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# AMERICAN BUILDER

and Building Age

NAME REGISTERED U. S. PATENT OFFICE AND CANADIAN REGISTRAR OF TRADE MARK

## SEPTEMBER, 1938

60th Year

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Eastern Editor  
**LYMAN M. FORBES**  
Research Editor

**ROBERT H. MORRIS**  
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**Window Conditioning Urged**

(Continued from page 56)

shut off or set very low because owners found that otherwise there was too much condensation on windows. The heating units were evidently capable of supplying enough moisture to maintain the manufacturers' claims of 40 or 45 per cent humidity during cold weather, if it were not for the rapid dehumidification taking place at the windows.

"The chief difference between old and new construction practices affecting the present problem," reported Dr. Browne, "is the reduction in the frequency of renewal of the air from the outside. In the effort to accomplish more comfortable and more economical heating, houses today are built with much tighter sidewalls and roofs and much more general use of weather-stripping and insulation. The effect of reducing the amount of infiltration has been to exchange air less frequently, with the result that a given amount of moisture evaporated within the house during the day effects a higher relative humidity.

"During cold weather much higher humidities can be maintained without danger of condensation if storm windows are used. From this point of view, weather-stripping is in no sense a substitute for storm windows; on the contrary, it tends to favor condensation. Weather-stripping reduces infiltration of cold air at the windows, aiding to that extent in keeping the house warm, but it does not reduce the loss of heat by conduction through glass.

"Both from the standpoint of economy in heating and prevention of condensation, storm windows should be installed before weather-stripping, especially where an effort is made to carry higher humidities during cold weather.

"With storm windows provided, relative humidities indoors during cold weather can be maintained at a reasonable level but, if on the coldest days there is still a tendency for moisture or frost to condense on the glass, steps should be taken to evaporate less water in the house or the heating plant, or to admit more air from outside by opening windows until the glass can be kept clear of condensation.

"I noticed numerous cases of early failure of paint and putty, and on one of the houses with wood siding the paint was peeling so badly that repainting was to be done immediately.

"These failures of paint show clearly that condensation occurs within the sidewalls of houses as well as on the windows and that there is danger of much more serious difficulties in the future if steps are not taken to control the movement of moisture. The difficulties with bluestain and paint, which are serious enough in themselves, should be regarded as warnings of faulty conditions that should be corrected to safeguard the structural framework of the house itself and to maintain effectiveness of the insulation.

"From the point of view of protecting the woodwork of the windows, by far the most helpful procedure that can be adopted is the installation of storm windows on all windows and doors during cold weather. If it is worth while to add four inches of good insulation to what was formerly considered satisfactory sidewall construction, it is certainly absurd to leave a considerable portion of the sidewall area with only a single pane of glass between the rooms and the outside.

"It is strongly recommended that storm windows be provided and that steps be taken to show architects, builders and the public why they are needed on future buildings."

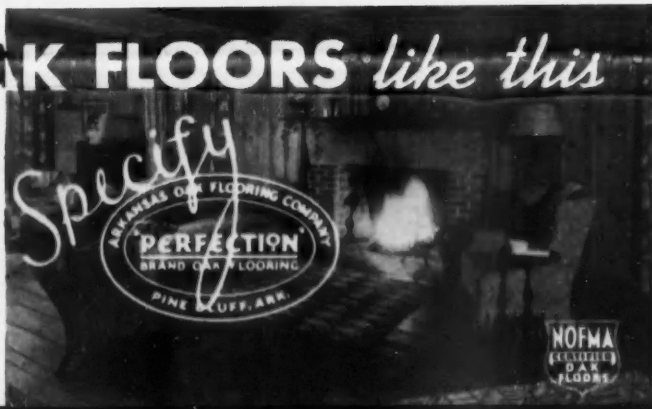


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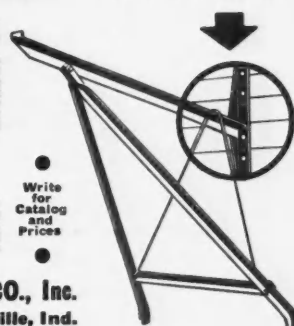
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**194—"Termite Protection with Copper Shields"**—A new handbook covering the construction of termite shields from sheet copper consists of 12 pages and 4 loose blueprint sheets of details. This is issued primarily for architects, engineers and builders and sheet metal contractors.—**COPPER AND BRASS RESEARCH ASSN.**, 420 Lexington Ave., New York City.

**195—Selectron**—Interesting new data sheets give information regarding this most modern method of opening garage doors and gates. Selectron installed on your car operates at the touch of a finger.—**SELECTRON CO.**, Inc., 5525 Sunset Blvd., Los Angeles.

**196—"Gravity Ash-Removal Methods"**—A new 8-page bulletin presenting a number of tested methods for convenient collection of ashes from heaters, furnaces, water heaters, cooking ranges and fireplaces. It describes the number of pit and container arrangements underneath Anthracite burning heaters, the ash falling by gravity and collecting for periods up to one year without attention.—**ANTHRACITE INDUSTRIES INC.**, Chrysler Bldg., New York City.

**197—Sasgen Derricks**—A new handy catalog and price list of the well known Sasgen hand powered derricks, also power material elevators and hoists, and derrick and hoist parts has been issued. This tabulates all these important supplies, giving all essential information complete with prices.—**SASGEN DERRICK CO.**, 3101 Grand Ave., Chicago, Ill.

**198—New International Diesel Crawler Tractor**—An attractive brochure announces the new International Diesel TD-65 TracTracTor. It is operated by a 6-cylinder engine and has a maximum of 70 drawbar horsepower.—**INTERNATIONAL HARVESTER CO.**, 180 N. Michigan Ave., Chicago.

**199—Iron Fireman's New Oil Burner**—An attractive broadside announces and illustrates the new oil burner offered by the manufacturers of the well known Iron Fireman coal stoker. This broadside in two colors illustrates the mechanism of the oil burner, shows how it is installed, and illustrates its advantages in the modern home.—**IRON FIREMAN MFG. CO.**, Portland, Ore., and Cleveland, Ohio.

**200—Elkay Cabinets and Showers**—Two attractive folders illustrate the Elkay Sturdibilt cabinets and kitchen sink combinations and the Elkay line of shower bath cabinets. Each includes scheduled sizes and illustrates correct installation methods. Valuable suggestions for modern style effects are included.—**ELKAY MFG. CO.**, 4704 W. Arthington St., Chicago.

**201—New Duplex Adjustable Sash Balance**—"You May Expect Children" is the rather intriguing title of an architecturally correct folder illustrating the Duplex balance, showing how it is installed and adjusted. "You may expect children to open windows with ease" when fitted with these balances is the full story suggested on the title. The Duplex balance is one of those clever California ideas which the rest of the country seems so willing to adopt.—**DUPLEX INCORPORATED**, Los Angeles, Calif.

**202—New Andersen Windows**—A new 16-page catalog, "Make Comfort and Beauty a Reality in Your Home," illustrates the Andersen line of wood windows, including the casement, Narroline double-hung and basement windows. A companion catalog of 20 pages features the Andersen complete window unit. Both are exceptionally well illustrated with photographs and working drawings and diagrams showing stock sizes available.—**ANDERSEN CORP.**, Bayport, Minn.

**203—The Overhead Gasconaire**—"What! A Furnace on the Basement Ceiling?" is the challenging lead of a folder in two colors presenting an entirely new idea in basement heating plants. Here is a new gas-heating and air conditioning plant suspended from the basement ceiling, up and out of the way.—**GASCONAIRE, Inc.**, 3255 Goldner Ave., Detroit, Mich.

**204—Bryant Home Heaters**—"Homes That Say Come In" entitles an attractive 16-page portfolio of low-cost homes and the new small size Bryant gas heater especially designed for their economical heating. The famous Certigrade home at Washington, as well as the eight Washington "Laboratory Community" homes, are included in this collection, since several of these homes are Bryant gas heated.—**THE BRYANT HEATER CO.**, 17825 St. Clair Ave., Cleveland, Ohio.

**205—Parsons Bros. Roofing Slate**—Complete information regarding the lines of roofing slate from the famous Bangor slate district at Pen Argyl, Pa., is now available upon request from—**PARSONS BROS. SLATE CO.**, Pen Argyl, Pa.

**206—Allmetal Snap Lock Mouldings**—A new 8-page data sheet on nosings, bindings, edgings and ornamental metal moulds for modernistic effects using wall-board and other flat sheet finish is now offered. Large detail drawings make clear exactly how these parts are applied and used.—**ALLMETAL WEATHER-STRIP CO.**, 229 W. Illinois St., Chicago.

**207—Square Heater from Round Oak**—The March of Time is well illustrated in a very impressive new air conditioning loose-leaf de luxe brochure which shows that the good old "Round Oak" line is no longer round but square, and now burns gas in place of the well remembered old Round Oak chunks. Of course, many of the old favorite round cast iron furnaces for burning solid fuel are still in demand, and included as a second part of this new manual which features the gas-burning and oil-burning air conditioners.—**ROUND OAK CO.**, Dowagiac, Mich.

**208—Nailing Bulletin**—Lumber Letter No. 7 of the California Redwood Assn. is devoted to nailing. It shows a detailed table of the kinds and quantities of nails required, the holding power of nails, tells how to nail siding and how best to prevent splitting. Special advice is also submitted on the kind of nails to use to prevent corrosion, how to lessen discoloration around nails, the use of putty, both before painting and in natural finishes.—**CALIFORNIA REDWOOD ASSN.**, 405 Montgomery St., San Francisco.

American Builder,  
105 W. Adams St.,  
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(August, 1938)

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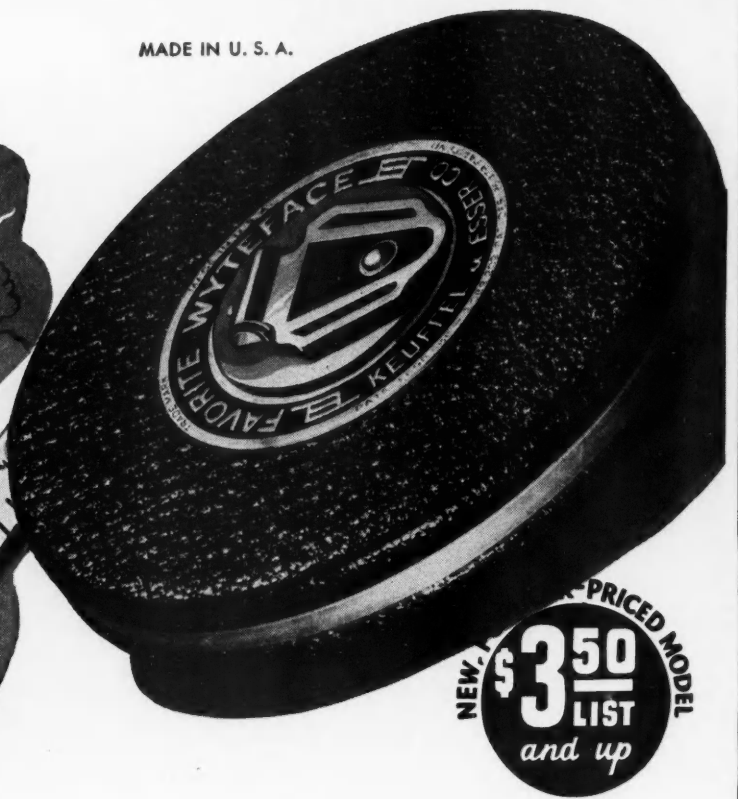
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# PUBLISHER'S PAGE

## Housing and Other Industries

THE housing industry has done as well thus far in 1938 compared with 1937 as any other large industry in the country. Railway freight loadings, the best single measure, indicate that the total volume of all production, construction and commerce was 25 per cent smaller in the first six months of this year, and also 25 per cent smaller in July, than in the comparable periods of 1937. Contracts for home building in the first half of the year were 22.7 per cent smaller but in July were 8 per cent larger, than in 1937.

The problem is to keep home building increasing. In spite of its favorable showing compared with 1937, it was 64 per cent smaller in the first half of 1938 than in the first half of 1929. A much larger increase is essential to restoration of prosperity and employment in the building industry. And the building industry is so large that restoration of prosperity and employment in it is absolutely essential to restoration of national prosperity.

ONE important reason why home building declined less during the last year's "recession", and is now gaining more, than business in general is the government's policy, under the Federal Housing Act, of increasing the inducements for private investment in housing.

The nation's productive industries are roughly divisible into those producing "consumers'" goods and those producing "capital" goods. The latter, under this division, consist of those producing goods in which capital is invested, including housing. Total buying of capital goods involving investment amounted in 1929 to about 21 billion dollars. This is a very large figure. Obviously *productive* employment cannot be fully restored without fully restoring it in both the "consumers'" goods industries and the "capital" goods industries.

Unfortunately, while it has been the present administration's policy, under the Federal Housing Act, to stimulate production of the "capital" goods used in housing construction by stimulating

private investment in housing, it has adopted no similar policies for stimulating private investment in other industries that formerly were large buyers of "capital" goods. Largely increased investment and buying of "capital" goods by the public utilities, the railroads and other important industries is as essential to revival of production and employment in the "capital" goods industries as is revival of construction and employment in the housing industry.

In fact, full revival of the housing industry is dependent upon full revival of investment and buying by these other industries. Because the number of houses that can and will be built will depend upon the number of persons deriving good wages and profits from *all* the country's industries, whether producing services, or "consumers'" goods, or "capital" goods.

IN CONSIDERING the means necessary to full recovery of employment, payrolls, production and profits in all industries in the United States, the reader may well ponder carefully the editorial in this issue entitled, "Tale of Three Cities." The writer, a member of the American Builder's staff who recently has returned from Europe, presents a striking contrast between the government policies that recently have been followed in Great Britain and in France, and between effects they have had on business in general and building in particular. Great Britain has followed certain policies and has had recovery. The United States and France have followed policies widely different from those of Great Britain, have not had recovery and are nowhere near it.

Is it not about time we should quit disregarding the experience of both our own and other countries?

*Samuel O. Dunn*

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# AMERICAN BUILDER

## AND BUILDING AGE

### Home Builder, Home Owner

#### The Place of Each in Building Market

**W**E often read or hear the term "home builder" used in a way that clearly indicates that the party referred to is not really the *builder* at all, but rather the owner, the man for whom a new house is being built. This habit of speech has been misleading; it has tended to confuse the thinking of many who are concerned with the marketing of home building materials and modern home equipment; it has perhaps prevented them from seeing clearly the type of general information on home ownership and new home building which might properly be placed before the general public in order to create a better market for the offerings of the men who really are the builders of the new homes.

Home building has often been compared to the automobile industry—and usually much to its discredit. But here is certainly one way in which these two great constructive businesses operate alike: the motor car manufacturer brings all his materials and parts together at the assembly line where the completely finished product, which the public buys, takes shape; and the home building contractor brings all his materials and parts together at the building site where his finished product, the modern home, is assembled and delivered to the buyers.

#### Houses Are Like Autos

Now, the motor car buyer knows little about whose make of sheet steel went into the fenders or whose carburetor was selected for the model he buys. Those details do not interest him, although they are of greatest moment to the engineers who produce the car. Dependable service and the over-all appearance are what the public pays its money for. The manufacturer selects and buys the parts, the public buys the completed automobile.

In the same way the men of the home building business select and order the thousand and one items of lumber, millwork, masonry, wall materials, roofing materials, mechanical equipment and all the rest, and assemble them into a completed whole that the layman—and his wife—can understand and appreciate. The home owner or (so called) "home builder" is interested in and buys the completed house; the professional builder buys its parts and is responsible for their assembly and their satisfactory functioning.

And this generalization holds true quite as much for the individually planned "contract job" as it does for the house "built from sample" or the typical operation house "built for the market." The reason for this arises from the technicalities and complexity of the modern home building process. The average man, the layman—

even the best informed—soon finds himself in "deep water" when he undertakes to specify anything of a detailed nature in regard to materials, construction, or equipment. He runs immediately into increased costs, and has to turn for rescue to the superior experience of his building professional, who thereupon takes over the planning in line with the budget and becomes responsible for the final results.

#### Experience "in the Saddle"

One thing is certain: there is *always* a professional advisor on every building job. On large commercial and public buildings this is generally well understood; and the architect and engineer are usually recognized as the key men advising with clients in the field of large construction. But in the home building field also, there is always a professional advisor, though only rarely does he use the title of architect. More typically he is the contractor-builder, a man who has a local reputation for building good homes.

Inevitable as the force of gravity, the layman facing the unfamiliar technicalities of home building, and with the responsibility for investing a sum usually equivalent to his life's savings, will be drawn into the circle of influence of some man of local building experience, a building contractor, operative builder, retail material dealer, realtor, building and loan advisor, or architect. In order to protect his investment, the layman is sure to find some experienced building industry man to advise him and to handle his project.

#### Active Building Men the Key to Volume Sales of Materials and Equipment

Statisticians have stated that at the present rate of construction there is one new home being built for every 100 families in the United States. This means an average expenditure per family for new homes of about \$41 and a *per capita* expenditure of a little over \$10.

However, since each of these new home jobs is under the control of a contractor-builder (of which class of building professionals there are about 100,000) the present building market averages down to about 3 new houses for each builder; and their value is about \$12,400. Thus we see that in the study of "Builder *versus* Owner" each building professional is equivalent as a "market" to more than 300 families, made up of 1,194 non-professional individuals.

This is the great "buying public" that eventually has

to be pleased with the products of the manufacturers as selected and installed by the local building industry men. Better and more intelligent advertising and promotional teamwork should be practiced to interest the public in modern homes and home ownership and to instruct the local builders, contractors and dealers in the thousand and one items of materials and equipment which must be planned into each project by these active building industry men who contact the public, create these new home projects, and largely determine their size, design, construction and equipment.

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## Tale of Three Cities

**H**OME building in London, Paris and New York—the three great cities of three great nations—reflects to a remarkable extent the political, social and economic conditions that prevail. A member of the *American Builder* editorial staff having just returned from a trip abroad concludes that there are important lessons to be drawn from a comparison of conditions in these three cities.

IN LONDON, as well as in all England, private home building continues to flourish—the first half of 1938 being only 11 percent less than in 1937, which was a banner year in which some 340,000 houses were built. In England building credit is plentiful. Confidence in the government prevails, labor is not unreasonable in its demands (the 46-hour week is standard) and the average skilled building worker earns about 40 cents an hour. Building material prices have also been maintained at reasonable levels. Most important of all for American building men to consider at this time, private initiative has not been restricted or frightened out of existence by government competition in housing.

England has tackled its frightful slum problems aggressively and intelligently and is doing a large volume of public housing, but this housing is built for *slum*

*dwellers* by local housing authorities and in such a way apparently as not to destroy the market for private homes built by private builders and developers. Housing reform, like social and labor reforms in England, has progressed slowly but surely over a period of years and is generally accepted by all. Government subsidized housing for the very low income groups now amounts to less than 20 percent of the total home building in England.

Confidence in the future is shown by the fact that in England homes can be purchased at 10 percent down or less and paid for over a period of 20 years. Interest is generally low—that is, 4½ to 5 percent. The British budget is balanced and business and industry are reasonably satisfied that future prospects are sound.

This picture presents a vivid contrast with conditions in Paris and in France. There private home building is practically nonexistent. The French politicians have done a great deal of talking about public housing but have actually done very little construction. The building trades generally and the building industry are dormant. Why?

### Stagnation in Paris

The answer is clearly shown by the following:

1. Money is scarce because capital has fled to America, Holland, England and Switzerland in fear of further devaluation of the franc. No banker will make a 20-year loan on a house or even a 10-year loan because he is afraid of further inflation which would mean he would not get his money back. Interest rates are exorbitantly high, financing terms difficult. The national budget continues to be unbalanced and the political situation is such that there is little hope that it will be balanced in the near future.

2. Radical labor and social reforms have been put into effect so rapidly that they have seriously upset business conditions. Labor has a strong political position and has secured a universal 40-hour work week law which has been a great shock to business and industry in a country accustomed to long hours. Building costs and building wage rates have sharply increased, while at the same time rents have been fixed by law—an unwise and unwieldy government action which has, of course, effectively killed private construction for profit.

3. Confidence is lacking both in government policies and future labor activities. The international situation and the possibility of war also have an unsettling effect. In Paris in 1936 building permits were taken out for only 35 single family dwellings—this for a city of 5 million persons. Permits for all kinds of dwellings, including apartments, totaled only 154, covering less than 2,000 family units. The normal renewal of dwellings should be 2,000 permits or 10,000 dwelling units per year. Permits for all types of construction were 65 percent less than in 1913.

Thus we see in London and Paris the working out of two different sets of governmental policies. In one country the national budget is balanced, social, labor and housing reforms have progressed slowly but effectively, build-

### Official Union Wage Scales England—New York\*

	Great Britain	N.Y.C.
Asphalters (Roofers)...	42c	\$1.60
Bricklayers .....	40c	1.88-4/7
Concreters .....	40c	1.75
Carpenters .....	40c	1.75
Glaziers .....	40c	1.88-4/7
Machinists .....	40c	1.75
Painters .....	40c	1.50
Plasterers .....	40c	2.00
Plumbers .....	40c	2.00
Slate and Tile Roofers.	40c	1.86
Stone Setters .....	42c	1.95-4/7
Tile and Terrazzo.....	40c	1.68-3/4
Bricklayers Helpers ...	30c	1.14-2/7
Excavating, etc., Laborers	30c	.95
Plasterers Helpers.....	30c	1.42

\*Source: Building Trades Employers Association of New York City.

ing, labor and material costs are low. The result is an active building program that provides a large volume of employment. In the other country there is no prospect of the national budget being balanced, radical reforms have been put into effect so quickly that industry has not been able to absorb them, and as a result costs have risen, consumption fallen off and unemployment increased. There is no incentive to build and the unemployment problem is thus greatly accentuated.

### Outlook in New York City

Let us turn closer to home, to New York City. Here we find the same tendencies at work that have been observed in both London and Paris. It may well be that the future of the construction industry and of all American business will depend on the course to be followed. There is a tremendous pent-up demand for new homes and for good housing in New York and other American cities and towns. But this pent-up demand can be effectively held down and building indefinitely postponed by a continuation of such policies as we have seen illustrated in Paris. As to building credit, there is an ample supply on reasonable terms comparable with the best that England has to offer. As to confidence, it may be said that most Americans, although they may violently criticize the current party in power, still have a high faith in the future of America. The easy credit conditions now prevailing in the building industry may change if the national budget continues to be unbalanced, leading eventually to further devaluation as has taken place in France.

As to social and labor reforms, it should be obvious that these have progressed at too rapid a pace; but the present slowing down is giving business and industry a chance to absorb and assimilate the changes. Many of the recent demands of labor in the building industry have been unsound and destructive to business. In New York City the 30-hour week, the two-dollar-an-hour wage, the restrictions on use of labor-saving equipment are examples of the kind of labor demands that have effectively tied up construction in France.

### Costs Down in Most Localities

If the home building industry were entirely unionized and these extreme demands met, there would be an absolute stoppage of residential construction in New York and everywhere else in the United States. It is significant that the bulk of residential construction is still carried on by non-union workers. In those areas where the unions have had complete control, building costs have stifled activity. The large speculative builders, such as those on Long Island, have effectively resisted unionization and have thus kept their costs down within reach of the consumer's ability to buy. The same is true of the smaller operators in small towns and in rural communities.

The obvious lesson, as *American Builder* sees it, is not that there should be no unions in the building industry but that the unions must act as they have in

England, with a higher degree of consideration for the welfare of their own industry. It should also be added that building material manufacturers should adopt the same policy. Their business and the industry of the entire country will be better served by low prices and large volume, than high prices with a consequent small volume of construction.

The moral of this tale of three cities as *American Builder* sees it is first, let us try to keep our building costs down; second, let us not try completely to reform our labor and social conditions overnight; third, assurance that the national budget will be balanced will create a confidence that will revive all industry and have a particularly beneficial effect on home building; fourth, housing and slum clearance should be strictly limited to people of low incomes, should be kept low in price, and must not compete with private builders. Such housing should be planned, built and operated locally.

\* \* \*

## Avoid These Mistakes

SEVERAL lessons in home building—what to do and what not to do—are sketched in this summary of eight projects recently reported from Wisconsin which failed of FHA mortgage insurance approval.

### Actual FHA "Rejects"

1. The house faced a turn on an important highway. Living room at front of house. Headlights of automobiles lighted up living room interrupting ordinary family life and social life. Rejected on account of location.

2. Subdivision isolated and contained only one dwelling. No definite trend of home building. No neighborhood developed. Had sewer, water, gas and electricity. Lack of definite trend caused reject on account of location.

3. House properly located. Definite trend toward this location. All utilities in. Mortgagor's salary adequate but his past record indicated inability to meet payments because of poor management of his personal affairs. Rejected on account of history of mortgagor.

4. Young man, married, one child, good job, owned three lots. Financed one home on one lot. Wanted to finance two homes for sale or rent on the other two lots. Rather ambitious. He did not consider possible vacancies. Rejected on the two houses on account of inability to prove payments could be kept up.

5. Corporation owned six lots. Built three homes under FHA, for sale. Then made application for three more. Application rejected because first three homes were unsold and the corporation's income did not permit additional extension of credit.

6. Neighborhood of conventional type homes. Application for modernistic type home on the one vacant lot in the neighborhood. Rejected because it did not fit in with construction in the neighborhood.

7. Specifications provided for a lower grade of lumber for sub-floors, sheathing, studs and joists than property standards permitted. Rejected.

8. Plans indicated occupant of one bedroom had to pass through a second bedroom to reach bathroom. Rejected because poorly planned.

# New Way To Slum Clearance Urged

## Chicago Builders Offer Plan for Neighborhood Rehabilitation Under Private Ownership—How "Blighted Areas" in All Cities can be Saved

By HOWARD WOOD

Financial Editor, "Chicago Tribune"

**W**HAT is the future of Chicago? What will be the character of the city in ten years? Twenty years? Fifty years?

Will it be a prosperous city of attractive homes extending in orderly and pleasing progression away from the great central business and shopping district? Will it be a city in which the most valuable land lying within easy reach of stores and offices is occupied by the homes of the workers and shoppers?

Or will it be a city with a hollow core—a city in which the loop, or central business district, is separated from the decent residential areas by a broad belt of ramshackle slums?

For ten years Chicago business men, bankers, property owners, real estate experts, and public spirited citizens have been wrestling with this question. They have seen the slum belt that rings the loop slowly but unmistakably creeping outward at the rate of one-half mile every five years. They have realized that individual property owners are helpless to stem this tide of destruction. The task is too big. It calls for leadership, united action, and a program. These interested people have likewise come to realize that reclamation and rebuilding of obsolete districts is the most important problem confronting Chicago and other large cities today—for no other thing so vitally affects the lives and welfare of dwellers in the cities.

These searches for the solution have resulted in the building up of tremendous stacks of information and statistics. Individuals working alone or pooling their efforts through such organizations as the Chicago City Council, the Chicago Plan Commission, the Chicago Housing Authority, the Illinois State Housing Board, the Metropolitan Housing Council, and the Chicago Real Estate Board have developed a train of thought on the subject that has helped bring the issue to a definite head.

### Has YOUR Town a Blighted Area?

MUNICIPAL authorities, property owners, builders—all know the menace, to practically every city, of the current trends *outward*, leaving "close-in" property to blight and abandonment. The plan for rescue action outlined in this article, while referring specifically to Chicago, applies equally to all other cities. It is reproduced here, by permission of the "Chicago Tribune" for the benefit of "American Builder" readers in all parts of the nation.—Editor

Here are some of the important things that have been discovered:

1. The broad areas of rundown tenements and shacks that encircle the loop are the principal crime centers of the city.

2. They are the districts where the public health is most seriously jeopardized and where the most firetraps and unsanitary buildings are located.

3. They are the districts where population is decreasing alarmingly fast.

4. They are the districts where tax delinquencies are the thickest and where tax collections fall far short of the cost of such city services as fire and police protection, water, recreation centers, and maintenance of streets and alleys. They are thus a financial burden on all the rest of the city.

5. They are the districts where no money can be borrowed on home mortgages. Neither private lenders nor the Federal Housing Administration dares risk money on loans in these areas under present conditions.

6. They are the districts of the most illegitimate child-births.

And yet, strangely enough, these very districts from the standpoint of location are intrinsically the most valuable residential areas in the city of Chicago.

They are the regions from which workers and shoppers could most conveniently get to and from the loop with a minimum of time and effort.

They are near enough to the lake to get the benefit of cooling breezes on hot summer days.

They are within easy distance of Chicago's great parks with their hundreds of millions of dollars' worth of recreational facilities. They are close to schools, universities, theaters, museums, and railroad stations.

Why doesn't somebody do something about it?

That is the obvious question that comes to mind. And the answer is equally easy. A suitable vehicle is needed—some instrument whereby private investors can go into this no man's land of property ruination and rebuild it on a large scale, restoring vanished real estate values and creating desirable residences for hundreds of thousands of Chicagoans who would like to live in pleasant surroundings close to the loop.

People with money to invest would welcome the opportunity, for the profit possibilities are excellent—provided the right kind of safeguards are set up.

The great majority of property owners in the run down districts would be happy to sell or participate in a rebuilding program. In most of these districts it is estimated that from 80 to 90 per cent of the property is owned by outsiders. Much of it is held in trust by banks for heirs of original owners. At present such property has practically no sale value.

Builders and material men would get business that they have been lacking for ten years.

Workers in the building trades and other lines would get badly needed jobs.

Practically every Chicagoan has a selfish interest in the proper solution of this problem. It is this very community of interest which assures a successful outcome if the right method of approach is decided upon.

The result, according to students of the subject, would be the beginning of a complete metamorphosis of the city of Chicago. Once a backfire is built against the spreading belt of depreciation, property owners farther out would quickly regain confidence in the value of their real estate and would be encouraged to spend money on modernization of their existing buildings. Run-down houses and apartment buildings that have not yet reached the serious stage could profitably be reconditioned for rental to persons in lower income groups who might not be able to afford apartments in the new buildings. Thus, even the family on relief which is allotted \$25 a month for rent would be able to live in a decent dwelling.

Experience has shown that sporadic attempts by private capital to build moderate rental housing projects thus far have been largely unsuccessful from the broad standpoint of reviving whole districts. As in the case of the Marshall Field Garden apartments, they tend merely to become pleasant oases surrounded by dismal slums. Earnings of such projects are reduced by the necessity of providing schools and other services to attract tenants who do not want to use the facilities provided in the neighborhood by the city.

Another big factor is the high cost of acquiring land. Most of the property owners are glad to get a fair price for real estate they never hoped to be able to sell at all. A few, however, realizing that the project builder must have their property in order to round out a land acquisition

program already under way, hold out for prices many times the fair value of the property. In the case of the Marshall Field Garden apartments the land costs were reported to average \$4.78 per square foot in a neighborhood where individuals are ordinarily glad to sell vacant property for less than one dollar per square foot.

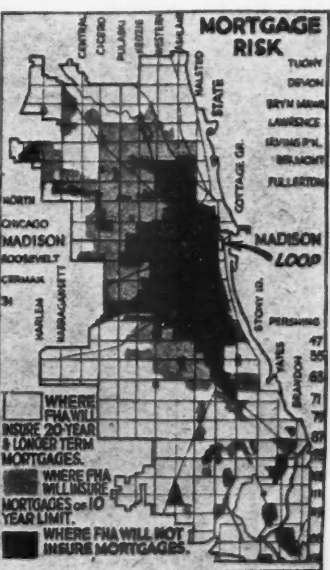
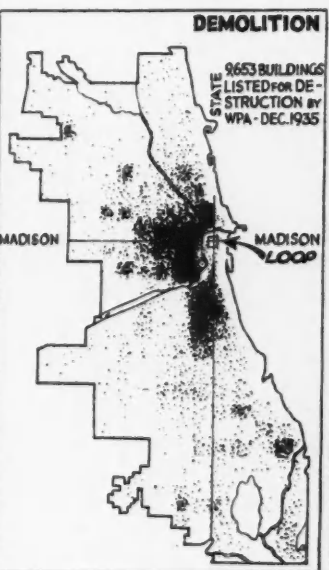
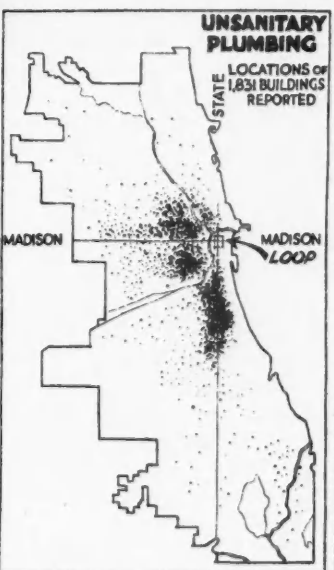
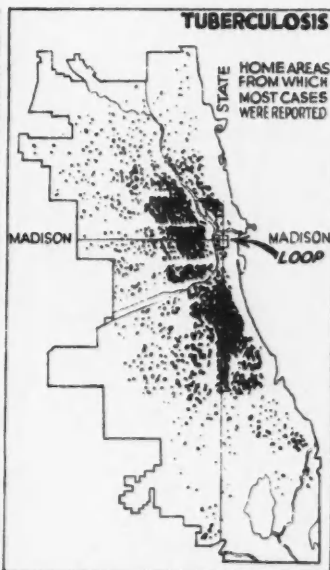
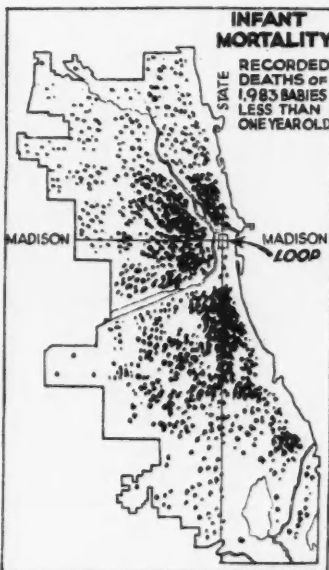
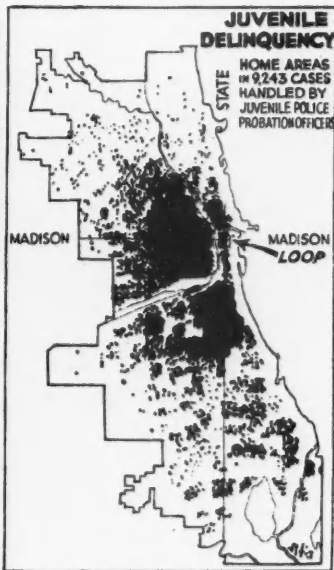
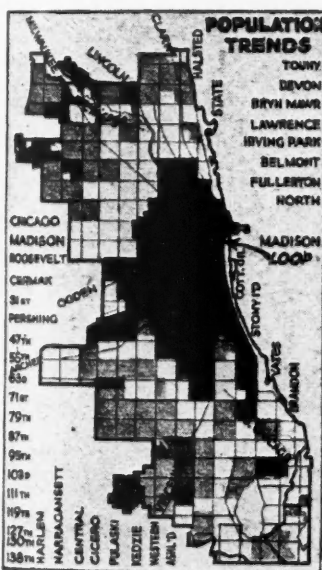
Federal housing projects, it has been demonstrated, are not the answer to the need for housing for people of moderate means. Federal housing units are subsidized by taxpayers' money. To rebuild the run-down districts in the big cities of the nation would bankrupt the treasury.

The job must be undertaken by private capital if it is to be done profitably. But how?

An answer is provided by a little group of experts who have been plugging at the problem more or less continuously for the last ten years. They have explored the vast amount of detailed information developed by the different fact finding agencies. And they have carried it a few steps farther to what they now believe is the long sought solution.

This group includes J. Soule Watterfield, former president of the Chicago Real Estate Board and vice president of the Starrett Brothers; Arthur Krugel, present president of the Chicago Real Estate Board; Herbert U. Nelson, executive vice president, National Association of Real Estate Boards, and Paul Angell, vice president of the Chicago Real Estate Board.

Entirely as individuals and not as official representa-



A SERIES of self-explanatory maps which indicate graphically the degree to which various unfavorable conditions are concentrated in regions coinciding almost exactly with the slum areas surrounding Chicago's central business district.



**BEFORE AND AFTER.** An unretouched photograph, at left, of Cambridge avenue, Chicago, looking south from the corner of Elm, is contrasted with an artist's conception (right) of how a slum clearance project would alter the appearance of the same scene.

tives of their organizations, these men have groped their way through the tangle to a point where they believe they have the broad outline of a plan whereby the rebuilding of great areas of the city of Chicago can be accomplished with private capital.

The two big difficulties to be met are:

1. Making possible the acquisition of land at fair prices and preventing the blocking of such acquisition by the minority of holdout property owners who prevent enterprise by demanding enormous prices for their parcels as soon as they discover that a large project is under way.

2. Creating a financial setup that will attract the funds of investors by setting up safeguards and assuring prospective security purchasers that they will not be subjected to the unfortunate experiences suffered by investors in the post-war period when buildings were financed by high pressure sales of so-called "six per cent real estate gold bonds."

Warterfield outlines the proposed system by which he says the job can be done. It would require first of all the enactment of a law by the state legislature authorizing the chartering of privately financed "public service housing corporations," which would be empowered to acquire land through condemnation proceedings.

"Housing, privately financed, can be put on the same basis as public utilities," Warterfield says. "A commission can be created by the legislature with functions similar to those of the Illinois Commerce Commission. Under the supervision of this commission 'public service housing corporations' could be chartered to acquire large tracts of land and to carry on the sale of their securities.

"After any such corporation should have acquired 50 per cent or more of a given area through the ordinary system of obtaining options from property owners the commission would be empowered to direct appraisals of the remaining pieces of property in the area and declare its findings as to the fair value of the remaining pieces. The owners then would have the alternative of accepting the commission's figures or of going to court if they were not satisfied. The 'public service housing corporation' would be required to place in escrow sufficient funds to take care of the holdouts, but would be authorized to take over the properties immediately and start operations.

"Such legislation also would offer the vehicle by which property owners in a given neighborhood could organize and finance their own building and reclamation program by pooling their property and using it for equity in raising

funds for rebuilding.

"The commission would have the additional duty of supervising the finances of the 'public service housing corporations' to protect the interests of the holders of their stocks and bonds.

"This proposed legislation would be no threat to owners of property outside slum areas, because it would provide for the condemnation of property only in districts definitely determined by the commission to be dangerous to the welfare of the community—in other words, the slum districts which are centers of crime, disease, and fire hazards.

"Another big difficulty in acquiring many parcels of land for a large housing project is the matter of obtaining clear titles. Titles to many of the properties are clouded and the job of clearing them up takes much time and money. Condemnation automatically clears titles."

Angell, after a thorough study of the legal angles, concludes that such legislation would be constitutional if drawn under the general welfare and police power provisions of the constitution.

"The only practical vehicle," he says, "is privately owned and financed building service corporations, created by the state and controlled by the state for the good of the public interest and the protection of the investing public.

"In order to enable private initiative to take its proper place in the rehabilitation of our city, especially in the reclamation of depreciated areas, private corporations should be endowed with such rights and powers and be subjected to such state control and regulation as is consistent with public policy and public interest.

"The creation of such building corporations for profit, similar in structure to public service corporations, is the goal to be desired if ample private financing and rehabilitation of depreciated districts is to be accomplished.

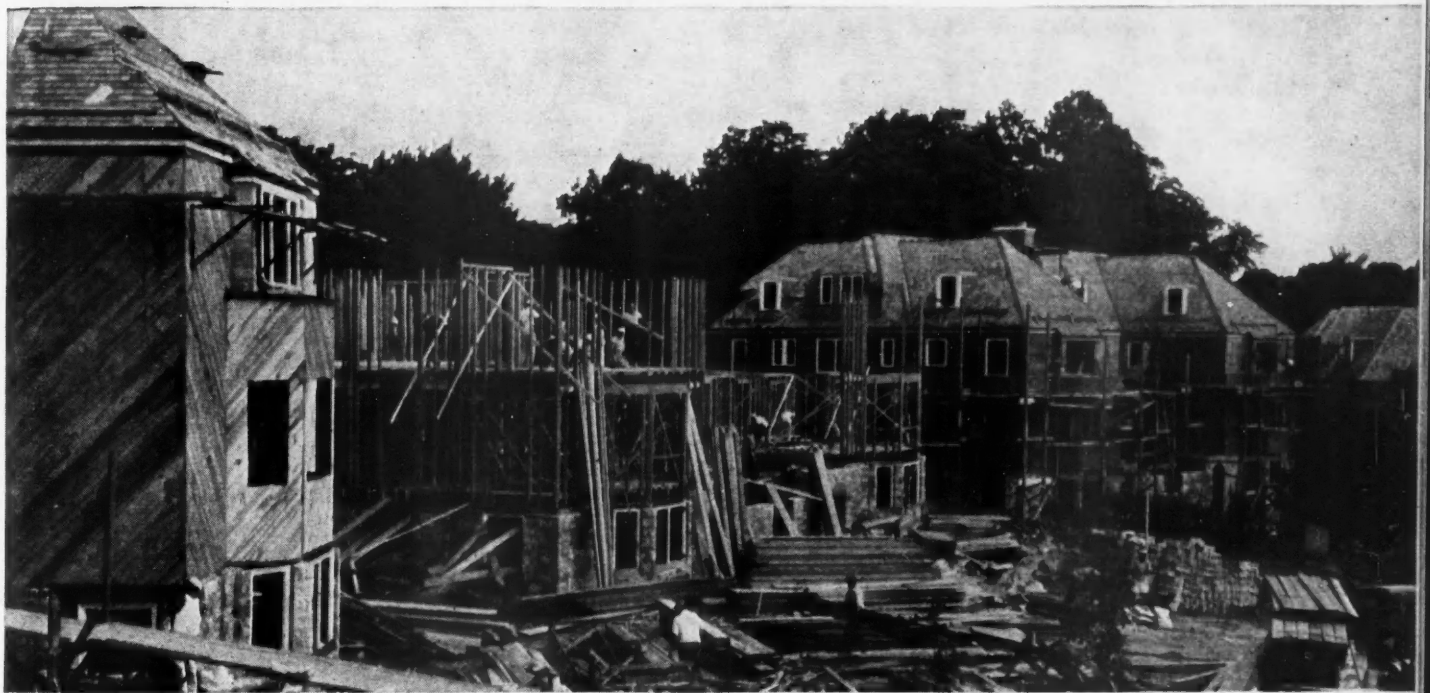
"Therefore, either the present Illinois state housing act should be so amended as to make it more workable and acceptable to private capital or new legislation should be adopted to create quasi-public building corporations, enabled to operate under a certificate of public necessity and convenience, with the right to issue securities under proper state control and continued regulations, acceptable to the investing public.

