to the ground.

Attractive in appearance, this new rolling grille or gate moves up out of sight at a touch of the hand. The mechanism can be entirely concealed.

The grille consists of rolled and pressed steel bars joined together with strong ornamental links. It travels up and down in two vertical cold rolled steel channel shaped guides. All grilles are equipped with locks.

The safety, neat appearance and convenience of this type of gate has never been more in demand than at the present time. Banks, jewelry stores and others are good prospects; also owners of wealthy estates who wish to keep out trespassers.

Full information on installation, specifications and uses for this interesting new product is available.

### Speed Floor Sander

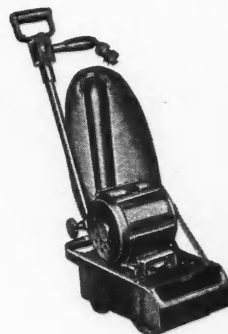
THE latest development in electrically driven light weight high speed floor surfacing machines is a fast-cutting speed sander priced to sell under \$150.00.

This is an unusually fine machine at an unusually low cost, using a small diameter, precision, high speed sanding drum.

The machine is light weight (80 pounds), dustless, very strongly built. It is very economical to operate.

An unusually fine feature is the fact that the 1/2 H.P. motor will operate on 60 cycle 110 volt currents, thus requiring no special hook-up or wiring charges.

The special, small diameter, dynamically balanced sanding drum is of decided importance. Being designed to run at high speed results in faster, deeper cutting without the usual drag which is common with larger drums. Drag in turn causes fast wear of sand paper and when eliminated less motive power is required and paper will continue to cut much longer. A special resilient rubber cushion pad is used on the drum which, together with the perfect balance of the drum itself, assures absolute smooth floor surfacing without vibration, waves or chatter marks. Full details and terms of time payments are available.



Operates on 110 volt circuit, is low cost, speedy and of unusually strong construction.

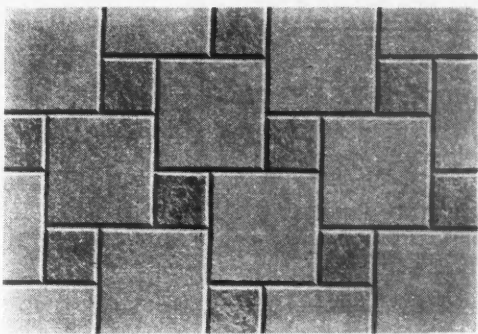


## New Wood Tile Has Many Uses

ONE of the best new products on the market is a triple-purpose compressed wood bevel-lap tile. The three uses it covers in one product are: 1. Rich and beautiful color decoration; 2. High grade acoustical treatment; 3. Thorough insulation.

This new tile has the mellow tone of seasoned wood. Its color is soft and pleasing, and may be had in uniform or variegated colors. Either side may be used: one is smooth and the other has a rough mat surface.

Suitable for both new work and modernizing, this new bevel-lap tile is a permanent, decorative product and requires no treatment or later redecoration. It is made from pure



A close-up detail of new wood tile showing texture effects obtained.

fibers of coniferous wood which are interlaced and pressed together under a pressure of some two million pounds. The nature of the material is such that it absorbs sound and it thus makes an excellent acoustical product.

This combination of acoustical and decorative qualities makes it especially valuable. In addition, the 1/2-inch thick tile is a good insulator and gives ample protection against heat or cold.

Ease of application is an important feature. The tiles are applied by nailing or securing with a plastic adhesive. They fit together snugly because of a unique beveled and lapped edge. The manufacturers claim that in new construction, the installed cost is one-fourth less than lath and plaster.

Full details describing color, texture, design and uses are available.

## New Narrow Line Window

OF outstanding interest to builders everywhere is a new double hung window which introduces one of the most unusual features developed in recent years in window construction.

In this new window, the space required for counterbalancing weights has been greatly reduced by use of especially designed weights with pulley wheels which replace two ordinary weights. By using this weight, the inside casings may be as narrow as 2 1/4 inches.

The frame of this new double hung window is absolutely leakproof and is of improved narrow design, with mullions reduced to 2 3/4 inches in width, and narrow casings. The frame is primed with aluminum paint.

After experimenting with many different devices for raising and lowering the sash, the manufacturers retained the time-tested principle of counterbalancing weights. A specially designed weight is equipped with pulley wheels which permit the use of only one weight for both upper and lower sash on each side. This gives a noiseless and trouble-free job.

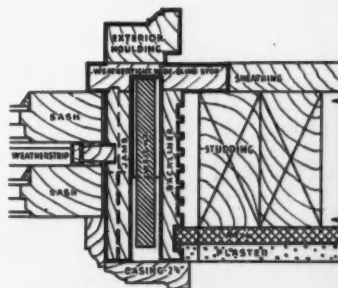
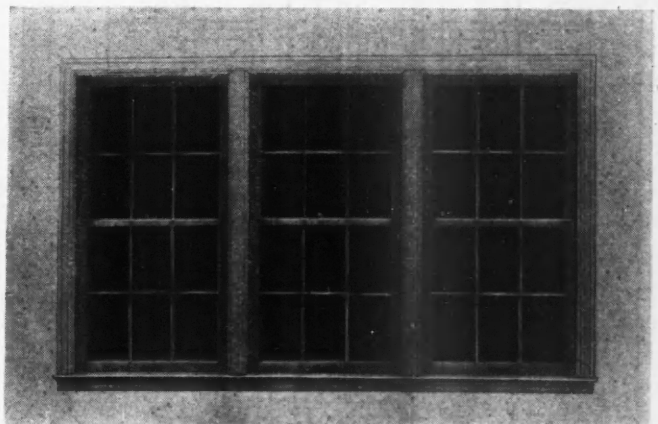


Attractive installation of new wood tile, which insulates and gives acoustical correction.

The new window unit is completely weatherstripped at the sides, head, check rail and bottom rail. The manufacturers claim an efficiency rating of 86 per cent elimination of air leakage.

A special device on the new window provides for operating storm sash. This fixture automatically opens and closes the storm sash as the bottom sash is raised or lowered. It provides a free opening or indirect ventilation, as desired.

Assembly and installation of the windows are exceedingly simple. Mullions and sides come already nailed up. Weatherstripped parting stops are in place and require no extra labor. Because it is a modern, tested and unusually attractive window, this product should prove very popular with the public. Complete details and information on sizes to fill any window requirement will be sent on request.

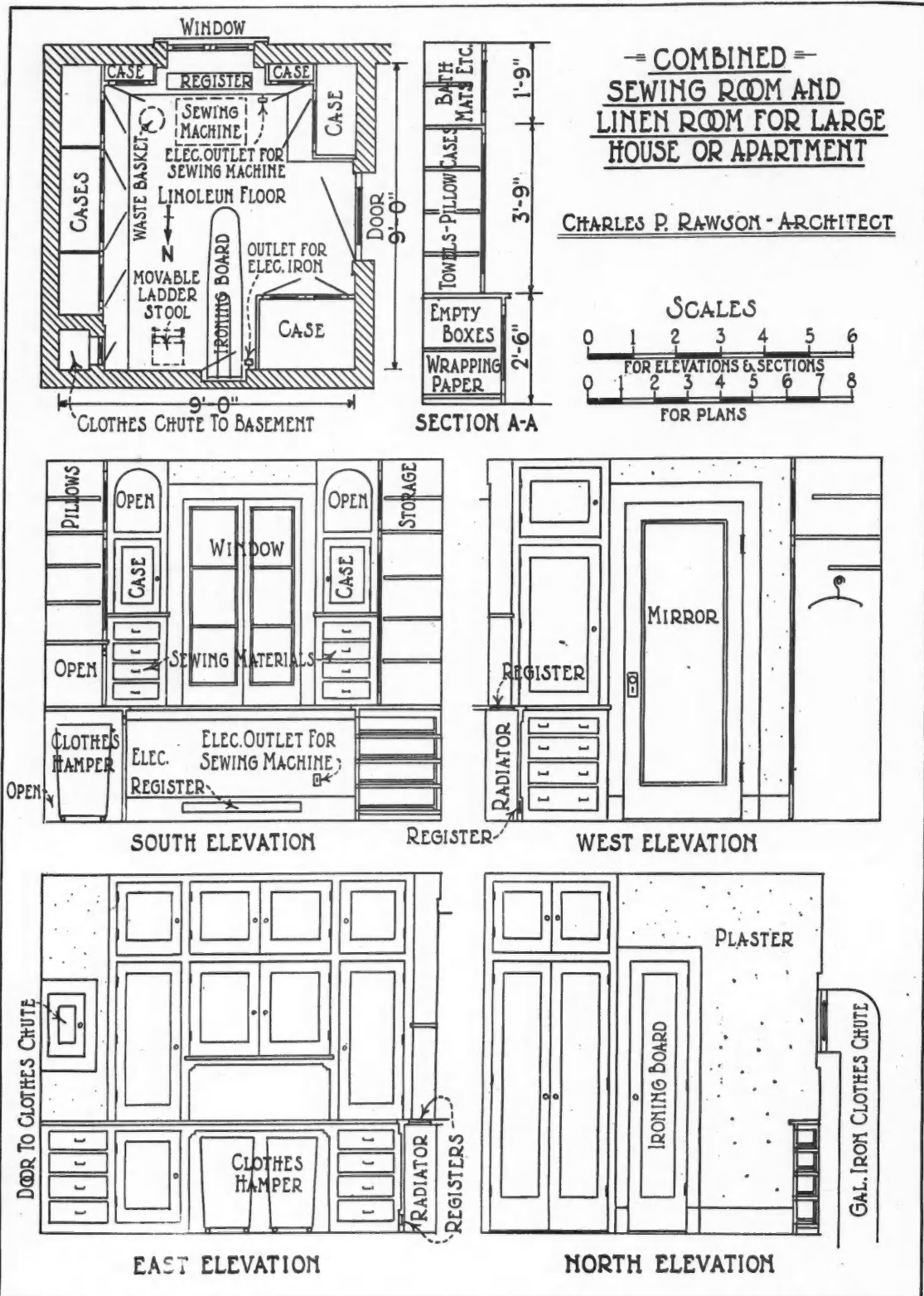


Exterior and details of new double hung window which has improved weight and frame permitting inside casing as narrow as 2 1/4 inches.



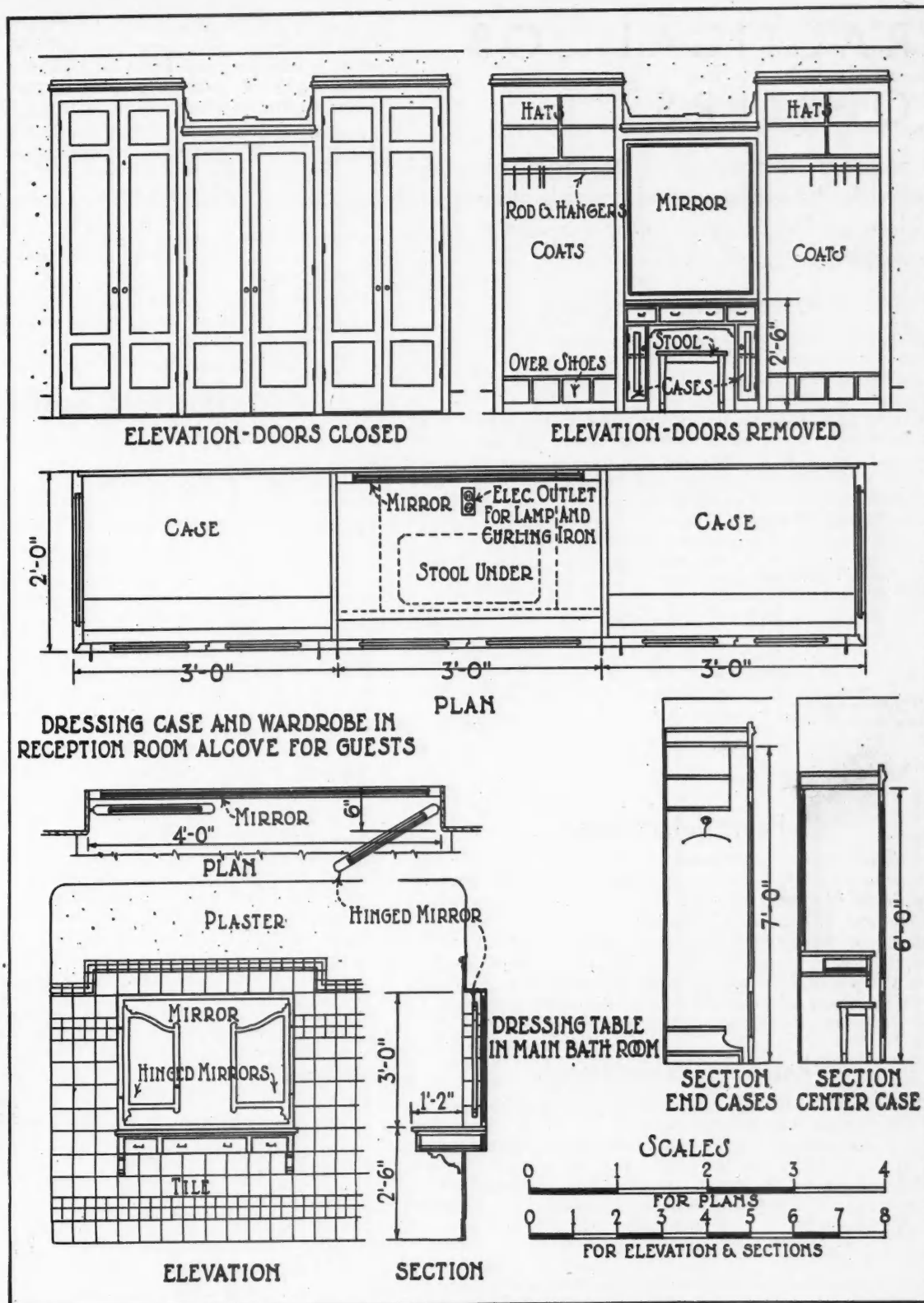
# Built-In Details for Sewing Room and Wardrobe