"These building service corporations should be given the right to buy, sell or lease buildings to private in-

(Continued to page 90)



PLENTY OF ACTIVITY HERE: two views of Fort Hill Village, a rental housing project near Scarsdale, N.Y., consisting of fourteen 3-story structures with 16 apartment units each. They are being built by the Delval Construction Corp.



## Sharp Increase in Rental Housing

**Large and small apartment projects under construction in many cities. FHA insures mortgages on 139 projects valued at \$95,000,000**

**T**HE buildings shown under construction above may look like a college campus but actually there is nothing academic about them at all. They are part of a 16-building rental housing project near Scarsdale, N.Y., now being erected by the Delval Construction Corp., well known residential contractors.

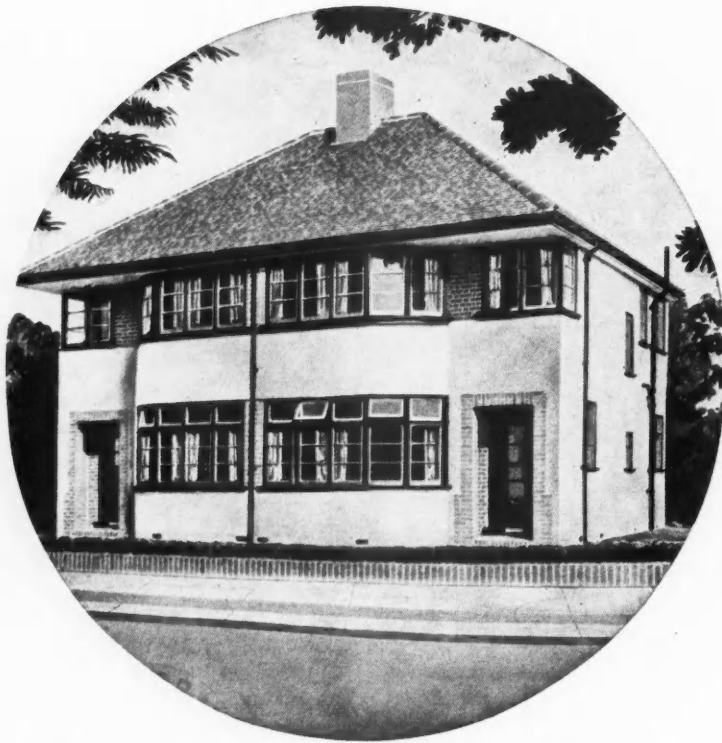
A number of recent issues of *American Builder* have called attention to the big new field rental housing construction offers builders and contractors under the amended National Housing Act. Apparently builders

throughout the country are beginning to discover the opportunities in this field. Projects similar to the one illustrated above are appearing in dozens of communities. What is more, this new movement is just *beginning* to take hold and there is a big volume ahead. FHA rental housing division reports that as of July 31 this year, 139 projects had been approved and mortgage insurance commitments made. These projects were valued at slightly over \$95,000,000, covering a wide range of large and small apartments, groups of houses and row houses for rent.

While \$95,000,000 represents a good sized volume of new residential construction, it is really just a start, for hundreds of builders throughout the country are working on and planning additional projects under the liberal financing terms made possible by the amended FHA plan. Loans up to 80 percent of the total cost of a project are

*(Continued to page 92)*

# Less House for Less Money in England



POPULAR TYPE of 2-family home in London suburb, each half consisting of living room, dining room, kitchen, 3 bedrooms, bath; sells for \$3,500.

**An AMERICAN BUILDER Editor (just returned from a European tour) Takes a Look at Those Much Talked About English houses, Finds Them Far Below American Standards and NOT CHEAP. Punctures Some Popular Myths About British Home Building**

**By Joseph B. Mason**

Eastern Editor

**Y**ES, the houses they are building and selling like hotcakes in England cost the buyer less in terms of American dollars, *but the buyer gets much less.* The average speculative British house is 20 years behind the American standard of equipment, finish and comfort. The great majority are built in solid rows or consist of two or four-family houses set on very narrow lots. Here are some of the reasons why the small British house costs less:

1. No central heat. The only heat is provided by two or three fireplaces equipped with small flues. Chimneys are much lighter, flues are smaller and are not lined with terra cotta.
2. No hardwood floors or steps. This is a luxury not apparently expected in even more expensive houses. Floors consist of one layer of softwood boards applied directly to joists. Interior stairs are of same material.
3. Interior plaster (only two coats) is applied directly to exterior brick walls—a practice not considered practical in America.
4. Soil pipes and vents are universally carried on the *outside* of walls (see illustration above).
5. Kitchens are ridiculously inadequate according to American housewives' standard. No refrigerator is provided—not even space for an old-fashioned ice-box. Sinks are unbelievably small (12 to 14 inches), with one small wooden drainboard about 10 by 24 inches. There are no counter or work areas, practically no kitchen cabinets. Some now have a cupboard about three feet wide extending from floor to ceiling. Floors are softwood.
6. Hot water provided by hand-fired coal or coke-burning stove located in kitchen, galvanized iron tank. Copper and brass are not used for water pipes.
7. Eaves and downspouts of cast iron.
8. No bedroom closets. Every English family appar-

ently is adequately supplied with wardrobes. Closets are not expected.

9. Electric wiring consists usually of one cord in center of room operated by wall switch and one plug-in outlet at baseboard per room.

10. No shower stalls, colored tile bathrooms, no laundry tubs.

11. No basement, attic or garage.

12. Very small rooms—the average \$3,000 British house has a living room of about 10 by 12 feet, a dining room 10 by 10 and a kitchen 6 by 7. The master bedroom will measure about 10 by 12, the second best bedroom 10 by 10, and the third bedroom only 7 by 7.

13. A small lot (22 feet wide), monotonous design.

These are a few of the important items that make it possible for a British builder to sell a house for less money than an American builder. I need hardly mention that such luxuries as insulation, air conditioning, automatic garage doors, ventilating fans, radio outlets are not considered. Furthermore, due to the climatic conditions, these houses do not require extensive weather-stripping nor are they equipped with storm sash, screens or screen doors.

Although there are no figures to prove it, I am convinced that an efficient American building firm could build a similar house for less money in this country. This in spite of the great difference in building wages. The average skilled union worker gets 40c per hour, unskilled 30 to 33c per hour.

There is another important factor to take into account, and that is the relative incomes of the people who buy the same type houses in America and in England. I have been referring to an average London suburban house selling, with lot, for approximately \$3,000. A house being built for the same class of purchaser on Long Island would cost between \$5,000 and \$6,000—probably a good



estimate is \$5,500. Of course, as I have pointed out, the American house is infinitely better equipped, has larger rooms and is much more comfortable and livable.

The important point I wish to make here is, however, that the \$3,000 spent by the British buyer is more money in terms of the wages he gets than the \$5,500 spent by the American home buyer. The wage level of the English worker is approximately half that of the American worker.

To point to the \$3,000 British house and say it is cheap, as so many social workers and housing "experts" have done, is not giving the American building industry a fair break. As a matter of fact, in terms of income, the average privately-built British house is more expensive than the American house.

In view of the great amount of criticism of the American private building industry for its so-called high costs, this information is significant. The critics of American building methods will have to find some other standard of comparison. Certainly, as far as private building is concerned, the British building industry does not justify the immense amount of publicity it has been getting.

### Construction Standards

What about the comparable construction standards of the American and British houses? They are both reasonably good, although it is common in both countries for many people to criticize what all speculative builders do as being "jerry-built." I personally feel that it is time someone says a word—or a good many words—in favor of the speculative builder. In England he performs the bulk of the private home building and is certainly the major factor in the present building boom. The English speculative houses are reasonably well built, with solid brick or cavity-type walls, tile or slate roofs, ample foundations. The difference in climate makes possible practices that could not be approved in the northern part of this country, such as plastering directly upon outside brick walls, running the foundations down only two feet and omitting the basements. Due to the fact that lumber is less plentiful in Great Britain there is a tendency to skimp on framing members as compared with approved American practice. Two by 4, and 2 by 6 rafters are common. Floor joists are much lighter than in comparable American houses, 2 by 6s being used where the American builder would have a much heavier joist.

Another misconception that has been fostered in the United States by many recent writers and speakers on

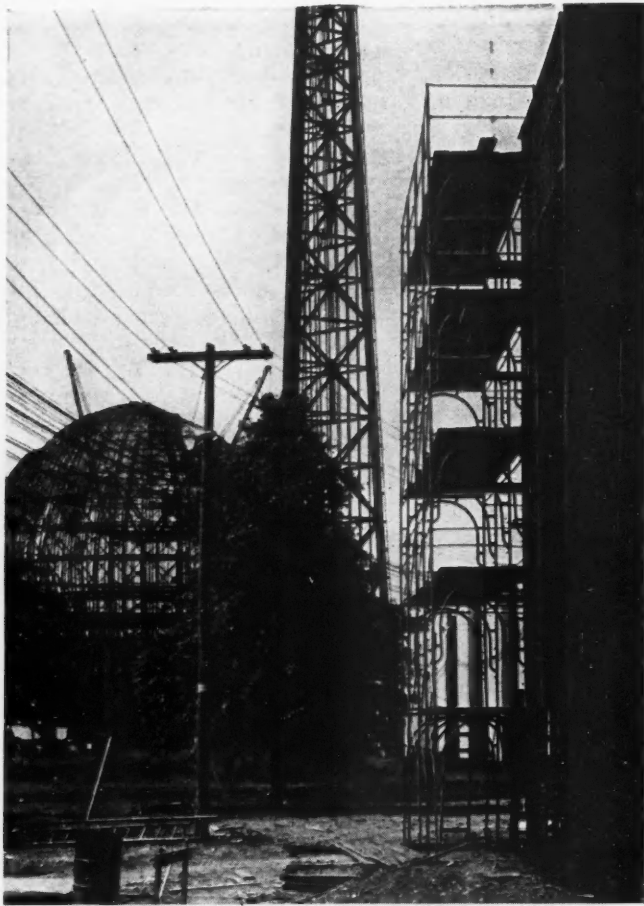
British building is that the bulk of the private construction is done by a few huge building firms that span the entire country. It is true that there are several very large home building firms. Some of the largest, such as John W. Laing & Son; Davis Estates, Ltd.; Taylor Woodrow Estates; Wates, Ltd.; New Ideal Homesteads, have built more than a thousand homes a year. Perhaps I should explain that a British home building development is popularly called an "estate." A few of these biggest builders have as high as 12 or 15 estates, most of which are located in the suburbs of London, but a few in such cities as Southampton, Plymouth and Liverpool. But to say that "most" of the building is done by such big builders is just as incorrect as to say that Gross-Morton, Levitt, J. C. Nichols and a few others in the United States do "most" of the building. It simply is not true. According to the best estimates obtainable there are more than 30,000 active home building firms in England. For every large-scale operator there are a hundred smaller  
(Continued to page 94)



MOST of the speculative English homes are 2 or 4-family or row houses. Above is one with two 6-room units, each sells for \$3,000.



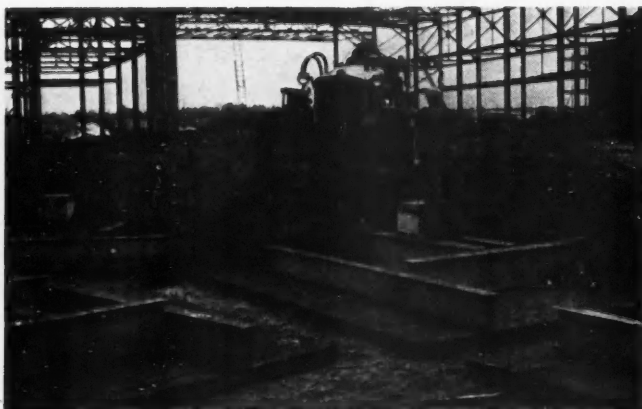
AN EXAMPLE of subsidized public housing in England built to rent, in famous Welwyn Garden City, near London. Rooms are small, with little equipment. In the foreground are flats for elderly people, consisting of bedroom, living room, kitchen and bath, which rent for approximately \$1.75 per week. In center is a 2-family house with 3 bedrooms which rents for approximately \$3 a week.



NEW TYPE tubular steel scaffolding used by A. L. Hartridge Co., Inc., in construction of many prominent World's Fair buildings. Perisphere and Trylon seen in background.

**C**ONSTRUCTION of the "World of Tomorrow"—the New York World's Fair of 1939 continues at a rapid pace with new buildings, new equipment and new ideas and methods on every hand. From this beehive of activity are coming many exciting developments of interest to the building industry, several of which have been caught by the camera man in the accompanying pictures.

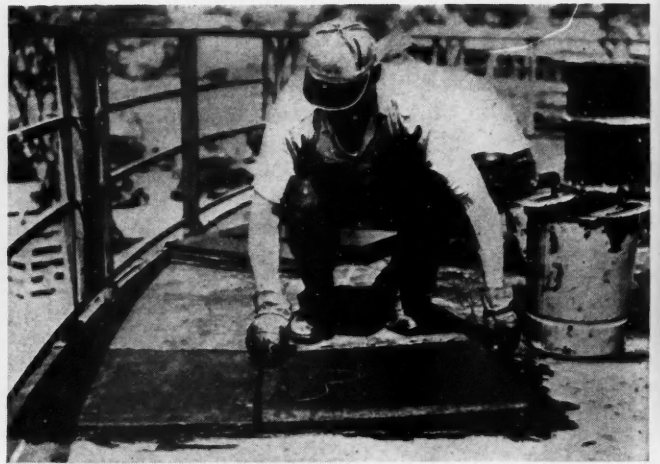
One of these, the new tubular steel scaffolding made by the Safeway Steel Scaffolding Company of Milwaukee, is shown in the striking picture above with the Trylon and Perisphere. Large amounts of this new scaffolding, which can be assembled and taken down with great speed,



JUST AS they were being covered up, this picture shows large spread of steel footings. Note flat bed of supporting creosoted timbers.

## SEEN AT THE NEW YORK World's Fair

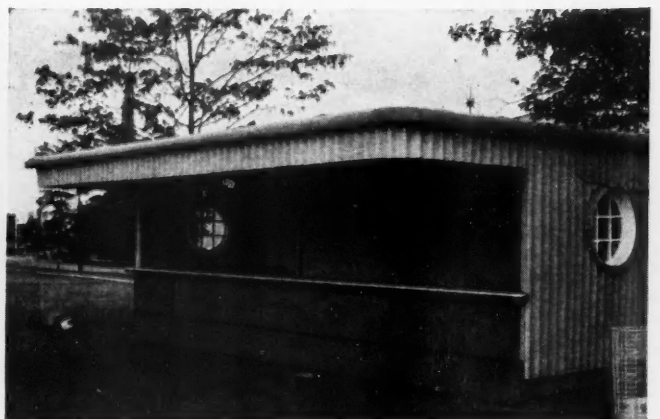
New Tubular Steel Scaffolding—  
Spread Footings—Resilient Deck  
and Floor Covering—Corrugated  
Sheets for Modern Hot Dog Stands.



APPLYING ASPHALT-IMPREGNATED Celotex floor tile on balcony of Administration Building. This product is being widely used for ramps, decks and other exposed floor areas.

are to be seen in use on the various Fair buildings.

Since many of the Fair buildings are on marshy land, spread type footings are extensively used. The camera man caught those for the Consumer's Building just as they were being covered over. Another interesting development is shown in the picture above in which a workman is laying the new asphalt-impregnated Celotex floor and deck covering. Thousands of feet of this product have been installed on ramps, decks, balconies and other exposed areas including a bridge floor behind the Administration Building. It provides a resilient waterproof surfacing that is economical to lay and will resist heavy traffic such as is expected at the Fair.



ONE OF THE attractive modern hot dog stands with stream-lined effect. Exterior walls are of corrugated sheets of composition material.



## Homes Detailed for Charm and Appeal

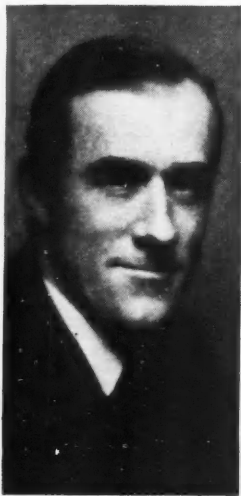
**To Have Wide Popular Appeal, More Than Efficient Planning and Sound Construction Should be Built Into a House Which Prospects Will be Considering as a Future Home. Interesting Details that Can Add Charm and Increase Salability Are Shown on Following Home Design Pages**



THE views above and to the right illustrate the attractiveness of setting, design and detail of Plymouth Haven, a community development described and pictured on the next four pages.

# "Plymouth Haven"

**Homeland Company Groups Well-Planned Small Homes About a Court, Featuring "Puritan" Setting, Historical Facts and Names**



CHARLES C. MULLALY

**B**Y GROUPING a number of attractive, white Colonial houses about a court, The Homeland Company of Yonkers, N.Y., established a quaint Colonial atmosphere that has proved a great sales help.

Charles C. Mullaly, well-known real estate man and builder, has here produced a "Puritan-like" community that capitalizes on the historic background of his location. The interesting historic items concerning this area have been featured. Advertising is built around a quaint Puritan figure and the copy talks about Plymouth and Puritan times.

Plymouth Haven, the name

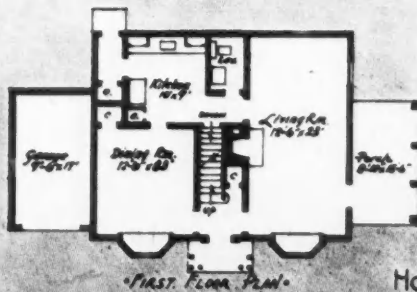
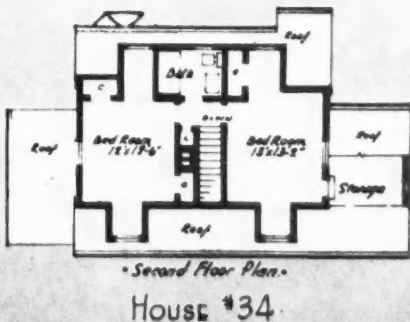
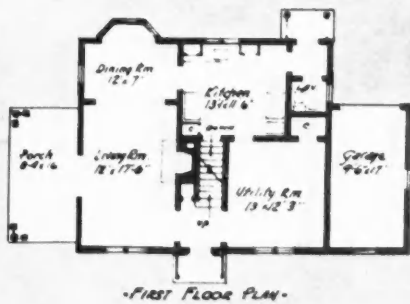
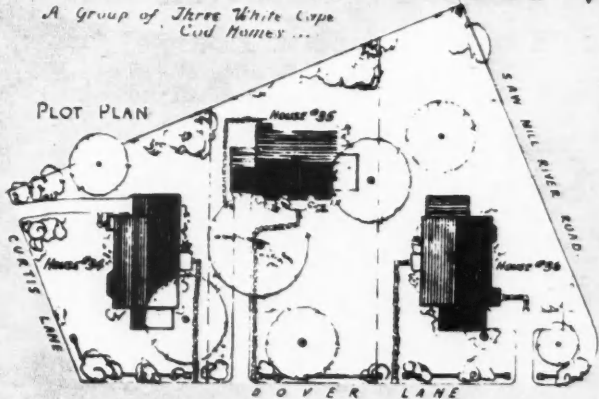
given Homeland's new community, is also excellent, and the houses have individual Colonial names, such as "Faith Brewster," "Betty Alden," "Anne Winthrop." Architect William E. Cain, of 2801 Pond Place, the Bronx, N.Y., has carried out the Colonial character of the designs in a most effective fashion. In addition to the Colonial woodwork, hardware, shutters and other features, he designed rain barrels, a quaint stone well and a wide rail fence that also contribute to the setting.

Quality specifications have been established by Mullaly, featuring such products as American Radiator boilers; Quiet Heat oil burners; Standard plumbing fixtures; Anaconda copper flashing, leaders and gutters, brass pipe; Celotex insulation and plaster base; Armstrong linoleum; Thibaut wallpaper; Unique sash and window balances; Chase Brass Colonial lighting fixtures.

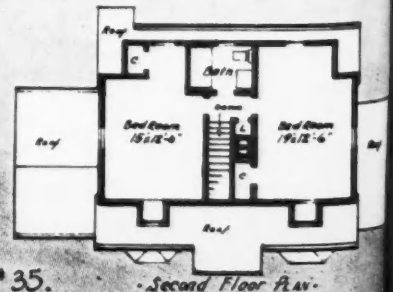
Trees on the site date back to Revolutionary days. One of the interesting promotional items arranged by Mullaly was a visit by neighboring school children to witness the tapping of the huge sugar maples. The

## .PLYMOUTH HAVEN

*A Group of Three White Cape Cod Homes ...*



House #35



cellent, such throp." ce, the cter of tion to other e well etting. ed by radiator mbing rutter, Arm- sh and xtures. y days. ged by dren to . The

teachers made a "lesson" of it and took a quantity of the sap to be boiled down to syrup. One of the older classes made pancakes to use the syrup!

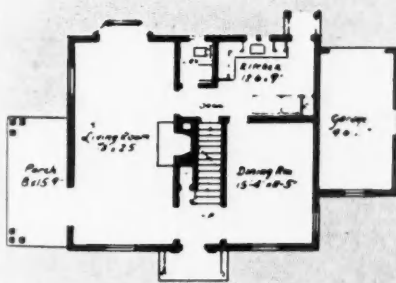
Charles Mullaly has conducted the affairs of The Homeland Company successfully through the boom days of the twenties and the lean days of the thirties and has, as a result, a sound knowledge tempered by experience. He disagrees with some of the current theories on low-cost housing. The Plymouth Haven homes cube from 16,000 to 19,000 feet, with prices ranging from \$7,950 to \$8,650—distinctly not "low-cost."

"Back in 1931 we had an interesting experience in

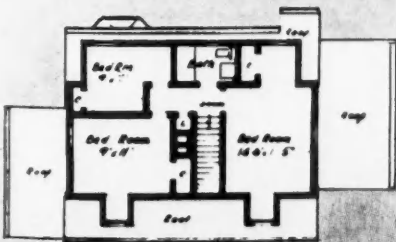
'low-cost' housing," Mullaly told *American Builder*. "That was before the nation became 'low-cost house conscious.' We were the first to try it in this locality. We built four and five-room houses to sell as low as \$3,950. They ran from that to \$5,500 and they were fine little houses. We learned something from that experience. We had six thousand people through No. 1 house priced at \$3,950, before we sold it. It was a better-by-far house than many offer today at \$5,000, but we learned that even people who could not afford that turned up their noses at it.

"So after watching carefully over the past few years

ABOVE: 3 white Colonials in a Puritan setting. RIGHT: 4 typical examples of small advertisements used by Homeland Company in connection with their Plymouth Haven homes. BELOW: Plot plan and individual floor plans of Plymouth Haven, showing how cleverly houses are fitted to site, each having convenient driveway and sidewalk.



First Floor Plan



Second Floor Plan  
House #36

**IN WESTCHESTER**

If Ye Seek Lodging Give Heed!

**HEAR YE!**

Pilgrims from New York City desiring a "new land" in which to settle down and live happily are invited to drop anchor in Plymouth Haven this week and inspect these attractive new 5 and 6 room homes. A small down payment plus a few shillings each month is all you need to own one of the Houses in this quaint colony within the Homefield community. Level and hillside plots are also available if you wish your home custom-built.

Write for FREE booklet #

**THE HOMELAND CO.**  
577 ODELL AVE. YONKERS, N. Y.  
SAWMILL PARKWAY AT ODELL AVE.

**IN WESTCHESTER**

**YOU NEED NOT BE**

**an EARLY SETTLER**

All the Indians are gone from the woods of Homefield surrounding picturesque Plymouth Haven. A colony of several hundred Pilgrims now live happily in this hundred in an unsettled neighborhood. Let us help you finance and build your home on a lot done as low as \$500 as we have done for other satisfied Homefielders.

Write for free booklet

**THE HOMELAND CO.**  
577 ODELL AVE. YONKERS, N. Y.  
SAWMILL PARKWAY AT ODELL AVE.

**PRESENTING Plymouth HAVEN**

This quaint colony within the Homefield community is now open for public inspection. These 5- and 6 room homes vividly portray old Plymouth and Priscilla. No finer homes can be built for the money than these. If you are planning to buy a home, make this your number one stop this weekend. It may be the only one.

**THE HOMELAND CO.**  
577 ODELL AVE. YONKERS, N. Y.  
SAWMILL PARKWAY AT ODELL AVE.

**IN WESTCHESTER**

**PURITAN HOMES for the MODERN PRISCILLA**

Priscilla was a prissy little Miss. She was fussy about the selection of the Plymouth colony location, and she was fussy about her choice of husbands. She didn't take the first thing that came along.

Plymouth Haven, a small colony of Early American 5 & 6 room homes in the Homefield community, would quickly on the pulse of the most critical Priscilla. Though smartly modern, these homes are quaintly provincial in design. Your inspection of these and other available properties is welcomed. Write for free booklet.

**THE HOMELAND CO.**  
577 ODELL AVE. YONKERS, N. Y.  
SAWMILL PARKWAY AT ODELL AVE.



ONE OF THE PLYMOUTH HAVEN homes; 6 rooms, 2 baths, attached garage; Floor Plans and Elevation, shown on page opposite. Each house in the group is named after a Colonial character, such as shown in the entrance detail below, named for Faith Brewster.



the attempts of others to meet the market, we decided to construct houses to appeal to families who desired housing that would stand up over the period of the mortgage and include the essentials for comfortable and modern living and not be just another group that in a few years we will point to as 'depression houses.'

AMERICAN BUILDER  
*The Cost* FIGURES  
FOR THIS HOUSE  
ON PAGE

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"To do so we could not hope to meet a price of \$5,000 and we knew it. Further than that, we believed and we are still convinced that the average purchaser in this locality has the intelligence to realize that there are one hundred cents in a dollar and no more and that he cannot hope to obtain, under average material and labor costs, individual housing that will be lastingly satisfactory at any such figure.

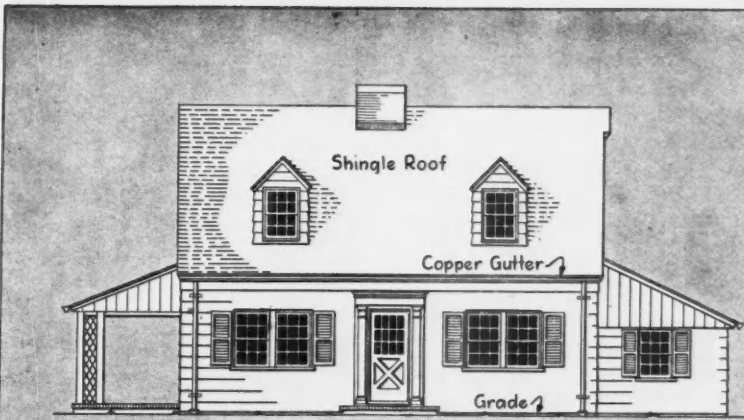
"Some will accept as a makeshift what can be produced for \$5,000 but I fear they will abandon these houses after a period, charging off their 10 percent down payment as additional rent. The first-mentioned group is not interested in having a home that hasn't insulation, a fireplace, a good lath and plaster job—even though it does bring several tons of water and sand into the house—at least a partial cellar, tile in the bathroom, a porch, a garage, and a rigid type of roofing.

"Those who can afford a home at all seem more willing to have this type of house, pay a little more for it, and have a larger equity in it, with a definite feeling of ownership rather than accept one more gift from or create one more obligation to Uncle Sam. I might add that these houses are selling readily."

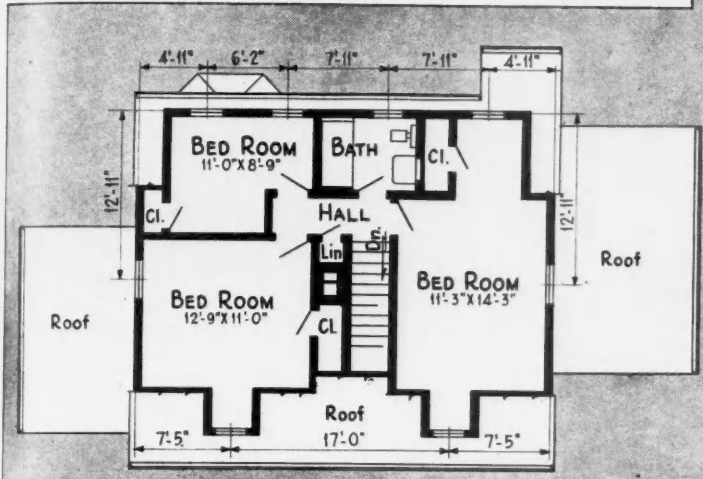
# Colonial Details

The Charm and Appeal of the Plymouth Haven Homes Are Due to Careful Detailing of Plans by Architect William Cain. Complete Details Shown Below Are Recommended for Careful Study

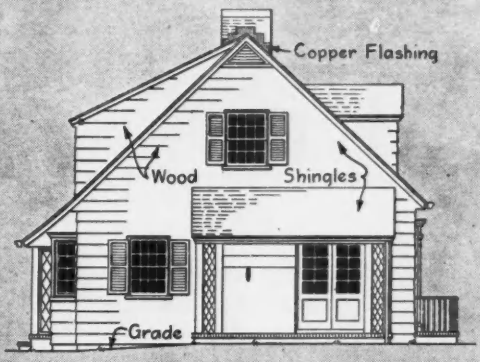
PHOTO OPPOSITE



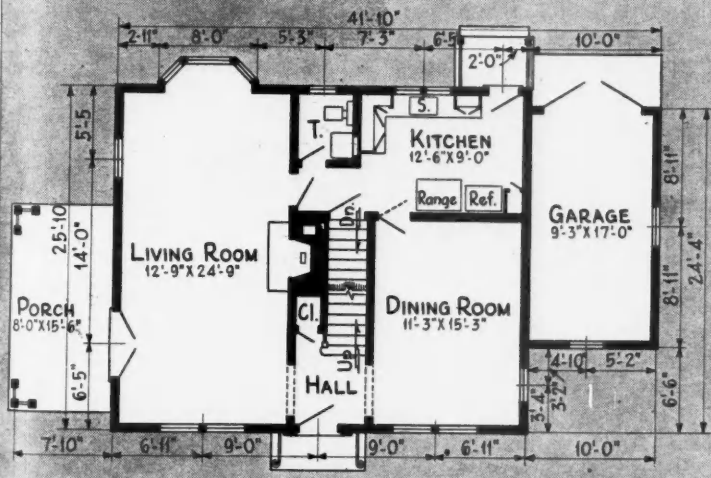
FRONT ELEVATION



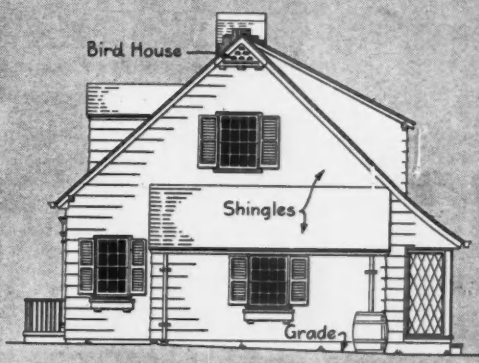
SECOND FLOOR PLAN



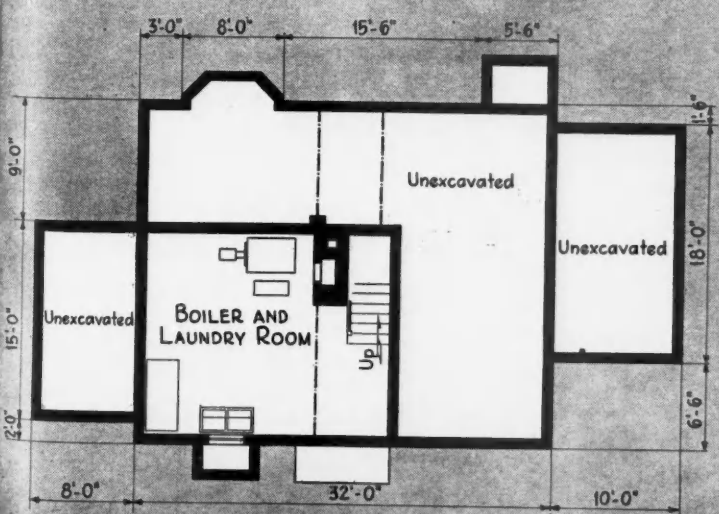
SOUTH ELEVATION



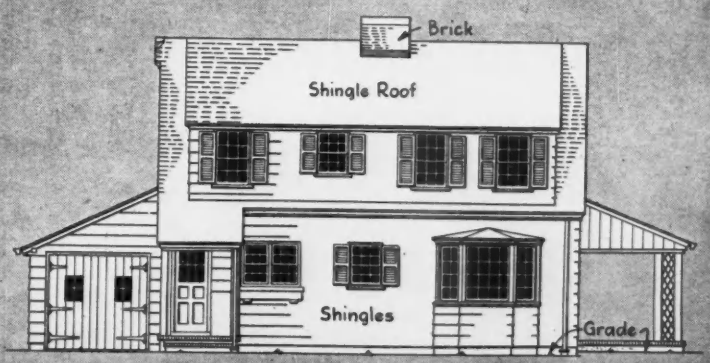
FIRST FLOOR PLAN



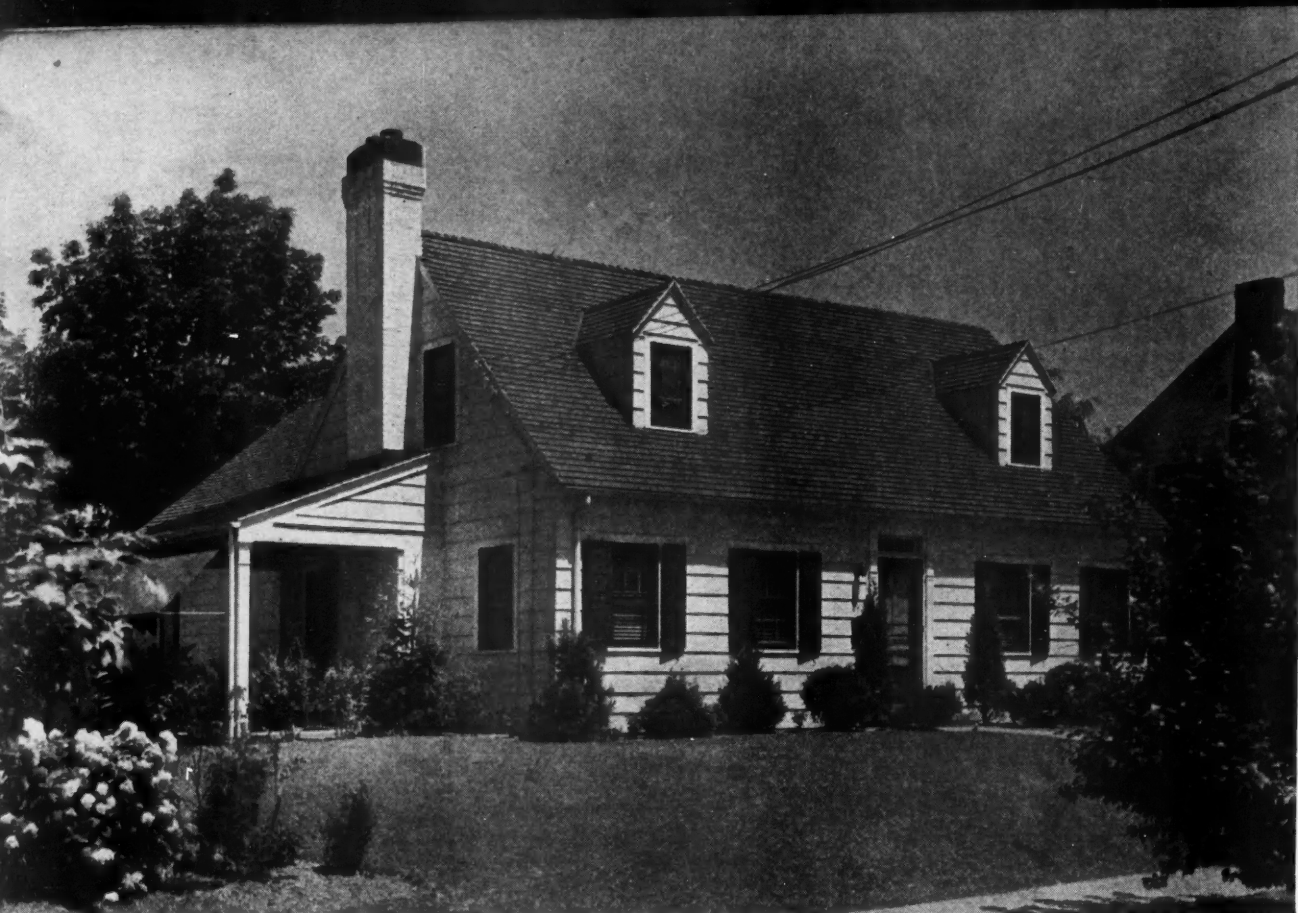
NORTH ELEVATION



BASEMENT PLAN



WEST ELEVATION

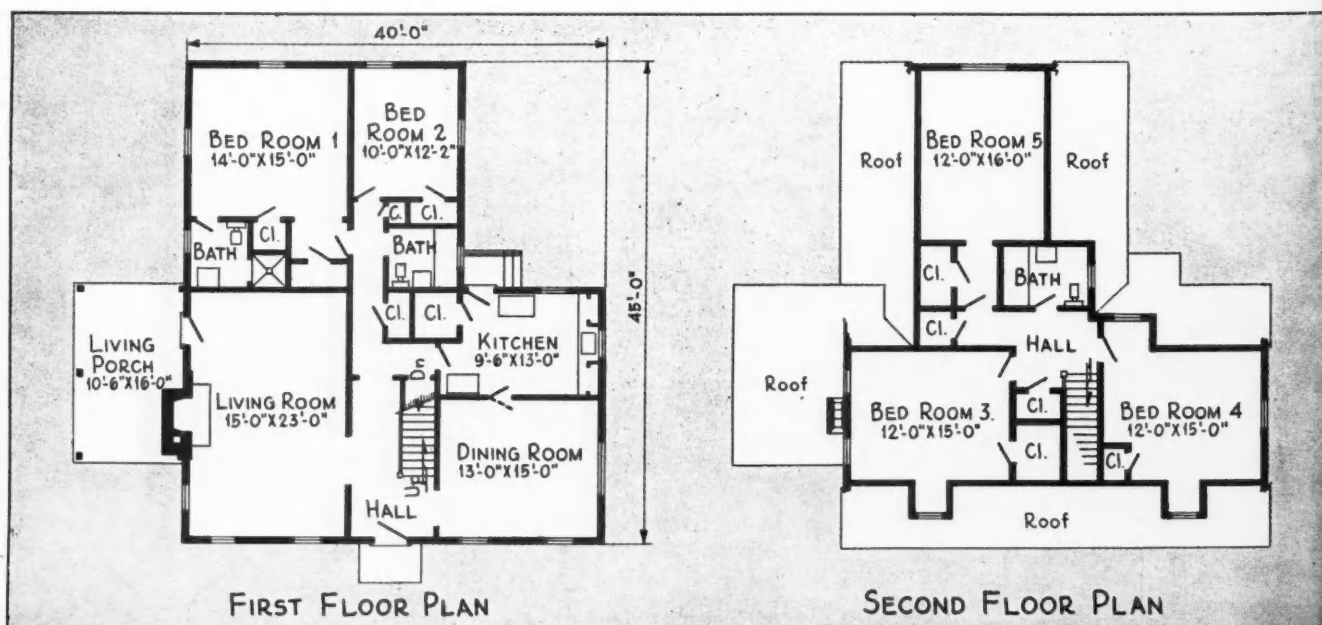


## 5 BEDROOMS—3 BATHS—CUBAGE 35,000

THE OWNER wanted a small-looking house from the street, yet with ample room inside. The result, pictured above, is a modest-looking home which has, however, 5 good bedrooms and 3 baths, as well as large living and dining rooms and ample closets. The house was designed by Architect Henry W. Johanson, and built by Contractor O. C. Olsen in Manhasset, L. I. Specifications include Armstrong kitchen floors, Sargent hardware, Arrow-Hart & Hegeman wiring devices, International Nickel sink, Libbey-Owens glass, U. S. Gypsum rockwool bat insulation, detached garage with Roway overhead doors, American Radiator heating system. The plans below show the compact 8-room arrangement.