By CHARLES P. RAWSON, Architect



Built as the deal The and are built of a

Both for modernizing and new work these detailed drawings can be of great practical help. This type of work can be sold at this time of year.



Built-in features such as these add a great deal to any house. The guest wardrobe and dressing table are inexpensive to build, yet give a lot of added value.

PROBABLY no room contributes more satisfaction than a well arranged and equipped sewing room and linen room. The space required for such a room as shown in the drawings is only 81 sq. ft.

It is large enough for the proper storing of bedroom and bath linen, blankets, pillows, etc.; has space for the sorting and disposal of soiled linen and laundry work, where it can be recorded and wrapped, and also received, checked, mended and put away. There is also space for the sewing machine, sewing materials, unfinished garments, mending materials, sewing utensils, etc.

An ironing board and electric iron are provided as well as waste basket, step-stool, large mirror, etc. With

neatly painted wall and woodwork of the same color and linoleum floor of tile design, the room would be very alluring as well as very useful.

A boon to guests are the double wardrobes for coats, overshoes, hats, etc., shown above; between them is a dressing table with large mirror, curling iron, and drawers for powder. This entire fixture is provided in an alcove of the reception hall adjacent to the toilet.

An attractive addition to the main bathroom is the dressing table with its cases, drawers, and triple mirror shown at the bottom of the page. It is designed to fit into the tile work and be a part of the room. It should be painted in harmonizing shades.

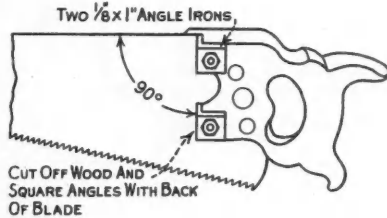
# PRACTICAL JOB POINTERS

A readers' exchange of tested ideas and methods, taken from their own building experience. Two dollars will be paid for each contribution published.

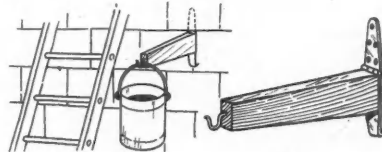
## Uses Saw As Square

BY cutting off a small part of the handle of my saw, as shown on sketch enclosed, and attaching two small angle irons, with nuts and bolts, I make the saw do duty as a square also.

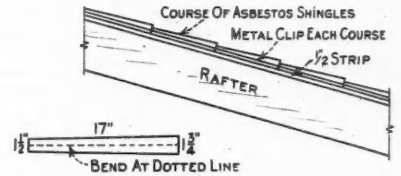
The irons are laid on top of the wood of the handle, with the bent portion turned toward the blade, and were made from a piece of strap iron, one eighth of an inch thick and an inch wide. On my saw one had to be a little longer than the other. They were easily made in a few minutes.—A. H. STAIR, Moraga, Calif.



Angle irons serve as guides.



Hinge is pushed up under shingle.



Galvanized iron used at roof edge.

## Paint Pot Hanger

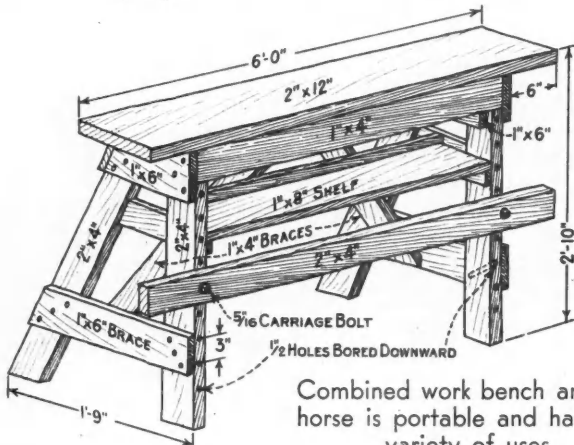
THE paint pot hanger shown will be found valuable when painting shingled houses. It consists of simple material: a piece of hard wood 8" long shaped as shown, with a hook in one end, and a strap hinge screwed to the other. The top end of the hinge is left in its normal condition, but the lower end is bent away from the stick at right angle and filed to a sharp point. To use, push one end beneath a shingle and drive the lower end into the side of the house slightly.

A. S. WURZ, JR., Rockyford, Alta., Can.

## Portable Work Bench

THE work bench illustrated here fills the gap between the old fashion work bench and the saw horse. It is built out of materials found on every job and any carpenter can construct one in a few hours.

Proportions of the bench are such that materials can be placed upon it and planed without stooping. The front legs are vertical with an adjustable bar which will hold any size



Combined work bench and saw horse is portable and has wide variety of uses.

door from a 3x7 foot door to a small window sash, and what a joy it is to a workman to have his work up where he can get at it with ease and firmly held in place while planing or fitting butts. By placing a small portable vise on the end of the bench, materials can be held in place while working.

The greatest advantage that this bench offers is the fact that it is so very portable, one man can carry it from room to room and place it right near his work thereby saving steps which means saving time.

The bench is sturdy, large enough to do all the necessary work yet not so large but what it can be taken into a small room and still leave enough floor space for the mechanic to move about.

Every contractor would find that several such benches on a job while trimming would mean a saving of time for his men and it would also result in better workmanship.—W. E. DURBAHN, Highland Park, Ill.

## Weathertight Roof Edge

I AM contributing a sketch showing how I apply asbestos shingles.

The average roofing man cuts asbestos shingles flush with sheeting, or projects it 1/2 inch over the edge. This exposed edge is bad as wind and water can get under it.

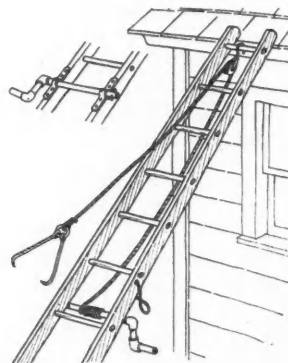
I cut pieces of galvanized iron the length of exposed shingle edge, bending it in to lap top of shingle about 1/2 inch on top and forming it so that lap comes over edge and will form a straight line upon mold or rafter.

This gives a better and heavier roof, and entire edge is weather tight. Form with two pieces of galvanized iron as shown.—A. BAUHOF, Lockhart, Texas.

## Ladder-Windlass

BUNDLES of shingles, rolls of roofing, etc., can be raised by an operator on the ground, and released conveniently by an assistant on the roof, using a homemade ladder-windlass as shown.

The windlass is a simple gaspipe assembly to provide the



Gaspipe and pulley used with ladder to make a windlass useful, especially on roofing jobs for hoisting shingles, roofing, etc.

crank and drum, and this is mounted on the underside of the ladder, at a convenient height, by means of strap iron bands. The rope from the windlass passes through a pulley attached to one of the upper rungs of the ladder, and returns, ending in a detachable sling for carrying the bundles of material. If one operates the windlass alone, a loop on the side of the ladder will be necessary to hold the crank stationary until the worker can climb up and remove the bundle.

G. E. HENDRICKSON, Argyle Wisconsin.

# LETTERS

## from Our Readers

You are invited to write your views on any subject of interest to the building industry. 300 words should be enough!

### CAVEAT EMPTOR

#### Or, The Perils of Using Second Hand Plans

Kansas City, Mo.

To the Editor:

When the much rolled life of a set of blue-prints survives the laying out by the undertakers (contractors) and remains legible despite the vicissitudes of the work and passes on intent upon a renewed activity, it is, for the new user, to beware . . . **caveat emptor.**

The consequences following plan-borrowing are as revealed in the finally executed building as habitual thievery is stamped on the personality of an individual. It even affects the donor of such a second life to a set of drawings. Though he receives no monetary refundment he seems to be conscious that it is not proper that plans should transmigrate from one to another.

There is one old client of mine that for years has felt better when he could speak to me from across the street when passing. His evident guilty feeling, though never admitted, was occasioned by his allowing a prescription, drawings and specifications, prepared for him to be used by another and then a third. I threatened suit but never pressed the issue so I do not know how I might have stood by law.

Premature obsolescence was the consequence or peril that took effect in this case. The original owner's apartment building was planned with a certain type of equipment which became passé in the interval between the time of completion of the first building and the commencement of work on the followers. The last building erected, though not less than four years younger, suffers from the very same ailment as the first and older structure; and for no other reason than that the owners were too self minded to pay for a little expert consultation and blindly saved an architect's fee at the expense of the entire future productivity of their buildings.

The road to obsolescence is shorter and "enspedened" by the use of second-handed plans. And will be more so than ever before in this coming cycle of renewed building activity.

ERNEST O. BROSTROM,  
Architect

### Joplin Campaign Gets Under Way

Joplin, Mo.

To the Editor:

I wish to advise you of the progress of a Repair and Modernization Campaign being conducted in my home community, Joplin, Missouri. Our campaign was launched on October second, with a one-half page advertisement contributed by fifteen progressive building industry firms, and news articles on a Sunday Building Page in the local "Joplin Globe." A splendid editorial appearing in the same issue was considered very good publicity. The next step in our program is a home-owner to home-owner canvass to be started in October, participated in by ten high calibre representatives of building organizations. Our publicity program is arranged to extend up into May, 1933, with a spread advertisement of an educational and stimulating nature appearing in each Sunday issue of the "Joplin Globe."

A preliminary canvass indicates that we can expect approximately \$150,000 worth of remodeling and repair work by the end of the spring campaign. We are badly handicapped by lack of funds for financing work—no central fund being available and all loans being of a private character.

We have no definite organization. All advertising being contracted for and the canvass operating under my own direction—a service which I am performing without pay,

All canvassers are employees of participating firms and receive no pay. In that manner the cost of the campaign has been kept down to \$1400.00.

Publicity and advertising copy is being arranged by myself and any assistance you can offer us will be greatly appreciated. The U. S. Department of Commerce has furnished us with valuable information and we are looking forward to more.

CLAIRE B. MANNING,  
% Smith and Van Pelt

### Good News from Georgia

Atlanta, Ga.

To the Editor:

Building is getting better every day now, looks like the building business will be pretty good from now on. Have had more work to do in September than for June, July and August.

L. R. WILBURN, Architect.

### Plan for Slum Clearance

Brooklyn, N. Y.

To the Editor:

The most expensive single item of necessity which we have to bare in our civilized life, is the cost of owning our own home, or of renting the apartment in which we live. Calculating that the modest family which constitutes the major part of American life, requires either a six room one family house or a four or five room apartment in an apartment house, let us transfer these one family housing units into working days. Each family either owns a home at a purchase cost of \$6,000 or rents an apartment at \$50 per month. This, to the building trade, when transferred to working time, amounts to approximately 550 days of work for one man.

Now we will see what miracles the building trade can do to relieve unemployment and create a standard of living! It is estimated that in our line we have unemployment at this time of about 1,500,000. Now if we take this amount of men and divide it by 550 working days, which it takes to build a new home or a single apartment in an apartment house, we are surprised to find that the idle wasted time of our men means a loss of 2,727 residences per day or 717,020 residences per year—which means nearly a new house for each family in every fifty years.

This condition can only be understood to be a sad one when you travel through the slums and see the dilapidated, inconvenient, germ creating, fire traps some of our fellow citizens have to raise their families in. There are in these slums, houses that are more than fifty years old, not speaking of the few that are over a hundred years old. These houses were built at a time when our forefathers took ten times the length of time to build a house without conveniences as it does us now to build one with all the modern conveniences we now enjoy. Improvements in our line have accomplished this; but sad to say we are not utilizing this advance as we should.

The state should establish a budget for the purpose of building new homes on sites, only where the oldest now stand. The old houses which stand on an old square should be bought, torn down and modern structures built in their place. This would improve, beautify, and make the old place a new, healthier and happier one to reside in, and to think it could be all done from the savings of waste unemployment ought to start the government right on the job now.

PASQUALE J. CAPUTO,  
Secy, Phillip Caputo & Son, Inc.

# NEWS—building activities of the month

## September Residential Building Shows Increase

THERE was an increase of 6.3 per cent in the number and an increase of 9.9 per cent in the estimated cost of new residential building in September, according to reports of building permits received by the Bureau of Labor Statistics of the United States Department of Labor from 353 identical cities of the United States having a population of 25,000 or over.