AMERICAN CHINA  
*The Glass Figures*  
FOR THE HOUSES  
ON PAGE

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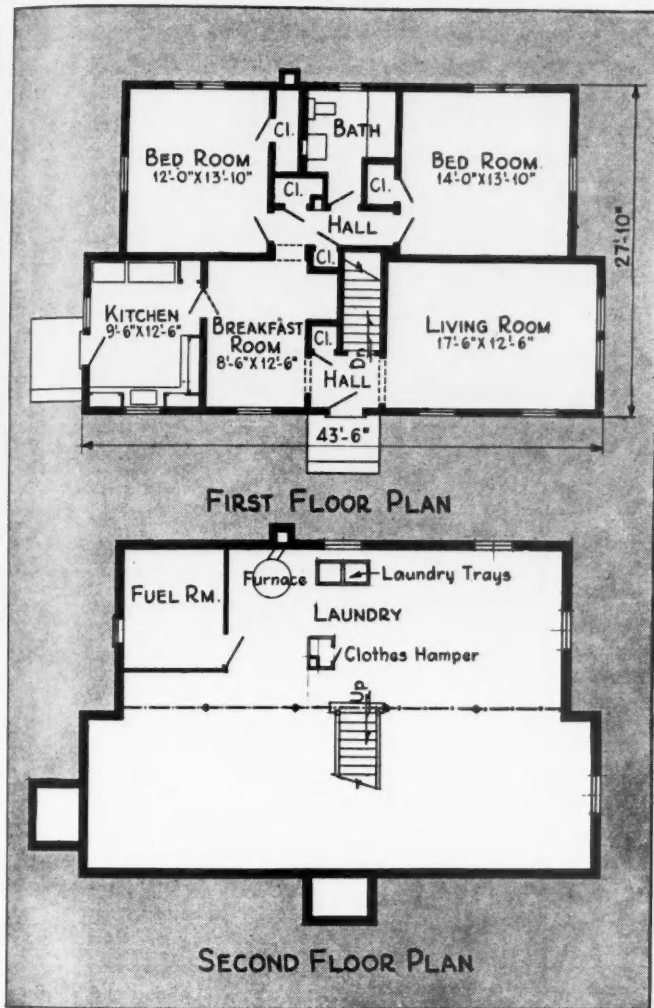




# A NEAT SHINGLED COTTAGE IN THE SUBURBS

**Built in Western Springs, Illinois, by  
Emil A. Hill, Builder, Maywood, Ill.  
R. H. Maiwurm, Oak Park, Ill., Architect**

A SHINGLED Colonial cottage such as this one with colorful exterior, neat white trim and picket railings appeals to many home lovers with small families. The two balanced wings extending to both sides give the front additional length without sacrificing compactness. A good-sized kitchen and breakfast room placed to the front is unusual in 5-room houses of this type, and allows the bedrooms to be located at the rear away from the street. Ample closets are provided; the large basement has plenty of space for a recreation room, laundry, heating plant, toilet and extra storage.

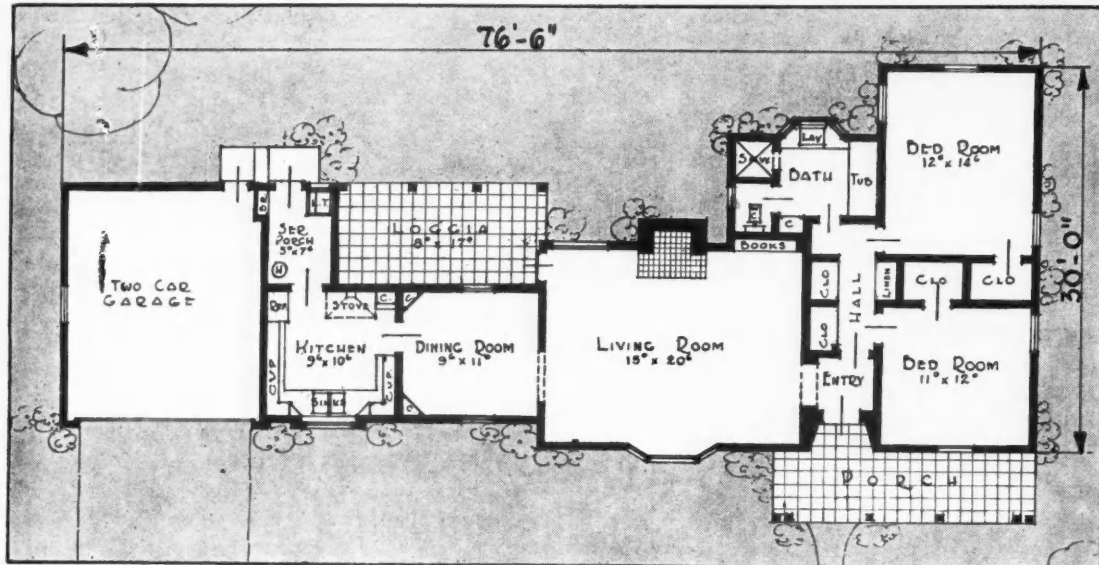


THE EXTERIOR walls are finished with gray Kolorite stained shingles set off with blue gray shutters and Certain-teed asphalt shingle roof of same color. Concrete foundation 10 inches thick and pre-shrunk lumber are points of quality. Other materials and equipment include copper gutters and downspouts, Armstrong linoleum and Linowall in bath, 1lg exhaust fan in kitchen, Kohler fixtures and Dowagiac winter conditioning system.



# 5-ROOM CALIFORNIA HOME ON HILLSIDE

A FEATURE of this house is that it is arranged to occupy a long, shallow lot without sacrificing convenience and sets against a hill slope. The garage is attractively designed as part of the house. Wm. Mellenthin, North Hollywood, was the builder; Leo F. Bachman, A.I.A., Los Angeles, the architect. Exterior walls are of stucco and Ponderosa pine finished with three coats of white lead and oil. A decorative wooden frieze, consisting of 1 x 12 pine boards V-grooved and painted golden yellow, is placed under the eaves. Window shutters are of Oregon pine and roof is redwood shingles. Cupola gives circulation inside.



AMERICAN BUILDER  
*The Costly FIGURES*  
FOR THESE HOUSES  
ON PAGE

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THE dining room above has wainscoting and attractive corner cupboards in natural finish pine. Standard plumbing fixtures in the tiled bathroom include a vanity lavatory recessed for direct lighting and a toilet in a separate stall. Heating is from a Monarch manual control floor furnace.



UNLIKE the proverbial shoemaker who did not take care of his own family's shoe needs, builders do take time out to erect their own homes. The one pictured at the right was built by W. E. Ramskill, construction superintendent for the firm of Wm. Rix & Co., designers and builders, Chicago. In plan the house is efficient with the seven rooms grouped for good access. Features are well lighted breakfast nook, secluded library with lavatory, doors leading from two rooms to rear terrace and center hall circulation. On the second floor there are three well planned bedrooms and five generous closets, one of these being cedar lined.

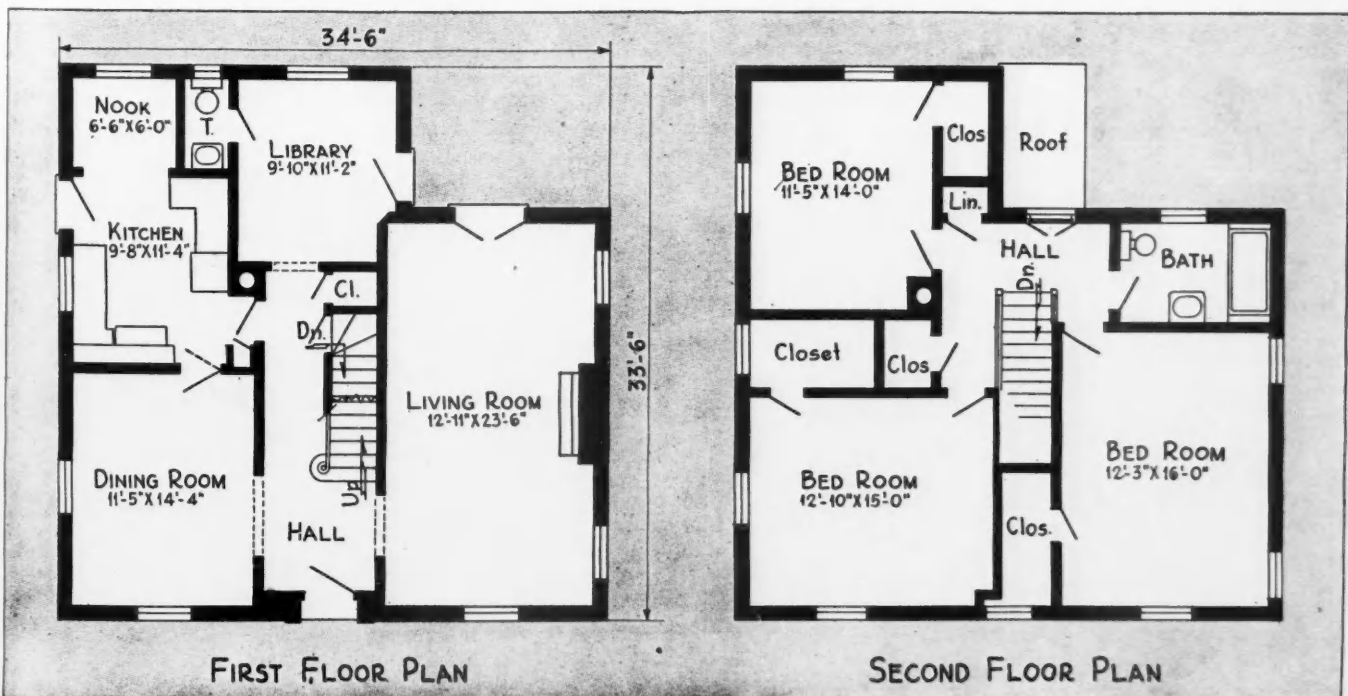


## A BUILDER'S OWN HOME

Designed and Built by Wm. Rix & Co.

THE MODIFIED French Norman styling of this house is carried out in unpainted "Autumntint" common brick veneer with Flintkote asphalt blue-black shingles laid over 30 lb. tarred felt. Foundation walls are 13" poured concrete on footings 24" x 10"; exposed concrete work given one good brush coat of white waterproof cement and outside foundation walls dampproofed with heavy coat of tar mopped on hot. Other construction items include: sills,

studs, posts, joists, and rafters all No. 1 fir, or No. 1 long leaf yellow pine; outside woodwork of clear, well seasoned redwood; sheet metal, No. 26 gauge Toncan rust-resisting galvanized iron. Finished floors, except Armstrong linoleum in kitchen and toilet room, are 13/16" x 2 1/4" clear red oak; interior trim is specially designed and mitred trim of birch assembled at mill; 1 3/4" doors. T & G knotty pine walls in den; in other rooms, U. S. Gypsum Rocklath with 3-coat plaster work; suspended clips in living room ceiling; tile floor and wainscot 4' high in bath. Ceiling area of second floor and all outside walls covered with four inches of U. S. Gypsum "Red Top" mineral wool; Bryant gas-fired warm air "winter air conditioning" heating.





THE McKay house at the left has all four bedrooms and two baths on the second floor as shown in plan below. The first floor contains living room, dining room, kitchen and pantry; a screened-in porch opens off the rear of the living room. The kitchen is planned so that there is no through traffic and arranged for line efficiency. Easy stairs lead up to a landing off which the maid's room is placed. All main rooms have cross ventilation.

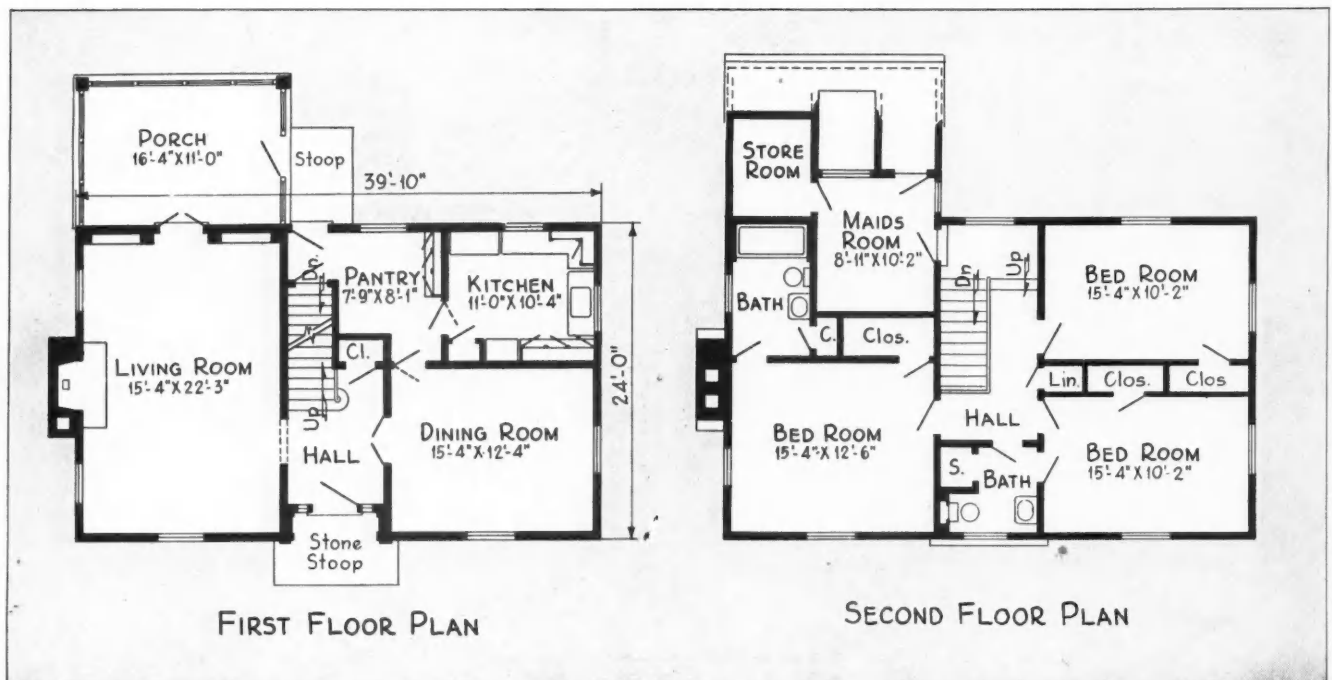
## MIDWESTERN BUILDER FEATURES HOMES WITH SPACIOUS

**Designed and Built by McKay Construction Company, Cedar Rapids, Iowa**

THE EXAMPLES of McKay's current planning and construction shown on these two pages indicate that in the "wide open spaces" homes are not cut down to squeeze out every possible bit of livable cubage. The seven-room designs above which are typical of this well known concern have the space necessary for gracious family life. Entrance halls are large enough to lend a welcome atmosphere; terraces and porches are provided for outdoor living. Fireplaces of good size and built-in bookcases bring to mind quiet winter evenings at home. Pantries, cupboards, closets and other areas assure sufficient storage

space. Like the efficiently planned U-shaped kitchens, the houses throughout are carefully laid out for maximum livability.

Exterior design is clean cut and well handled according to type. One is of the more formal Colonial style with recessed entrance in a balanced elevation. The plainness of white clapboard and wood shingles is offset by shuttered windows and decorative cornice. The other house presents an interesting contrast with rough laid brick chimney, trowel marked stucco, shingles laid with irregular butt line and steel casement sash.





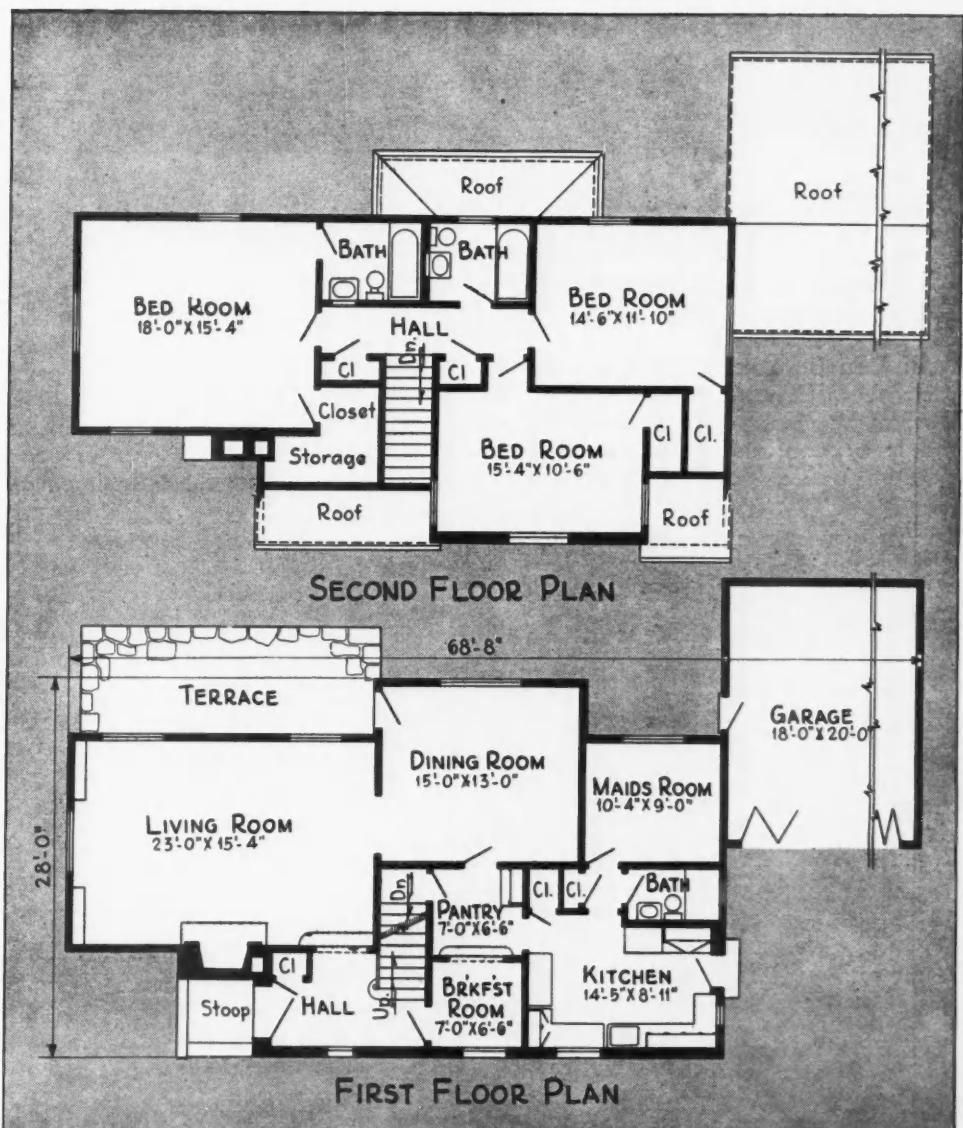
INTERIORS, EFFICIENT KITCHENS AND GOOD STYLING

AMERICAN BUILDER  
*The Cost* FIGURES  
 FOR THESE HOUSES  
 ON PAGE

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ENTRANCE hall and breakfast room in this house are two steps up from the main portion which consists of large living room, dining room, maid's room and bath, kitchen, pantry and attached garage. Upstairs there are three bedrooms with good window placement and two baths, one off the master bedroom. Principal rooms overlook the broad expanse of yard to the rear; a door from the dining room opens onto a flagstone terrace. The large living room fireplace has a Bedford stone face and tile hearth; built-in book shelves flank the end window of this room.

Designed and Built by McKay Construction Company, Cedar Rapids, Iowa

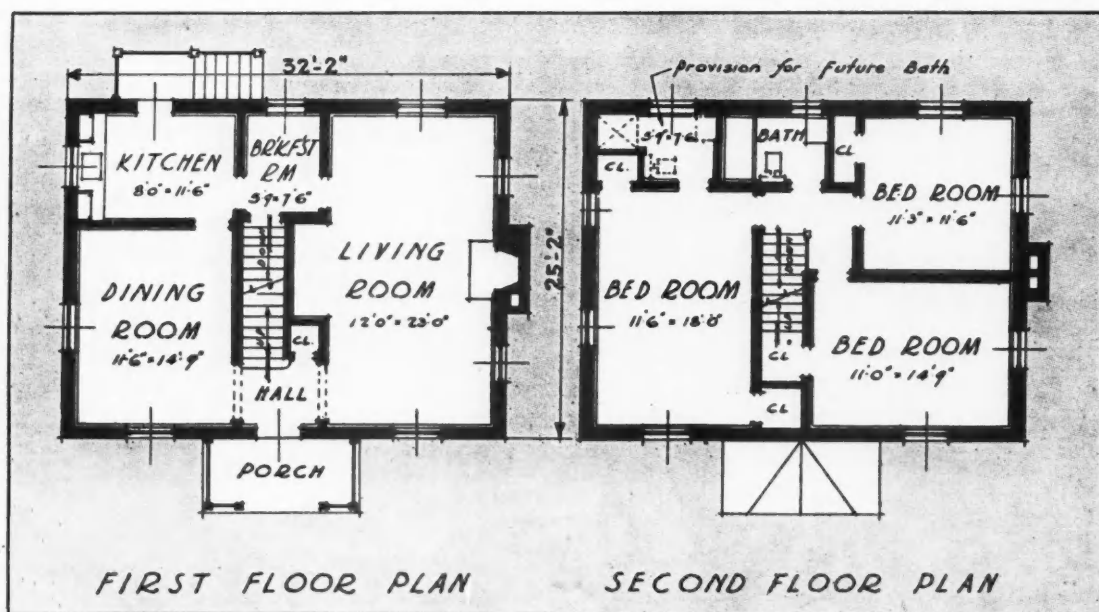




## NORTHWOOD HOMES—3 EXTERIORS FOR ONE PLAN

JOHN A. AHLERS, architect for The Roland Park Company of Baltimore, planned the accompanying houses as part of a group of 10 medium-priced homes for the firm's Northwood Development. They were built by The F. E. Wurzbacher Corporation. The basic plan, shown below, provides spacious, well ventilated rooms, ample closets and many comforts for houses enclosing a fairly small cubage. The exteriors have been varied in an interesting

fashion so that the average person would not know the floor plans are identical. Houses are equipped with winter air-conditioning system. An interesting feature of the plan is the space provided on the second floor for an additional bathroom. Rough piping has been installed so that the additional fixtures can be added at any time at low cost. Another good feature is the attic stair leading from one of bedroom closets, providing permanent access.

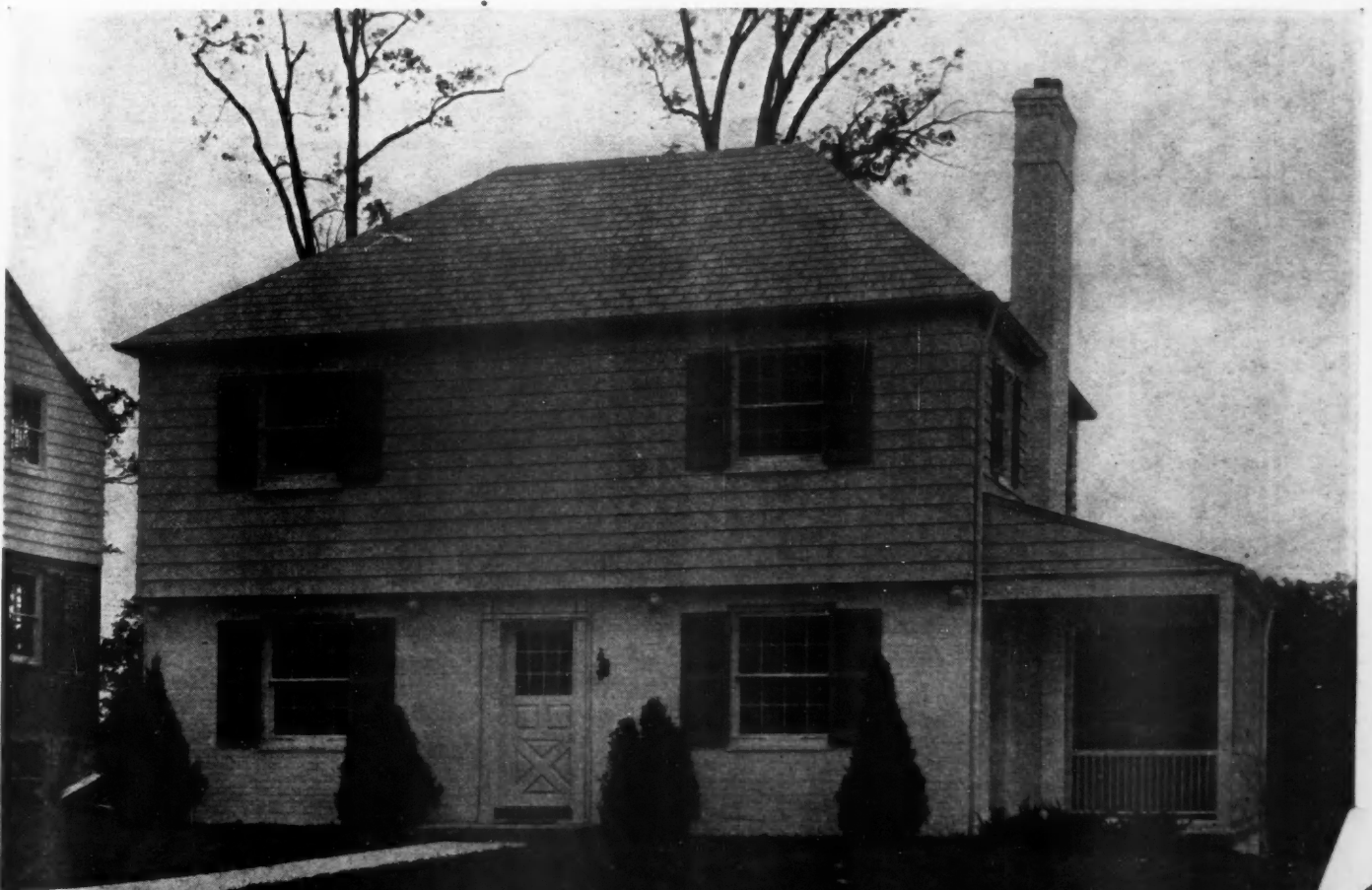


AMERICAN BUILDER  
*Precast* FIGURES  
 FOR THIS HOUSE  
 ON PAGE



TWO ADDITIONAL DESIGNS for the Baltimore floor plan illustrated on opposite page. The houses have slate roofs; full basements, with maid's toilet; copper screens; woodburning fireplaces. The living rooms are large and well proportioned.

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AMERICAN BUILDER  
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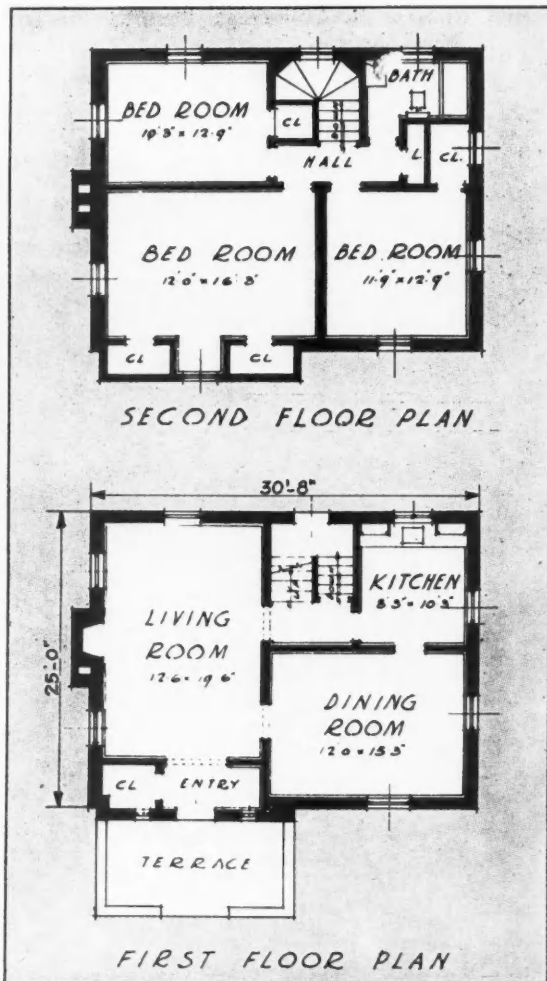
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COMPACT brick home in Northwood development of Roland Park Company, Baltimore, designed by John A. Ahlers, architect; built by F. B. Wurzbacher Corporation.



## SIDE ENTRY—NORTHWOOD

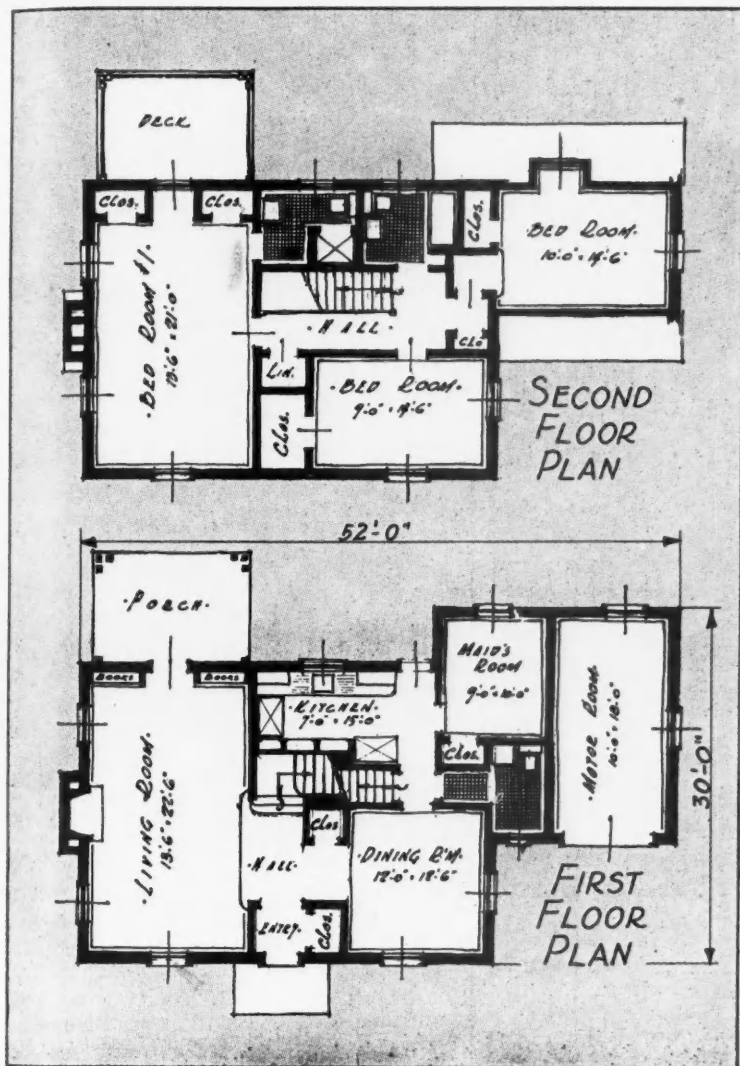
AS A VARIATION in the plan of a group of 10 houses in Northwood, a development of The Roland Park Company in Baltimore, Md., Architect John A. Ahlers designed this side-entrance Colonial. The basic foundation size is almost exactly the same as other houses in the group, but a variation in exterior appearance is made by moving the entrance to one side and placing the stairs at the rear between living room and kitchen. All of the rooms in this house have excellent light and cross ventilation. There are ample closets, and the arrangement is efficient and practical. Equipment features winter air-conditioning, with oil burner; slate roof; full basement; attractive stone terraces; modern kitchen.





# 7-ROOM HOME WITH 2½ BATHS ARRANGED IN A 4-LEVEL PLAN

Built in Riverside, Ill., by  
Home Builders Co. of Chicago

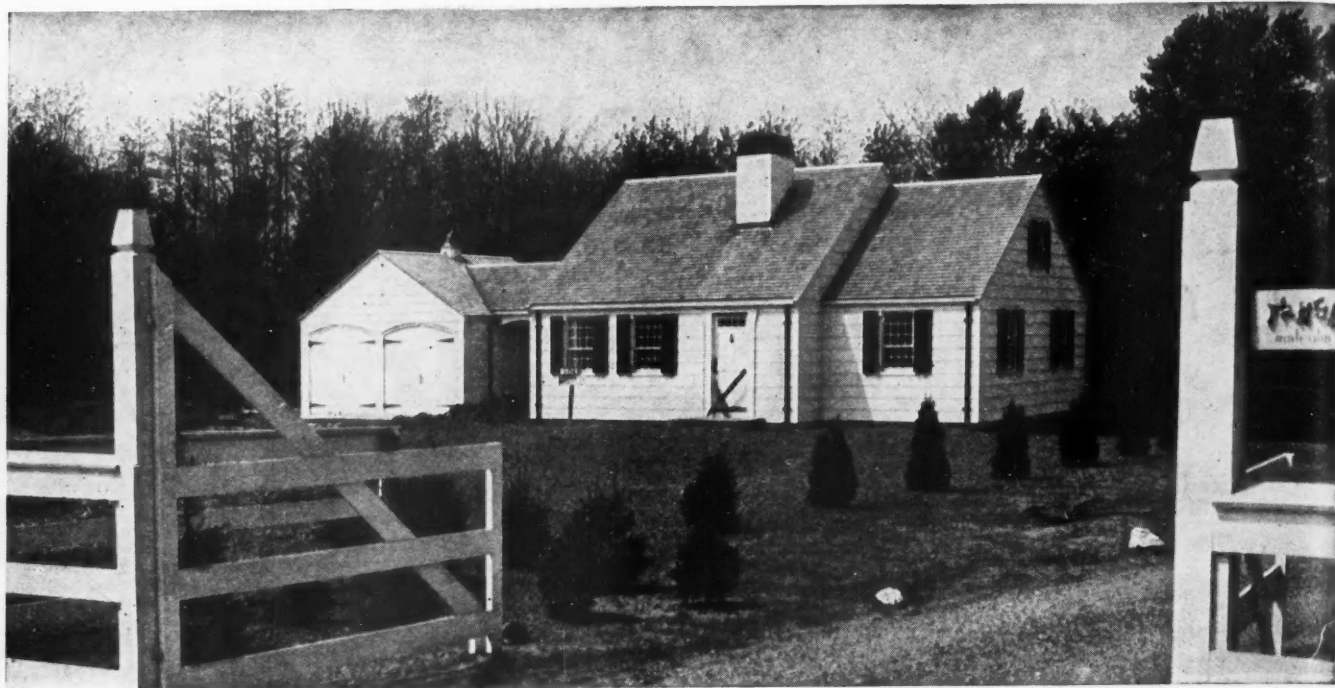


FROM the exterior view below, the true size and arrangement of this house are not evident. The plan indicates the way in which rooms are arranged on four levels with the living room down one step from the hall for greater ceiling height and one bedroom a step down over the attached garage. A maid's room is placed directly off the kitchen, near both rear entrance and first floor lavatory. On the second floor baths are economically grouped over the kitchen.

COLONIAL detailing is handled in a pleasing manner. The exterior is painted common brick below and clapboard above. Roof is of unstained cedar shingles. Fenestra steel casements are used in all window openings; the garage door is equipped with Barber-Coleman hardware. Linoleum is used on floors and walls of the baths and the kitchen. Heating is with a gas-fired Niagara forced air system.



AMERICAN BUILDER  
The Cost FIGURES  
FOR THIS HOUSE  
ON PAGE



A NEW high in country home charm is reached by this gemlike New England Colonial shown above which is set back 100 feet from the road behind a trim fence.

## Fine Small Homes in the

Semi-suburban, Rural and Country Homes Such as These

THE photographs and plans above are dramatic evidence of the progress at least one builder has made in building and selling homes in the country. The builder is Wallace B. Goodwin of Elmwood, Conn., a suburb of Hartford, and these houses which he calls "small country estates" are located in his latest development, Woodridge. They are designed by Architect Norris F. Prentice.

Goodwin is a pioneer in New England in the country-estate idea. He has fought to get financing on equal terms for country houses with those built in the cities. Passage of the new 1938 FHA amendments should prove a victory for him, as the new Act specifically includes financing of homes in semisuburban, rural and country areas.

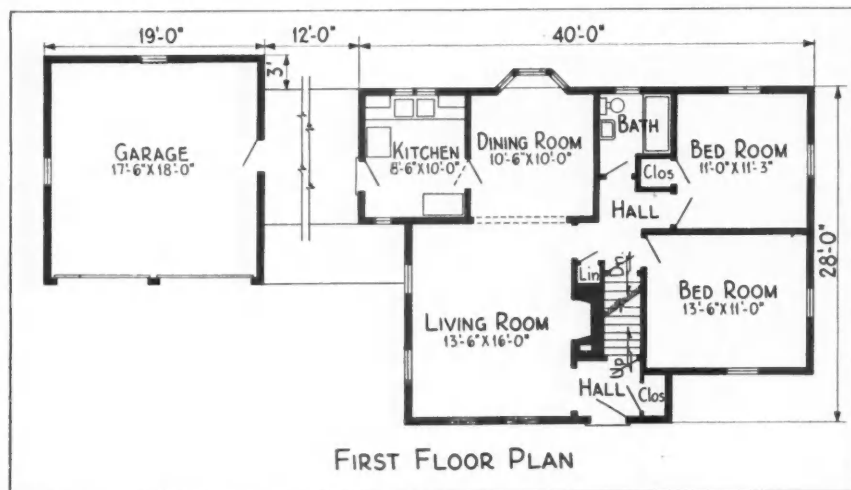
"Invariably, when a man of means and individuality builds a home, he goes out into the country, buys a good-

sized piece of land and puts up a fine home costing from \$25,000 up," declares Goodwin.

"I believe that outlying land, with the natural beauty of rolling fields, woods, a small lake or a brook, can be developed into small country estates with houses in the \$10,000 to \$12,000 class.

"Such houses must be carefully designed and built to fit the rural countryside and they must be thoroughly modern and fully equipped for former city-apartment dwellers."

Goodwin has amply proved his theory, and this is his third project in the last three years. A 125-foot deep Artesian well with 1500-gallon pressure tank and automatic electric pump supplies water for the six small estates in Woodridge. Houses are set 100 feet back on large plots of ground, screened from the road by a Colonial rail fence and attractive trees and shrubbery.



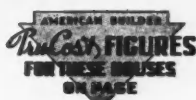
ARCHITECT NORRIS F. PRENTICE, co-operating closely with Developer Goodwin, gives his country homes a Colonial charm that is very popular. Floor plan at left shows a compact arrangement in a small house whose size is increased by the garage with covered areaway. There is a bunk-room on second floor and attractive recreation room in basement.

FLOOR PLAN of salt-box Colonial, at right, features attractive entrance stairs with open landing off the large bedroom. Wood shed and garage are attached. A fine recreation room opening on terrace is provided.



## s in the Country

Can Now be Financed under FHA

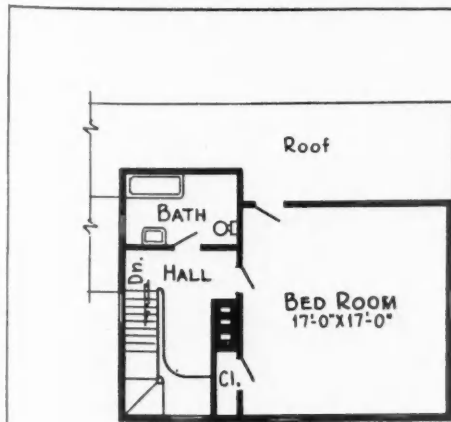
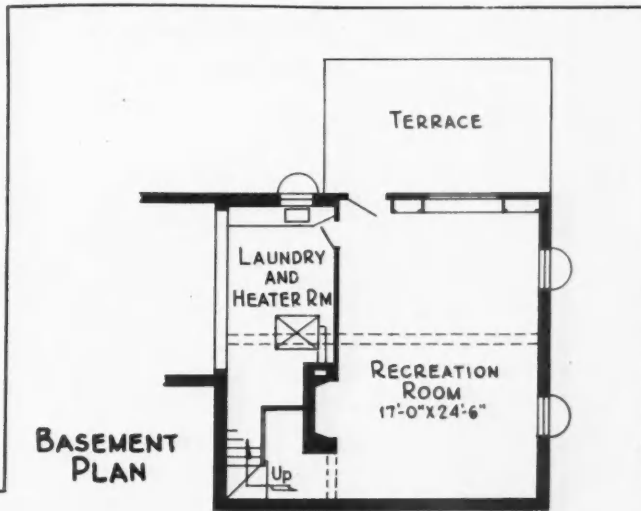


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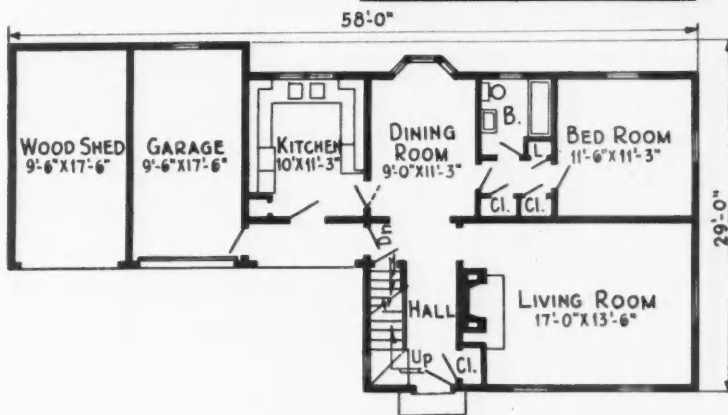
PAINTED a deep red, and screened from the street by a white rail fence, this New England, salt-box type, country home has all modern conveniences but retains all the old-time charm of Colonial days.

The houses themselves are designed by Architect Prentice with great appreciation for the historical New England architecture. Yet they are fully modern in their equipment, with every possible comfort provided. To make sure the character of the development is protected, Goodwin insists on selling the properties complete with the house fully decorated and ready to move into. He sells no vacant land.