The estimated cost of all building operations for which permits were issued in these cities during September was \$31,768,068. This was a decrease of 15.2 per cent as compared with August. There was, however, an increase in the number of building operations comparing these two periods. Comparing September with August there was an increase of 6.5 per cent in the number and a decrease of 27.3 per cent in the estimated cost of new nonresidential buildings; additions, alterations, and repairs increased 1.9 per cent in number but decreased 12.7 per cent in estimated cost.

During September, 1932, 2579 family dwelling units were provided in new buildings. This is an increase of 11.7 per cent as compared with August.

**Better Home Contest**—The third annual small house competition of Better Homes In America has been announced and architects invited to submit designs. Three gold medals will be awarded for the best house in each class: one story, story-and-a half, two story.

**Home Owners**—Latest Bureau of Census figures show that the proportion of owned homes in the United States has been on the increase the past 10 years. Figures show that single family, non-farm homes are biggest group in the country. There were 9 million owned homes in 1910, 11 million in 1920 and 14 million in 1930. Of the 30 million families in the country nearly half own their own homes.



Dedicating the prize winning Masonite house as construction started on the World's Fair grounds at Chicago was quite an event, as the picture shows. Present above were Eugene Klaber, W. H. Mason, R. G. Wallace, Col. Robert Isham Randolph, H. B. Watkins.

**To Modernize Old Market**—America's most famous market, the French Market in New Orleans, is to be modernized. Although the appearance and atmosphere of the famous old place will be retained, according to architect Sam Stone Jr. of the City Market Commission, the present unsanitary structures will be completely rebuilt.

**City Planning Conference**—The National Conference on City Planning will be held in Pittsburgh, Nov. 14-16. Slum clearance and self liquidating projects will be an important subject of discussion.

## American Builder Adds Marketing Editor

L. R. Putman, for fifteen years merchandising counsel of the Southern Pine Association, has been elected a vice-president of the American Builder Publishing Corporation and will devote his full time to this publication as its marketing editor and merchandising counsel. He will work with the retail lumber and building supply dealers on trade promotion and distribution problems.

L. R. Putman is a native of Fayetteville, Arkansas, where he was educated in the public schools and State University. Immediately on leaving the University, he entered a retail lumber and building material yard. The proprietor, whose daughter Mr. Putman later married, operated a woodworking plant and did general building and contracting. "Put," as he is known to thousands in the building industry, was active in local affairs. He organized and was first president of the Association of Commerce, director in the First National Bank, Building and Loan Association and member of the city council.

During his retail career, he assisted in organizing and was the first president of the Arkansas Retail Lumber Dealers'

Association which later became part of the Southwestern Retail Lumbermen's Association. Mr. Putman was a director and vice-president of that organization when he was invited to New Orleans to direct the advertising and trade extension for the Southern Pine Association. In his work he has come in contact with the manufacturers, dealers, specifiers and fabricators in the building industry throughout the country.

Mr. Putman was president of the New Orleans Advertising Club for two years, a Rotarian, and has served on the Supreme Nine of Hoo Hoo, the lumbermen's black cat organization. He was active in the conduct of the "Own Your Own Home" Campaign which President Wilson fostered in 1919. He came to Chicago in 1920 to amalgamate all of the then existing wholesale lumber organizations into what is now the National American Wholesale Lumber Assn.

Later he was retained by the Southern Pine Association as merchandising counsel and served on the advertising advisory committee of the National Lumber Manufacturers Association. As Marketing Editor of the AMERICAN BUILDER his headquarters will be in Chicago.

## 1933 DEALER CONVENTION DATES

ASSOCIATION	CONVENTION DATES 1933	CITY	HOTEL
Mountain States	Jan. 12-13-14	Denver, Colo.	Cosmopolitan
Northwestern	Jan. 17-18-19	Minneapolis	Auditorium
Eastern Penna.	Jan. 18-19-20	Philadelphia	Bellevue-Stratford
Indiana	Jan. 18-19	Indianapolis	Claypool
West Virginia	Jan. 23-24	Charleston	Daniel Boone
Northeastern	Jan. 24-25-26	New York	Pennsylvania
Tennessee	Jan. 25-26	Nashville	Noel
Southwestern	Jan. 25-26-27	Kansas City	Ararat Temple
Michigan	Feb. 1-2-3	Grand Rapids	Pantlind
Iowa	Feb. 7-8-9	Des Moines	Shrine Temple
Illinois	Feb. 7-8-9	Chicago	Stevens Hotel
Ohio	Feb. 8-9-10	.....	.....
Western Penna.	Feb. 8-9-10	Pittsburgh	Webster Hall
Carolina	Feb. 9-10	High Point, N. C.	Sheraton
Wisconsin	Feb. 14-15-16	Milwaukee	Auditorium
Virginia	Feb. 17-18	Richmond	John Marshall
Nebraska	Feb. 22-23-24	Omaha	.....
Mississippi	Feb. 23-24	Jackson	Robt. E. Lee
Kentucky	Feb. 23-24-25	Louisville	Brown
Western Assn.	Feb. 23-24-25	Portland, Ore.	Multnomah
California	Nov. 3-4-5, '31	Los Angeles	Alexandria
Texas	Apr. 11-12-13	Corpus Christi	Nueces
Florida	May 11-12-'33	Orlando	Angebilt

**Arco Plants Open**—Resumption of manufacturing nationally, by the American Radiator Co., and plans to enlarge the company's Detroit plant, has been announced by D. E. Locke, Detroit vice-president of the company.

"Between 1,000 and 1,500 men will be re-employed and our plants probably will operate two shifts a day, five days a week," he said.

# AMERICAN

STEEL SHEETS for **AMERICAN** EVERY PURPOSE

**AMERICAN**  
SHEET AND TIN PLATE  
COMPANY  
PITTSBURGH  
TRADE MARK REG. U. S. PAT. OFF.

High Grade Sheets and Terne Plates adapted to all modern Building Construction Uses—  
Roofing and Siding, Gutters, Spouting, Eaves Trough, Flashings, Ventilators, Terne Roofs,  
Heating and Ventilating Systems, and all general sheet metal work.

**KEYSTONE COPPER STEEL gives Maximum Service and Rust Resistance**

This Company manufactures a complete line of Black Sheets, APOLLO Best Bloom Galvanized Sheets, Galvannealed Sheets, Heavy-Coated Galvanized Sheets, and Sheets for Special Purposes; also KEYSTONE Rust Resisting Copper Steel Sheets.

**USS**  
**STAINLESS**  
Steel Sheets and Light Plates

AMERICAN Roofing Terne Plates and Long Terne Sheets are widely and favorably known to the building and roofing industries. Leading metal merchants sell these products, or can procure them for you. Write for literature and information.



## American Sheet and Tin Plate Company

GENERAL OFFICES: Frick Building, PITTSBURGH, PA.

SUBSIDIARY OF UNITED STATES STEEL CORPORATION



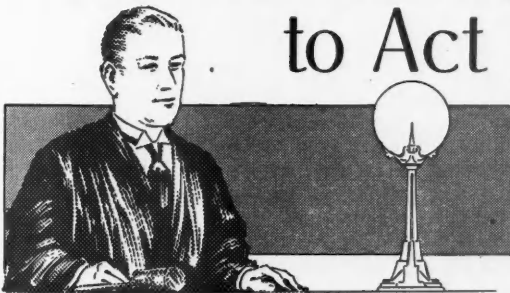
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AMERICAN BRIDGE COMPANY  
AMERICAN SHEET AND TIN PLATE COMPANY  
AMERICAN STEEL & WIRE COMPANY  
CARNegie STEEL COMPANY  
*Pacific Coast Distributors—Columbia Steel Company, San Francisco, Calif.*

PRINCIPAL SUBSIDIARY MANUFACTURING COMPANIES:  
COLUMBIA STEEL COMPANY  
CYCLONE FENCE COMPANY  
FEDERAL SHIPBUILDING AND DRY DOCK COMPANY  
*Export Distributors—United States Steel Products Company, New York, N. Y.*

OIL WELL SUPPLY COMPANY  
THE LORAIN STEEL COMPANY  
TENNESSEE COAL, IRON & R. R. COMPANY  
UNIVERSAL ATLAS CEMENT COMPANY

## We'll Ask the User of Roofing to Act as Judge



- Almost untearable
- Practically puncture proof
- Moulds around sharpest corners without breaking
- Greater protection against wind and storm
- Contains higher percentage of asphalt
- Will withstand stress around nails without breaking

# SOLKA

TRADE MARK

*A Highly Purified Alpha Fibre Gives to Roofings Improved Qualities which Were Thought Impossible*

**YOUR** roofing manufacturer can now supply you with Solka base roofing. Solka base roofing possesses an unbelievable resistance to tear . . . It will mould around sharp corners and irregularities without splitting or puncturing . . . It remains in place, without damage, under high wind pressure, rain, hail, snow . . . will not heave from frost, and is unaffected by walking or falling objects. It contains a higher percentage of asphalt than other roofings . . .

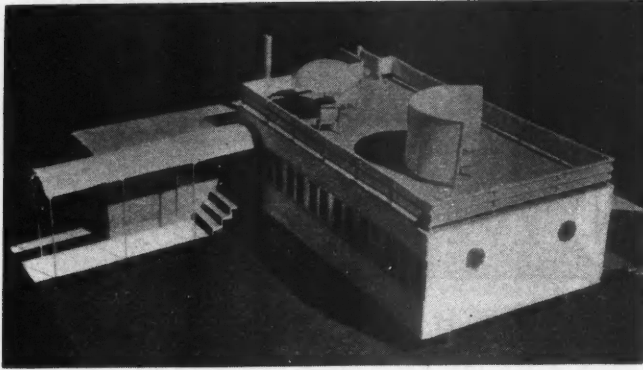


Solka Base Roofing offers complete protection against all weather Conditions  
Its ability to withstand such unreasonable abuses makes it **ECONOMICAL**.

Fill in and mail this coupon today for samples of this roofing to test out and judge for yourself . . . then we know you will request your roofing manufacturer to supply Solka base roofing on your future orders.

BROWN CO., PORTLAND, ME.  
Please send me samples of Solka base roofings to test and examine.

Name \_\_\_\_\_  
Company \_\_\_\_\_  
Address \_\_\_\_\_



### Now a Canvas House

**P**ICTURED above is one of the latest propositions to solve the Housing Problem. It is a house in modern style faced with canvas. According to the Cotton Textile Institute, some 775 square yards are called for in its construction. The design is by A. Lawrence Kocher and Albert Frey.

The proposed house is to have a wood frame, light exterior such as plywood, and the whole covered with canvas, inside and out. Cost to be \$1750 fully equipped.

## 1933 World's Fair

(Continued from page 26)

floor areas and joist spacing. These plywood strips are usually 3 feet wide for easy handling and vary in length from 8 to 12 feet. The five plies are glued with an insoluble, exceedingly strong glue, that makes the  $\frac{5}{8}$ " decking stronger than single inch thickness of solid wood.

Joists are tongue and grooved to make the separate panels act together and this decking is installed by nailing to treated wood nailers securely attached to the top of steel joists. This decking also can be suitably covered by a mastic floor finish and with wood finishes either nailed or cemented to the decking. The rapid laying of these panels results in definite labor economy.

The third type of decking is a No. 1 grade of tongue and groove flooring of a minimum inch and a quarter thickness, laid on treated wood nailers. This decking will serve as both a structural deck and a finished wearing surface, the minimum thickness being sufficient for a very safe amount of wear on the top surface.

**Roofs.** Ordinary roof decks are covered with asphalt composition roofing over insulation board. The insulation is used to keep out the summer heat. Flashings are generally of saturated fabric for economy. Copings are generally but 4 inches high to reduce parapet wall costs and to permit the snow to blow off in winter.

Roof felts are carried up and over the top to form coping covering, turned down on the face of the wall behind an exposed wood fascia. This makes a very low cost construction permissible because of the short life of the buildings.

**Terraces.** Terraces are covered with a shop made asphalt plank 12" x 24" x  $\frac{3}{4}$ " thick, laid in a mopping of asphalt on an asphalt and felt membrane. This produces a flexible, smooth surface that is non-glaring and very easy to walk on. The material is of low cost and light weight, which reflects a saving in the required framing.

**Exterior Wall Coverings.** Exterior wall coverings of an unusual nature have been developed, with an increasing ratio of economy as newer materials were employed. In general, two types of wall covering have been used. One consists of a ribbed metal exterior wall siding. The other type consists of three different kinds of shop made wall covering panels.

The metal wall siding consists of 20 gauge siding, shop fabricated in long lengths of interlocking channel shapes, set vertically with the flat flush surfaces to the exterior and the ribs resting against and clipped securely in place to horizontal steel girts, framing between the columns.

### New Catalogs for Builders

160—"Inco Standardized Monel Metal Kitchen Sinks," presenting the "Straitline" and "Streamline" models in sinks offered by The International Nickel Co., Inc., New York City.

161—"Cabot's Clear Brick Waterproofing and Clear Cement Waterproofing" is a profusely illustrated catalog on the use of these products of Samuel Cabot, Inc., Boston, Mass.