Included in the equipment of the Woodridge homes are Lennox air conditioning; Balsam-Wool blanket insulation; Bruce random-width oak flooring, pegged and stained; Morgan mitred trim; brass piping; Standard plumbing fixtures; General Electric refrigerator and range; Armstrong yellow linoleum kitchen floors with insert; pecky-cypress recreation room walls; Colonial fireplaces with mantels and wood cupboards, and pine-paneled living rooms in Colonial style.



SECOND FLOOR PLAN



FIRST FLOOR PLAN

# True Cost Figures for American Builder Homes

HOME DESIGNS ON PAGES AS NUMBERED

Unit of Construction	Sept., 44	Sept., 46	Sept., 47	Sept., 48	Sept., 49	Sept., 50
Basement Walls, lin. ft.	120	170	143	191	136	132
Trench Walls, lin. ft.	83	44	32	105	0	38
Basement Floor, sq. ft.	848	1506	1058	0	1048	958
Garage Floor, sq. ft.	180	0	0	320	0	0
Excavation per ft. deep, cu. yds.	37	65	46	0	44	43
Holt Rate on following items	1.687	2.272	1.123	1.680	1.774	1.860
Outside Walls, squares	20.4	23.5	14.0	21.8	23.1	26.0
First Floor, squares	8.5	15.1	10.6	12.1	10.5	9.6
Second Floor, with Fin. Flg., sqs.	6.5	8.8	0	0	10.0	10.3
Second Floor, without Fin. Flg., sqs.	1.2	6.3	0	0	0	1.0
Ceiling, sqs.	8.5	15.1	10.6	12.1	10.5	10.3
Roof Pitch, ins. rise per ft. run	11½"	14"	6"	3"	10"	10"
Roof, squares	14.4	24.4	12.6	19.8	14.5	15.7
Hips & Valleys, lin. ft.	24	65	84	30	147	0
Cornice, type and size of	C&F-264	C&F-155	C&F-152	C&F-104	C&F-154	C&F-198
Cornice, lin. ft.	0	8"-92	0	12"-164	0	0
Partition, lin. ft.	191	335	158	151	213	227
Inside Finish OS Walls, lin. ft.	232	238	143	191	272	270
Front & OS French Doors, opgs.	2	2	1	2	4	3
Rear & Grade Doors, opgs.	1	1	1	2	1	1
Garage Doors 8 ft. wide	1	0	0	2	0	0
Inside Doors & Cased Opgs., opgs.	15	26	13	14	17	19
Windows & Casements, opgs.	22	23	14	18	19	20
Gable Sash & Louvers, opgs.	0	0	0	3	0	0
Chimney, lin. ft.	32	34	27	16	36	38
Main Stairs	1	1	0	0	1	1
Porch Floor, sqs.	1.4	1.8	0	2.6	0	1.8
Porch Ceiling, sqs.	1.4	1.8	0	2.6	0	0
Porch Beam, lin. ft.	45	44	0	52	0	38
Porch & Bal. Post & Newels, No.	8	4	0	10	0	2
Porch Roof, sqs.	1.9	2.2	0	3.4	0	0
Porch Cornice, lin. ft.	50	44	0	20	0	0
Porch & Deck Rail, lin. ft.	0	0	0	0	0	38

Unit of Construction	Sept., 51	Sept., 52	Sept., 54	Sept., 55	Sept., 56	Sept., 57	Aug., 38
Basement Walls, lin. ft.	217	114	113	144	140	136	180
Trench Walls, lin. ft.	116	0	0	72	76	81	60
Basement Floor, sq. ft.	1164	809	776	1008	1016	860	1531
Garage Floor, sq. ft.	370	0	0	190	351	370	361
Excavation per ft. deep, cu. yds.	60	33	32	48	48	44	68
Holt Rate on following items	2.341	1.510	1.496	2.083	1.498	1.466	2.355
Outside Walls, squares	34.3	21.1	21.4	27.2	23.9	22.0	32.3
First Floor, squares	11.6	8.1	7.8	10.1	10.2	8.6	15.3
Second Floor, with Fin. Flg., sqs.	10.2	8.1	8.1	10.4	0	5.5	5.5
Second Floor, without Fin. Flg., sqs.	.8	0	0	1.6	0	1.8	1.7
Ceiling, sqs.	15.3	8.1	8.1	12.0	10.2	8.6	15.3
Roof Pitch, ins. rise per ft. run	14"	10"	12"	12"	8"-10"	10"	10"
Roof, squares	23.6	11.6	12.4	18.5	19.4	17.8	28.6
Hips and Valleys, lin. ft.	70	88	96	40	20	0	110
Cornice, type and size of	C&F-190	6"-118	C&F-146	C&F-190	C&F-170	C&F-210	C&F-164
Cornice, lin. ft.	8"-132	0	0	0	0	0	12"-216
Partition, lin. ft.	258	170	181	272	128	114	247
Inside Finish OS Walls, lin. ft.	406	228	230	290	140	132	308
Front & OS French Doors, opgs.	4	1	1	2	1	1	2
Rear & Grade Doors, opgs.	2	1	1	1	2	3	2
Garage Doors 8 ft. wide	2	0	0	1	2	1	2
Inside Doors & Casement Opgs., opgs.	24	16	16	21	12	15	21
Windows & Casements, opgs.	20	17	18	20	15	19	20
Gable Sash & Louvers, opgs.	0	0	1	1	4	0	2
Chimney, lin. ft.	35	36	38	37	31	32	35
Main Stairs	1	1	1	1	0	1	1
Porch Floor, sqs.	0	.7	0	1.3	1.3	.4	1.4
Porch Ceilings, sqs.	0	.7	0	1.3	1.3	.4	1.4
Porch Beam, lin. ft.	0	24	0	33	24	10	25
Porch & Bal. Post & Newels, No.	0	5	0	14	0	0	23
Porch Roof, sqs.	0	.9	0	1.5	1.7	0	0
Porch Cornice, lin. ft.	0	28	0	36	24	0	0
Porch & Deck Rail, lin. ft.	0	0	0	33	0	0	60

## Necessary Home Equipment, Fixtures, Accessories, Extras

Since the above surveyed items cover only the actual superstructure of the house, you should figure and add the following items as specified or wanted:  
 Acreways, Celler Sash, Coal Chute, Basement Partitions & Doors, Attic Flooring, Attic Stairs, Blinds, Gutters & Downspouts, Fireplaces, Built-In Cabinets, Rail & Newels for Stairs and Stair Well.

Beamed Ceiling, Weatherstrips, Tile Work, Plumbing, Heating & Air Conditioning, Lighting, Terraces, Patio Walls or Fences, Sidewalks including Porch Steps, Driveways, Unattached Garages. Also add for painting and decorating if not included in Unit Costs.

Finally, in totaling your TruCost figures, don't forget to include OVERHEAD AND PROFIT.



For TruCost Estimating Figures on All Home Designs in this Magazine see tables on pages 58 & 59.

## TruCost Brings Order out of Chaos

### A. W. HOLT Tells How Really to Save Time on Estimating with the TruCost System

IT WAS gratifying indeed to find that most of the dealers and contractors in the cities and larger villages that I have visited in the past month are making real use of "TruCost." Besides being a great aid in selling homes, all told me that it already had saved them many hours of night-work, thereby enabling them to have their evenings with their family and friends. But the best case I learned of was in a small town in Minnesota—in this way:

The dealer was a middle-aged man who for about twenty years had been taking the list of materials off the plans for his contractors. He always did this after hours because he could not do such work and wait on customers at the same time without "losing count," as he put it. He could figure the footage and make the price extensions between interruptions the next day; but he always made his quantity surveys at night or on Sundays. And, as most old-timers know, many of those houses were never built or had to be refigured because of changes. When I interrupted and asked him if he had any idea as to how much time he had wasted on jobs that were never built, he replied:

"Well, if I have averaged only ten houses each year, I've figured at least 200 jobs that were never built. I call it a day's job to do this, from the time I take a set of plans and list everything, extend the footage, price and figure each item, check, add and finally get the price for my customer, whether contractor or owner. That will make 200 days wasted or about two thirds of a year. What a

vacation that would make! No wonder I say a silent prayer that the job will be built whenever I start listing the materials for a house."

Think what one could learn in eight hours of study ten times each year for 20 years. And its no harder to study than it is to concentrate on a plan and make an accurate list of materials required. That should be reason enough for everyone in this building industry to adopt time-and-work-saving methods, especially in the most important phase of every business—the sales end. That's why, with perhaps only five or ten years more activity before him, that middle-aged dealer continued his story:

"But I'm through praying along that line now. My prayer from now on will be for jobs to figure that MIGHT be built. The only way I could find out if I could make a sale has been to exert every effort to do so. That meant that I had to get away from the price per thousand and quote on the complete job, or rather, on my part of the job.

"I have always gotten more than my share of the business because I *sell by serving*. And every contractor I have ever dealt with has remained loyal to me because of the service I give to *help him* sell jobs. Why shouldn't I figure my share of these contractor jobs—or all materials—just as the plumber does, or the heating man, and the electrician and others? And since they always quote a guaranteed price for *their share* of a job, why shouldn't I do the same? That is why I have been guaranteeing to furnish all materials so all that Mr. Contractor has to do is to get his various sub-bids together and add his labor and profit and sell the job. We all do our part and work together so we all make money and get along fine."

That dealer has proved what I have always contended; and that is, that co-operation of all in the building industry who are involved in the completion of a home, PLUS FAITH IN ONE ANOTHER, cannot fail to give the public utmost value for their building dollar. Everyone wants a reasonable profit on his share of a job so why should anyone want one of his PARTNERS on a job to do his part at cost? Every one should have confidence in those from whom he buys just the same as he expects the confidence of his customers or clients. Confidence is the basis of all good business deals and worth-while industry men are too proud to make price the governing factor of a sale.

When I asked that dealer how his contractors figured labor he stated that they had been either guessing at it by comparison with completed jobs or adding a certain percentage of the material cost. "But," he said, "both of the contractors we have here have already established their labor costs on the basis of TruCost units, as was suggested in your original article (page 60 of May issue) because they fully realize that this is truly a scientific system of estimating building costs. This is how one of them happened to do this:

"Shortly after I got to the office one morning this contractor came in with a plan of a house and had to have a price as soon as possible. I told him I could not have it for him until the next day—that I would figure it that night. We went over the plan a few minutes and then he left it with me. When I got the mail I found the May issue and noticed the 'TruCost' announcement on the cover. I immediately looked for it and glanced at the tables given per square of walls, floors, roofs, etc. Just as soon as I could I read that whole article. It all seemed so simple that I decided immediately to try it out on this job I had to figure. It so happened that there was a house in that May issue that was very similar to the one he wanted a price on; so, after I had figured my local unit costs for materials, I figured that house by simply multiplying by the squares you gave for it. I wanted that to check my areas for this other house."

#### Easy to Establish Local Unit Costs

"Did you do all that during the day or after supper?" I asked and his face beamed with enthusiasm when he replied:

"I lined up the whole works BETWEEN TIMES during the day. I could do so and still wait on customers because each unit is a job in itself. Even if I had only the framing and sheathing figured for the walls when interrupted, I could immediately carry on and complete it without checking back. Those tables you gave in this (May) issue are so simple and yet so complete. Anyone who knows anything at all about estimating can use them without studying a lot of directions. I simply took a few blank pages for this loose-leaf price book of mine and worked out my costs as you showed by this cut (Fig. 2 on page 62 of May issue) and now I have my price book complete."

"How much time do you suppose you spent altogether in establishing your local unit costs?" I asked and, after a little thought, he replied:

"It couldn't have been more than two hours. I did not start until almost noon, but I took only 30 minutes for lunch because I was so anxious to get all my costs lined up and try it out. I was just as enthusiastic as a kid with a new toy and I wanted to get it 'put together' so I could 'play' with it. About 4 o'clock I figured this house (page 49 of May issue) and it only took a few minutes to figure it. It's just like multiplying 2 by 2 a few times and then adding it up."

Think of it, a couple hours of SPARE TIME work and that dealer was all set to cash in on *TruCost*. He did so that same afternoon too for he told that he started right in figuring the areas of the walls, floor, etc., from the plans which his contractor left with him. Interruptions did not bother on that kind of work because he could scale everything from the plans. Each unit of a house is a complete job in itself when *TruCosting*, the same as the various component parts of an automobile or any other manufactured article. Manufacturers who do not use scientific methods for determining their costs usually go broke just the same as contractors who use hit-and-miss methods.

#### TruCost is Practically Foolproof

*TruCost* is the most scientific and systematic method of estimating that is available. It is practically fool-proof and will be a great time-saver for anyone who will use it, just as it was for that small-town dealer who didn't mean maybe when he concluded by saying:

"I'll never make another list of material to sell a house or any other building so long as I live. I've wasted enough time that way and worn myself out with night-work for the last time. I phoned my wife that I'd be a little late for supper but when I went home that first day, I had the plans and all of my figures in my pocket. I was ready to quote on MY SHARE of that job.

"I phoned my contractor friend that I'd be over to see him and after supper my wife and I went over. He was smoking his pipe and looking through his copy of the May issue. Then I showed him my unit costs and how I had figured the materials by *TruCost* for the plan he had to quote on. We spent a most enjoyable evening talking about this *TruCost* system and, what's more,—we worked out his labor costs for each unit of construction.

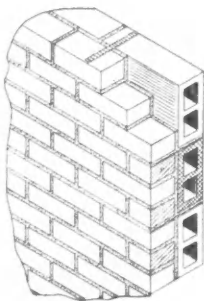
His judgment was all we had to go by but he is now keeping a record of actual time spent on the wall framing, floor joists and girders, sheathing and each OPERATION so that he will soon REALLY KNOW HIS LABOR COSTS."

Needless to say that such genuine appreciation of my efforts REALLY TO SERVE everyone in this building industry for the past 19 years made me want to DO MORE AND MORE to bring order out of chaos and supplant the old hit-and-miss and man-killing estimating methods with scientific, systematic, time-saving and sales-making methods. I might add that I am through trying to CONVERT the self-satisfied, Doubting-Thomases and my entire efforts will be directed to those who are sufficiently interested in their own welfare to HELP THEMSELVES TO SUCCESS by refusing to make a list of material until the job is sold and a "Delivery List" is required.

#### Unit Costs of Tile and Brick and Tile

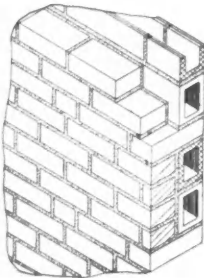
Full information was given on pages 50 and 51 of the August issue for figuring brick with a few basic tables to "start you out" with your own book of building cost facts. The same principles that govern brick costs apply to tile. And the tile for brick and tile walls is best figured by the simple "ratio and proportion" phase of simple arithmetic, as follows:

Referring to the first table on next page, which is for 8" Brick and Tile Wall with 4" x 8" x 12" tile to back up face brick with metal ties every third course. Each of these tile is equivalent to 3 brick high and 1½ brick long. Therefore 1 tile will be required for every 4.5 brick. Dividing 616 brick per square by 4.5 gives 137 tile required



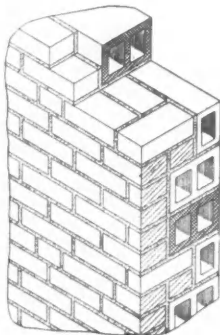
**8" BRICK & TILE WALL**  
Face brick backed with 4" x 8" x 12" tile on edge with metal ties every third brick course.

**MATERIALS PER SQUARE**  
616 Face Brick  
137 4x8x12 tile  
50 wall ties  
14 cu. ft. mortar



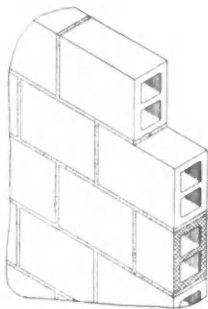
**8" BRICK & TILE WALL**  
Face brick backed with 4" x 8" x 12" tile on edge with Flemish Header every 5th course.

**MATERIALS PER SQUARE**  
660 Face Brick  
80 Common Brick  
164 4x8x12 tile  
14 cu. ft. mortar



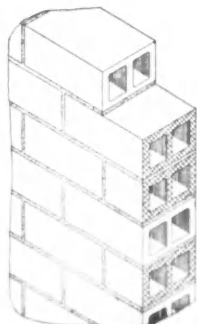
**12" BRICK & TILE WALL**  
Face brick with 5x8x12 backup tile and 4x5x12 tile to back up Flemish header every 6th course.

**MATERIALS PER SQUARE**  
650 Face Brick  
172 Common Brick  
138 5x8x12 tile  
69 4x5x12 tile  
21 cu. ft. mortar



**5" TILE WALL**  
5x8x12 tile for 5" partition walls with 1/2" mortar joints.

**MATERIALS PER SQUARE**  
135 5x8x12 tile  
4 cu. ft. mortar.



**8" TILE WALL**  
5x8x12 Load Bearing tile for 8" walls with 1/2" mortar joints.

**MATERIALS PER SQUARE**  
210 5x8x12 tile  
8.5 cu. ft. mortar.

per square, as given by the table. The quantities would be the same for a 9" wall using 5" x 8" x 12" tile. And in case an air space is left between the brick and tile, as is frequently done, the only difference will be a slight saving of mortar so such walls are figured the same as this one.

The second table is for an 8" wall using 4" x 5" x 12" backup tile and a Flemish header every 5th course. In other words, it requires 6 courses of brick to equal 5 courses of superficial area so adding 1/5 of the basic 616 brick per square, or 123, equals 739 brick required. Call it 740 for both face and common brick. Being a Flemish header the header course on the inside will consist of 1/2 a face brick to 1 common brick. For this reason 1/3 of the 123 extra brick or 41, will have to be face brick and the remainder of 82 will be common brick. This is called 660 and 80 as shown by the table. Since 6 courses of brick 1 1/2 brick long will require 2 tile, this is a 9 to 2 ratio and 2/9 of 740 equals 164 tile required per square.

The third table for a 12" Brick and Tile Wall is "reasoned out" in the same way, or as follows: The double course of brick required for the header is equal to one third of the 6 courses of exposed brick, so 1/3 of 616 is called 206 brick for a total of 822 face and common brick per square. One of these header courses can be solid common brick and the other will be one common brick to the 1/2 Flemish header which must be face brick. In other words, 1/6 of this extra 206 brick, or 34 brick, must be face brick, leaving 172 common brick and 650 face brick to equal the total of 822 brick per square of superficial area. And 8 courses of brick 1 1/2 brick long will make 12 brick per 3 tile. This is a 4 to 1 ratio and 1/4 of 822 brick gives 206 tile, one third of which will be 4 x 5 x 12. This equals 69 of this size and twice as many of the 5 x 8 x 12 will require 138 of them per square.

Although there are dozens of combinations of brick and tile walls, this will suffice to explain how any kind can be analyzed by ratio to the 616 brick required per square for 1/2" mortar joints. All manufacturers of brick and tile can supply basic tables for various combinations of their materials so a unit price per square of any kind of wall is easily determined.

#### Deduct for Openings for Masonry Walls

Unlike frame walls which are generally figured solid with a deduction for the siding only, masonry walls are figured net surface unless the gain of the openings is cancelled against the extra cost of the lintel, sill and special frame. *TruCost* wall areas are gross but it is a simple matter to multiply the number of windows and outside doors by their respective areas and get the actual wall surface. In that case the lintel, sill and extra cost of the frame should be added to the per-opening price for the doors and windows. It is suggested that this extra cost be compared to the cost of masonry walls saved so as to determine whether or not this cancellation can be made.

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The more anyone uses *TruCost* the more they will value it as a real time-saver and sales-maker. What's just as

(Continued to page 102)



## Extra Bath in Small Space

### Easy Remodeling Turns Wardrobe Corner Into Complete Bathroom

**T**HERE is many an old house and many a new one too, for that matter, that is long on clothes closets and short on bathrooms; and builders are beginning to find out how easy it is to transform the one into the other by a simple remodeling operation.

An example of this is a recent job at South Bend, Ind., where an old clothes closet 5 feet square was turned into a very attractive lavatory with corner shower bath, as illustrated in the accompanying photograph. The cumbersome built-in wardrobe was removed and floor space gained for the new plumbing fixtures.

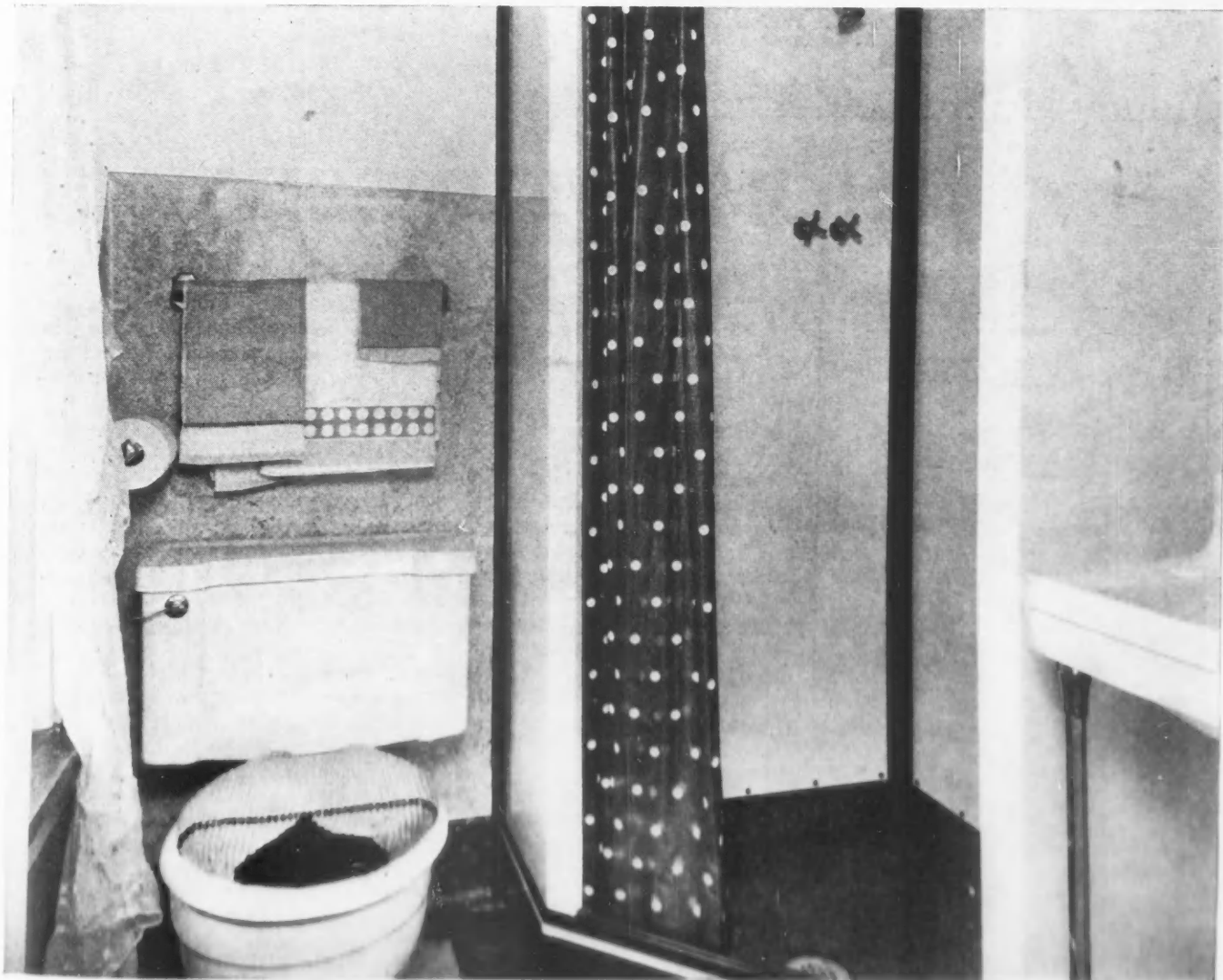
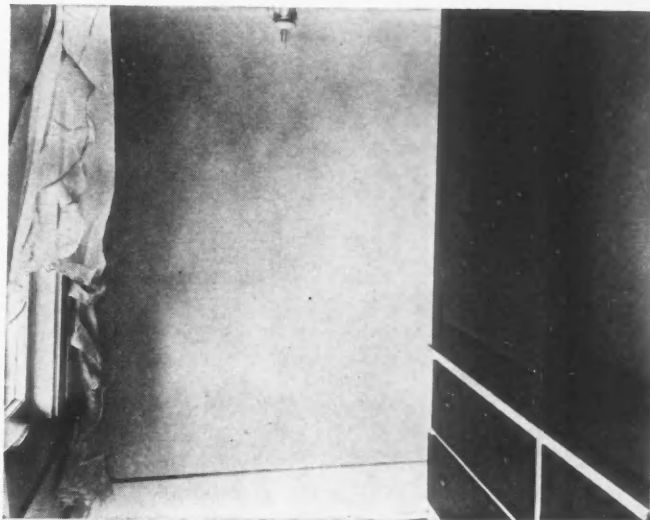
This job was originated by Mr. C. T. Pollock, local Crane Company branch manager, and the installation was handled by C. S. Randolph Company, local merchant plumber. The entire cost is reported to have been \$370. This is higher than the average because this old clothes closet was not located close to any existing bathroom, which meant that all the piping had to be run down to the basement inside the walls. Where plumbing is "bunched," the pipe runs of course cost less.

An important item of the new equipment was a Weisway standard corner entrance cabinet, 36 x 36 x 76 inches,

**COMPACT yet complete bathroom shown below was installed in 5 by 5 foot wardrobe clothes closet, as illustrated to right.**

the actual weight of which was 212 pounds, which was light enough not to require any strengthening of bathroom walls or floor. Other fixtures used were Crane 20 x 18 inch Norwich vitreous china lavatory with chrome legs and towel bars, Crane Merit closet, a built-in medicine cabinet and a 25 square foot capacity radiator.

This additional bathroom was built into a house only ten years old, where the one bathroom and lavatory of that day had proved not enough today.





For TruCost Estimating Figures on All Home Designs in this Magazine see tables on pages 58 & 59.

## TruCost Brings Order out of Chaos

### A. W. HOLT Tells How Really to Save Time on Estimating with the TruCost System

IT WAS gratifying indeed to find that most of the dealers and contractors in the cities and larger villages that I have visited in the past month are making real use of "TruCost." Besides being a great aid in selling homes, all told me that it already had saved them many hours of night-work, thereby enabling them to have their evenings with their family and friends. But the best case I learned of was in a small town in Minnesota—in this way:

The dealer was a middle-aged man who for about twenty years had been taking the list of materials off the plans for his contractors. He always did this after hours because he could not do such work and wait on customers at the same time without "losing count," as he put it. He could figure the footage and make the price extensions between interruptions the next day; but he always made his quantity surveys at night or on Sundays. And, as most old-timers know, many of those houses were never built or had to be refigured because of changes. When I interrupted and asked him if he had any idea as to how much time he had wasted on jobs that were never built, he replied:

"Well, if I have averaged only ten houses each year, I've figured at least 200 jobs that were never built. I call it a day's job to do this, from the time I take a set of plans and list everything, extend the footage, price and figure each item, check, add and finally get the price for my customer, whether contractor or owner. That will make 200 days wasted or about two thirds of a year. What a

vacation that would make! No wonder I say a silent prayer that the job will be built whenever I start listing the materials for a house."

Think what one could learn in eight hours of study ten times each year for 20 years. And its no harder to study than it is to concentrate on a plan and make an accurate list of materials required. That should be reason enough for everyone in this building industry to adopt time-and-work-saving methods, especially in the most important phase of every business—the sales end. That's why, with perhaps only five or ten years more activity before him, that middle-aged dealer continued his story:

"But I'm through praying along that line now. My prayer from now on will be for jobs to figure that MIGHT be built. The only way I could find out if I could make a sale has been to exert every effort to do so. That meant that I had to get away from the price per thousand and quote on the complete job, or rather, on my part of the job.

"I have always gotten more than my share of the business because *I sell by serving*. And every contractor I have ever dealt with has remained loyal to me because of the service I give to *help him* sell jobs. Why shouldn't I figure my share of these contractor jobs—or all materials—just as the plumber does, or the heating man, and the electrician and others? And since they always quote a guaranteed price for *their share* of a job, why shouldn't I do the same? That is why I have been guaranteeing to furnish all materials so all that Mr. Contractor has to do is to get his various sub-bids together and add his labor and profit and sell the job. We all do our part and work together so we all make money and get along fine."

That dealer has proved what I have always contended; and that is, that co-operation of all in the building industry who are involved in the completion of a home, PLUS FAITH IN ONE ANOTHER, cannot fail to give the public utmost value for their building dollar. Everyone wants a reasonable profit on his share of a job so why should anyone want one of his PARTNERS on a job to do his part at cost? Every one should have confidence in those from whom he buys just the same as he expects the confidence of his customers or clients. Confidence is the basis of all good business deals and worth-while industry men are too proud to make price the governing factor of a sale.

When I asked that dealer how his contractors figured labor he stated that they had been either guessing at it by comparison with completed jobs or adding a certain percentage of the material cost. "But," he said, "both of the contractors we have here have already established their labor costs on the basis of TruCost units, as was suggested in your original article (page 60 of May issue) because they fully realize that this is truly a scientific system of estimating building costs. This is how one of them happened to do this:

"Shortly after I got to the office one morning this contractor came in with a plan of a house and had to have a price as soon as possible. I told him I could not have it for him until the next day—that I would figure it that night. We went over the plan a few minutes and then he left it with me. When I got the mail I found the May issue and noticed the 'TruCost' announcement on the cover. I immediately looked for it and glanced at the tables given per square of walls, floors, roofs, etc. Just as soon as I could I read that whole article. It all seemed so simple that I decided immediately to try it out on this job I had to figure. It so happened that there was a house in that May issue that was very similar to the one he wanted a price on; so, after I had figured my local unit costs for materials, I figured that house by simply multiplying by the squares you gave for it. I wanted that to check my areas for this other house."

#### Easy to Establish Local Unit Costs

"Did you do all that during the day or after supper?" I asked and his face beamed with enthusiasm when he replied:

"I lined up the whole works BETWEEN TIMES during the day. I could do so and still wait on customers because each unit is a job in itself. Even if I had only the framing and sheathing figured for the walls when interrupted, I could immediately carry on and complete it without checking back. Those tables you gave in this (May) issue are so simple and yet so complete. Anyone who knows anything at all about estimating can use them without studying a lot of directions. I simply took a few blank pages for this loose-leaf price book of mine and worked out my costs as you showed by this cut (Fig. 2 on page 62 of May issue) and now I have my price book complete."

"How much time do you suppose you spent altogether in establishing your local unit costs?" I asked and, after a little thought, he replied:

"It couldn't have been more than two hours. I did not start until almost noon, but I took only 30 minutes for lunch because I was so anxious to get all my costs lined up and try it out. I was just as enthusiastic as a kid with a new toy and I wanted to get it 'put together' so I could 'play' with it. About 4 o'clock I figured this house (page 49 of May issue) and it only took a few minutes to figure it. It's just like multiplying 2 by 2 a few times and then adding it up."

Think of it, a couple hours of SPARE TIME work and that dealer was all set to cash in on TruCost. He did so that same afternoon too for he told that he started right in figuring the areas of the walls, floor, etc., from the plans which his contractor left with him. Interruptions did not bother on that kind of work because he could scale everything from the plans. Each unit of a house is a complete job in itself when TruCosting, the same as the various component parts of an automobile or any other manufactured article. Manufacturers who do not use scientific methods for determining their costs usually go broke just the same as contractors who use hit-and-miss methods.

#### TruCost is Practically Foolproof

TruCost is the most scientific and systematic method of estimating that is available. It is practically fool-proof and will be a great time-saver for anyone who will use it, just as it was for that small-town dealer who didn't mean maybe when he concluded by saying:

"I'll never make another list of material to sell a house or any other building so long as I live. I've wasted enough time that way and worn myself out with night-work for the last time. I phoned my wife that I'd be a little late for supper but when I went home that first day, I had the plans and all of my figures in my pocket. I was ready to quote on MY SHARE of that job.

"I phoned my contractor friend that I'd be over to see him and after supper my wife and I went over. He was smoking his pipe and looking through his copy of the May issue. Then I showed him my unit costs and how I had figured the materials by TruCost for the plan he had to quote on. We spent a most enjoyable evening talking about this TruCost system and, what's more,—we worked out his labor costs for each unit of construction.

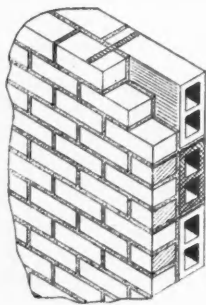
His judgment was all we had to go by but he is now keeping a record of actual time spent on the wall framing, floor joists and girders, sheathing and each OPERATION so that he will soon REALLY KNOW HIS LABOR COSTS."

Needless to say that such genuine appreciation of my efforts REALLY TO SERVE everyone in this building industry for the past 19 years made me want to DO MORE AND MORE to bring order out of chaos and supplant the old hit-and-miss and man-killing estimating methods with scientific, systematic, time-saving and sales-making methods. I might add that I am through trying to CONVERT the self-satisfied, Doubting-Thomases and my entire efforts will be directed to those who are sufficiently interested in their own welfare to HELP THEMSELVES TO SUCCESS by refusing to make a list of material until the job is sold and a "Delivery List" is required.

#### Unit Costs of Tile and Brick and Tile

Full information was given on pages 50 and 51 of the August issue for figuring brick with a few basic tables to "start you out" with your own book of building cost facts. The same principles that govern brick costs apply to tile. And the tile for brick and tile walls is best figured by the simple "ratio and proportion" phase of simple arithmetic, as follows:

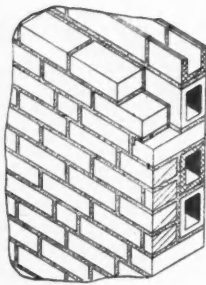
Referring to the first table on next page, which is for 8" Brick and Tile Wall with 4" x 8" x 12" tile to back up face brick with metal ties every third course. Each of these tile is equivalent to 3 brick high and 1½ brick long. Therefore 1 tile will be required for every 4.5 brick. Dividing 616 brick per square by 4.5 gives 137 tile required



**8" BRICK & TILE WALL**  
Face brick backed with 4" x 8" x 12" tile on edge with metal ties every third brick course.

**MATERIALS PER SQUARE**

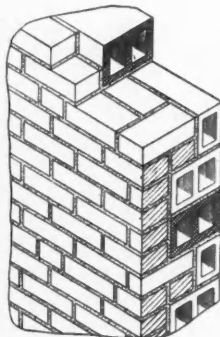
616 Face Brick  
137 4x8x12 tile  
50 wall ties  
14 cu. ft. mortar



**8" BRICK & TILE WALL**  
Face brick backed with 4" x 5" x 12" tile on edge with Flemish Header every 5th course.

**MATERIALS PER SQUARE**

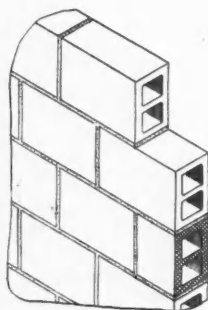
660 Face Brick  
80 Common Brick  
164 4x5x12 tile  
14 cu. ft. mortar



**12" BRICK & TILE WALL**  
Face brick with 5x8x12 backup tile and 4x5x12 tile to back up Flemish header every 6th course.

**MATERIALS PER SQUARE**

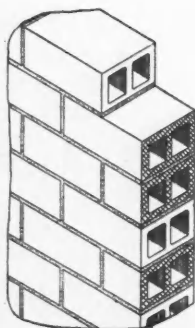
650 Face Brick  
172 Common Brick  
138 5x8x12 tile  
69 4x5x12 tile  
21 cu. ft. mortar



**5" TILE WALL**  
5x8x12 tile for 5" partition walls with 1/2" mortar joints.

**MATERIALS PER SQUARE**

135 5x8x12 tile  
4 cu. ft. mortar.



**8" TILE WALL**  
5x8x12 Load Bearing tile for 8" walls with 1/2" mortar joints.

**MATERIALS PER SQUARE**

210 5x8x12 tile  
8.5 cu. ft. mortar.

per square, as given by the table. The quantities would be the same for a 9" wall using 5" x 8" x 12" tile. And in case an air space is left between the brick and tile, as is frequently done, the only difference will be a slight saving of mortar so such walls are figured the same as this one.

The second table is for an 8" wall using 4" x 5" x 12" backup tile and a Flemish header every 5th course. In other words, it requires 6 courses of brick to equal 5 courses of superficial area so adding 1/5 of the basic 616 brick per square, or 123, equals 739 brick required. Call it 740 for both face and common brick. Being a Flemish header the header course on the inside will consist of 1/2 a face brick to 1 common brick. For this reason 1/3 of the 123 extra brick or 41, will have to be face brick and the remainder of 82 will be common brick. This is called 660 and 80 as shown by the table. Since 6 courses of brick 1 1/2 brick long will require 2 tile, this is a 9 to 2 ratio and 2/9 of 740 equals 164 tile required per square.

The third table for a 12" Brick and Tile Wall is "reasoned out" in the same way, or as follows: The double course of brick required for the header is equal to one third of the 6 courses of exposed brick, so 1/3 of 616 is called 206 brick for a total of 822 face and common brick per square. One of these header courses can be solid common brick and the other will be one common brick to the 1/2 Flemish header which must be face brick. In other words, 1/6 of this extra 206 brick, or 34 brick, must be face brick, leaving 172 common brick and 650 face brick to equal the total of 822 brick per square of superficial area. And 8 courses of brick 1 1/2 brick long will make 12 brick per 3 tile. This is a 4 to 1 ratio and 1/4 of 822 brick gives 206 tile, one third of which will be 4 x 5 x 12. This equals 69 of this size and twice as many of the 5 x 8 x 12 will require 138 of them per square.

Although there are dozens of combinations of brick and tile walls, this will suffice to explain how any kind can be analyzed by ratio to the 616 brick required per square for 1/2" mortar joints. All manufacturers of brick and tile can supply basic tables for various combinations of their materials so a unit price per square of any kind of wall is easily determined.

#### Deduct for Openings for Masonry Walls

Unlike frame walls which are generally figured solid with a deduction for the siding only, masonry walls are figured net surface unless the gain of the openings is cancelled against the extra cost of the lintel, sill and special frame. *TruCost* wall areas are gross but it is a simple matter to multiply the number of windows and outside doors by their respective areas and get the actual wall surface. In that case the lintel, sill and extra cost of the frame should be added to the per-opening price for the doors and windows. It is suggested that this extra cost be compared to the cost of masonry walls saved so as to determine whether or not this cancellation can be made.

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(Continued to page 102)

# Extra Bath in Small Space

## Easy Remodeling Turns Wardrobe Corner Into Complete Bathroom

THERE is many an old house and many a new one too, for that matter, that is long on clothes closets and short on bathrooms; and builders are beginning to find out how easy it is to transform the one into the other by a simple remodeling operation.

An example of this is a recent job at South Bend, Ind., where an old clothes closet 5 feet square was turned into a very attractive lavatory with corner shower bath, as illustrated in the accompanying photograph. The cumbersome built-in wardrobe was removed and floor space gained for the new plumbing fixtures.