162—"American U S S Stainless Steel Sheets and Light Plates," a 24-page booklet featuring some of the products of the American Sheet and Tin Plate Co., Pittsburgh, Pa.

163—"Portable Ball Bearing Woodworking Machines" describes the equipment offered by Heston & Anderson, Fairfield, Ia.

164—"Micarta, a Decorative Material for Buildings," is a 24-page booklet illustrated in color, presenting the many ways in which this product may be used, as well as the methods to be followed for its installation; issued by the Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

165—"Truscon Ferrocoustic Roofdecks" and "Silentaire" are two folders recently issued by the Truscon Steel Co., Youngstown, O.

166—"Zinclud Calk-Screws" is a manual offered by the W. H. Maze Company, Peru, Ill.

The other shop made wall covering panels comprise asbestos cement board, Douglas fir plywood and aluminum painted, paper covered gypsum wall board. These coverings come in panels 4 feet wide by 8 or 12 feet long. They are nailed to wood or metal studs, forming curtain walls supported on the steel framing, or held in place without nails in metal runners which are secured to the wood or metal studs. Curved surfaces to 10 foot minimum radius are bent in place and to 4 foot minimum radius are shop bent and delivered in protecting frames.

The asbestos cement board is a  $\frac{1}{4}$ " thick composition product. As this board expands and contracts an appreciable amount, the vertical edges are held against the studding with stiff metal cover strips fastened to the stud between the edges of the board, permitting movement.

The Douglas fir plywood wall covering is virtually the same as the floor decking previously described. Experimentation revealed that it would withstand exterior exposure if the joints or edges of the board could properly be made water tight. The panels come in  $\frac{1}{2}$ " thicknesses, sanded and treated at the mill with hot linseed oil with a slight white lead pigment. The jointing was made by half lapping the edges, each edge being cut at the mill to lap, the horizontal joints lapping to weather. These lapped joints were given another coat of white lead and oil as erected, the board being attached to studs with cement coated nails through lap.

The paper covered gypsum wall board was decided upon following experimentation which revealed that a  $\frac{1}{2}$ " board somewhat stronger than is commonly used for interior wall covering would have ample strength for exterior application, and that if the boards were painted over all at the mill with aluminum paint before delivery and properly handled until placed on the wall, exposure to the elements did not damage them. These boards are nailed to the stud or held by metal runners which clamp the board and are secured to the studding, horizontal joints are tongue and grooved and all joints and metal runners are filled with mastic to make them water tight.

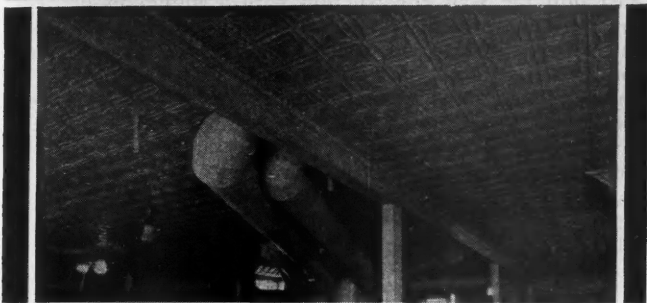
On the Electrical Group and all later buildings, including the General Exhibits Group, the Agricultural Group, the Dairy Building, the Hall of the States, the Federal Building, etc., this wall board forms the exterior covering, with a very appreciable saving in cost compared to the other coverings described. At the beginning of the work the others were considered extremely economical. Some use of the other materials is still effected to obtain contrasting surfaces to suit the architectural design requirements.

While these various wall coverings will not prove suitable for general permanent building construction of the future, certainly the use of prefabricated wall units of suitable life ex-

(Continued to page 46)



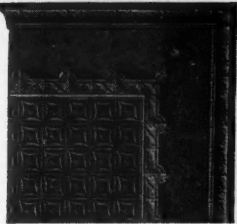
# EDWARDS



## Metal Ceilings

Make Floor Space of Waste Space

Beautiful, economic, sanitary, verminproof and fireproof. Hundreds of beautiful patterns deeply embossed in permanent metal. Die cut nail holes for easy alignment. Get our prices for this profitable work.

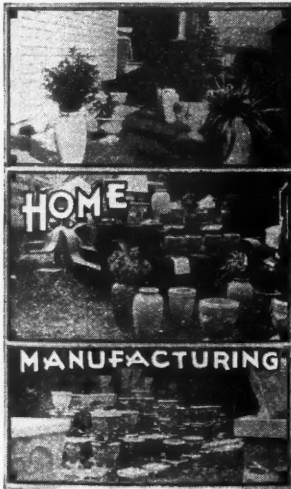


### Edwards Metal Spanish Tile and Shingles

All the massive beauty of tile or slate at a fraction of the weight and cost. Made in galvanized steel, terne plate (tin), sheet zinc and pure copper. Roofing Book AB shows installations 25 years old. Send roof dimensions for low prices.

**THE EDWARDS MANUFACTURING CO.**  
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World's leading manufacturers of Sheet Metal Building Materials



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FOUR IN ONE \$260



**BALL BEARING**  
Includes 22" band saw, 12" jointer, circular rip and crosscut saw and boring machine.

Speed, easy operation, low cost and low operating expense.

Send for complete catalog.

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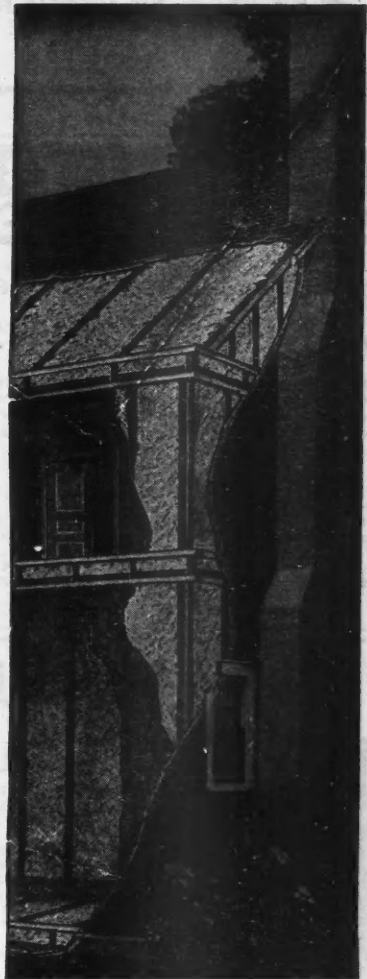
COLD PROOF

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Warmer rooms in winter, are available to every home owner at an actual annual saving in upkeep expense. A building insulated with U. S. Mineral Wool saves every year approximately one-third of fuel costs and the initial installation outlay is made up in a short period of time. As it repels cold in winter it likewise keeps out heat in summer and assures more comfortable and draftless rooms. U. S. Mineral Wool is the most sanitary of all insulating materials and never has to be renewed. It is indestructible, thoroughly sound proof and vermin free. It is easily applied and moderate in cost.

Sample and descriptive folder on request.

**U. S. MINERAL WOOL COMPANY**  
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Save time by addressing nearest company

U. S. Mineral Wool Co. or Columbia Mineral Wool Co.  
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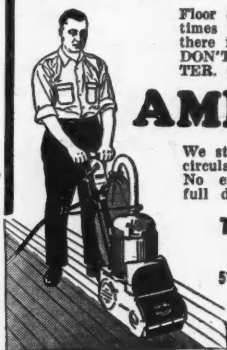
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## HERE'S WORK FOR YOU - BIG PROFITS - BE YOUR OWN BOSS



Floor Surfacing brings a good income even in times like these. It is nice inside work and there is plenty of it to be done.  
**DON'T LOAF AROUND IDLE THIS WINTER.** Get into something for yourself with an

### AMERICAN FLOOR SANDER

We start you out and supply business getting circulars and cards that bring in the jobs. No experience necessary. Write quick for full details, sent without obligation.

**THE AMERICAN FLOOR SURFACING MACHINE COMPANY**

511 South St. Clair St. Toledo, Ohio

## QUALITYBILT DISAPPEARING STAIRWAY

*Saves Space, Saves Money*  
**SELLS HOMES**

Hundreds of new and old homes are prospects for this modern stairway. Guaranteed construction—Highest grade material and workmanship. Strong—Safe—Rigid. Easily installed, easily operated.

**A REAL OPPORTUNITY FOR  
EXTRA PROFIT**

Let us give you complete information. See your dealer or write us today. AB 1132

**Farley & Loetscher Mfg. Co.**  
Dubuque, Iowa



## "DAHLQUIST"

NOW—  
Clean fresh hot water  
for DRINKING—COOKING  
The TURBO-AQUATHERM

U. S. Patent No. 1702215

A Dahlquist automatic storage system equipped with this device offers the buyer something entirely new. A water heater that quickly supplies hot water which is always as fresh and clean as that in the cold water lines and which may be safely used for drinking and cooking as well as for every other household purpose.

Accumulation of sediment or stale water in the boiler is automatically prevented and the danger of burnouts as with other systems completely eliminated. The thermal efficiency is greatly increased and the expense for fuel as a result is lessened. Write for complete details.

Gas Underfire

Gas Side-Arm

**DAHLQUIST MFG. COMPANY**  
10 West 3rd Street, So. Boston, Mass.

Hundreds of carpenters and builders have found real profit in making porch enclosures, storm sash, screens, cabinets, built-in breakfast sets, garden furniture, etc. Turn out your own shop work as and when you want it—gives you greater profit per job. You can do all this with Porter-Cable equipment. New 8-in-1 Woodworker does 40 operations. One builder writes "—just what we want for our work." Can be purchased a unit at a time—like a sectional bookcase. Write for details on our easy installment plan of equipping your own independent shop.

Also Electric Saws, Edgers, Take-About and Floor Sanders. Full line to choose from.

**PORTER-CABLE-HUTCHINSON CORP., 1721 North Salina Street, Syracuse, N. Y.**

PORTER-CABLE-HUTCHINSON

## Want Winter Work!



Send 10c for new booklet, "You Can Make It for a Profit." Contains plans, materials, instructions for making over 100 articles of wood with new Ever-Ready Woodworker.

## 1933 World's Fair

(Continued from page 44)

pectancy, wearing and weathering qualities, which can be placed into the wall construction with a minimum of field labor and a considerable saving in time of completion, should result from the apparent successful demonstration of this Exposition's construction.

**Interior Wall and Ceiling Covering.** A  $\frac{3}{8}$ " paper covered plaster board is used almost exclusively throughout for interior walls and ceiling covering, as this material is entirely incombustible and provides the required fire resistance at the least cost. This board, typically 4 feet wide by 12 feet long set vertically to typical 12 foot ceiling heights is nailed to the studding or ceiling furring. By using a close spacing of nailing, neat exposed joints are obtained without covering.

This board is also used in narrower widths and lengths, generally 2'0" wide for  $\frac{3}{8}$ " thick and 2'8" wide for  $\frac{1}{2}$ " thick in long lengths for the height of the room if set vertically, or as required if set horizontally, with the long edges held by a clamping metal runner that is attached directly to the studding. The metal runners form exposed projecting batten effects, in pattern.

**Ventilation.** The Exposition buildings are generally windowless as a result of planning the lighting of exhibits so that they will have the same effects throughout the day as at night.

Exhaust ventilating fans are located in small fan rooms throughout the buildings, so arranged as to withdraw the air through openings in the ceilings over the exhibition spaces, into the space between the ceiling and floor deck. This space thus acts as a horizontal duct leading to the fan rooms. Thus only a small amount of metal duct work is required from this ceiling space to the fans and from the fans to wall outlet louvres.

Use of open steel truss joists greatly facilitates the free ceiling space. Ample fresh air will be obtained through the entrance and exit openings which will always be entirely open during the Exposition. Each floor level is independently connected to fans, so that fire stops can separate wall constructions at each floor level.

**Illumination.** This has been an important part of the architectural design of the Exposition buildings. For the elaborate use of exterior illumination of the building at night, a wide variety of exterior lighting shelves, lighting panels, fountain effects, projecting fins concealing lighting sources, etc., are being constructed.

These are produced by lookout framing, or by structural steel framing projected or cantilevered out from the typical framing. The coverings for these effects are either made of specially cut pieces of typical wall coverings to fit the conditions or of metal covering, specially detailed.

Some wall surfaces have special wood or metal strip applied to represent flutings or special patterns to catch the lighting of the walls for varying effects. Other wall treatments are arranged in cut-out patterns for a variety of lighting effects to be projected through from behind. Some windows are to be used simply for the display of special lighting effects to be displayed from behind the glass.

**Conclusions.** The unusual developments described herein may confidently be expected to inaugurate a new era of building activity. They have been made possible by a daring use of new materials and new methods which have been based on sound experimentation and engineering principles. They have helped create for this Exposition a new and distinctive architecture which is fresh, alive and free from the precedents of a past age.

These new developments should have the effect of stimulating architects and engineers, manufacturers of materials and builders to new efforts of research and production. Modern trends of design will follow the modern development of materials and construction methods.

New buildings of a definite life expectancy will undoubtedly supplant the types hitherto erected, which last beyond useful age. Construction will then keep pace with the progress of other industries and employment of construction labor will be increased by a new greater activity resulting from a more economical and wasteless use of labor.