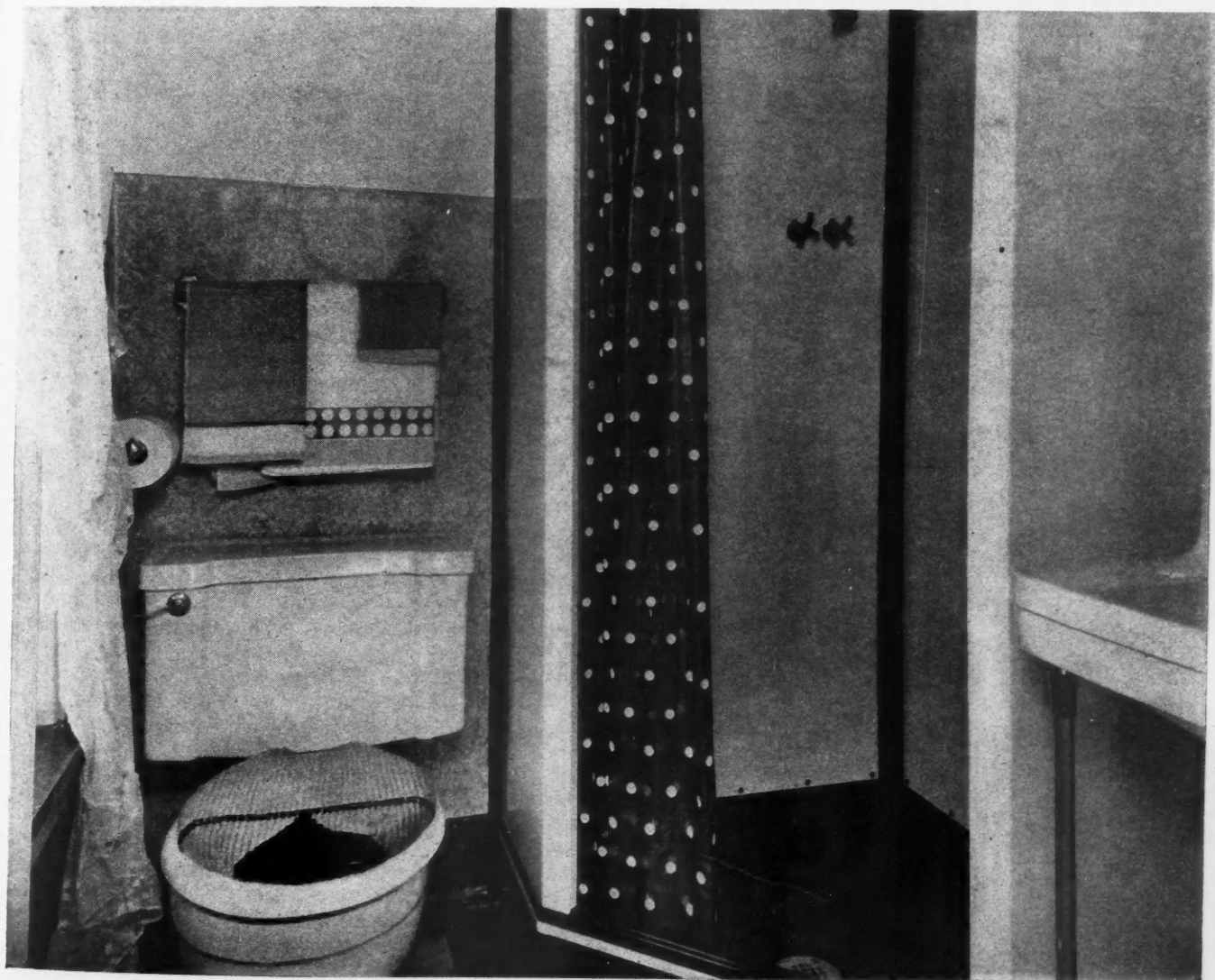
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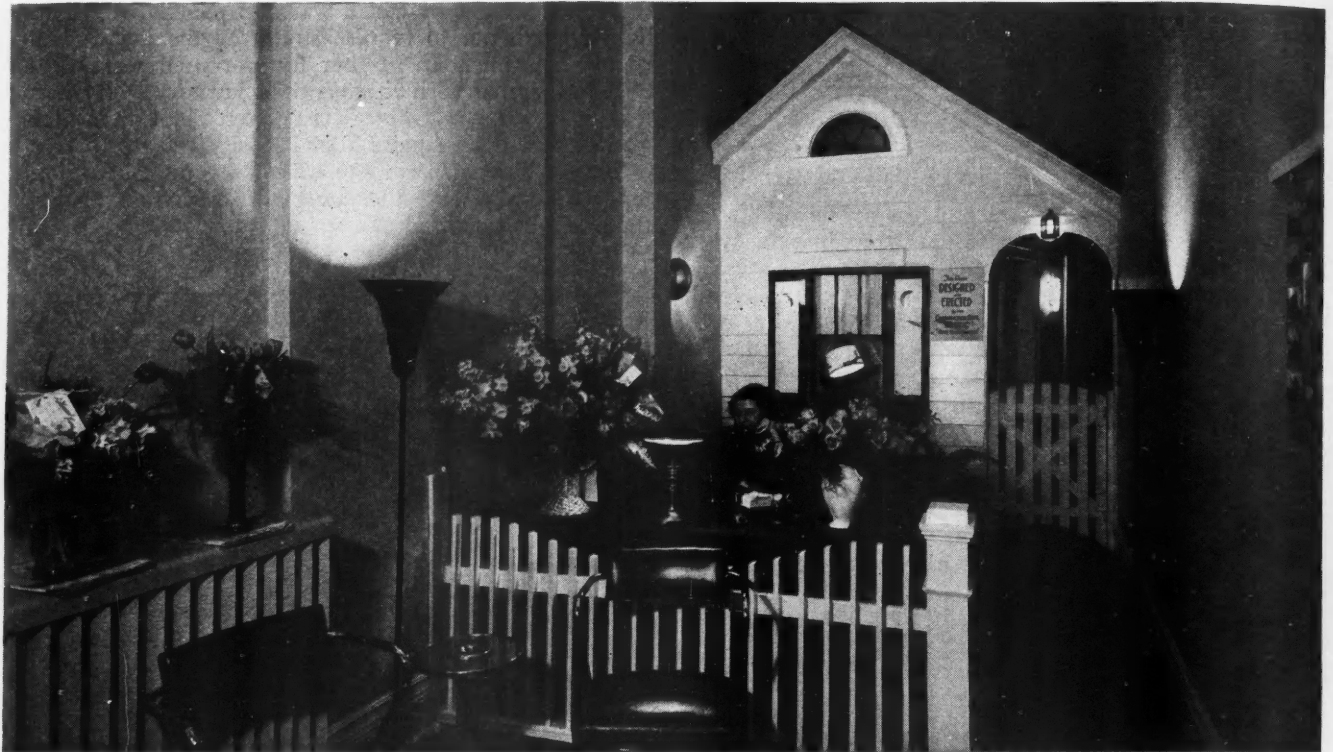
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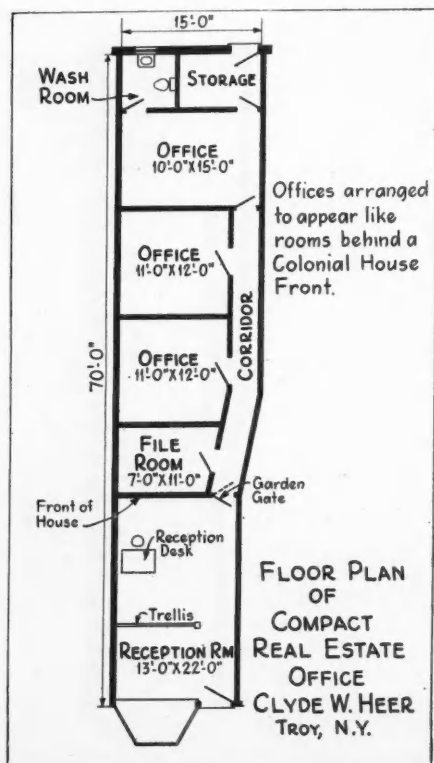
This additional bathroom was built into a house only ten years old, where the one bathroom and lavatory of that day had proved not enough today.





A COLONIAL cottage in the office calls attention to the construction service of realtor Clyde W. Heer in Troy, N. Y.

## Troy, N. Y., Realtor Finds Money-Making Sideline in "HOME MAINTENANCE"



**C**LYDE W. HEER of Troy, N.Y., is a live realtor who does not believe in passing up any bets. He believes, and has amply demonstrated, that there is money to be made in home modernizing, repairs and improvements and has set up a special construction department of his real estate business which he calls "Home Maintenance."

Back in 1932 the real estate business in Troy was not so good. In the August issue of the *American Builder* that year Mr. Heer read an article entitled, "He Puts Home Repairs and Modernizing on a Practical Basis," which told how a firm had been organized in Winnetka, Ill., to specialize in home maintenance work.

"It was just the idea I had been looking for," said Mr. Heer. "It looked like a good depression sideline to me."

"It was. It was a life saver. And it is still a good business for there is more home maintenance work now than ever before. People have money to do this kind of work."

Heer runs a complete real estate business including brokerage, rentals, financing and insurance. He set up a special department to handle home maintenance work and went out after this business aggressively. He erected signs with the slogan, "We sell the world—keep it in repair—and insure its contents."

The Home Maintenance Division does all kinds of work, from cutting grass and repairing leaky doors and windows to extensive remodeling jobs running into thousands of dollars. One of the Home Maintenance Division's jobs consisted of remodeling an old house into four apartments—another the complete rehabilitation of an insolvent apartment building which put it on a paying basis.

The real estate brokerage and rental business leads naturally to many construction and modernizing jobs, Heer points out. He is frequently called

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"I saw this article in the American Builder. It was just the idea I had been looking for, and I acted at once—"

**He Puts Home Repairs and Modernizing**

Winneta, Ill. salesman acts as a "broker for Builders" and directs successful selling of home fixing.

**A** PLAN for the selling of home repairs, improvements and "fixing up" has been evolved by Winneta, Ill. that is so simple, and yet so effective, that it is surprising that it has not already been widely used.

In this Chicago suburb, Irving Odell, a real estate broker and property developer who has been connected with management and sales work in the building industry for the past 25 years, organized a firm under the title, "Home Maintenance Associates."

He called in a number of the best home builders, painters, plumbers, electricians, concrete contractors, floor finishers, etc., and asked them if they would act as a commission on jobs he would get for them. They of course agreed.

Home Maintenance Associates, under the direction of Mr. Odell, therefore became a selling organization, but these men in the building industry.

Odell started out with an advertising and sales campaign to attract home improvements and repairs. He sent out an estimated sales letter to 2500 people, urging them to call on him when any home improvement was needed. He would supply just the right man.

Irving Odell who organized a practical home repair division in a quiet suburb.

In effect, Mr. Odell became a broker for building men and a representative for home owners during work days. This plan has worked very well. As a result of his first mailing to 2500 people, within 30 days he had secured all the work over \$100.00 from home repairs.

Mr. Odell's office organization has been very profitable.

THE ASSOCIATION OF HOME MAINTENANCE CONTRACTORS

FOR EMERGENCY REPAIRS OF HOME MAINTENANCE CONTRACTORS

CALL WINNETKA 2388

HOME MAINTENANCE ASSOCIATES

1111 Broadway  
Troy, N. Y.

THE ISSUE OF AUGUST, 1932

**on a Practical Basis**

the one who, in his opinion, is best qualified to do the work, and this does not necessarily mean that he is the man who makes the lowest bid. Very often he finds that his bid has the low and therefore he is not the man to be chosen. If several operators are needed for the job, the bids are submitted, a fair percentage for Home Maintenance Associates is added, and the general stipulating a total contract sum, made to the home owner. If approved, the contract is signed and work gets started. The operators pay their own materials but handle the job in their own way. Odell acts as the owner's representative to insure a good job. He tells the home owner and after deducting his commission, pays the specified balance of cash or materials to who did the work.

The simplicity of the plan makes for its success. It puts the selling of repairs on a strictly commercial basis. Home Maintenance Associates has practically no overhead. The information and people called on for the work of jobs. Under this plan, they know they can get work done quickly and get a satisfactory guarantee that it will be done correctly. The result is more work for the building industry and better, more modern homes for the public.

FOR EMERGENCY REPAIRS OF HOME MAINTENANCE CONTRACTORS CALL WINNETKA 2388 HOME MAINTENANCE ASSOCIATES

The article form above page 82, 83, 84 is printed on a 50mg envelope of which is placed all reference to the job, the keeping of same together. 50¢ bill—these both sticker enclosed in sales letters.

HOME MAINTENANCE ASSOCIATES

1111 Broadway  
Troy, N. Y.

These are the business cards used by Mr. Odell. The original goes to home owner to be signed and returned. A plain carbon copy is kept by the owner and a blue carbon copy filed in the office.

A SUPERVISED SERVICE FROM GRASS CUTTING TO REMODELING

OUR SPECIALTY -- CONVERTING "VACANTS" INTO REAL LIVE PAYING PROPERTIES

**"HOME MAINTENANCE"**

348 Broadway  
TROY, N. Y.

SOME JOBS WE CAN DO RIGHT FOR YOU

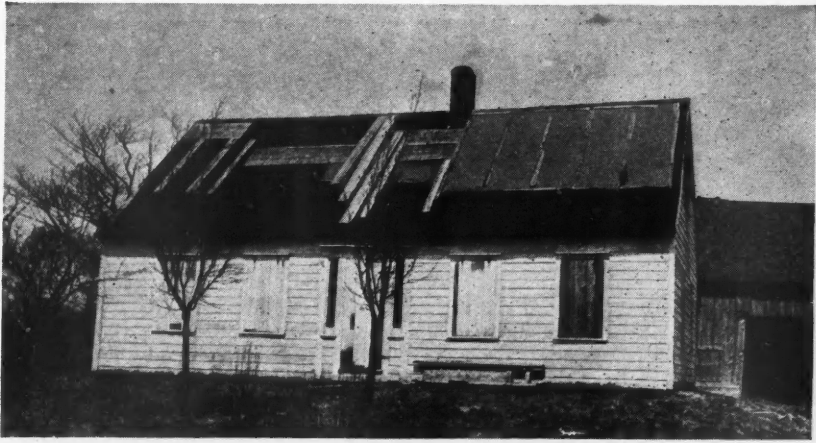
- BRICK WALLS REPAID
- CARPENTRY WORK
- CHIMNEY WORK
- CHIMNEY CLEANING
- CLEANING, EXTERIOR
- CLEANING, INTERIOR
- CONCRETE WORK
- DECORATING
- ELECTRICAL INSTALLATION
- ELECTRICAL REPAIRS
- FLOORS REFINISHED
- GLAZING
- GUTTERS, DOWNSPUTES
- HEATING REPAIRS
- INSULATING
- LATHING
- MASSON WORK
- MODERNIZING
- PAINTING, EXTERIOR
- PAINTING, INTERIOR
- PLASTERING
- PLUMBING REPAIRS
- PORCH ENCLOSURE
- REMODELING
- ROOF, RENEWAL
- ROOF, REPAIRING
- SCREENS, NEW
- SCREENS, REPAIRED

PHONE TROY 784

THE letterhead above indicates the wide variety of services performed by Realtor Heer. "Home Maintenance" is set up as a separate business.

in to advise owners of foreclosed properties or other properties that are in difficulty or losing money. He analyzes the property and makes recommendations. If they are acted on his Home Maintenance Department then bids on the work. The rental business also is a regular feeder for the Home Maintenance Department. When people complain that they cannot rent their house Heer investigates the condition of the property and frequently finds that the expenditure of a comparatively small sum of money will put it in a rentable condition. Thus the Home Maintenance Division gets a profitable job and the owner profits by having his property put on an income basis.

An interesting feature of Heer's business, which illustrates the intelligent and dramatic way he runs it, is the office he maintains at 45 Third Street in Troy. This is a deep, narrow office which formerly had nothing to particularly mark it as a real estate office. Heer conceived the idea of constructing a partition that looks like the front of a Colonial cottage. Floodlights throw the trim Colonial details into sharp focus and call attention to the construction service the firm has to offer. The office is cheerful, friendly and comfortable as well as serving the needed purposes of business.

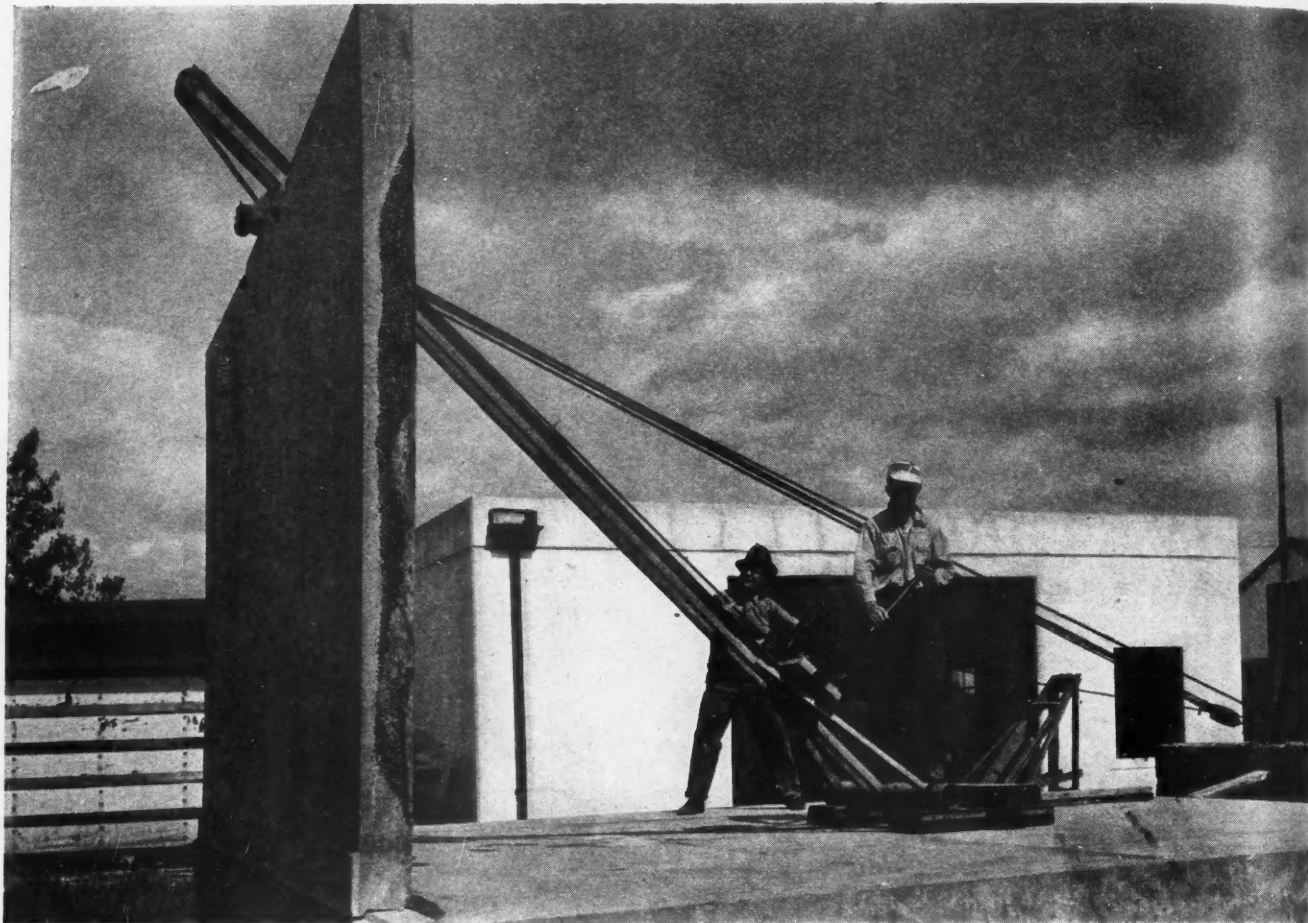


**BEFORE**—An old farmhouse on the outskirts of town before Heer started work on it.



**AFTER**—How the country home looked after it had been remodeled by Heer.

**SHOWN ABOVE** is the article in the August 1932 issue of the American Builder which was the basis of Mr. Heer's "Home Maintenance" business. He states that the methods outlined in this article are still sound and have proved very successful in his business.



## Walls Molded Flat, Then Raised

**Cement Association Engineers Develop Novel Method to Cut Cost of Concrete Houses**

**M**INIMUM formwork, low cost, and great architectural flexibility are claimed for a recently perfected system of casting reinforced concrete house walls horizontally, then tilting them into place. By this method 6-in. rectangular walls up to 40 ft. in length have been successfully erected. Contractors who have used this "tilt-up" method of wall building in a limited way report savings from 10 to 30 per cent in labor costs alone.

The "tilt-up" method of building walls consists simply in casting the reinforced concrete panels on the previously placed concrete floor, erecting them, and tying them together at the corners by reinforced concrete columns. It offers the economy of factory made houses, but eliminates factory overhead.

### Method of Casting

The following methods are based on two years of research by the Portland Cement Association in its field laboratory at Elmhurst, Ill. This investigation included a study of the methods used by builders in the past. The Association's principal purpose, however, was to develop suitable hoisting equipment simple enough to be made and used by any competent builder. The hoisting equipment described is the best of four designs built

and demonstrated by them in actual house construction.

To cast the walls, the outside rim planks of the form are set to the shape of the wall and the enclosed area is covered with one layer of asphalt-coated paper. Door and window frames are then set in position. Walls are laid out so that, when erected, each end is approximately 4 in. short of the inside dimensions of the building.

After the bottom layer of reinforcing steel, including dowels which tie into corner columns, and the removable bolts required in hoisting and bracing the slab have been set, concreting begins. It is important that reinforcing be supported on chairs or by other approved means so that it is held 1 in. above the floor.

Concrete may be wheeled into place on runways. When the form has been filled to within 1½ in. of the top, the second layer of reinforcement is placed. The rest of the concrete is then placed, screeded off level with the top of the rim form, floated and finished.

Almost any surface texture can be produced by varying the floating. Wood floating will produce a rather sandy and coarse surface. If a smoother sandy surface is desired, it can be achieved by steel troweling and brooming. An attractive semi-rough stucco effect is secured by wood floating in a semi-circular motion. By varying the floating or troweling motion many other interesting textures may be secured. Precast orna-

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ments may be embedded in the concrete when the wall is cast to yield whatever architectural effects are desired.

Ornamental details that may be incorporated in the parapet or around wall openings will require special formwork. These should not be used too freely, as they greatly increase the cost, and defeat the purpose of this type of construction—low cost.

If walls are to be plastered, supply pipes and conduits may be placed in the furring space in the conventional manner. If furring is omitted, the conduits may be run in a groove in the baseboard, recesses for outlet boxes being provided for when the wall is being cast. When it is necessary to locate pipes and heating ducts in exterior walls, instead of in partitions and closet stacks, they may be run in grooves or chases or at wall corners.

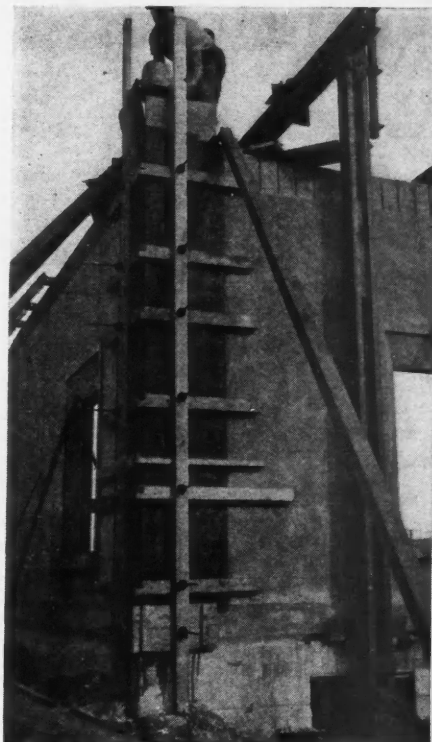
Rectangular walls may be tilted into position when the concrete has attained a compressive strength of 1,500 lb. per sq. in. This strength is reached in about two days in warm weather with average temperatures of not less than 75 degrees F., and in three days in cooler weather with average temperatures of not less than 65 degrees F. When weather conditions which cause slow hardening prevail, enough time should be allowed to produce 1,500-lb. concrete. With high early strength concrete the time allowance may be reduced by about one day in each case.

In building gable end walls, it is recommended that the rectangular part of the wall be cast and raised, after which the gable end may be built of reinforced concrete using conventional forms. When this is done, dowel bars are set in the top of the rectangular section of the gable end wall when it is cast, in order to tie the two sections together. Gable end walls also may be constructed with concrete masonry or other materials.

### Tilting Equipment

Equipment for tilting the wall into place consists of a mast, winch, a stabilizer, and a lifting angle. The mast is built up of two 4-in. channels set back to back, but spread 4½ in. between exterior web faces by Z-bars and plates, the top leg of the Z being cut to fit between the channels. The bottoms of these channels are bolted to a 5-ft. length of 4½-in. steel pipe which acts as a

WHEN contiguous walls are raised, corner columns are built, tying two walls securely together as shown.

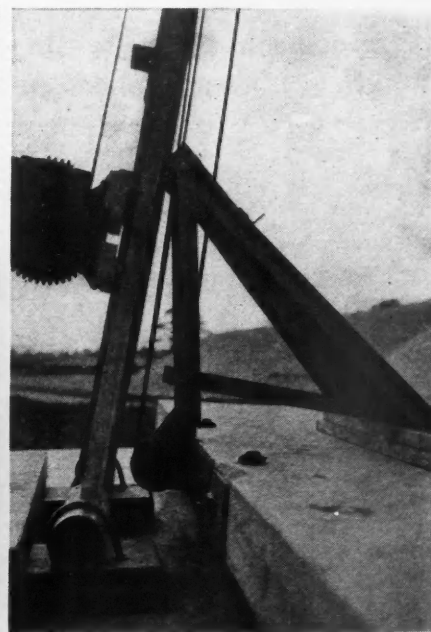
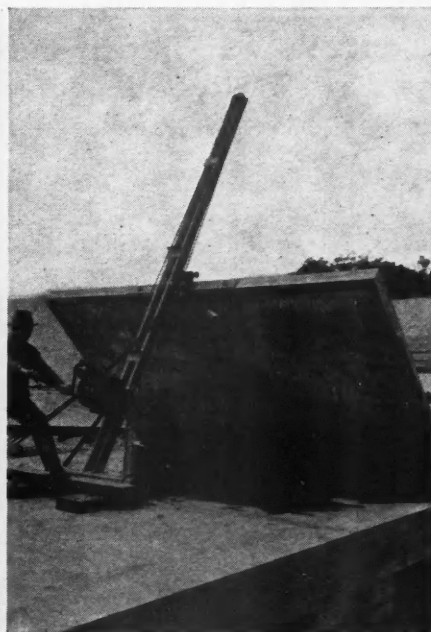
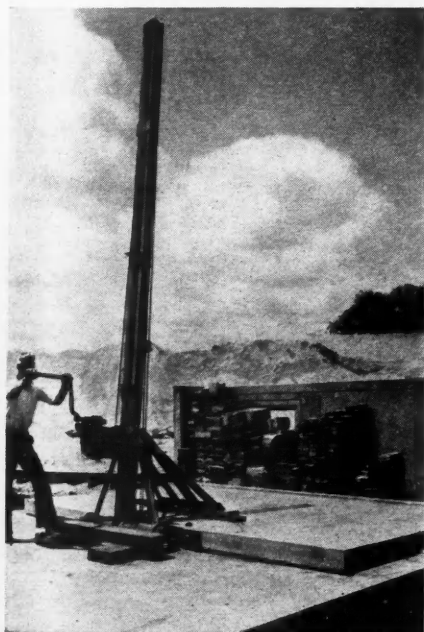


hinge, about which the mast pivots. The pipe is strapped to two timber sills with two U-bolts.

The stabilizer is a triangular frame, with legs approximately 3 ft. long, built mostly of structural shapes. It is used in the early stages of slab lifting. It is pinned to the lifting angle through metal supports and can be disengaged when no longer needed. The chief function of the stabilizer is to act as a stiff leg to the lifting mast from the time the wall leaves the floor slab until the skid shoe on the lifting angle starts to function. Up to this point—about 3 ft. above the floor slab—the thrust of the slab is transmitted to the mast through the stabilizer skid shoes.

The lifting—or load distributing angle—is a 6x6x¾-in. angle 5 ft. long fitted with a skid shoe and hook con-

(Continued to page 100)



LIFTING MAST and tackle arranged for upping flat molded wall panel; right, close-up of mast mounting, stress plate in wall and stabilizer.

# Window Conditioning— What It Is, What It Does

**T**ODAY'S home is radically different from the house of fifty years ago. Nowadays the mechanic and his family enjoy comfort and convenience features unknown to even the "Leading Citizen" of the "Gay Nineties."

The most notable of these improvements are: better planning, better plumbing, healthful heating, labor-saving kitchens, and wall and ceiling insulation.

But, in developing more pleasing exterior designs and more convenient interiors, and in giving attention to wall and ceiling insulation, architects overlooked the most important type of insulation.

This neglected feature, now recognized as that form of insulation which offers more in economy and comfort than any other, is Window Conditioning (double-glass insulation). It is any practical form of double glazing and may be accomplished with storm sash, or with any of the patented types of prefabricated double-glazed sash. Between the parallel panes of glass, a wall of captive air is formed, providing a heat barrier of unexcelled insulating efficiency.

Window Conditioning is the oldest recognized form of home insulation, for our forefathers used storm sash long before modern wall and roof insulating materials were available. In those days, however, storm windows were used for protection only, and little thought was paid to the appearance possibilities of double-glazing. As a result, the old-time storm windows were bulky and unsightly. Naturally they became unpopular as more efficient heating systems were developed and as more thought was given to exterior appearance.

But today, with the development of modern winter windows and various types of prefabricated double-glazed sash which harmonize architecturally with almost any style of home, Window Conditioning is gaining favor from the standpoint of appearance as well as comfort and economy.

Like all other forms of building insulation, double-

glazing pays for itself in fuel savings alone. But it costs less to install than other desirable types of insulation and saves more fuel per dollar invested. Therefore, it pays for itself more quickly than any other kind of insulation—tests by Professor G. L. Larson, of the University of Wisconsin, showed that it took less than two heating seasons for Window Conditioning on his test home in Madison, Wisconsin, to pay for itself.

Funds for Window Conditioning installations are available from FHA with no down payment, and since the cost of the job can be amortized by fuel savings alone in less than two years, the economic advantages of double-glass insulation are all the more apparent. Not only does it pay for itself; but Professor Larson's tests show that after doing so, it returns yearly dividends up to 73 per cent on the original investment.

The professor's tests also show that fuel savings of 30 per cent were made, when no insulation other than Window Conditioning was used—and that when good wall and roof insulation were used, in combination with Window Conditioning, fuel savings as high as 55 per cent were effected.

The fact that double-glazing saves more fuel than any other single form of insulation is further substantiated by tests that were made wholly independently of Professor Larson's. In metropolitan New York, a study of four representative houses by Alfred J. Offner, past president of the New York Society of Consulting Engineers, and treasurer of the American Society of Heating and Ventilating Engineers, showed that double-glazing saved approximately 23 per cent of the fuel used in the typical uninsulated suburban residence in that locality.

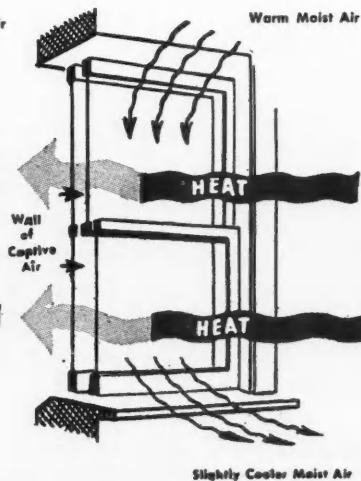
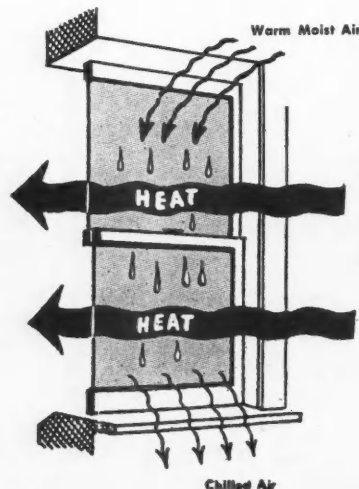
To calculate the fuel savings possible with Window Conditioning, it is necessary to take into consideration the snugness with which the windows regularly in place are fitted. If air leakage around the windows is sufficient to cause appreciable heat-loss, storm windows will re-

(Continued to page 72)

## Comparison of Single-Glazed and "Window Conditioned" homes. Outside temperature zero, indoor temperature 70°F. and indoor relative humidity 40%

### THIS IS WHAT HAPPENS WITH SINGLE-GLAZED WINDOWS

Cold outside air chills the glass to nearly its own temperature. . . On the inside, warm humid air is chilled in contact with this cold glass, moisture condenses as fog, obliterating the view and runs down glass to sill and wall beneath. . . The chilled air drops to the floor causing drafts.

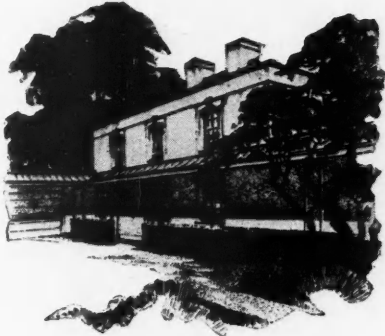


### THIS IS WHAT HAPPENS WITH "WINDOW CONDITIONING"

Though the temperature outdoors remains at zero and indoor temperature 70°F. and relative humidity 40%, the insulating wall of captive air between the two sheets of glass keeps the inner window glass nearer room temperature, thus preventing condensation and fogging.

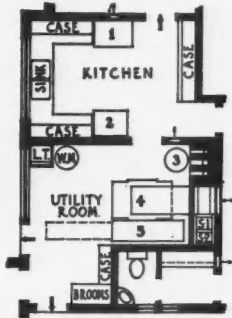
# No Basement in this Prize Winning

## AGA All-Gas Home

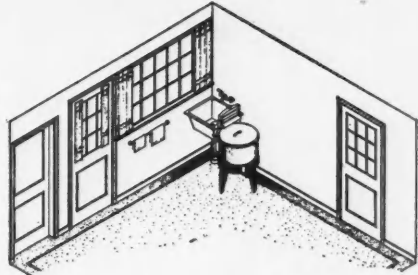


**ARCHITECTS:**

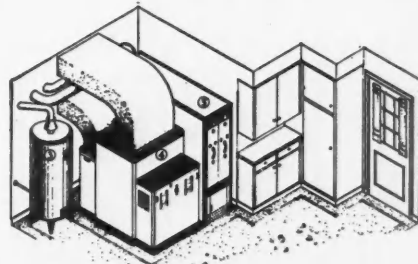
Malcolm P. Cameron  
and Howard A. Topp  
Los Angeles, California.



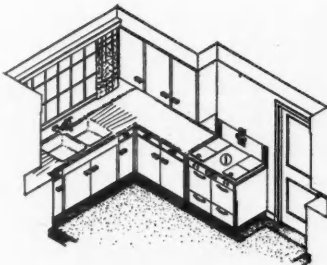
-FLOOR-PLAN-



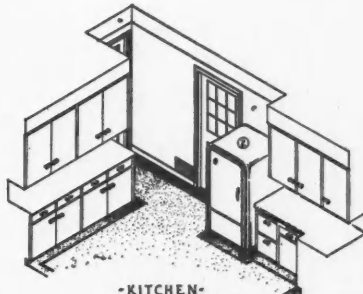
-UTILITY-ROOM-  
-LOOKING-SOUTHEAST-



-UTILITY-ROOM-  
-LOOKING-NORTHWEST-



-KITCHEN-  
-LOOKING-SOUTHEAST-



-KITCHEN-  
-LOOKING-NORTHWEST-

1. Gas range.
2. Gas refrigerator.
3. Gas water heater.
4. Gas-operated winter air-conditioner.
5. Gas laundry dryer.

Now build an **AGA All-Gas Home** . . . enter the \$10,000 prize competition for builders and their architects.

The All-Gas Home Building Competition closes July 1, 1939. Write for entry blank and free booklet, containing all the information you need. Competition Director, American Gas Association, 420 Lexington Avenue, New York City.

## Modern gas appliances save space . . . cut building costs

THIS graceful design illustrates the practicality of providing the utmost in comfort and operating convenience without abandoning the more familiar architectural forms.

Because gas burns *cleanly* and requires no fuel storage space, expensive excavation has been avoided. The gas-operated winter air-conditioning unit has been placed near the center of the house to avoid elaborate duct work and prevent wasteful heat distribution.

All the major housekeeping equipment has been centralized in the kitchen and adjoining utility room. The detailed drawings show that the architect has carefully considered the exclusive advantages of *gas for the 4 big jobs*.

No other fuel affords such complete flexibility in planning and building. Your Gas Company will gladly give you full information and specifications of the new gas ranges, refrigerators, water heaters, and house-heating equipment.

**AMERICAN GAS ASSOCIATION**

LET  
*Gas*  
DO THE 4 BIG JOBS

COOKING  
WATER HEATING  
REFRIGERATION  
HOUSE HEATING

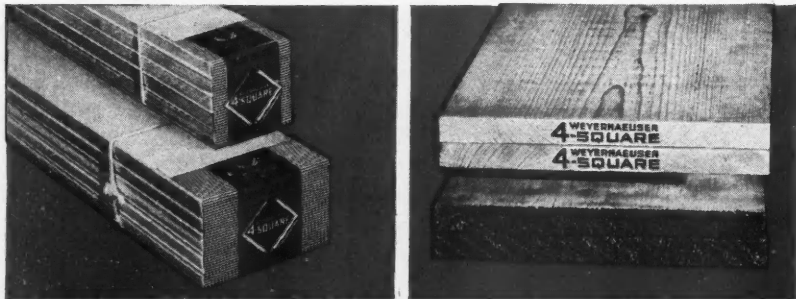
Be sure the gas appliances you specify bear the Approval Seal of the American Gas Association Testing Laboratories.

# Creating Sales

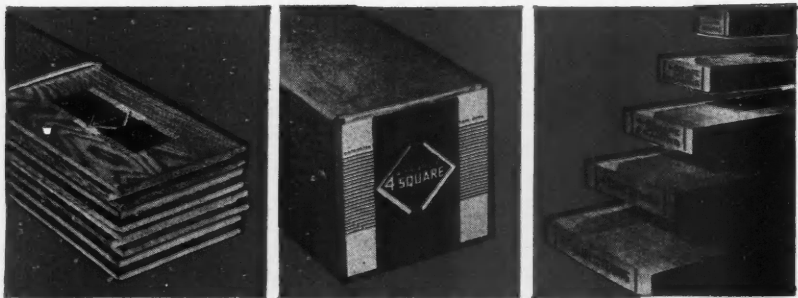
## WITH IMPROVED

# LUMBER Products.

### PRECISION-CUT 4-SQUARE TRADEMARKED LUMBER



With clean, square ends and smooth surfaces, this improved lumber possesses eye appeal that shouts quality. Its handsome appearance impresses the owner and helps to promote confidence. Furthermore, this feature of manufacturing precision in 4-SQUARE Lumber presents attractive advantages in construction. Because 4-SQUARE Lumber is cut to exact standard lengths, much cutting and fitting is avoided on the job. That speeds up construction and saves you money.



#### ENDLESS LUMBER MOULDINGS GUIDE LINE FRAMING

This lumber for sheathing is tongued and grooved on ends and edges. Since the boards interlock in a firm tongue and groove joint, pieces do not have to be joined over framing members. This simplifies diagonal application. Much sawing is avoided and strong, tight walls are secured.

4-SQUARE mouldings are made in exact even lengths from 6 to 20 feet. They are shipped in dust-tight, sealed cartons in Idaho White Pine, Ponderosa Pine, Douglas Fir, Hemlock and Western Red Cedar. 4-SQUARE Mouldings come in standard patterns up to 5 in. wide.

Scored lines one inch apart are pressed in squarely across the face of each piece, with numerals every foot—thus aiding in proper alignment of the framework. Each piece is marked for grade and species, machined to exact length and squared for quick, accurate application.



Confidence is a strong ally in securing building contracts or in making building sales. Confidence in the mind of the owner or buyer generally results in mutually profitable business associations.

Your personal record is your strongest asset in cultivating the confidence of those whose business you solicit—that's understood. There are times, however, when outside influence means the difference between a profitable contract and just another bid.

Good houses were built with lumber by good builders before 4-Square Lumber was made or named—so we can't claim that 4-Square Lumber is the answer for getting all the new work you want—but if you are a good builder with a good reputation, 4-Square Lumber can help you.

Weyerhaeuser 4-Square Lumber is a truly fine product—properly seasoned, uniformly graded with clean,

# WEYERHAEUSER

## FIRST NAT'L BANK BLDG SAINT

FOR

# Builders

ED WEYERHAEUSER

... AND MODERN SELLING *Plans*

smooth surfaces, square ends and cut to exact standard lengths for speed in application. This improved lumber is trade-marked with a name that is well and favorably known. When you use this trade-marked, advertised lumber, you employ a product of recognized value—you further establish yourself in the minds of your customers as a user of quality materials—as a sound, dependable builder. That's worth something — particularly when there's no extra charge for 4-Square.

In addition to delivering good looking, uniformly fine lumber for all your jobs, Weyerhaeuser has prepared several services which are helping builders to secure many jobs without competition. When you examine these services, you will see how they can help you to develop more profitable sales. Ask your local 4-Square Lumber dealer to explain these services to you. Then you will see how Weyerhaeuser is helping to create sales for you.

## DEMONSTRATION HOMES



Architects of nation-wide prominence have cooperated in the development of this series of Weyerhaeuser 4-SQUARE Demonstration Homes. They are specific houses planned to furnish practical modern conveniences without sacrificing structural accuracy or soundness.

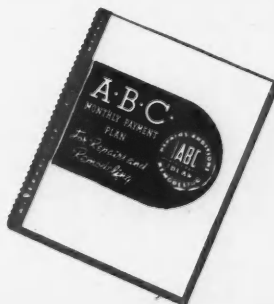
These houses are excellent examples of the economies possible where good planning, improved materials and sound construction are employed. They are exerting a strong influence in helping builders to control new house sales. Your 4-SQUARE dealer will gladly show you the series.

## FARM BUILDING SERVICE



"The New Way to Build on the Farm" is a practical guide for builders in the securing of sound, economical farm buildings. This service contains 122 plans developed by the engineers of fifteen agricultural colleges. It illustrates the use of 4-SQUARE ready-to-use material and shows how the combination of good plans and good materials results in better buildings for less money. It places builders in position to render a complete, dependable, profitable farm building service.

## INSTALLMENT SELLING PLAN



The Weyerhaeuser Installment Note Purchase Plan gives builders an easy way to sell modernizing and repairing with attractive profits. With this plan you get bigger jobs because the owner pays in small monthly payments. Furthermore, with this plan you save yourself a lot of time. All you do is fill out one form. The remaining details are handled by your dealer. You will like this plan because it's simple—and because it helps sell jobs.

SALES COMPANY  
 LDG SAINT PAUL, MINNESOTA

(Continued from page 68)

duce loss of heat from that source—in addition to checking heat-loss by conduction through the glass. On the other hand, if the regular windows are closely-fitted, or weather-stripped, less of this infiltration loss will be saved by storm windows.

It should be understood that weather-stripping is not a substitute for Window Conditioning. Weather stripping reduces infiltration of cold air at the windows, and aids to that extent in keeping the house warm, but it does not reduce loss of heat by conduction through the glass. Only with double-glazing can fuel waste from this source be checked.

Window Conditioning is the most important form of insulation—not only because it shows a higher percentage of fuel savings than any other, but also because the presence of wall and roof insulation emphasizes the need for window insulation.

Proof of this is the fact that Mr. Offner's tests show that when wall and roof insulation is applied first—and Window Conditioning after—the latter saves from 30 to 36 per cent of the remaining fuel cost for an insulated home. Thus, double-glazing is just as important in houses that have good wall and roof insulation as it is in those that do not.

In this connection, the opinion of Dr. F. L. Browne, senior chemist, Forest Products Laboratory, United States Department of Agriculture, Madison, Wisconsin, is significant.

Dr. Browne says, "If it is worth while to add four inches of insulation to what was formerly considered satisfactory sidewall construction, it is absurd to leave a considerable portion of the walls with only a single pane of glass between the rooms and the outside."

Obviously, the amount of fuel saved by Window Conditioning will vary with such flexible factors as type of construction, location, and weather conditions. Generally speaking, however, it may be stated authoritatively that Window Conditioning reduces fuel bills from 20 to 30 per cent—and it should be noted that, when other insulation is used, Window Conditioning adds the above savings to those effected by the other insulation.

Typical examples of how much fuel Window Conditioning saves are shown in a table prepared by Tyler S. Rogers, Member, Technical Advisory Committee on Insulation, American Society of Heating and Ventilating Engineers.

In Boston, for example, in a residence having 500 square feet of glass area, calculations based on Mr. Rogers' figures show that each square foot of double

### HOW MUCH FUEL WINDOW CONDITIONING SAVES

Fuel saved for each square foot of window area insulated with double glass under average conditions.\*

City	Oil in gallons	Coal in pounds	Mfgd. Gas <sup>†</sup> per 1000 cu. ft.
Baltimore, Md.	.77—1.26	10.0—16.2	.17—28
Boston, Mass.	1.04—1.69	13.3—21.8	.23—38
Buffalo, N. Y.	1.24—2.02	15.8—25.8	.27—45
Chicago, Ill.	1.12—1.82	14.3—23.4	.25—41
Cincinnati, Ohio	.90—1.46	11.5—18.8	.20—33
Denver, Colo.	1.03—1.68	13.2—21.5	.23—38
Des Moines, Iowa	1.14—1.86	14.6—23.8	.25—42
Helena, Montana	1.43—2.34	18.4—30.0	.32—53
Indianapolis, Ind.	.96—1.57	12.3—20.1	.21—35
Kansas City, Mo.	.87—1.42	11.2—18.3	.19—32
Louisville, Ky.	.79—1.29	10.0—16.5	.17—29
Milwaukee, Wis.	1.25—2.02	15.7—26.1	.27—46
Minneapolis, Minn.	1.42—2.31	18.1—29.6	.31—52
New York, N. Y.	.92—1.51	11.9—19.4	.20—34
Oklahoma City, Okla.	.54— .95	7.5—12.2	.13—21
Omaha, Neb.	1.09—1.76	13.9—22.6	.24—40
Philadelphia, Pa.	.82—1.34	10.5—17.1	.18—30
Pittsburgh, Pa.	.97—1.59	12.5—20.4	.21—36
Portland, Maine	1.26—2.04	16.1—26.2	.28—46
Spokane, Wash.	1.13—1.85	14.5—23.8	.25—42
St. Louis, Mo.	.83—1.36	10.7—17.4	.18—31

\* Use the smaller figure if your windows are weather stripped or tightly fitted. Use the larger figure if you are applying storm windows over loosely fitted sash or installing modern double-glazed, weather-stripped casements. If you are building a new home with improved type sash use the larger figure. Still higher savings are possible under more severe weather conditions.  
<sup>†</sup> For natural gas divide by two.

glazing saves from 1.04 to 1.69 gallons of oil per heating season—making a total of from 720 to 845 gallons saved annually by the 500 square feet of double glazed window area.

In the same house, coal savings per square foot of double glazing would vary from 13.3 to 21.8 pounds per heating season, or from 6,650 to 10,900 pounds for the total square feet of double-glazed window area—and gas savings would vary from 115,000 to 190,000 cubic feet of manufactured gas.

Mr. Rogers' table also shows possible savings per square foot of double glazing, per heating season, in a number of other localities.

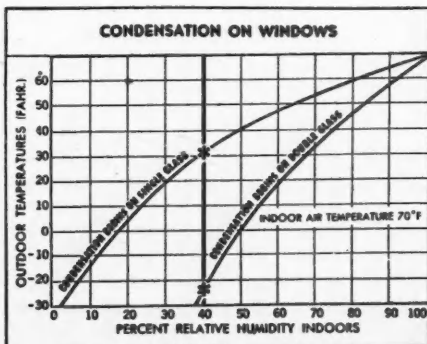
These fuel savings not only mean lowered heating costs, but they also mean that with Window Conditioning comfortable temperatures in winter can be maintained with smaller heating plants, a distinct saving when building or modernizing. For instance, Professor Larson's calculations show that with no insulation other than storm doors and windows, an average eight-room suburban home in Madison, Wisconsin, can be kept warm and comfortable with a heating plant costing over \$450 less than the larger one required for the same job, without Window Conditioning.

Still another advantage of double-glass insulation is that it permits healthful indoor humidity to be maintained without the annoyance of fogged windows or excessive moisture condensation, even in coldest weather.

This is particularly important in view of the increasing use of winter air conditioning, or humidifying systems for moisture-laden air keeps us in better condition to resist colds and respiratory diseases and is therefore essential to health in winter.

Window Conditioning is an absolute necessity if satisfactory performance is to be obtained from winter air conditioning equipment. Such units humidify, or "moisten" the air to the point recommended by health author-

(Continued to page 102)

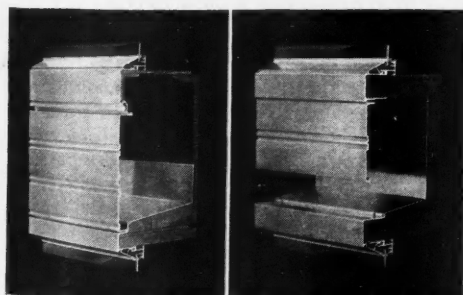


THIS chart shows that "Window Conditioning"—Double-Glass Insulation—prevents condensation and fogging of windows when a healthful humidity of 40% is maintained indoors until the outside temperature reaches nearly 26° F. below zero. In such severe weather it is difficult to maintain 40% relative humidity, therefore, condensation rarely ever appears on windows in the "Window Conditioned" home.

# HIDE THAT AWNING!



Compare the two! Notice neat appearance of Concealed Awning Bar in store front at top



Kawneer Concealed and Recessed Awning Bars. In both rolled and extruded construction

**A** STORE FRONT may be of attractive design and have remarkable attention value, but its beauty is sure to be badly marred in time by a faded and worn awning—unless measures are taken to protect and hide the awning roll when not in use.

As a very logical solution to this problem, Kawneer offers both Recessed and Concealed Awning Bars—in either alumilited aluminum or bronze, rolled or extruded construction. These very attractive awning bars become an interesting decorative feature of the store front design. Lines are straight and true. In addition to contributing interesting highlights and shadow lines, they partially or completely hide unsightly awning rolls when not in use, and add considerable to the life of the awning.

Before planning your next store front, see our catalog in SWEET'S or write any of the offices listed below.

Kawneer Rolled Store Front Construction is noted for the firm, even grip on glass and complete RESILIENCY of its glass-holding members. Many thousands of merchants have benefited from such dependable glass protection. Face members are designed in simple, striking lines. Attractive shapes for every store front use are available. Full size details will be sent on request—Rolled or Extruded.

FOUNDED IN 1905—  
BY A PRACTICING ARCHITECT

## Kawneer

Rustless Metal Store Fronts • Doors • Sealair Windows • Architectural Metal Work

For data see catalogs in SWEET'S; or write The Kawneer Company, at Niles, Michigan, New York, Chicago, or Berkeley, Calif.

Dealers in principal cities.

**The Barcol OVERdoor  
THE IMPROVED OVERHEAD DOOR**



A typical Barcol OVERdoor installation for a two-car garage on a modern residence. These are standard design Model 50 OVERdoors.

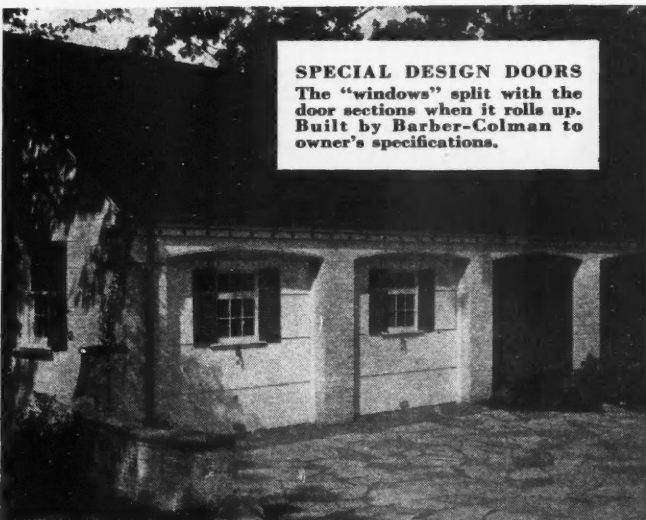
**The Improved  
Overhead Door**

The Barcol OVERdoor has earned the approval and acceptance of many leading Architects and Contractors. Why? Because they have found it gives them what they want—an overhead type garage door that works easily, yet closes tightly; sturdy, durable construction at a reasonable price; high quality hardware, well-made sections, a unique cam-roller closing action; special features and accessories that permit use in a wide range of applications; a sales, engineering, installation, and service organization with a record of integrity they can count on. To get the most for your money, specify *The Barcol OVERdoor*.



**OTHER BARCOL PRODUCTS**

Electric Door Operators for swinging, sliding, overhead, and steel rolling doors; and for swinging and sliding gates. Controls include the unique, remote RADIO control.



**SPECIAL DESIGN DOORS**  
The "windows" split with the door sections when it rolls up. Built by Barber-Colman to owner's specifications.

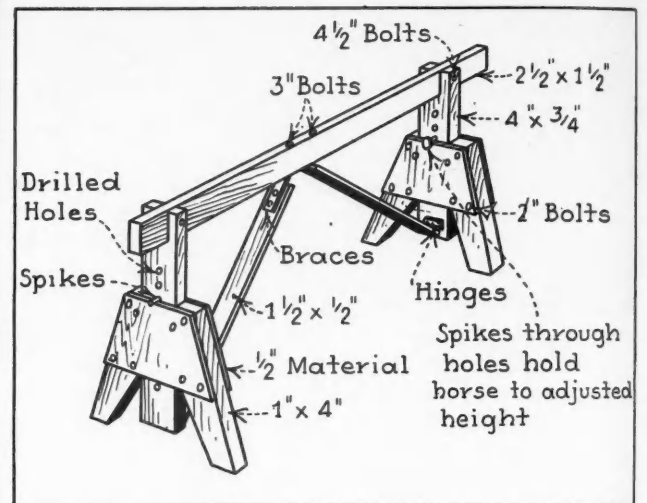
**BARBER-COLMAN COMPANY • ROCKFORD, ILLINOIS**

**PRACTICAL JOB  
POINTERS**

A READERS' EXCHANGE of tested ideas and methods, taken from their own building experience. Two dollars or a year's subscription to *American Builder* is paid for each item when published. State business connection or trade.

**Adjustable Saw Horse**

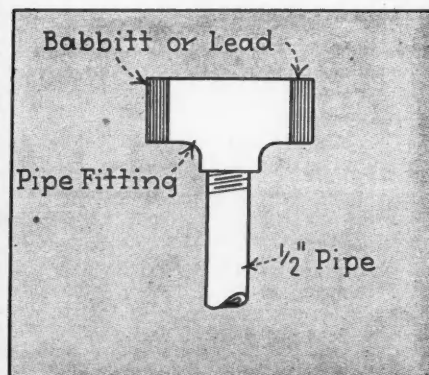
MY IDEA of a perfect adjustable saw horse is shown in the construction drawing below. I have built one just as detailed and find it most satisfactory. It can be knocked down into a compact assembly for moving, and quickly set up again to give a firm support for any job where different heights are needed. Material sizes listed make a strong horse.—WILFRED ANDERSON, Carpenter, St. Croix Falls, Wis.



CONSTRUCTION details for adjustable saw horse.

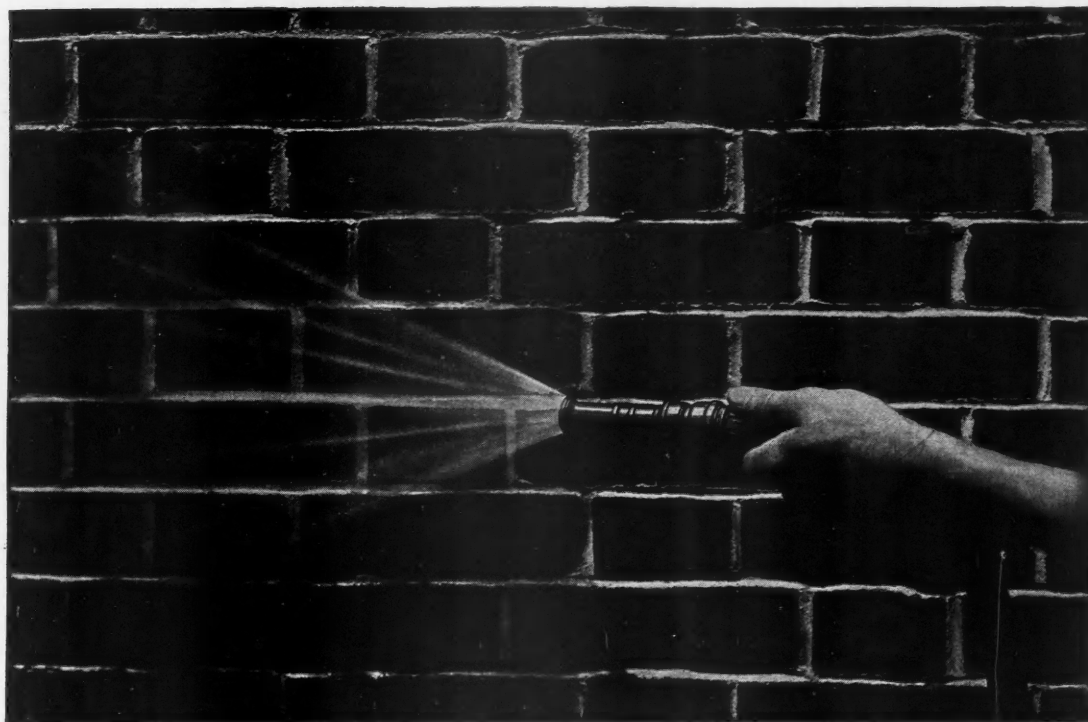
**Good "Soft Hammer," Easily Made**

HERE is a useful and easily made soft hammer, shown in the accompanying sketch. It is nothing more nor less than an ordinary standard "Tee" pipe fitting and a half-inch pipe. The former, when filled with lead or babbitt, serves as the hammer head, and the latter is the handle. For pouring, moulds are unnecessary. Simply wrap paper around the rim to form the face of the hammer and to keep the lead from spilling when the metal is poured. Nor is it necessary to fill the Tee entirely full of molten metal; it may be filled mostly with pieces of scrap metal or anything non-combustible to fill the space. Scrap pipe plugs, for instance, are good fillers.



LEFT: A hammer like this can be made in almost any desired weight because there are so many standard sizes of pipe fittings; this one weighed about four pounds. For striking parts that must not be scratched or battered there is nothing better than a soft babbitt-faced hammer.





# BRIXMENT IS WATERPROOFED

**N**O WATERPROOFING admixtures are necessary when Brixment is used for mortar. Brixment mortar alone is permanently waterproofed with the most effective waterproofing agent known—which is integrally mixed with Brixment during manufacture. *Leakage through Brixment mortar itself is therefore impossible.* ★ ★ But more important still in securing dry walls, Brixment helps prevent cracks between the brick and the mortar, through which water can penetrate. Brixment mortar gives a tighter, more durable bond between the brick and the mortar, because: . . . (1) It is so plastic that it assures a more

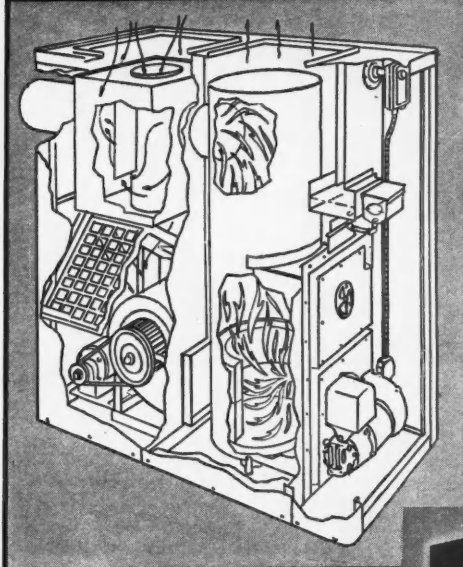
complete bedding of the brick. This gives an increased area of contact between the brick and the mortar. . . . (2) Its higher water-retaining capacity keeps the brick from sucking the water out of the mortar so fast, and prevents the mortar from drying out before a better, tighter bond is formed. . . . (3) It hardens slowly enough to permit deeper penetration and more thorough keying into the pores of the brick. ★ ★ *Because of its waterproofing and its excellent bonding qualities, Brixment mortar furnishes as great protection against leaky walls as can be had from any kind or type of mortar material.*

LOUISVILLE CEMENT COMPANY, INCORPORATED, LOUISVILLE, KENTUCKY

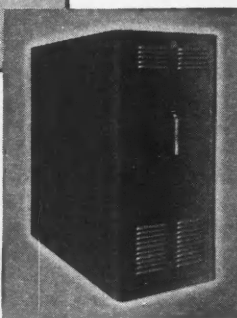
*Cement Manufacturers for Over a Century*



**AN ECONOMICAL  
OIL FURNACE**  
*for low cost homes*



**HEATS  
HUMIDIFIES  
CLEANS  
CIRCULATES**



**ROUND OAK X-80**  
PERFORMS ALL FUNCTIONS OF  
WINTER AIR CONDITIONING

Architects and builders seeking an economical oil furnace for low cost homes will find the Round Oak X-80 ideally suited to their needs. Designed as a complete winter air conditioning unit, it delivers up to 80,000 BTU's per hour at unusually low cost. Heating unit is of steel, specially designed for the efficient combustion of oil which is delivered by the time-tested Round Oak "Contraflow" burner. Quiet circulating blower moves large volume of air through highly efficient air filters. Attractive 24 gauge steel casing—Hammerloid blue finish.

X-80 is an outstanding development in small home heating. Call your Round Oak dealer for complete information, or write direct to the factory.



**ROUND OAK**  
STOVES • RANGES • FURNACES  
OIL BURNERS • AIR CONDITIONERS

The Round Oak Company, Dowagiac, Mich., Dept. 108  
Please send literature and complete information describing your  
 X-80 AIR CONDITIONER,  LARGER EQUIPMENT  
Name \_\_\_\_\_  
Street \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_

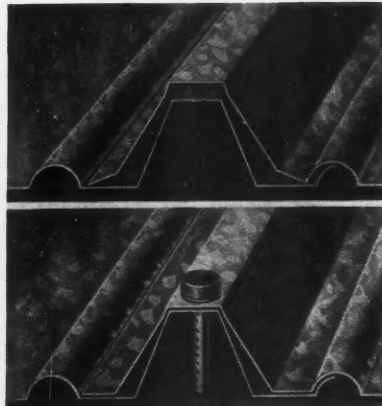
**Manufacturers Add New Products to Their Lines**

**Galvanized Seal-Krimp Roofing**

A NEW kind of galvanized roofing with a patented spring-pressure lap and other exclusive features has been announced by The American Rolling Mill Company, Middletown, Ohio. It is known as "Armco Galvanized Seal-Krimp roofing," and is storm-proof, weather-tight, and easily installed.

The new roofing is available in three grades of metal—copper-bearing steel, open-hearth steel and Armco Ingot Iron. The company's new galvanized "Paintgrip" finish is recommended for roofs to be painted immediately. The roofing is ideal for farm buildings, factory buildings and homes. It also finds ready use as siding for factories, garages, barns and other structures, filling stations and similar buildings.

When Armco Seal-Krimp is placed in position and nailed down, the sections are held firmly together with spring tension at three points. Drainage channels and siphon breakers are built-in features. Roofing accessories available with Seal-Krimp include adjustable ridge roll, made in two pieces to fit any ordinary roof pitch without bending or malleting. It may be adjusted lengthwise to fit V's on either side of the ridge. Other accessories available are end wall flashing and gambrel joints.



TOP, close-up view before nailing of the patented spring-pressure lap that features Armco Galvanized SEAL-KRIMP roofing. Below, the spring-pressure lap after nailing. The upright legs are forced downward and outward. Pressure of the flanges is against the lower lapped section.

**One-Piece Steel Stud**

THE Milcor Steel Company, Milwaukee, Wis., has developed a new one-piece metal wall stud designed to afford great strength, simplicity in erection and positive locking to floor and ceiling. This one-piece metal stud is made for walls which must

(Continued to page 78)




WORKMEN wedging steel stud to ceiling runner by applying clips; operation same at floor.

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**TAKE THE  
SHORT-CUT  
TO SAWING PROFITS WITH  
SKILSAW!**

Because it's 10 times faster... because it can do any kind of sawing work... because you can take it to the job, wherever it may be—SKILSAW will cut your sawing costs in half, increase your profits, turn more bids into actual jobs! It will make you more money on the first job... and all your jobs for years to come!

For 18 years, since we introduced the first portable electric handsaw, SKILSAW has been the choice of progressive builders everywhere. It has more power... more construction refinements... more sawing applications. Works from any light socket. *Cuts wood, metal, stone, compositions.* 9 Powerful Sizes.




Makes compound mitre-bevel cut on thirty 2x12 in. hip-pitch rafters in only 10 minutes!

Sold by leading distributors of mine, mill, hardware and contractors' supplies

SKILSAW, INC., Dept. A, 3314 Elston Ave., Chicago  
214 E. 40th St., New York • 52 Brookline Ave., Boston  
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**SKILSAW**  
PORTABLE ELECTRIC TOOLS  
SAVE MONEY IN EVERY INDUSTRY!  
• SAWS • DRILLS • BELT SANDERS • DISC SANDERS • GRINDERS • BLOWERS •



**This EXTRA BATH  
Helps  
SELL THE HOME**

PERMANENTLY LEAKPROOF

VITREOUS PORCELAIN NON-SLIP FLOOR

Not affected by settling of building or shrinkage of materials.

An exclusive patented Weisway feature, equally safe wet or dry.

AN added bath is striking proof of "more house for the money," strongest sales force in today's building market. Builders are capitalizing this fact by providing extra baths with the first floor "convertible study," off the master's room or guest rooms, or in the basement for "clean-up" purposes.

Weisway Cabinet Showers make these small space, extra baths easily possible even in small, low cost homes. Vitreous porcelain or baked enamel walls; wide choice of colors. Thoroughly adapted in detail to modern building practice.

**MAIL COUPON** or write for detailed information on the complete line of Weisway Cabinet Showers for homes, schools, institutions, hotels, industrial buildings.

MAIL TODAY



HENRY WEIS  
MANUFACTURING CO., INC.  
981 Oak Street, Elkhart, Indiana

Gentlemen: Please send catalog and detailed information about Weisway Cabinet Showers.

Name \_\_\_\_\_  
Street \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_



▶ Within these clear paneled walls of one of the Western Pines, many a motion picture has first been planned. Tifal, Ltd. finds these woods ideal for movieland home building.

▶ G. R. Tifal, Treasurer and General Manager of Tifal, Ltd., Hollywood, California, builders of movieland homes.




*Hollywood Builder calls \*them . . .*

**"GRATEFUL WOODS"**

For ten years and more Tifal, Ltd. have been satisfying the exacting artistic requirements of home-building stars and directors of Hollywood's glamorous movie colony. They've used more \*Western Pines than all other woods combined, writes Mr. Tifal. He calls them "grateful woods," especially prefers them for exterior and interior woodwork, intricate curved and straight mouldings, artistic carvings. . . . But he uses Western Pines, too, for sash, doors, window and door frames, siding, screens, mantels, built-in fixtures, etc. . . .

THE WESTERN PINES WILL DO YOUR NEXT JOB BETTER —TRY THEM

Specify Western Pines  From Association Mills  
 Western Pine Association, Yeon Building, Portland, Oregon  
 \* Ponderosa Pine \* Sugar Pine  
 \* Idaho White Pine

\*These are the Western Pines

(Continued from page 76)

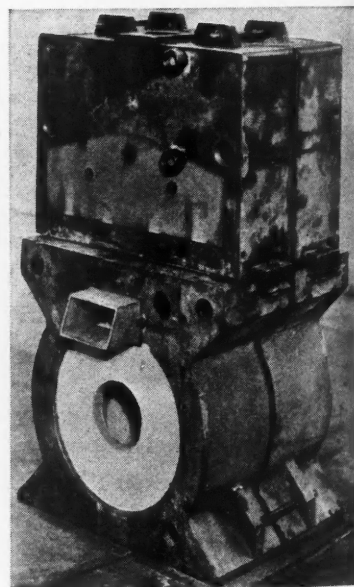
be firesafe, sound retardant and also provide for carrying pipes, conduits, and ducts. It has channel sides, large uniform openings, and reinforced X-shaped members as well as an effective shoe and clip arrangement as its exclusive features. In addition it offers fire-safety, earthquake resistance, insulating value, sound resistance, light weight and the elimination of plaster cracks as attendant advantages.

**Compact Boiler of New Design**

THE new Rexoil-Coreco boiler, made by Reif-Rexoil, Inc., Buffalo, N.Y., establishes radically new design features and creates new rating and efficiency standards for cast iron sectional boilers. Originated with twenty-one basic claims allowed by the U. S. Patent Office, the new CM Series Coreco boiler is unusually compact. For the two section boiler rated at 330 square feet of direct connected load the estimated jacket dimensions, which include the boiler, oil burner, domestic hot water hook-up and all operating and limit controls, the height is but 38½ inches, the width 25½ inches and the length 36½ inches having a water line of only 31 inches.

The boiler is of the type described as water agitated and its principle of operation differs from that of the conventional or ordinary cast iron sectional or steel tubular boiler in that, instead of there being a thermal vertical circulation of water within the boiler, this agitator type of boiler has a separate combustion chamber section within which steam is generated on flat surfaces, 88 per cent of which are exposed directly to the heat of the flame. From this agitated section the steam passes through a single port of relatively small dimension to the upper or steam liberating section.

The boiler is being made available in two, three, and four sections with steam ratings respectively at 330, 460 and 590 square feet.



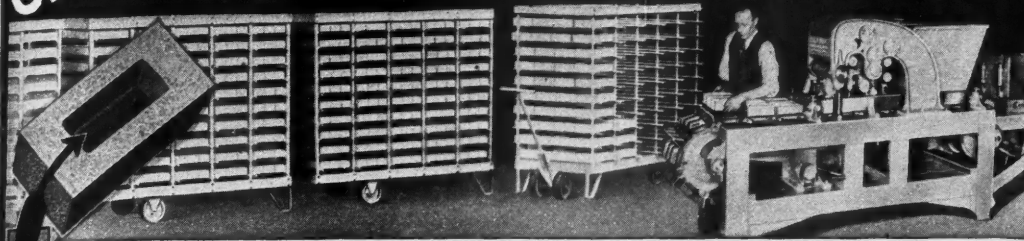
EACH section of new compact boiler is cast integral and has a precast refractory combustion chamber in the lower part.

**Domestic Oil or Gas Furnace**

THE Majestic Company of Huntington, Ind., has announced a new convertible oil or gas winter air conditioning unit, which incorporates a number of unusual features of design to increase the efficiency of oil or gas in home heating. The primary heater is of steel plate construction and provides 46 square feet of heating surface. Welded to the crown sheet and radiator dome are a series of "conduvectors" or fins which add heating surface, as well as serve as flues in directing the heat travel. To also take advantage of the hot flue gases a welded steel "super heater" composed of a series of compartments is placed at the flue outlet of the primary heater. Blowers ranging from 1200 cfm to 2600 cfm and three or more filters are arranged under the "super heater."

The openings provided are adaptable to any standard make (Continued to page 80)

# TODAYS GREATEST MANUFACTURING OPPORTUNITY -----



### LIGHT WEIGHT BIG SAVINGS

An improved design brick that saves 20% in weight and material in either faced or common. Reduces trucking costs, handles easier, lays faster, and builds a stronger wall.



Double and triple brick sizes further reduce costs. Permit hollow wall, fireproof masonry construction at cost level of frame.

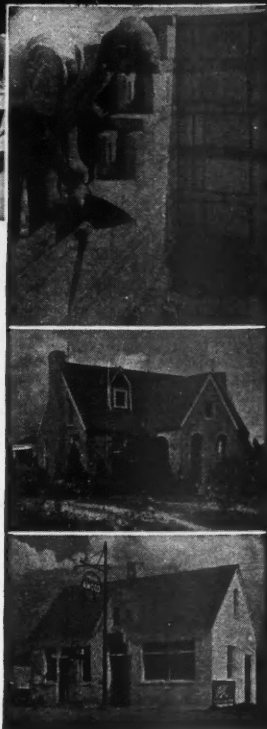
**OPPORTUNITY COMPLETE, READY-MADE FOR YOU IN YOUR LOCALITY**—One that is proven—ready for you to cash in on the great building up-turn under way. It includes the essentials upon which sound and successful business enterprises are established.

**SUPERIOR PRODUCT, LOW COST PRODUCTION**—You will produce a material nearly 20% lighter in weight—A product in full range color or texture and capable of meeting all known building requirements—One accepted by Government and City Building Departments—Requiring 20% less material—Made by line-production machines.

**EARNING POWER AND FUTURE**—Present DUNBRIK-DUNSTONE Manufacturers already point the way for you. Some are selling output at 100% over cost. Others are getting as high as 80% of the brick business.

**WE EQUIP YOU WITH LINE PRODUCTION MACHINERY**—Large production—only one or two men. Equipment costs but fraction of other processes of equal capacity. Franchise granted covering your locality—protecting your market, business and future.

**SEND FOR BOOK**—“4 Keys to Success.” It tells the complete story—How present manufacturers are making outstanding progress in this new industry—One that offers unlimited opportunity for growth, expansion and profit. Write today.



W. E. DUNN MFG. CO. 450 W. 24<sup>TH</sup> ST., HOLLAND, MICHIGAN

## Now... GENUINE MCKINNEY FORGED IRON HARDWARE AVAILABLE IN 3 PRICE RANGES

No need now to specify 5 YEAR HARDWARE for 20 YEAR HOMES. Architects, builders and home owners have long appreciated the high quality and true authenticity of McKinney Forged Iron. This same hardware is offered to you now at a price within reach of everyone.



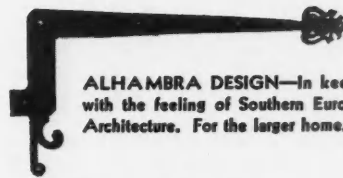
**WARWICK DESIGN**—Heavy, massive. Dates back to the early days of England.



**CURLY LOCK DESIGN**—Reflects the true Colonial spirit.



**DORCHESTER DESIGN**—A popular design of high quality and texture.



**ALHAMBRA DESIGN**—In keeping with the feeling of Southern European Architecture. For the larger home.



**HEART DESIGN**—Graceful yet sturdy. Maintaining the texture of early Colonial days.



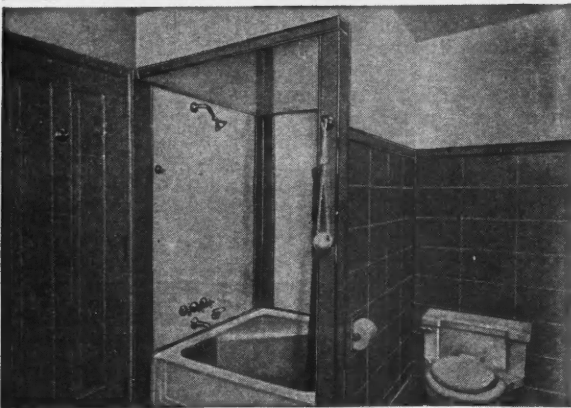
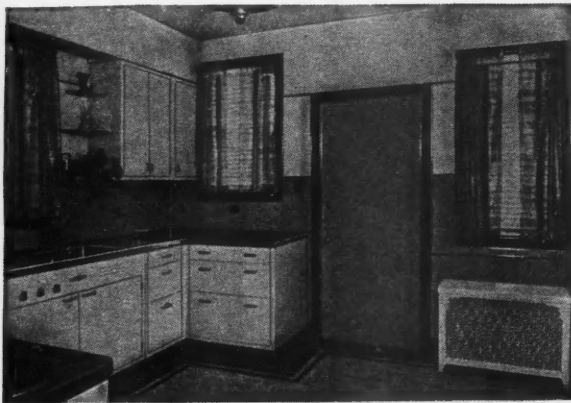
**BEDFORD DESIGN**—One of the newer numbers which has proven popular with builders of small homes.

MCKINNEY MANUFACTURING COMPANY • PITTSBURGH, PA.

DESIGNERS AND MANUFACTURERS OF GOOD HARDWARE FOR 72 YEARS

**FOR MORE SALES...QUICKER SALES...**

*Afford Home Buyers*  
**Marlite's EXTRA VALUES!**



**Marlite... the DeLuxe Wall Material of a Thousand Uses.**

● Women thrill to the smart beauty of Marlite in bathrooms and kitchens... men are effectively influenced by the investment value it represents... the fact that Marlite eliminates periodic renovating expense... will remain modern, years longer than interiors of out-moded materials.

It's good business...good sales sense... to afford home-buyers these extra Marlite values. They mean more sales... quicker sales... allow you to turn over your capital more often.

Marlite is economical to install. It comes in large sheets that carpenters saw to size and apply to walls, ceilings, and other surfaces...new or old. 63 stylish colors and patterns permit a wide variety of decorative treatments...the creation of home interiors that are smartly modern...lustrous and beautiful...that can be kept clean with a damp cloth. Ask your building supply dealer to show you Marlite... the smartest of tile-patterns... exquisite plain-colors... beautiful marble and luxurious wood effects. Also write for book that describes Marlite in detail and illustrates numerous beautiful Marlite interiors.

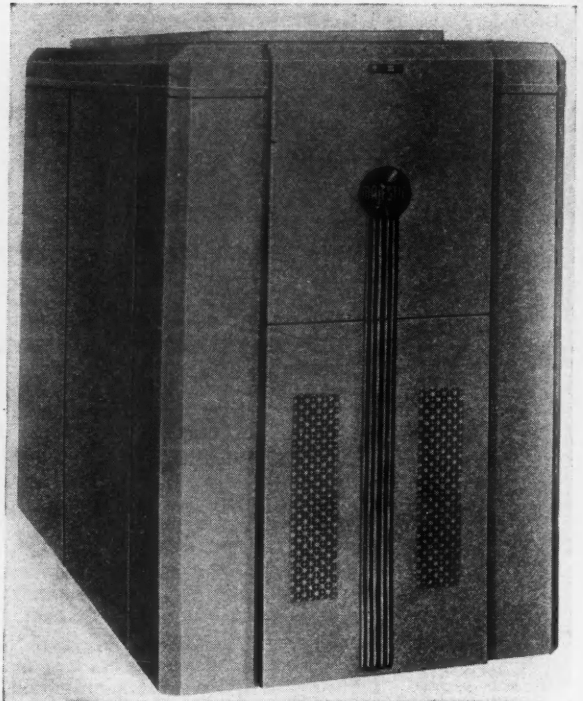
**MARSH WALL PRODUCTS, INC.**  
93 MARSH PLACE • DOVER, OHIO

*Marlite*

**FOR CREATING BEAUTIFUL INTERIORS**  
WALL-SIZE PANELS IN LUSTROUS COLORS AND PATTERNS

(Continued from page 78)

burner and conversion from gas or oil is accomplished by a removable fire chamber front. The cabinet of paneled type is made of 20 gauge furniture steel and finished in blue ripple and chromium trimmed. Removable panels give access to functional parts. The unit is made in two sizes with BTU capacities ranging from 90,000 to 175,000.

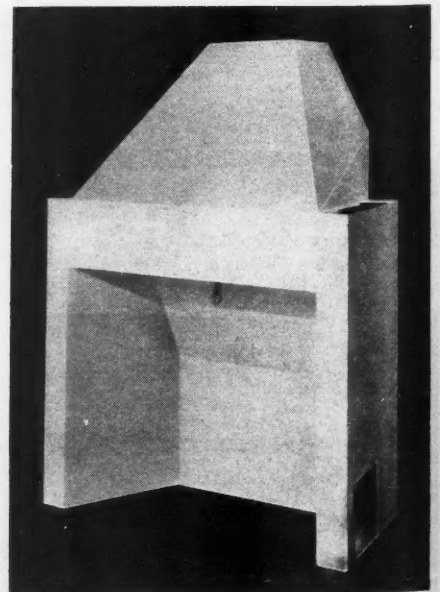


RETURN air is preheated in new Majestic furnace.

**Low Cost Circulator Fireplace**

THE Majestic Company of Huntington, Ind., has announced the addition of a new model to their line which is known as the "Special" model Majestic circulator fireplace, adaptable to requirements of the small, low-cost home.

By circulating heat throughout the room as well as adjoining rooms, much in the manner of a furnace, it makes a fireplace efficient as well as ornamental and might be used as a sole heating source for small homes, summer cottages and homes in moderate climates. Ornamental grilles of various styles to harmonize with the mantel can be furnished for the cold air intakes and hot air outlets. The fire chamber of this circulator is of 3/16-inch steel plate to withstand intense heat. Shell is 16 gauge steel; all joints are electric welded.



**PREFABRICATED**  
fireplace unit allows construction economies for low cost homes and insures efficient operation.

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# NEW PLYSCORD CUTS SHEATHING COSTS-

TRADE MARK

REG. U.S. PAT. OFF. PEND.

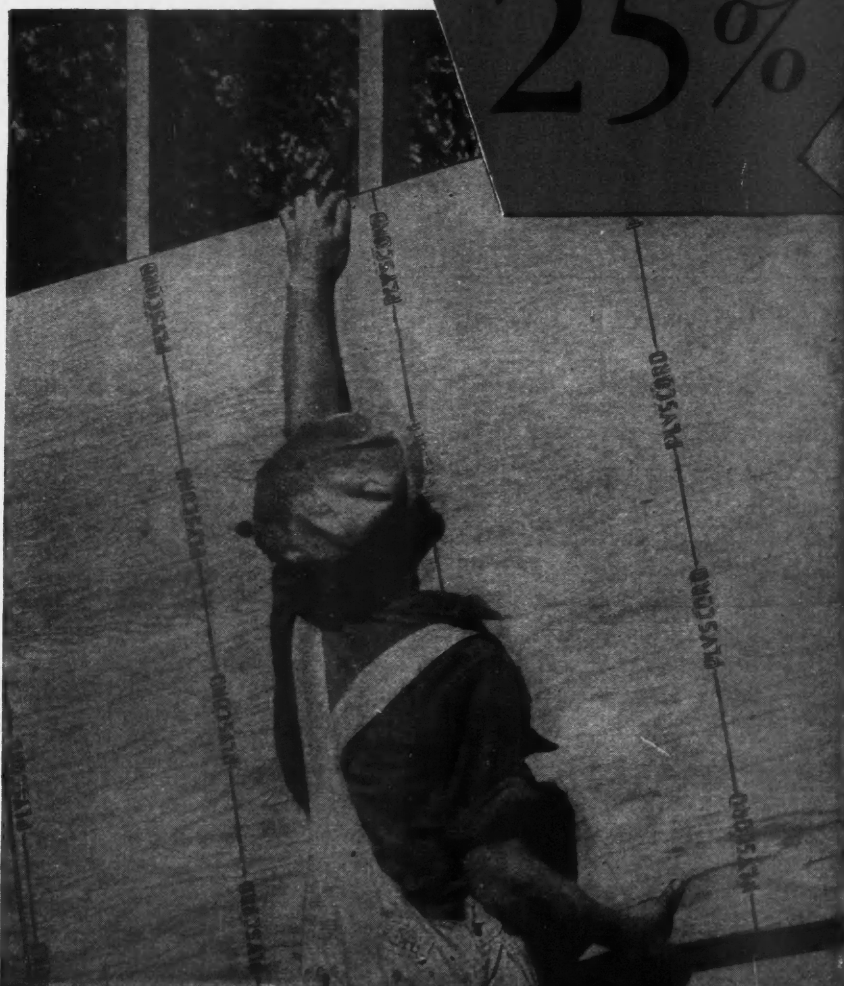
# 25%

**SENSATIONAL NEW PRODUCT SAVES YOU TIME... LABOR... MATERIAL... DOES BETTER JOB!**

Plyscord Sheathing offers you savings you can check yourself—on your own jobs! Plyscord panels can be handled by *one* man. They cover up to 32 square feet at one time. Plyscord comes in two widths—32" and 48", each 96" long—to save sawing and fitting time. Three thicknesses are available, 5/16", 3/8" and 5/8". Mill-scored guide lines save nailing time—and Plyscord requires *fewer* nails. Plyscord Sheathing is *six times* as rigid as ordinary horizontal sheathing.

Combine these economies and Plyscord will save you 25% or more on any sheathing job. Your local lumber dealer can supply you with Plyscord Sheathing. See him today!

And don't forget Douglas Fir Plywood Wall-board for partitions and ceilings, Standard Panels for built-ins and similar jobs, as well as hot-pressed, resin-bonded panels for permanent exterior exposures. DOUGLAS FIR PLYWOOD ASSOCIATION, Tacoma Bldg., Tacoma, Wn.



**DOUGLAS FIR PLYWOOD**  
*Real Lumber*  
**MADE LARGER, LIGHTER**  
**SPLIT-EDGE**  
**STRONGER**

Here's how new PLYSCORD saves you money on *any* sheathing job!

- **QUICK—EASY NAILING.**  
Plyscord has guide lines on 16-inch centers—no guessing where the end is.
- **IMPROVED FACE.**  
No large knotholes, no pitch pockets.
- **TWO WIDTHS.**  
32" and 48"—quick fitting—minimum sawing—full 96" long—3/16" thickness (also 5/16" and 5/8").
- **TAKES FEWER NAILS.**  
Saves more than 50% on nailing costs. Takes nails right to edge without splitting.
- **SAVES TIME—LABOR.**  
Big, light panels cover large areas rapidly—one man can handle them easily.
- **GIVES GREATER COMFORT.**  
Walls of Plyscord are so light, they sound, make homes warmer.

# BIGGEST NEWS IN SMALL MIXERS!

End Discharge Trailer



**JAEGER**  
"Speedster"

• Hundreds of Pounds Lighter, with Same AIR-COOLED Engine that We Use on JAEGER Pumps

Contractors asked for it, now Jaeger has built it—a popular priced end-discharge 3½S trailer with the dependable air-cooled engine used on thousands of Jaeger pumps. Compact design saves hundreds of pounds—perfect balance—fast to trail on Timkens, pneumatics and springs—handier to spot and pour from end discharge—Jaeger quality thruout, including patented "V" Bottom Drum that doubles the mixing action.

"UTILITY"  
3½S

30% TO 40%  
MORE YARDAGE  
due to Measuring  
Batch  
Hopper!



Get Our  
New Low  
Prices!

Load while you mix and discharge—fast as a power loader—mixes all the concrete most jobs can handle, at about ½ the cost of heavy 5S non-tilts.

We also build fast, popular priced end-discharge non-tilts in 7S, 10S, 14S sizes. Send for new Catalog SM-39.

**THE JAEGER MACHINE COMPANY**

521 Dublin Ave.

Columbus, Ohio

## News of the Month

Building Activities and Meetings

### Residential Building Increase Gives Largest July Volume Since 1929; Trend Forecasts Good Fall and Winter Market

JULY home building set a new high for the year with \$87,978,000 of residential contracts, according to Dodge figures for 37 eastern states. This is 8½ per cent ahead of last July and 2½ per cent ahead of June of this year. This July home building is the largest July since 1929 and is the first July since 1929 to exceed the corresponding month of June. Sustained recovery of home building since January with steadily increasing volume each month forecasts an exceptional market for this fall and winter. The improvement in July residential construction was sufficient to bring the total seven months' figure to a point just 18 per cent behind the first seven months' of 1937. It is interesting to observe that the residential record during this seven month period, while behind last year, is 20 per cent ahead of 1936. A review of the detailed residential figures for July shows that the entire gain is in one and two-family houses, which augurs well for the near term future because, as yet, relatively few of the large low-rental projects and public housing projects have progressed to the work stage and they are therefore yet to be included in the Dodge statistics.

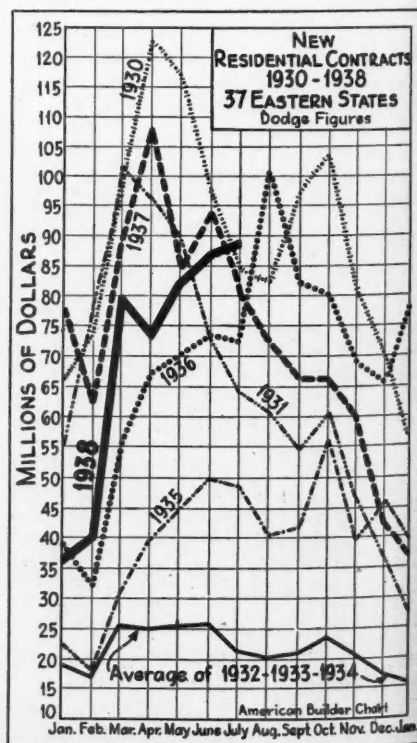
Contracts awarded for non-residential building in July show a slightly more than seasonal decline of 11 per cent from June and continue to run behind the corresponding month of last year.

Heavy engineering construction, comprising public works and utilities, has not yet begun to show the effects of the federal spending program. The July record is down 5 per cent from last month and 22 per cent below July of last year.

The value of all contracts awarded, building and heavy engineering combined, for July, aggregates \$239,799,000, which is only 4½ per cent below June, but 25 per cent behind July of 1937, which was the highest month in the year. This peculiar phenomenon in 1937 was due primarily to the letting of contracts for better than \$130,000,000 of work for public ownership. Seven months accumulation of \$1,534,071,000, while 15 per cent below the same period in 1937, is ahead of any other year since 1931.

Residential contracts first half August continue the recent advance with a seventeen percent increase over the same period last year and about one percent over last month. Dodge figures for August 1 to 15 total \$41,137,000.

AS SEEN in the chart at the right, the residential building volume for the month ending July 31st amounted to \$87,978,000 (end of heavy solid line) which is highest total for July since 1929.



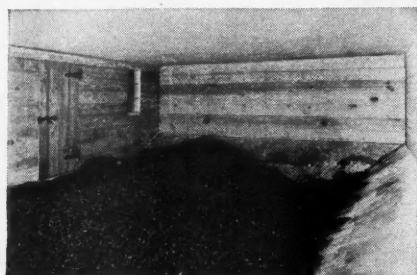


# MODERN HEAT

## in "MODEL HOMES"



Model Anthracite Home of W. Yates Lansing, Rensselaer, New York, before landscaping. Anthracite heating and air conditioning exclusively.

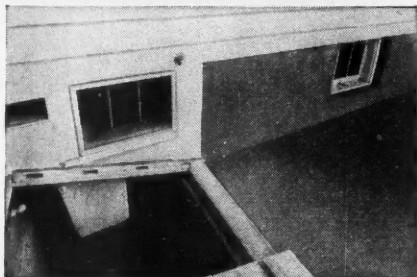


### MORE EVIDENCE OF THE ADVANTAGES OF ANTHRACITE HEAT AND AIR CONDITIONING

#### DUST-PROOF ANTHRACITE BIN

Filled from the outside, its sloping floor keeps constant supply of coal over stoker worm which feeds it to the heater.

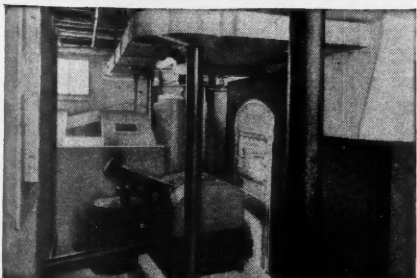
Many clients who are demanding automatic heating conveniences, can not afford to give up the fuel economy they have enjoyed with Anthracite.



#### OUTSIDE ASH DISPOSAL

Anthracite is put into the home and ashes removed without entering house. Spacious pit holds a season's ashes.

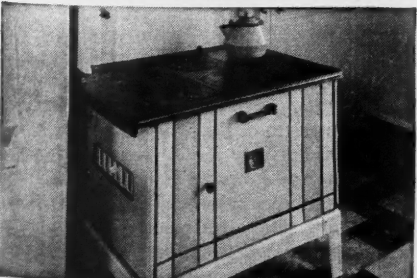
Architects can now provide both the convenience and the economy. The heating and air conditioning system in the house shown here is an example.



#### AIR CONDITIONING, TOO

Clean, compact installation of warm air heater and air conditioning units, with stoker and ash remover.

Fuel is fed from a closed bin, ashes are removed to a dust-proof vault—both automatically. Year 'round hot water is automatic. With all of this convenience, the total annual cost for fuel is far below the cost of any other type of automatic heat.



#### COOKING

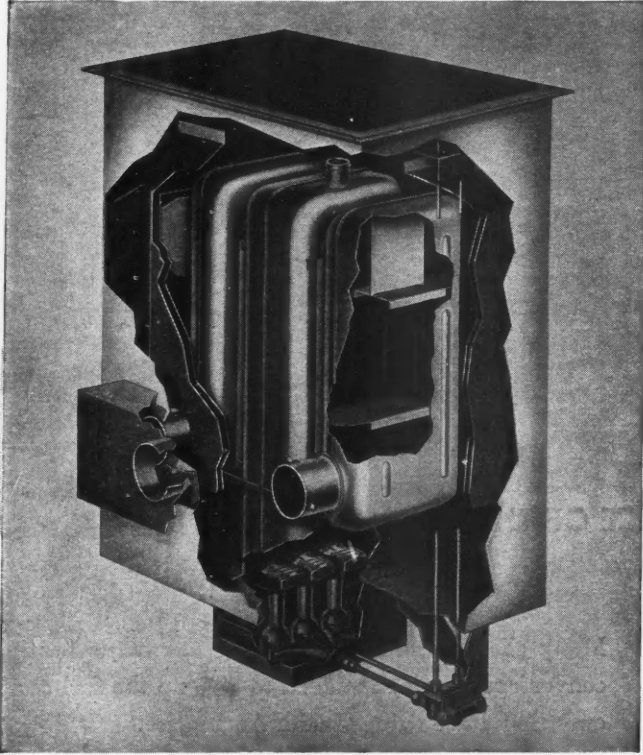
Anthracite is used exclusively in this modern cooking range.

Anthracite Industries, Inc., has prepared a book describing all types of Anthracite equipment, from the modern inexpensive hand-fired boiler or warm air furnace, to the completely automatic fuel-and-ash-handling modern stoker. Copy of this book will be gladly sent upon request. Anthracite Industries, Inc., Chrysler Building, New York, N. Y.

Pennsylvania  
**ANTHRACITE**  
COAL



take a  
good look



## at the MOST EFFICIENT Floor Furnace Ever Built!

By all standards of efficiency and economy the 1938 Payne Gas Floor Furnace heads the field! It is rapidly becoming the most popular unit of its type.

The Payne Floor Furnace is economical to buy. Easily and quickly installed. Requires no basement.

Made in America's most modern furnace plant —by manufacturers who have devoted 25 years to the production of gas-fired appliances exclusively.

*Write for full information.*

*Payne*

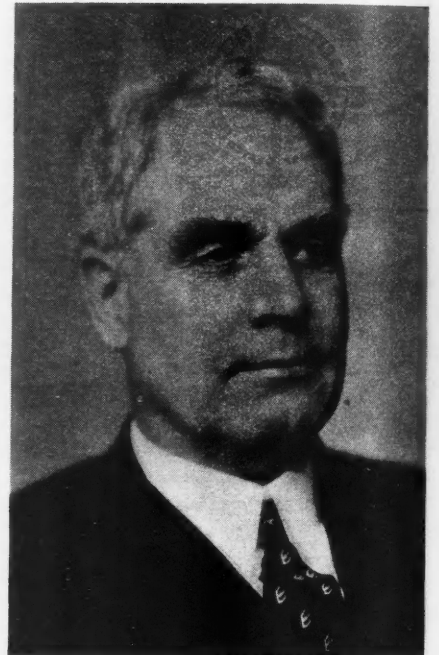
FURNACE AND  
SUPPLY CO., INC.  
Beverly Hills • California

### F. J. Plym, Kawneer Company President, Receives High Honor from King of Sweden

**D**URING the recent Swedish Tercentenary celebration, dedicated to the landing of the first Swedish party in America, Francis J. Plym, president of the Kawneer Company, was highly honored by the King of Sweden. The decoration was the Commander of Vasa, which is awarded rarely, and carries with it a very high distinction.

Prince Bertil pointed out that the honor was paid Mr. Plym for the splendid work he had done in connection with the Tercentenary, for his contributions to educational and other institutions in this country and in Sweden, and for his general achievements as an inventor and manufacturer.

Mr. Plym, formerly a practicing architect, is well known as the originator of resilient rustless metal store front construction in 1905, and of the first light aluminum or bronze type of residential window in 1933. He is donor of the Plym Architectural Scholarships at the University of Illinois.



FRANCIS J. PLYM, president of Kawneer Company, who recently received a decoration of very high distinction from the King of Sweden.

### Crane Launches Important Campaign to Stimulate Heating Business

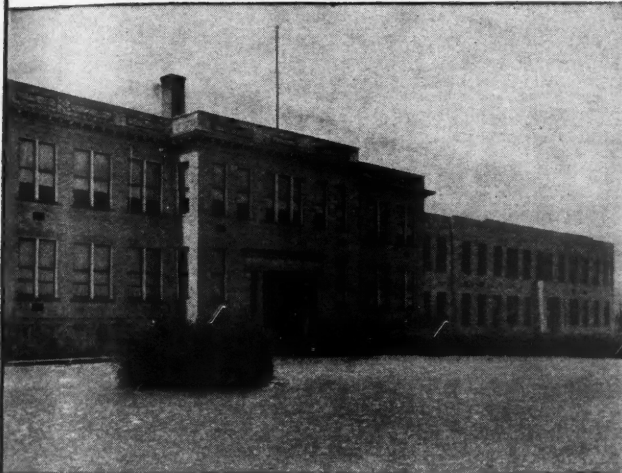
**A** 4-WAY campaign to stimulate business for the heating contractor has been launched by Crane Co., Chicago. General and trade magazines are being used as well as folders, window displays, stickers, newspaper cut and mat services, advertising slides and Crane heating calculators, the last a device which enables contractors to estimate automatically the heating requirements of any building.

The 4-way campaign is based on the four services which, according to Crane Co., a heating contractor alone is able to provide: (1) Thermal survey to determine heating needs; (2) the specification of the right products; (3) proper installation; (4) dependable neighborhood service.

A red and black folder, 10 $\frac{1}{4}$  by 8 $\frac{3}{8}$  inches, with large type and illustrations on heavy paper, has just been released by Crane Co., announcing the campaign. It describes the entire program in a terse, impressive manner, showing how the Crane heating line is synchronized with the sales problem of the heating contractor.

"The campaign has been timed not only for the season when the greatest heating business is done, but statistics reveal that building and remodeling are increasing as times improve," said Russell G. Creviston, director of advertising and sales promotion of Crane Co. "We know from long experience that the heating contractor is the person best equipped to handle this business and we propose, in this campaign, to back him to the limit."

# MORE GLASS MORE LIGHT *for* School Buildings



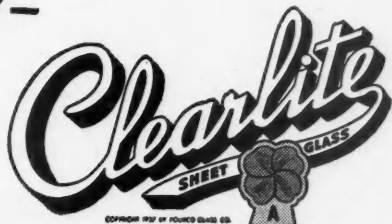
Monroe City High School, Monroe City, Indiana  
Architect: Schucker & Bixby, Vincennes, Indiana  
Contractor: W. A. Routt & Son, Washington, Ind.

The trend in School Buildings is towards the use of more glass—preventing eye strain and providing more of the sun's health rays.

Large areas of glass make possible more natural light and provide better vision for the students. More glass means more light and more light means more health.

Consider the use of larger, undivided windows for schools, and specify Clearlite Quality Glass, because of its clearness, brilliant lustre, and uniform thickness.

## SPECIFY—



EASY ON THE EYES



FOURCO GLASS CO. • CLARKSBURG, W. Va.  
Branch Sales Offices: NEW YORK • CHICAGO • FT. SMITH, ARK.

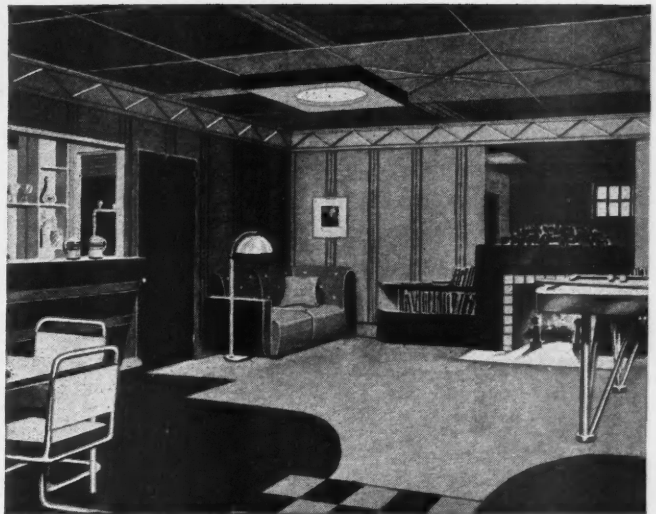


"A NEW GAME ROOM IN THE CELLAR? HOW GRAND!"

"YES, WE FOUND WE COULD AFFORD IT WITH MASONITE!"

● Specifying Genuine MASONITE gives your clients so much more for their money. Permanently beautiful wall and ceiling effects that look expensive but cost very little. Unusual modern designs and treatments that are easy to achieve. And — with Genuine MASONITE INSULATION, real insulating value combined with beautiful, natural surfaces that need no additional treatment.

The model game room illustrated on this page presents some interesting uses of Genuine MASONITE. We will be glad to send FREE simplified working plans for your files, together with samples of the MASONITE Products suggested. Just mark and mail the coupon below.



Copyright 1937, Masonite Corporation

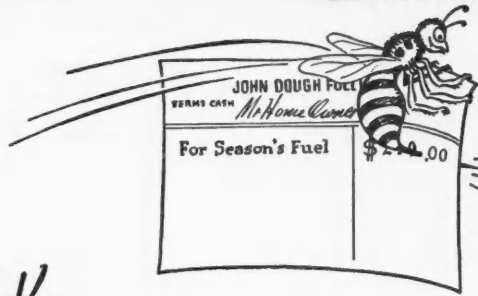


**MASONITE** THE WONDER WOOD  
OF A THOUSAND USES  
A MISSISSIPPI PRODUCT  
SOLD BY LUMBER DEALERS EVERYWHERE

MASONITE CORPORATION, Dept. AB-9  
111 W. Washington Street, Chicago, Ill.

Please send FREE simplified working drawings of the model game room shown in your December advertisement. Also the MASONITE Products suggested for its execution.

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_



*Hank* SEZ—

### He Knows A New Way To Sting the Fuel Bill With a Yaller Jacket



It's rumored that our Burnham folks have got all ready for use, a bran' new boiler what's called The Yaller Jacket. There's been a lot of heavy guessing as to just what the boiler is like, and maybe too how hard it stings. There's some what's been so bright as to guess its Jacket is yaller, but none, so fur, has had any notion of its extra heat strainers; it's maybe one more combustion chamber; and its handy good lookin' front porch.

It looks now, as if next month about this time, I'll be tellin' the world all the low downs on this fuel bill stingin' Yaller Jacket Burnham.

That makes you mad don't it, waiting that long? Well if I wuz that mad, I'd just write plumb straight to our Burnham folks, askin' fur some printin' matter and not mentioning my name! More'n likely they'd forget 'twasn't October yet, and send the printin' right away. Maybe even before that even. Which goes to show how quick they are.

*Hank Hinds*

**BURNHAM BOILER CORPORATION**  
Irvington, New York    Zanesville, Ohio  
Export Department:  
50 Church Street, New York City

*Burnham Boiler*

### Plywood Association Buys Dri-Bilt House

THE Dri-Bilt plan of house construction as developed by Jacques Willis of the C-W Plywood Company of Chicago, Ill., has been purchased by the Douglas Fir Plywood Association, and will be featured as an important part of the plywood industry's enlarged trade promotion program, according to an announcement by W. E. Difford, managing director of the Association.

The Dri-Bilt plan, as developed by Willis, involved the construction of moderate-priced houses according to specified plans involving the extensive use of Douglas fir plywood for interior wall paneling and ceilings, for sheathing, for subfloors, and for built-ins. Dealers were provided with plan books for use in contacting their customers and from which detailed plans and guaranteed material lists could be ordered. Willis featured the fact that Dri-Bilt eliminated 1,000 gallons of water in the ordinary six-room house constructed in the conventional way. He also pointed out that Dri-Bilt followed progressive merchandising methods in that it allowed prospective home builders to purchase a home as a unit, rather than as so many board feet of lumber, so many pieces of electrical fixtures, so much painting and decoration, and so much lath and plaster.

Dri-Bilt met with considerable success, according to W. E. Difford, and since it was logically a field of activity in which the Douglas Fir Plywood Association was vitally interested, it was natural that it would be consolidated with the entire trade promotion program.

### Celotex to Make Asphalt Roofing, Siding

THE Celotex Corporation has announced a complete line of asphalt shingles, siding and roll roofing to be manufactured in seven plants strategically located throughout the United States. Dr. Elbert C. Lathrop, vice president, is to direct the chemical and engineering manufacturing development and control of Celotex roofing.

The new products are to be known as "Celotex Triple Sealed Shingles, Siding and Roofing." The three processes which Celotex uses in the combining of the asphalt and the felt are, first, an "inner sealing" of the felt; second, an "outer sealing"; and finally, the felt, now double sealed, is "face sealed" with a coating of high melting point, tempered, mineral filled asphalt.

### New Marketing Organization for Carstenite

CARSTENITE, a panel consisting of real wood face 1/60-inch or thinner, resin fused to Masonite, is to be marketed nationally by Carstenite Sales, 228 North La Salle Street, Chicago. A dealer organization is being developed in all the principal cities in the United States and Canada.

Carstenite is the invention of A. N. Carstens, and is patented under United States Patent No. 1,997,996. It is the only wall covering of its particular type on the market. The manufacturers claim it can be used wherever wood, plywood and other types of wall coverings are now being used.

### Armstrong Adds Wall Panels to Line

WITH the purchase early in August of the Standard Wall Covering Company, Inc., of Philadelphia, by the Armstrong Cork Company of Lancaster, Pa., Armstrong's line of lumber dealer products has acquired a new wall covering sold heretofore under the principal trade names of Monotile and Monowall.

Hard and durable, the product has an attractive, smooth, glossy finish and is available in four types, the most popular being tile effects achieved with score lines in contrasting colors. Other types are 10 solid colors, 6 accurate reproductions of Italian, French and Greek marbles and reproductions of four fine woods. The material comes in sheets as large as 4 by 12 feet; is 1/8-inch thick, and can be bent to a 3-foot radius without cracking the glossy surface. It does not check or craze nor is it affected by chemicals encountered in the kitchen and bath. It is easily washed with soap and water. Armstrong's new product can be erected with adhesives or nails with a minimum amount of labor.

House

by Jacques  
L., has been  
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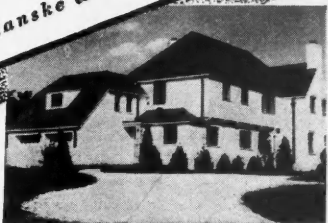
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n, French  
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inch thick,  
the glossy  
chemicals  
with soap  
adhesives



*I chose Mesker Guildhall Casements  
for my own home, and of course we  
use them extensively in the homes  
which we design and build for our  
many clients*  
..... says A. J. ROTTY  
of Manske & Rotty..... Architects



Residence on Missouri River Bluffs



Schlingman Residence, St. Louis County

Manske & Rotty, prominent St. Louis architects, like hundreds of other leaders in their field, are using Mesker Guildhall Casements to make their homes more attractive, more livable, and more practical.

They know, too, the advantages of Mesker Guildhall Casements with their Solid Bronze Feather-touch Hardware. They appreciate the luxury of a window that weathers tightly, opens and closes at a flick of the finger, and permits up to 100% ventilation.

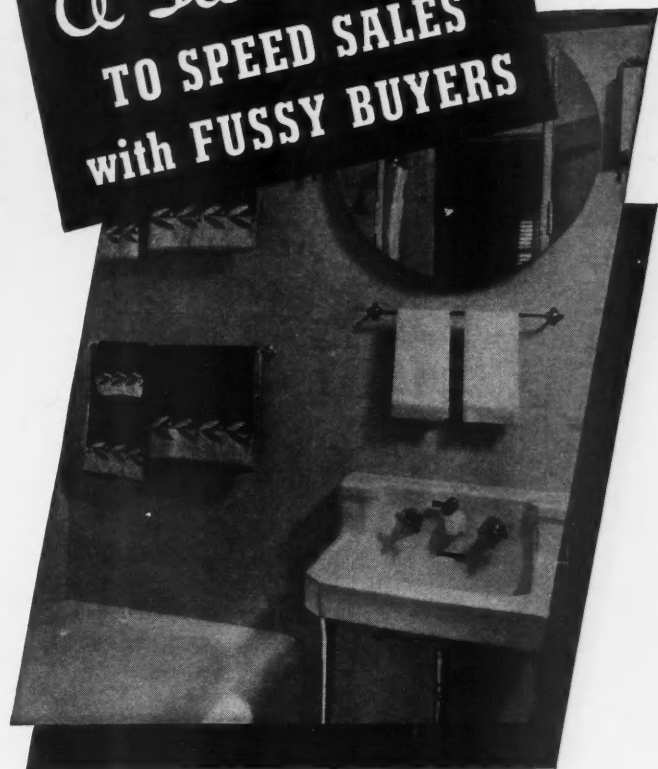


Write today for the big, free Mesker Steel Sash Handbook and let Mesker Guildhall Casements help to sell your houses.

**Mesker**  
SINCE 1879

MESKER BROS., 424 S. SEVENTH ST., ST. LOUIS, MO.

*A Sure Way  
TO SPEED SALES  
with FUSSY BUYERS*



MR. and Mrs. Prospect look over one of your jobs. They like it. The sale "looks good" . . . and then the Missus, who has been reading up and looking about . . . hesitates over those walls.

She's fussy. She wants "the last word" in construction . . . she wants permanent, beautiful and easily cleaned walls in the '38 style.

That's where colorful, successful Tile-TEX, the new decorative wall material, welcomes her inspection and helps your sale. She readily admits the modernity of Tile-TEX . . . instantly admires the exquisite colorings . . . visualizes how easily they can be kept clean.

For new job . . . or modernized . . . Tile-TEX Walls—and Floors—offer low cost and high efficiency . . . and our nearest Distributor has a real fact story for you. Write for his name and a copy of the new folder, "Decorative Walls By Tile-TEX."



OR YOU MIGHT CARE TO REPRESENT  
US IN YOUR TERRITORY

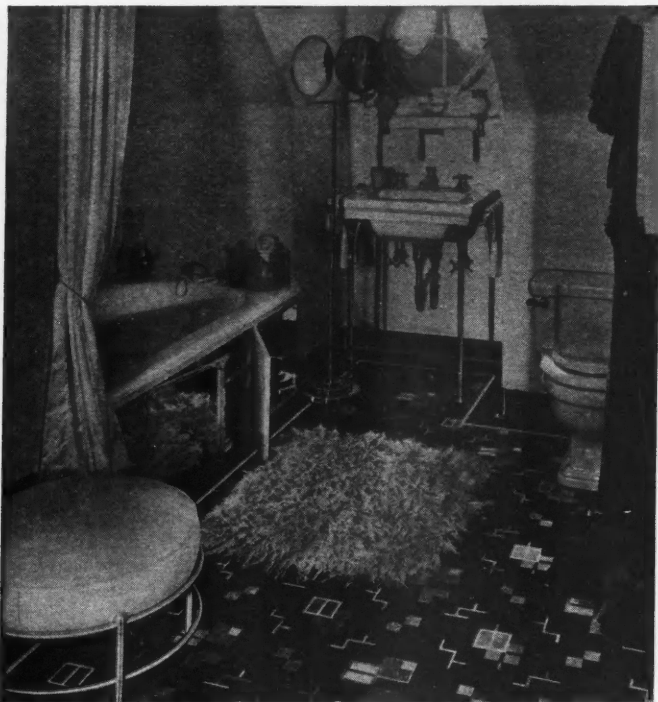
The Tile-TEX Company  
Chicago Heights, Illinois

If my territory is open, I would like to have complete information on the Tile-TEX Dealer's proposition.

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

# MODERN FLOORS

Can help put **NEW SALES LIFE**  
into old houses



**H**ERE'S the way to step up slow rentals and lagging sales. Give bathrooms and kitchens new eye-appeal with modern, colorful floors of Armstrong's Linoleum. It is a beauty treatment that pays.

These floors speak for themselves with their attractive colors and patterns. And when you mention the name *Armstrong*, there's an added sales help. More than twenty years of national advertising have created tremendous acceptance for Armstrong's Linoleum.

Choose the floors you want from more than 200 designs. With this wide variety, and with five thicknesses available, you'll have no trouble selecting unusual floors and at the same time keeping within your budget. Armstrong's Linoleum is not expensive, either in first cost or installation.

Let us tell you more about how Armstrong's Linoleum can help you boost sales. Write today for your copy of a free, color-illustrated book full of practical ideas. Armstrong Cork Products Co., 1218 State St., Lancaster, Pa.

FLOORS LIKE THIS help speed sales. This one is Armstrong's Linoleum No. 0868. The walls are Armstrong's Linowall—a washable linoleum-like wall covering which will help you cut costs.

RUBBER TILE • LINOTILE (OIL-BONDED) • ASPHALT TILE

*Armstrong's* LINOLEUM  
and RESILIENT, NON-CERAMIC TILES

CORK TILE • LINOWALL • ACOUSTICAL CEILINGS

## LETTERS from Readers on All Subjects

Facts, opinions and advice  
welcomed here

### Likes TruCost; Wants More

Algoma, Wisconsin.

To the Editor:

Your Mr. Holt was in this morning and called my attention to your *TruCost* articles. Since he left I have studied this and the more I see of it the more I feel that this will be a real help to us. The fact that I had not seen this before only proves that all too many of us in this business are very delinquent in our reading of trade journals.

Mr. Holt said something about having this data for all plans shown in other magazines. This will be a great help because only recently I had a customer bring in a plan from some woman's magazine and want a price. I had to substitute one of our own plans on which we had a list of material; but if we had the *TruCost* figures for those plans we would be "sitting pretty." I hope that you will give us this information in your *American Builder* before long.

Our contractor friends appreciate receiving *American Builder* and you may be sure that I shall look forward to its receipt each month now that I understand your new system.

ALGOMA FUEL CO.,

By Frank Lohrey, Mgr. & Partner.

### This Rhyme Has Sold Several Houses

Chicago, Ill.

To the Editor:

Let Us Build your House

WE CAN'T BUILD YOUR HOME

We can build you a HOUSE  
Anyway that you plan  
With play-room for kiddies  
And workshop for MAN  
Surrounded by shade trees  
And places to roam  
But houses are HOUSES  
We can't build your HOME.

We can build you a HOUSE  
Near the woods from its trees  
With barns for your cattle  
And shelter for bees  
A cellar dug deep  
And lined with field stone  
But all these are just HOUSES  
We can't build your HOME.

We can build you a HOUSE  
That's the pride of your state  
With a pool to refresh you  
Coat-of-arms o'er your gate.  
With warm, friendly windows  
And a jewel-studded dome  
But houses are HOUSES  
We can't build your HOME.

For HOUSES are HOUSES  
No matter the plan  
The products of Nature  
And labors of MAN.  
They can be consumed  
And go back to loam  
But FAITH, LOVE and TRUST  
Ever-present builds HOME.

by F. H. BEILFUSS.

BEILFUSS the BUILDER,

1532 East 75th Street, Phone, Hyde Park 5600.

### Wants "Standard Prices" on Building Materials

Chatham, N.J.

To the Editor:

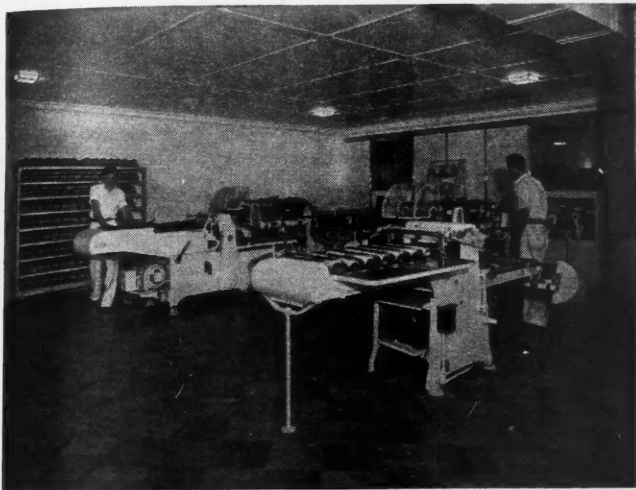
For 15 years I have subscribed to the *American Builder*. I have always had the conviction that it was your aim to help the building industry, but I have never seen an article in the *Builder* where you advocated standard prices on building material. The need for standard prices is brought to the fore since you introduced *TruCost* estimating. What good is a unit price when prices on building materials jump up and down like a jack rabbit every time there is a slight variation in building permits taken out? Do the lumber companies pay their labor more, do they pay higher freight rates, if they have an order of a million or more feet of lumber in June than they had in May? They do not. Does the automobile manu-

(Continued to page 90)

American Builder, September 1938.

"...OUR CLIENTS  
ARE VERY PROUD OF  
*Their Maple Floors*"

... says The W. E. LONG CO.,  
Bakery Engineers, Chicago



Northern Hard Maple block floor in the Smith Bakery at Mobile, Alabama

"In rehabilitating the Smith Bakery", writes The W. E. Long Co., "the usual consideration was given to the durability, ease of cleaning, long life and comfortable working conditions incident to the use of Maple Floors. But the final deciding factor was that Maple Floors would add most materially to the finished appearance of the entire plant and would be of great value from an advertising standpoint. Our clients are very proud of their Maple Floors."

That Hard Maple means a satisfied customer, is tradition. With its durability, economy, and lasting good appearance, this longest-wearing comfortable floor merely confirms, year after year, the good judgment of the man who laid it. Always, Hard Maple (available in strips or blocks) makes and keeps a friend for you—whether in bakery or factory, mill or warehouse, school or store or home.

**MAPLE FLOORING MANUFACTURERS ASSOCIATION**  
1781 McCormick Building, Chicago

See our catalog data in Sweet's, Sec. 11/76.

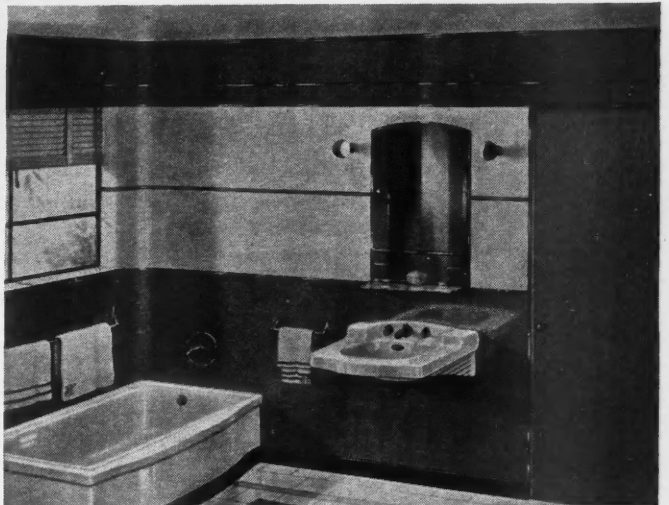
Write for our folder on "Heavy Duty Finishes" for old and new Maple floors.

Floor with  
**MFMA Maple**  
(NORTHERN HARD)

To be sure of Association-guaranteed grading, specify and look for the MFMA trademark (indented and stamped on the wood).



• Whatever helps to put up the "SOLD" sign is a sound investment for the builder. For quicker turnover and better profits, it will pay you to investigate Formed Metal Plumbing Ware.



• The striking beauty of these modern fixtures, their graceful lines and delightful colors, offers a personal luxury appeal that packs a powerful sales punch.

• And when you show your prospects that each piece of this ware carries the well-known Armco label, they are not only sure of highest base-metal quality and finest porcelain enamel finish in the fixtures, but they will know that the same excellence of workmanship and material extends into every hidden detail of your construction.

• Specify Formed Metal Plumbing Ware on your next job. If your plumber cannot show it to you, write us for complete information. The American Rolling Mill Company, 2771 Curtis Street, Middletown, Ohio.



**ARMCO IRON**  
A NAME KNOWN TO MILLIONS

## Don't plan homes with DEAD END CELLARS



Specify  
**BILCO**  
COPPER STEEL  
CELLAR  
BULKHEADS

**T**HINK how easy to move large furniture in or out of a basement with an exit like this. A really convenient, safe cellar has a Bilco all-metal bulkhead. Shipped knocked-down complete for quick installation, to replace old wood hatchway, or on new homes designed for a modern, outside basement entrance. Three standard sizes and to order. Last virtually forever. Burglar-proof. Moderate in price. See Sweet's or write for complete data. If dealer can't supply order direct.

Agents: Write for territory.

**BILCO MFG. CO. 165 Hallock Ave. NEW HAVEN, CONN.**  
Sidewalk Doors - Cellar Bulkheads

MAKE

# BIG MONEY

## SURFACING FLOORS



American Floor Sanders are making big money for a lot of men (we'll send you their names and pictures). There is no reason in the world why you shouldn't also be making this big money.

### BE OWN BOSS

You already know a lot about the building game and this is a real chance to get into something for yourself and be your own boss.

### EASY TO RUN

American floor sanders are easy to run. There is no hand scraping the American way and no skill required—in fact, inside of a few hours you can run one as well as an "old timer."

American Sanders are easy to take from job to job and you don't need any helpers. Sometime during every man's life he has to decide whether to go ahead and "be somebody" or stay in the same old rut.

### GET DETAILS

Find out more about this interesting money-making work today by signing and sending in the coupon below for free details.

**RETURN  
COUPON  
BELOW**

The **AMERICAN** FLOOR SURFACING MACHINE COMPANY

511 SO. ST. CLAIR ST.

TOLEDO, OHIO

Gentlemen:

Send complete details, general catalog and prices on your American floor sanders without any cost or obligation to me whatsoever.

Name .....

Street .....

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

## LETTERS DEPT.

(Continued from page 88)

facturer charge more for his cars in July than he did in June because he sells more? He does not, and that is why we need a stabilized price structure in the building industry. Gentlemen, if you can establish a standard price on building materials, you will have advanced the greatest single factor to a stabilized building industry, and until such a thing is established, your *TruCost* way of estimating is of very little use. When the above is accomplished, your estimators can sit down and work out unit costs which will apply to any building.

HANS P. CHRISTIANSEN.

## Low-Priced, Small Town Homes Needed

Blue Earth, Minn.

To the Editor :

Note with interest a news item in today's paper re your sponsoring a campaign to stimulate home building.

May I suggest that you contact the FHA with a view to doing more in the line of low priced homes in the smaller towns and cities. There is a great need for homes that can be handled on say about a \$15 per month basis.

We find in our community many good families in the low income bracket group living in absolutely unfit houses and many instances where several of such families are crowded into one house with inadequate space per family because individual houses are not available.

It appears to me it would be very good business for all concerned that the FHA should make a special effort to co-operate with building material dealers and endeavor to stimulate this line of home building. I believe you will find in all small towns and cities plenty of residential lots available to build small homes on at very reasonable prices. There is great need of this. Few small towns or cities have any or enough apartment houses. Small individual homes are the great need.

W. G. SINN,

Commissioner Second District, Faribault County.

## Not New; But Still Good

Riverside, Calif.

To the Editor :

In your July issue you mention a house being built by school-boys at Champaign, Ill., and say it represents something new in the building industry. May I say that just opposite by own home is a very attractive and well built five room house built for me by high school carpentry class just sixteen years ago? And the same school class has built a house every year, with perhaps one or two exceptions, since then; and some years has built two houses. Sometimes they were sponsored by Board of Education; sometimes, as in my case, they were built for teachers in the school. So the idea is not exactly new.

N. O. MOORE.

\* \* \*

## New Way to Slum Clearance

(Continued from page 36)

dividuals or corporations for use or investment."

Warterfield says that under such a setup ample private capital would be immediately available to begin the job of rebuilding the obsolete districts.

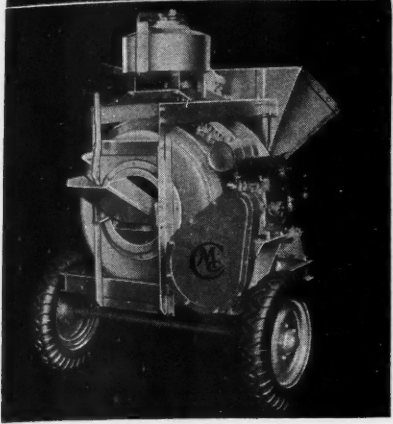
"I have had a number of conferences with investment bankers who have made extensive studies in the subject of housing and they tell me that plenty of money could be had under the system we propose," he says.

The plan developed by Warterfield and his associates is to be brought to the attention of Gov. Horner and Mayor Kelly and is expected to be presented to the legislature at its next regular session in January.

Proper solution of the problem of reclaiming the depreciated areas would put Chicago in the forefront of American cities. Chicago would lead the way for the entire nation, because although all the large cities have been struggling with this big problem for years, none has yet found a workable answer.



**ANOTHER  
PROFIT MAKER**



**LOOK!**

**Trim End Discharge design for easier handling and greater convenience.**

**Real roadability and maneuverability.**

**Balloon Pneumatic Tires—Timken Bearings — Cantilever Springs. Disappearing Tongue.**

**Biggest production with low front, high back gated batch hopper. Up to 40 yards a day.**

**CMC proved double quick mix and remix action. Beats all competition in design — performance — high production.**

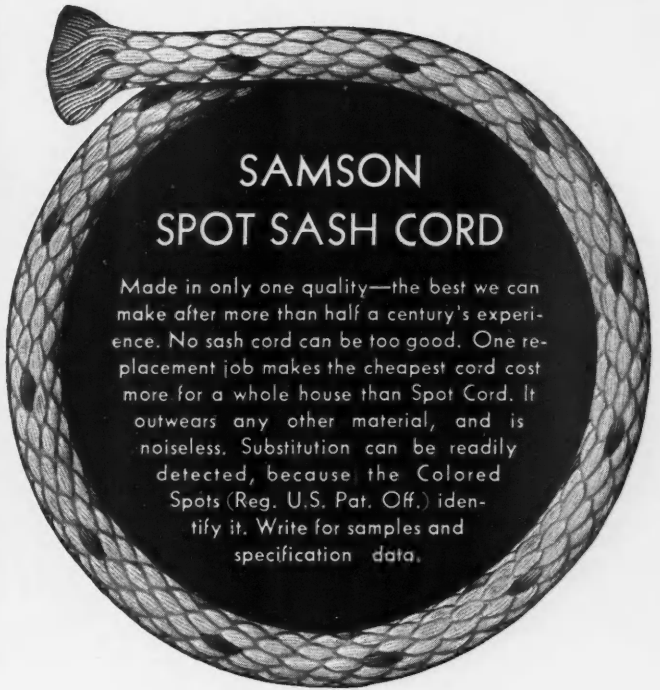
**And the PRICE will surprise you.**

Whatever you need in a Mixer, we've got it—also Dual Prime Pumps, Hoists, Saw Rigs, Pneumatic Tired Carts and Barrows.

**The NEW C.M.C.  
3 1/2 End Discharger**

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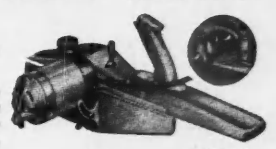
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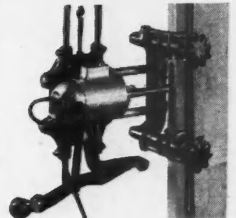
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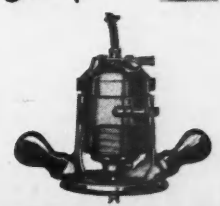
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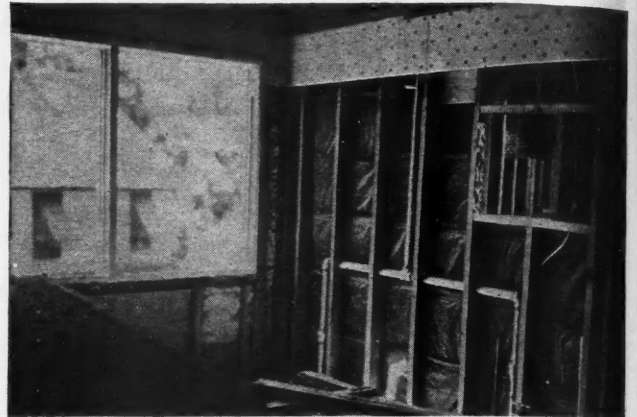
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## Rental Housing

(Continued from page 37)

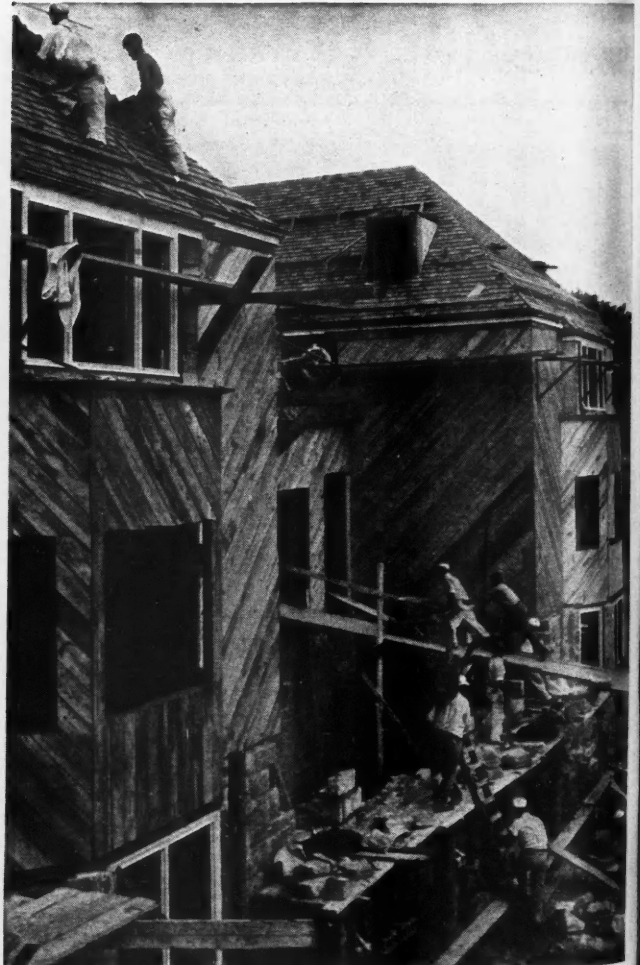


INTERIOR view of Fort Hill Village apartment showing use of rock wool insulation in walls and perforated Gypsum board plaster base. An interesting feature also shown is the use of Balsam Wool blanket type insulation in bathroom wall to deaden sound.

being granted for this type of development.

The Fort Hill Village project pictured with this article is an interesting development of the new garden-type apartment layout. The fourteen apartment buildings are of Georgian colonial architecture and are grouped about a large open court which will be attractively landscaped. The project occupies a tract of seventeen acres of which

(Continued to page 94)



CLOSE UP view of one of the Fort Hill Village 16 unit apartment buildings. Balloon type wood frame is used covered with diagonal sheathing, shingle roof, red brick exterior. The contractor is Delval Construction Corp.

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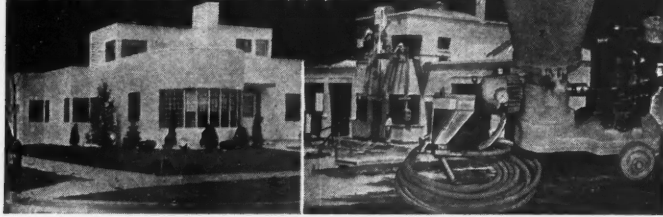
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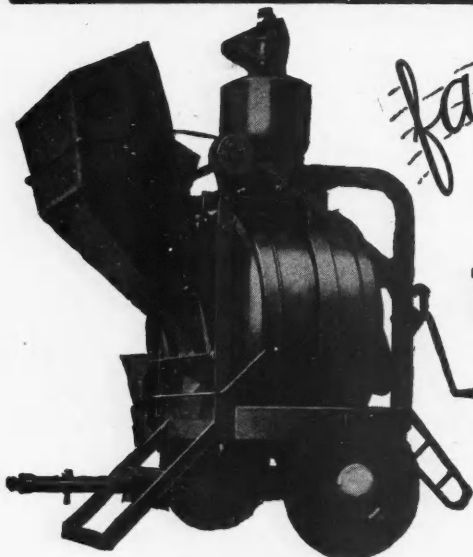
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## Rental Housing

(Continued from page 92)

only one-fourth is covered by buildings. Designed by architects Sibley & Featherston of New York City, the apartment buildings each contain sixteen suites ranging from three and one-half to four and one-half rooms. Each house has four entrances. Community garages are provided.

The buildings are of frame construction with an attractive red brick Georgian exterior. They are insulated with 3 inches of rock wool, have red cedar shingle roofs, concealed convector type radiators, gypsum board plaster base, copper tube piping throughout. Bathrooms are insulated and sound proofed with Balsam Wool blanket insulation. The steam radiator system is serviced by Pacific steel boilers.

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\* \* \*

## Less House for Less Money in England

(Continued from page 39)

builders, who, taken collectively, do a large volume of construction. There are probably not more than a dozen of the very large builders.

Thus another myth about British building fades. As a result of the misleading reports that have been prevalent, the American building industry has been urged to expand the size of its operations. We have been told that the small operator must give way to the gigantic firm operating in a dozen cities and building thousands of houses. Several firms have fallen for this type of talk to the extent of investigating the possibilities. Before they spend any real money in attempting to set up such an organization, they might well consider that there is a vast difference in the size and homogeneity of the English and American countries. The population of England is much more heavily concentrated and the distance between cities is much less. Local customs and habits tend to be much more similar throughout England than they are in the widely separated towns and villages of America.

Another surprise to the native American surveyor of the British building scene is to find that more than 80 percent of the home building is being done by private builders without government subsidy or help of any kind. Here again, the result of reports by social-minded housing "experts" has led us to believe that the bulk of British housing was subsidized by the government. Out of some 3,250,000 houses built in Britain since the World War, 2,250,000 have been built by private enterprise. More recently the percentage of subsidized building has decreased so that in 1936 out of a total of 330,000, only 64,000 were built with subsidies.

The job the British have done in their subsidized housing is one, however, that Americans may well consider. In the first place, the British slum problem was

(Continued to page 98)

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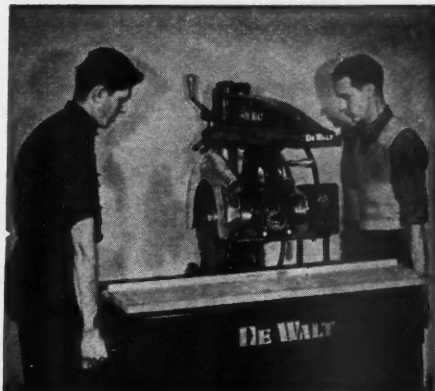
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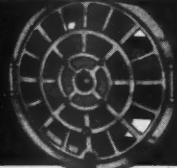
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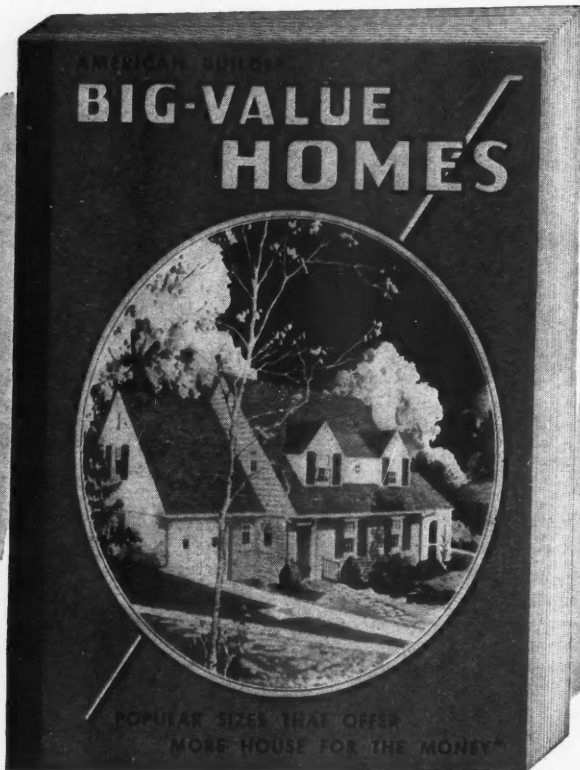
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(Continued from preceding page)

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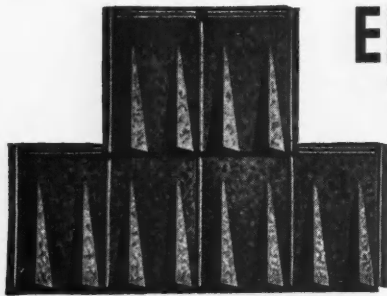
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## Less House for Less Money in England

(Continued from page 94)

extremely bad—probably much worse than our own, which it must be admitted is pretty bad. The first attempts to provide government aid to building were made following the World War. Thus, in its housing as in its other reforms Great Britain started long before we in America came to realize the need. The first attempts at government subsidies resulted in sharp increases in costs, both by labor and material men, and the housing that was provided was more expensive than the income of the occupants justified. In succeeding years a system of subsidized building, operating through local housing authorities has been evolved which is honest, efficient, practical and apparently reasonably satisfactory. The important points for American building men to consider are that the cost of the dwellings built for persons unable to afford privately-built houses was kept down, the construction is originated and carried on by local housing authorities and the houses so built are kept out of competition with private builders.

The first steps in government subsidized housing in the U. S. are showing the same errors made by the early British efforts—the houses are too expensive. Speaking on this subject recently, John W. Laing, one of Britain's largest builders, stated, "There is real harm done by making subsidy houses very costly for (1) it is an unnecessary extravagance; (2) the subsidy ultimately has to be paid largely by the man who occupies a nonsubsidy house, and it may be that the man who receives the subsidy will be living in a better house than the man who helps to pay for it; and (3) the more subsidies that are given the less the scope left for private enterprise, which is the economic lifeblood of the nation."

Another important feature of British slum clearance efforts is that the bulk of the new houses is now being built on the outskirts of cities. When a slum section is torn down it is given over to other purposes, frequently used as a park or playground. An equal number of housing units, however, is then built in the form of a "garden apartment" or garden home development on the outskirts of town, and the slum dwellers are moved into these houses where they pay rents comparable with those they had been paying in the slums. The British have concluded that small homes—either two or four-family, or the row type—are better than large apartment type structures.

### A Few Conclusions

In respect to the way the British have handled their slum clearance problem, America has much to learn. We must learn to build lower-cost public housing and we should not attempt to solve the entire problem overnight. As regards the private building industry, it is time American builders refuted some of the unjust criticisms and comparisons leveled against them. The average American home, in my opinion, costs the buyer less in terms of his income than it does in England. Furthermore, it is so infinitely better equipped that there can hardly be any comparison. The closest statement is that the British house is 20 years behind the American-built home in comfort, convenience and interior appointments. Some of the more recent American equipment and building practices are just now beginning to penetrate the more expensive, upper-bracket houses, but few indeed have reached the lower-priced brackets. As for the idea proposed by some reformers that a few big building firms should take over all American home building, perhaps the best answer is, *let someone else put up the money!*



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This 32-page Supplement to the 1937 BOOK GUIDE lists all changes in prices and editions that have occurred since it was published. It also describes all the new books which have been brought out within the past 15 months. The 250 new books are indexed for ready reference.

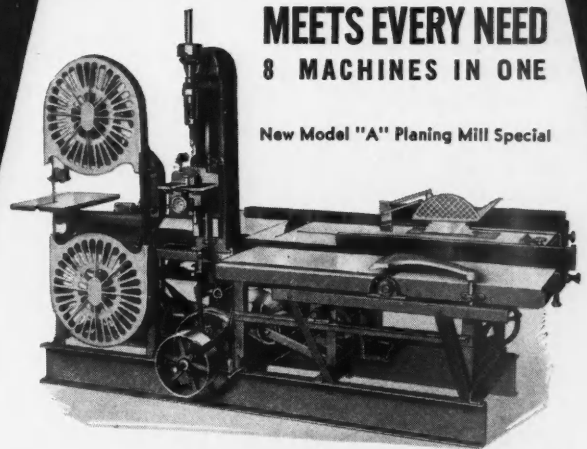
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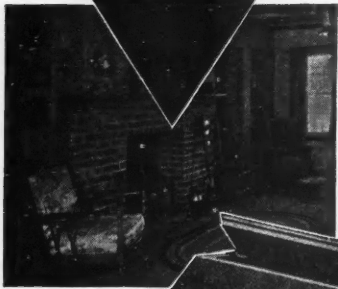
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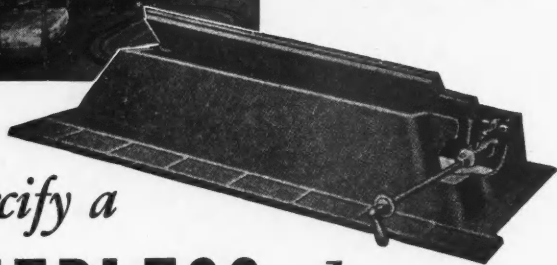
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MANUFACTURERS OF "TROUBLE SAVERS" SINCE 1912

**Walls Molded Flat**

(Continued from page 67)

nections. This angle is bolted to the top edge of the wall slab by two removable machine bolts fitted with pipe sleeves and embedded in the concrete, the bolt being screwed into embedded nuts. A dummy angle of the same size as the lifting angle may be used until the form is stripped, when it is removed and the lifting angle assembly bolted on. This scheme permits the casting of several walls at one time without going to the expense of providing more than one set of lifting angles.

When the rim planks and window and door framing have been stripped, the hoisting equipment is set up. First the stabilizer and the base of the mast are put in place. The mast is then raised by pivoting it about the base. The cable blocks are next attached. When two or more masts are used, the strain on the cables should be equalized before lifting operations start. Rectangular walls can be lifted with one mast when the lift does not exceed 8,000 lb. or the slab is not over 18 ft. long. Each additional 18 ft. of wall length or fraction thereof requires another mast. In no case is the end mast to be more than 9 ft. from the end of the wall; no two masts should be farther apart than 18 ft.

Since the greatest lift is at the start of lifting operations, two men are used on each winch. When the slab has passed the half-way point, only one man is needed at each winch, the other two men being then used to snub the wall as it approaches the vertical position. Unless the wall is a short one, two snubbing lines should be used per wall. Tilting the wall takes about 45 minutes, and the entire operation—erection and dismantling of hoisting apparatus, lifting wall, and bracing it—requires about two hours.

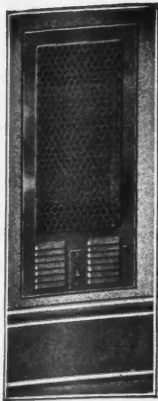
The wall, when erected, is temporarily braced by clamping a short section of pipe to the top edge of the wall, machine bolts having been embedded in the concrete for this purpose. Another pipe is attached to this short section and clamped to a bolt protruding from the side of the floor slab. When a second wall has been erected, the two walls are braced together and the long wall brace is removed.

When two adjacent walls have been erected, the corner columns are placed and the braces may be removed. Corner columns can be most economically formed with standard wood or steel forms. Since the columns require so little concrete, use of buckets for placing concrete may be found the most economical, unless there is other use for hoisting equipment.

Walls built horizontally, then raised into position, afford economies and advantages not possible in vertically placed walls. The first layer placed, for example, may be concrete made with a light-weight aggregate with high insulating properties, while the exterior of the walls may be made of dense concrete. Rigid insulation also may be placed on the floor slab before concreting of the wall begins. This insulation board bonds to the concrete and serves not only as insulation but as a plaster base. Other combinations of materials may be used in this method of construction.


Cored or ribbed walls are adaptable to this method of construction, but their economy depends upon how cores and ribs are formed. Multi-cell paperboard, ½ in. thick, rigid insulation or expanded metal lath, are materials which may prove economical for forming.

The "tilt-up" method of constructing walls is best suited to one story buildings. Two-story buildings, however, have been built by this method, by casting each story wall on its respective floor.



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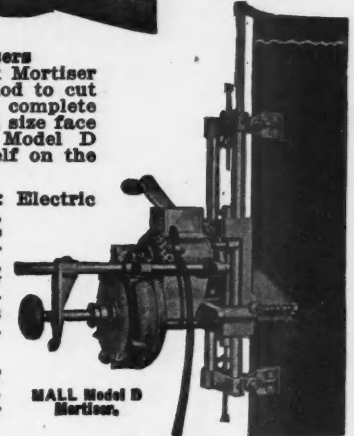
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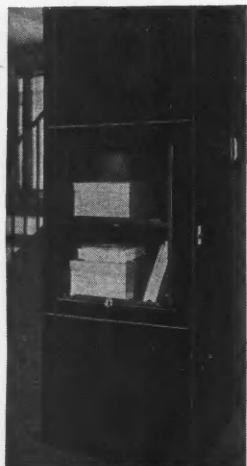
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## TruCost Brings Order Out of Chaos

(Continued from page 62)

important, by keeping a file of *American Builder* one will have hundreds of home designs to show prospective builders in a few months. With the *TruCost* Units already given, it is a simple job to have the true cost of each house in one's own locality whether he remains there or moves to some other locality. All that is necessary is to compile new unit costs because the wall surface, floor surface, roof surface and all other of the component units of any *American Builder* home design remains constant for all time and for all places.

Dealers and contractors in the smaller towns where there is very little house building will find that they can compile their unit costs and then *TruCost* a house in much less than half the time required by the laborious list-of-material method. And this can be done without having to hide away to avoid interruptions or work nights and Sundays when one is tired and so apt to make mistakes.

\* \* \*

## Window Conditioning

(Continued from page 72)

ities (between 35 and 45 per cent). In that state, the air contains invisible particles of water which condense when the air comes in contact with a cold surface where it is deposited. With Window Conditioning, however, the inner pane of glass is kept nearer to room temperature—thus condensation is avoided, high relative humidities can be maintained, and windows remain dry and clear in severe weather.

When condensation appears upon a window, it is a sure sign that the air is becoming de-humidified. If the process is not checked, the air will eventually become dry and unhealthy. On the other hand, if additional humidification is provided, condensation often continues to the point where water actually runs down the window pane, drips off the sill, damages woodwork, soils walls, and even ruins draperies. But, by removing this danger of condensation, Window Conditioning permits healthful humidities to be maintained without costly damage to walls, woodwork, and draperies.

According to scientific tests, when 40 per cent relative humidity is maintained in houses heated to 70 degrees, condensation occurs on single-glazed windows when the outside temperature is 31 degrees above zero. Under the same conditions, condensation does not occur with double-glazed windows until the outside temperature drops to 26 degrees below zero.

This freedom from fogging not only provides clear, unobstructed vision but reduces cleaning bills and makes housework easier—by protecting walls, woodwork and draperies in the manner already indicated. Moreover, storm sash checks the entrance of soot and dust, further reducing cleaning bills and lightening housework.

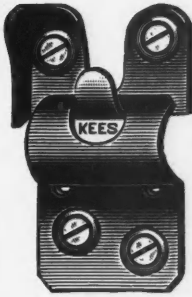
Window Conditioning also eliminates chilly floor drafts and does away with cold zones near windows. This is because drafts are set up when warm air is chilled by striking a cold surface (like a single-glazed window) and drops to the floor. With Window Conditioning, the inner panes of glass remain comparatively warm, even though the outer panes may be as cold as the outside air. As a result, air currents striking them are not chilled sufficiently to cause drafts. Thus dangerous cold zones near windows are done away with, a more even degree of heat can be maintained throughout the house, and the entire home becomes as spacious and livable in winter as it is in summer—for there is no need to shut off certain rooms when cold weather sets in.

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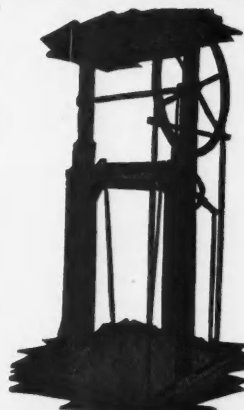


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**218—Kawneer Doors and Entrances—**A new catalog, Series 700, "Kawneer Doors and Entrances in Aluminum or Bronze," is a very attractive 16-page brochure in black and blueprint blue. Photographs of actual installations illustrate the attractiveness and wide variety of styling in these long life doors. Detail drawings are clear and complete, and brief descriptions and specification data are included.—**KAWNEER CO., Niles, Mich.**

**219—Crane Home Equipment—**"Quality Plumbing and Heating Equipment for the Low Cost Home" is a 20-page design book of a new type. Lithograph pencil drawings show model bathrooms with selection of Crane fixtures ranging from the most inexpensive to the more elaborate treatments. Definite specifications are included with each plate so that the fixtures illustrated can be specified with exactness. Modern kitchen equipment, laundry equipment and heating for the low cost home, with Crane boilers and radiators, are included in this new handbook. It should be a useful tool in the hands of builder or architect.—**CRANE CO., Chicago.**

**220—Non-Scalding Shower Head—**"Rid Your Showers of Their Greatest Menace" is the arresting title of a new 6-page folder presenting the Moderator mixing valve. The operation of this automatic anti-scalding valve is revealed, with practical suggestions for its use.—**JOSAM MANUFACTURING CO., Empire Bldg., Cleveland, O.**

**221—Weisway Cabinet Showers—**"Equip Your Home for Healthful Bathing" is the lead thought in a new 12-page brochure, beautifully illustrated, showing the several models of Weisway shower cabinets, with bathroom floor plans showing how they can be used.—**HENRY WEIS MANUFACTURING CO., Inc., Elkhart, Ind.**

**222—Lehman Sprayshields—**"Shower Bath Enclosures by Lehman" is an impressive catalog of 20 pages. It illustrates the plate glass and metal shower enclosures and glass doors comprising this line.—**LEHMAN SPRAYSHIELD CO., 2514 N. Broad St., Philadelphia.**

**223—Douglas Plumbing Fixtures—**"Beautiful Douglas Bathrooms" is a 20-page portfolio, with several plates in full color, illustrating modern bathrooms and showing the Douglas line of toilets, lavatories, tubs, sinks and faucets.—**JOHN DOUGLAS CO., Cincinnati, O.**

**224 — Covert Fireplaces —**"Attractive Fireplaces and How to Build Them" is the well known Covert 16-page handbook on fireplace design and construction. The chapter, "Hints on Fireplace Construction," is of special interest.—**THE H. W. COVERT CO., 229 E. 37th St., New York City.**

**225—Plenty of Convenience Outlets—**"Electrically Obsolete Before It's Off the Board" is the negative title of a very affirmative and forward-looking 8-page data sheet explaining "plug-in strips," the continuous electrical outlet at baseboard, chair rail or elsewhere providing an electrical convenience outlet every few inches as needed. Architectural details of this novel and revolutionary improvement are shown. — **NATIONAL ELECTRIC PRODUCTS CORP., Pittsburgh, Pa.**

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**227—Winter-Panes—**"Protex Winter-Panes" are described in a new series of data sheets giving all information regarding this new convenient double glazing which is intended to stop "weeping" windows besides saving fuel in winter and keeping out the heat in summer. Complete specifications and details are included. — **PROTEX WEATHERSTRIP MFG. CO., 2308 W. 69th St., Chicago.**

**228—"Cutting Concrete Costs"** is a 28-page brochure on concrete construction with photographs and tables analyzing various jobs from the standpoint of form costs and job management. A real cost saving in using Incor 24-hour cement is demonstrated. Jobs analyzed are both small and large.—**LONE STAR CEMENT CORP., 342 Madison Ave., New York City.**

**230—"Welding Aluminum"**—An authoritative handbook of 48 pages discusses the welding of aluminum with chapters on fusion welding, welded aluminum vessels, torch welding of heat-treated aluminum alloys, welding castings, arc welding and resistance welding.—**ALUMINUM CO. OF AMERICA, Pittsburgh, Pa.**

**231—Small Portable Electric Drills—**The Mall Tool Co. has put out a new 8-page price list and catalog covering its line of electric hand drills in several sizes and capacities. Two large cut-away views show details of mechanical construction of these tools.—**MALL TOOL CO., 7740 S. Chicago Ave., Chicago, Ill.**

**232—"Skilsaw Portable Electric Tools"**—A new catalog of 56 pages said to be the most complete and the finest ever offered by Skilsaw, Inc. (Catalog No. 40 dated July 1, 1938) illustrates electric hand saws, drills, belt sanders, disc sanders, grinders, blowers, floor sanders, and hedge trimmers, all with the greatest completeness of clear photographic illustrations, specifications and descriptive text. Some very interesting introductory pages explain how Skilsaw equipment saves money on construction work in time and labor costs.—**SKILSAW, Inc., 3310 Elston Ave., Chicago.**

**233—Jaeger Mixers—**A de luxe 42-page catalog presents the Jaeger line of non-tilt mixers, tilting mixers, plaster-mortar mixers, cold patch mixers, placing equipment, and special attachments. Photographs are large and clear, and complete mechanical description of each machine is included.—**THE JAEGER MACHINE CO., Columbus, O.**

American Builder,  
105 W. Adams St.,  
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(September 1938)

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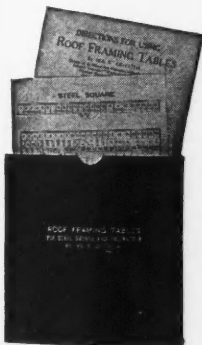
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- Brass Thresholds
- Aluminum Thresholds
- Calking Compounds

Also manufacturers of winter panes. The new convenient double glazing—the modern storm sash.

## METALLIC SASH GUIDES for Double Hang Windows

For use with all types of Balances—omits box frames—permits plank frames—narrow trim.

Write for illustrated data.

**PROTEX WEATHERSTRIP MFG. COMPANY**

2308 West 69th St. Chicago, Ill.

## 10 Day Trial No Deposit

**Warren-Knight Transit-Level**

Made for the contractor who appreciates good equipment.

10 Day Trial—No obligation to purchase. This instrument gives you what you have always wanted in a low priced instrument—high power telescope—close focus—vertical arc with clamp and tangent—sensitive level—compass—plate level—protected circle vernier reading to one minute—extra large shift—sturdy construction—low maintenance costs. For complete details write for Bulletin F-39 to

**Warren-Knight Co.**

136 N. 12th St. Philadelphia, Pa. Liberal allowance for your old instrument.



Patented \$15000

Transit-Level No. 38-b

Made also without compass and arc at lower prices.

MAKES soft wood...

FINISH like Hardwood

Quick drying

Economical

STOPS GRAIN RAISE

ON FIR PLYWOOD

Use REZ on fir plywood and soft woods and finish them "like hardwoods." No grain raise, beautiful, smooth surfaces that stay smooth with any kind of stain, paint, enamel. Prevents moisture absorption. Seals, primes, sash and doors against swelling, binding, weather and wear before and

after construction. Cuts finishing costs, gives a better job. Many other uses. Remember, there's nothing else like REZ, because nothing else stops grain raise like REZ. Buy through principal jobbers, dealers.

**I. F. LAUCKS, Inc.**  
Seattle, Wash. Lockport, N. Y.

For large jobs order fir plywood "Rezited-at-mill"



## A TRIP TO Washington

FIRST of all, reserve your room at the hotel best suited to your convenience and purpose when in Washington—the modern down-town Willard, "The Residence of Presidents."

**AIR CONDITIONED GUEST ROOMS AVAILABLE**  
Air Conditioned Public Rooms

**The WILLARD HOTEL**

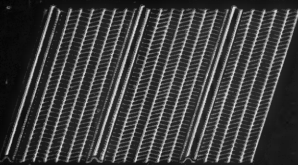
WASHINGTON, D. C.  
H. P. SOMERVILLE, Managing Director



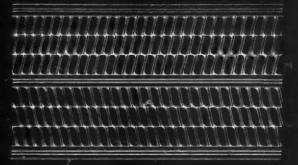
*"You're sure of a satisfactory job—that's easier to handle and pleases your customer"*

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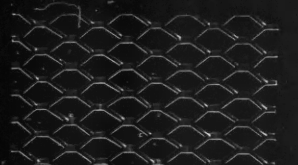
# MILCOR Metal Lath



3/8 INCH STAY RIB NO. 2



KUEHN'S SPECIALMESH METAL LATH



PLAIN NETMESH METAL LATH

— unusual strength makes it ideal for all purposes where a self-furring lath is required.

— a new rib lath especially adapted for interior walls and ceilings. All sheets squared on both ends.

— a general utility lath ideally suited to the ordinary lathing need.

When fire safe construction is specified by your prospect, you find that Milcor Metal Lath makes the job easier and more profitable.

You save money all along the line — for your customer and yourself — because the styles of Milcor Metal Lath are designed for quick, easy handling — maximum rigidity and strength with light weight — permanent plaster grip without plaster waste. One man can handle a sheet where two are ordinarily required. The plaster goes on easier, and there are no sharp edges to lacerate the lather's hands.

Milcor general utility laths are quickly bent or formed for furred or ornamental members and for fireproofing beams, girders and columns.

The demand, today, for Milcor Metal Lath — in homes, office and industrial buildings, national housing projects — is the result of thousands of installations that have given the owner trouble-proof, firesafe construction, and the contractor greater savings and lasting good will.

Write for the Milcor Manual today.

Pat. Nos. 224,909, 1,743,800

F-38A

## MILCOR STEEL COMPANY

MILWAUKEE, WISCONSIN CANTON, OHIO  
 Chicago, Ill. Kansas City, Mo. La Crosse, Wis.  
 Atlanta, Ga. New York, N. Y.

Unit of the MILCOR System of Fireproof Construction

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**NOTICE TO ADVERTISERS**—Forms for the October number of the American Builder and Building Age will close promptly on September 15. New copy, changes, order for omissions of advertisements must reach our business office, 105 West Adams St., Chicago, not later than the above date. If new copy is not received by the 20th of the month preceding date of publication the publishers reserve the right to repeat last advertisement on all unexpired contracts. **AMERICAN BUILDER AND BUILDING AGE.**

## Even a Mouse

hasn't much of a chance in modern types of wall construction. And the things that stymie him—insulation, brick fire-stops and ducts—are also the things that make it impossible to "fish" telephone wires to needed locations after the house is built. That's why one of today's most successful "selling extras" is built-in conduit planned for tomorrow's telephone wiring as well as today's.

### PROTECTION FOR WALLS AND FLOORS

Conduit or pipe makes it possible to install telephones without the need for exposed wires on moldings and baseboards, or holes drilled in walls and floors. It helps preserve the original beauty of the home.

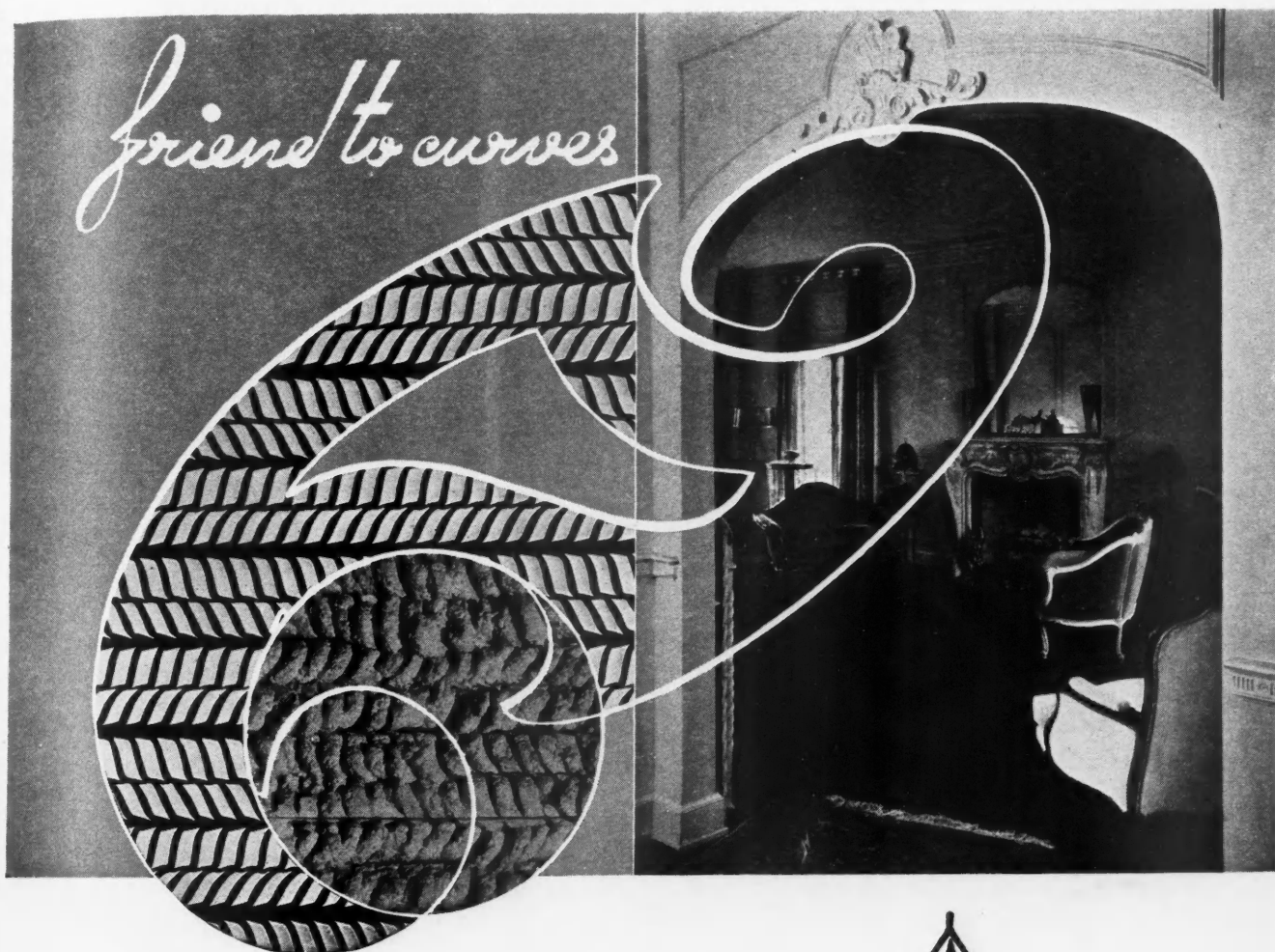
### ECONOMICAL TO INSTALL

During construction, built-in telephone conduit costs little. In the average small house, one or two lengths of simple pipe provide adequate conduit for both present and future telephone wiring.

The "Builders' Service" of your telephone company will gladly help you work out practical and economical conduit layouts. Call them—there is no charge.



# TRUSCON METAL LATH



## FOE OF CRACKS!

Metal lath permits unequalled opportunities to relieve the monotony of flat wall surfaces. The beauty of plaster and stucco reaches its highest expression when associated with spiral stairways, curved arches and many other departures from "straight line design." • But back of all this is the unequalled protection of plaster and stucco provided by metal lath. For example, note, in the



smaller illustration, the perfect mechanical bond of plaster and *Original* Truscon Herringbone Doublemesh Lath. WHAT CHANCE HAS A CRACK IN A WALL LIKE THIS? • Truscon Metal Laths and related accessories include every type required for every requirement. See Truscon's 80-page catalog in "Sweet's" for full particulars. Or write direct to us for separately bound catalogs.

# TRUSCON STEEL CO

YOUNGSTOWN, OHIO

57 SALES-ENGINEERING OFFICES . . . 24 WAREHOUSES

# FIRST AWARD *for*



First award to "American Builder and Building Age" for the best series of articles or editorials published during the twelve months ending August 1, 1938, in the annual competition conducted by "Industrial Marketing." Awarded to American Builder, September 21, 1938, at annual convention National Industrial Advertisers Association, Cleveland, Ohio, in a field of 122 entries submitted by 96 business papers.

# *Publishing Achievement*

## **AMERICAN BUILDER'S**

### **"More Home for the Money" Campaign**

"After rating and comparing ratings on all of the entries, approximately 15 remained for final consideration. Of these, the first award was given to 'American Builder and Building Age' for its campaign 'More Home for the Money' whose objective was to correct false price thinking as to the present-day home building costs and values."

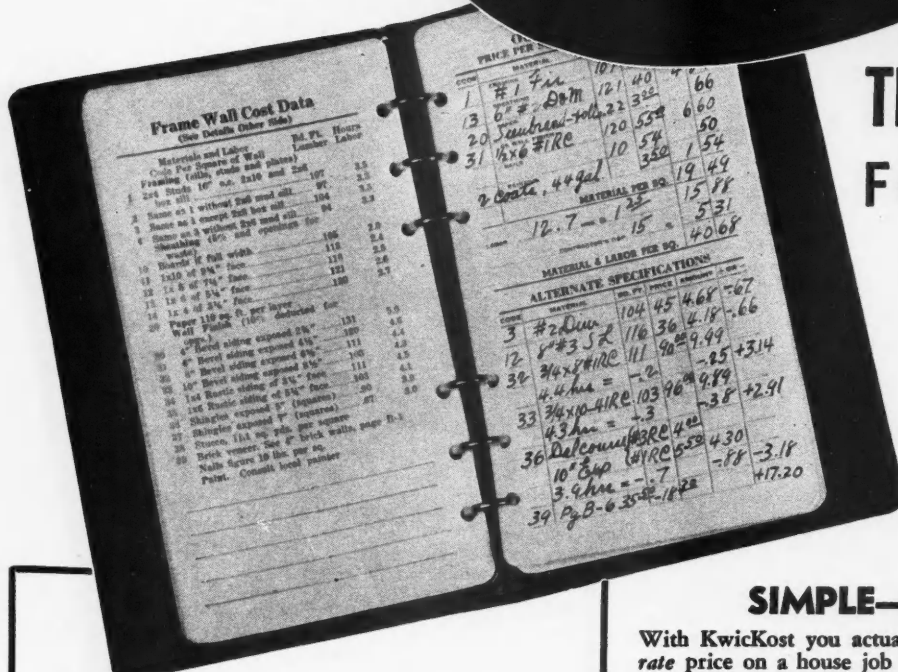
(Signed)—Committee on Competition Awards,  
National Industrial Advertisers Association,  
Walther Buchen, Chairman,  
Julius S. Holl,  
W. A. Kittredge,  
William E. McFee,  
H. A. Scribner.

*'American Builder' gratefully acknowledges this public recognition, which marks a new high in its prestige in the Building Industry.*

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# MODERNIZE Your ESTIMATING

# With Holt's KwickKost Estimating Systems



## The Book of Books FOR BUILDERS

Get A. W. Holt's latest estimating guide. It is the perfected culmination of 30 years of experience, development, and improvement by the country's foremost instructor of simplified estimating. This pocket-size, loose-leaf book, 3 3/4" x 6 3/4" contains a whole library of estimating information, arranged in logical order, tabbed and indexed for handy reference.

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### SIMPLE-QUICK-ACCURATE

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In Short,—

Holt's KwickKost Estimating Systems contains more and better tables than were included in former "Holt" books and services that sold for as much as \$85.00—now yours for only \$7.00.

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### Send No Money

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You can get more remodeling jobs when you know how to apply

# Recessed Edge SHEETROCK and Perf-A-Tape THE FIREPROOF WALLBOARD

because you can then build wallboard walls with joints completely

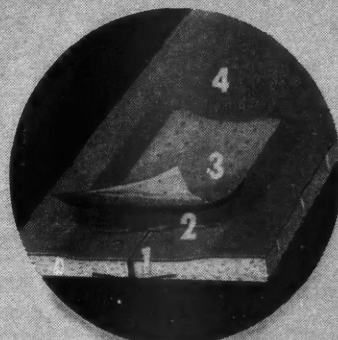
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1. The recessed edge forms a channel of joint.
2. —which is filled with a special cement.
3. Perf-A-Tape—strong, perforated fiber tape is then imbedded in the cement, and—
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*Now you can give customers wallboard walls and ceilings that take any type of decoration*

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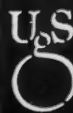
*Now available to help you increase remodeling and repair sales*

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PLASTERS . . . ROCKLATH\* . . . METAL LATH  
SHEETROCK\* . . . FIBER WALL BOARD  
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PRODUCTS . . . ROOFING PRODUCTS  
SIDING PRODUCTS . . . LIME PRODUCTS  
\*Registered trade-marks



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